Lower Columbia Salmon Recovery

Grants Manual

2025

Lower Columbia Regional Organization and Lead Entity

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Contacts and Schedule

Table 1. Contacts and web resources by grant program and agency.

Grant Program	Contact	Role	Phone	Email
Salmon Recovery Funding Board (SRFB)	Bob Warinner	RCO application guidelines and PRISM assistance	(360) 543-3485	bob.warinner@rco.wa.gov
Salmon Recovery Funding Board (SRFB)	John Foltz	RCO application guidelines and PRISM assistance	(360) 867-8573	John.foltz@rco.wa.gov
SRFB and Cowlitz Recovery and Restoration (CRR)	Amelia Johnson	LCFRB application guidelines and project development assistance	(360) 608-2996	ajohnson@lcfrb.gen.wa.us
	Steve West		(360) 608-2450	swest@lcfrb.gen.wa.us
	Denise Smee	Salmon Recovery Portal assistance	(360) 425-1554	dsmee@lcfrb.gen.wa.us
Web Resources		**Link**		
Statewide Salmon Grants		https://rco.wa.gov/grant/salmon-recovery/		
Statewide Project Data		https://srp.rco.wa.gov/		
Salmon Resource Map		https://www.lcfrb.org/salmon-resource-map		
Regional SRFB Grants		https://lcfrb.org/our-work/salmon-recovery-funding-board-grants		
Regional CRR Grants		https://lcfrb.org/our-work/cowlitz-restoration-and-recovery-grants		

Digital and hard copies of referenced materials and this manual are available upon request. Contact Lorie Clark to request hard copy materials: (360) 425 – 1555 | lclark@lcfrb.gen.wa.us

Table 2. 2025 Lower Columbia Lead Entity grant schedule. LCFRB and Technical Advisory Committee (TAC) meetings are public. Required applicant actions are noted, all others are optional or do not involve applicant submittal deadlines. SRFB-only actions are highlighted in green and those with an asterisk are state level deadlines. CRR-only actions are highlighted in yellow. All other actions apply to both programs. Action dates and locations may change.

2025 Dates	Action	Description
Jan. 13	LCFRB Opens Grant Round – ***Online***	Grants Manual advertised on LCFRB website and via email.
Jan. 13 – Feb. 28	**Required for assessment proposals:** Pre-Proposal Meetings –***TBD***	Applicants discuss proposal fit to regional recovery and grant program priorities with LCFRB staff prior to submitting an application. Contact Steve West to reserve a meeting time.
~~Mar. 17~~ Mar. 24	**Required:** Applications Due at 12 PM – ***Online***	Application materials due: all items on the relevant grant program(s) application checklist must be included.
Apr. 15 – Apr. 24	**Required:** Proposal Presentations – ***Hybrid Meetings and Site Visits***	Presentations to reviewers are held for all eligible applications. Potential dates are: 4/15 – 4/17, 4/22 – 4/24
Apr 30	Lead Entity Feedback, SRFB – ***Online***	LCFRB staff publish Lead Entity Feedback in PRISM for applicants to respond to in revised application materials.
May 8	**Required:** CRR Proposal Presentations – ***Site Visits***	CRR project site visits are held for all eligible applications.
May 12	Lead Entity Feedback, CRR – ***Online***	LCFRB staff provide Lead Entity and FTC Feedback to applicants to respond to in revised application materials.
May 30*	First Comment Form from SRFB Review Panel – ***Online***	SRFB Review Panel submits comments identifying proposal status.
Jun. 9 – 10*	Discuss Non-Cleared Proposals with SRFB Review Panel – ***Virtual Meeting***	Conference calls with SRFB Review Panel for proposals identified as Conditioned, Needs More Information, or Projects of Concern.
Jun. 23*	**Required:** Applications Due at 12 PM – ***Online***	Revised application materials are submitted in PRISM: all items on the application checklist must be included.
Jun. 27	Application Updates Distributed - ***Online***	Staff summarize substantial application changes and distribute updates and application links to TAC and applicants.
Jul. 21	TAC Scores and Rationales Due at COB – ***Online***	TAC members submit application scores to LCFRB staff.
Jul. 23	TAC Ranked List Meeting – ***Hybrid Meeting***	TAC reviews draft ranked project list and recommends final list to the LCFR Board.
Jul. 25*	Final Comment Form from SRFB Review Panel – ***Online***	SRFB Review Panel submits final comments for proposals identifying project status.
Jul. 25	TAC Recommended Ranked List Published – ***Online***	Staff publish TAC recommended ranked project list with scoring statistics and deliberations, and LCFRB monitoring ranked list.
Aug. 1	LCFRB Meeting – ***Hybrid Meeting***	LCFRB approves a ranked project list.
Aug. 8*	Lead Entity Ranked List Submitted – ***Online***	LCFRB submits ranked list in PRISM. Applicants must either accept SRFB Review Panel Conditions or withdraw applications by this date.
Sept. 16 – 17*	SRFB Grant Awards Are Approved – ***Hybrid Meeting***	SRFB approves grant awards.
Oct. 7	CRR Grant Awards Are Approved – ***Hybrid Meeting***	Fisheries Technical Committee approves CRR grant awards.

Lower Columbia Salmon Recovery Policy Manual

Introduction

State law (RCW 77.85.200) designates the Lower Columbia Fish Recovery Board as the regional salmon recovery organization and lead entity for salmon recovery efforts and programs in southwest Washington. In its role as a lead entity, the LCFRB develops and maintains the regional habitat strategy, recruits organizations to develop projects to support implementation, and ranks and prioritizes projects for funding through the Salmon Recovery Funding Board (SRFB) grant program. The LCFRB also partners with other local, state and federal entities and Tribes to manage and implement additional grant-based programs in the Lower Columbia region. This policy manual is intended to guide these programs in a manner that supports implementation of the Lower Columbia Salmon Recovery and Fish & Wildlife Subbasin Plan[1] (Recovery Plan) and sets forth guiding principles to inform salmon recovery project development and funding. When combined with grant-specific guidelines, procedures and processes, this policy manual is used by the LCFRB to solicit, evaluate, fund, and administer a broad suite of salmon recovery projects. It is the applicant's responsibility to read and fully understand the grant application requirements in the Lower Columbia Salmon Recovery Grants Manual (Grants Manual), as well as any additional materials provided by the granting authority.

Management Area

The Lower Columbia Lead Entity area includes all the watersheds in Clark, Cowlitz, Skamania, and Wahkiakum counties, and the Cowlitz River watershed in Lewis County. By agreement, the LCFRB Lead Entity area also includes the tributaries within Pacific County that drain into the Columbia River (**Figure 1**). The LCFRB also provides grant funding to support Lower Columbia salmon populations within the White Salmon subbasin. However, Klickitat County serves as the Lead Entity for that subbasin. While the LCFRB does not score and rank SRFB projects within the Klickitat Lead Entity area, the Board has agreed to allocate 2.7% of its standard SRFB allocation to projects in the While Salmon watershed that benefit Lower Columbia populations. Grant-specific management areas are described in detail in the appendices.

[1] Lower Columbia Salmon Recovery and Fish & Wildlife Subbasin Plan, LCFRB 2010: https://lcfrb.org/library/recovery-plans

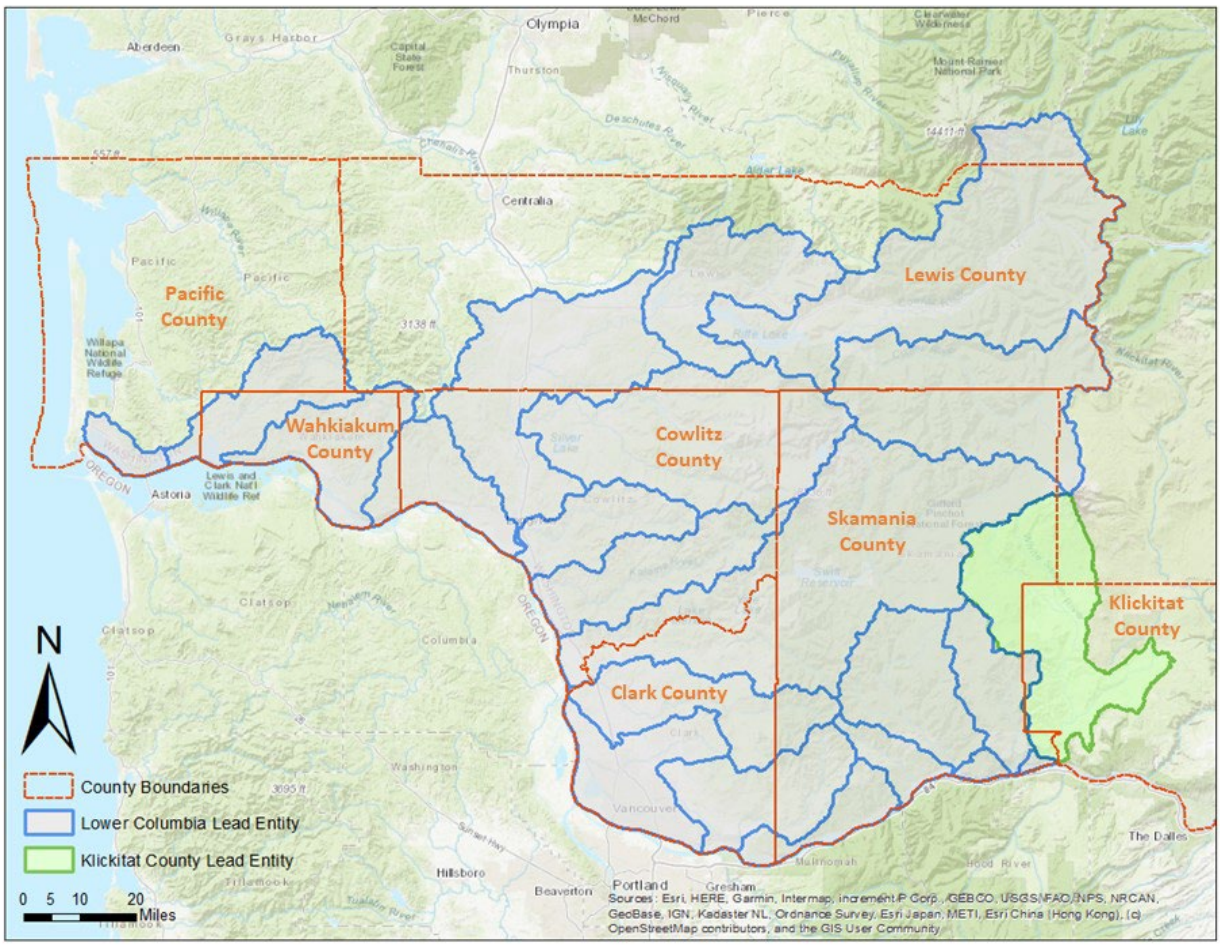


Figure 1. The Lower Columbia Region management area with lead entity and county boundaries. Subbasin boundaries are delineated within the Lower Columbia region. The White Salmon subbasin is within the Klickitat Lead Entity area but supports Lower Columbia salmon populations.

Application Development

Project Development Assistance

LCFRB staff are available year-round to assist prospective applicants with identification of high priority project opportunities that support achievement of salmon recovery goals. This includes helping sponsors to align proposals with the Recovery Plan, Regional Habitat Strategy and other grant program guidelines, and develop technically sound proposals. LCFRB staff provide technical assistance, coordinate assistance from other agencies and organizations, offer guidance on permitting requirements and review processes, and provide letters of support when proposals align with regional recovery priorities. Application development contacts and web resources are in Table 1.

The LCFRB generally approves any updates to the grant application process, application materials, evaluation criteria and schedule at the beginning of each calendar year. Once approved, the grant application materials and schedule are posted on the LCFRB website. Project solicitations and related application materials from other funding sources will be incorporated into annual updates where appropriate.

Sponsor Eligibility

Generally, the party or organization proposing a project will be the lead applicant and primary sponsor for future contracts if funding is awarded. However, situations may arise where the proposing party or organization may not qualify to serve as the sponsor. In such instances, the LCFRB will endeavor to assist the applicant in finding a suitable co-applicant and/or co-sponsor. Please review grant-specific information for additional applicant eligibility requirements.

Project Match

Sponsors are encouraged to document the total cost to implement a project using the provided budget detail spreadsheet (see the **Application Checklist** section). Project costs include grant request, match, and other costs, so the full cost of project implementation can be understood and tracked. This information is important to demonstrate how salmon recovery investments are being leveraged.

The LCFRB has no established match requirements for SRFB Projects beyond statewide requirements specified in RCO Manual 18. Applicants are encouraged to consult RCO Manual 18 and contact the LCFRB and Recreation and Conservation staff to discuss any questions about match sources and requirements prior to submitting a SRFB grant application. Additional budget and match requirements related to other programs are described in the grant-specific appendices to this document.

Watershed-Scale Studies, Assessments and Strategy Development

Funding for watershed-scale studies, habitat assessments, and strategy development is limited. To ensure that these types of projects effectively address regional recovery needs, gaps and priorities, the LCFRB is required to sponsor or co-sponsor these proposal types. Depending on the project purpose, scope and scale, co-sponsoring may include serving as a joint sponsor, assisting with application development, participating in regular technical work group meetings, and/or incorporating work products into the Regional Habitat Strategy. Sponsors wishing to pursue a project of this type should contact LCFRB staff early to explore opportunities for coordination.

Large-Scale and Complex Projects

The LCFRB encourages development of large-scale and comprehensive designs and restoration strategies that align with watershed-scale processes. However, because of funding limitations and other implementation constraints and considerations, it may be beneficial to spatially or temporally phase construction projects across multiple grant applications. LCFRB staff will discuss the appropriateness of phasing early in the project development and application process. Project applicants may propose large, multiple year projects, but the LCFRB may approve only partial funding to allow the funding of additional project proposals. Applicants should review contract requirements, especially related to maximum contract time periods, when determining how to phase a large-scale or complex proposal. Each project phase must stand on its own merits as a viable project, and funding of one phase does not imply endorsement of future phases.

Project Design Drawings

Project design drawings must adhere to all requirements outlined in RCO Manual 18, Appendix D. The Technical Advisory Committee (TAC) may request additional drawings or elements as needed to facilitate project review, based on proposal presentations.

Restoration Design Projects

Applicants may request design-only grant funds for complex projects as defined above. Design-only projects must address specific, previously identified habitat problems and limiting factors at a discrete

location. The project cannot include a general stream reach or watershed scale assessment or feasibility study to both identify limiting factors and design a project.

Applicants must clearly identify the level of design to be delivered in proposals. RCO Manual 18, Appendix D details the design-level definitions that are used in the LCFRB Grants Manual (conceptual, preliminary, final, and field-fit). Unless the TAC expresses a preference for final design for a particular project, applicants are encouraged to develop preliminary designs when electing to apply for design-only grant funding. To help ensure consistency with stated project goals and objectives, the TAC may recommend project approval be conditioned to require TAC or staff review and endorsement of:

- Design alternatives prior to selection of a preferred alternative;
- Draft preliminary designs and the design report, prior to submission of final project deliverables; and/or,
- Final project designs and design reports prior to the initiation of construction activities, for design/build or field-fit projects.

LCFRB and SRFB require sponsors to conduct a stakeholder review during the design development process for design-only projects. Design reports should explain how comments from stakeholders are addressed. Stakeholder review should occur at stages where substantial design decisions are being made, such as when design alternatives are being developed or evaluated, or major design details or modeling outputs are developed (i.e. conceptual and preliminary design stages per RCO Manual 18). In conducting a stakeholder review, the sponsor should include parties with a substantial interest in the project, as well as those with expertise in project development, design, and implementation. Depending on the scope, nature and complexity of the proposed project, this could include the landowners, adjacent property owners, relevant federal, state, and local agencies, Tribes, and subject matter experts. LCFRB staff can assist applicants in identifying relevant stakeholders.

Acquisition Projects

Applicants proposing projects that include acquisition (fee title, conservation easement, and/or purchase of development rights) must clearly articulate in their application as to why each acquisition element (e.g., instream, floodplain, riparian, upland, etc.) is required to achieve the recovery objectives of the project. If acquisition is proposed solely for the purpose of protecting habitat, the applicant must explain the nature and urgency of threats to the habitat, and why applicable federal, state, and local laws and regulations do not afford the needed level of protection (i.e. demonstrate the habitat proposed for acquisition is at-risk of future degradation). If fee title acquisition is proposed, the applicant must explain why the acquisition of conservation easements and purchase of development rights will not effectively achieve the goals of the project.

The applicant must consult the affected city or county before submitting an acquisition proposal. The applicant should contact the LCFRB for assistance in identifying the appropriate city or county contact. The applicant must obtain a letter of no objection from the city or county. The final application must note any comments, conditions or restrictions received from the representative of the affected city or county. See grant-specific sections for more details and information.

Monitoring Projects

A comprehensive monitoring and adaptive management program is essential to an effective salmon recovery program. It allows the LCFRB and recovery partners to track recovery progress, assess the effectiveness of recovery-related actions and programs, adjust strategies and actions when necessary,

and effectively allocate resources. The LCFRB works with its recovery partners to design, develop, and implement a comprehensive and coordinated monitoring and adaptive management program to support salmon recovery efforts in the Lower Columbia. These efforts are guided by:

- The Lower Columbia River Salmon and Steelhead ESA Recovery Plan (NMFS 2013);
- The Lower Columbia River Salmon Recovery and Fish & Wildlife Subbasin Plan (LCFRB 2010);
- The Lower Columbia River Salmon Recovery and Fish & Wildlife Subbasin Plan (LCFRB 2010); and
- The Guidance for Monitoring Recovery of Pacific Northwest Salmon & Steelhead listed under the Federal Endangered Species Act (NMFS 2010)

The basic elements of the monitoring program are:

- Biological status and trend monitoring;
- Habitat status and trend monitoring;
- Implementation/compliance monitoring; and
- Action effectiveness monitoring.

To ensure projects assist in meeting regional monitoring needs and priorities, the LCFRB will partner with monitoring agencies and organizations in sponsoring a proposal. Monitoring agencies and organizations interested in submitting a project proposal must consult with LCFRB staff, preferably well in advance of the opening of a grant round. The LCFRB will determine whether formalized partnership agreements are required, as well as the nature and scope of such agreements, in consultation with the monitoring organization. Partnership may include monthly meetings or reporting as well as access to data and other work products developed during the monitoring project.

It is the intent of the LCFRB to use available monitoring funding to assist in addressing regional monitoring and reporting needs associated with ESA status and delisting reviews as discussed above. Available funding for monitoring projects is limited and may not be available every year. Proposals should focus on addressing critical one-time needs or gaps for an existing monitoring program or helping to initiate or jump start a monitoring or related reporting activity that will subsequently be funded by other sources. Proposals requesting sustained, multi-year funding for on-going monitoring efforts, including long-term biological and habitat status and trends monitoring, are ineligible. Additionally, proposals must clearly describe goals, including the specific management questions that will be answered to inform or further regional recovery efforts. In doing so, the goals should explain how the strategy will address unmet regional monitoring needs set forth in the Recovery Plan, the Lower Columbia Research, Monitoring & Evaluation Program, and NMFS guidance on salmon and steelhead recovery monitoring.

Regional Habitat Strategy

The Recovery Plan uses an ecosystem approach to salmon and steelhead recovery by considering how threats affect the viability[2] of salmon and steelhead populations throughout their entire life cycle. The Recovery Plan identifies strategies, measures and actions based on identified threats across multiple

[2] NMFS defines a viable salmon or steelhead population as one that has a risk of extinction of less than 5 percent over a 100-year period. Viability is assessed using four Viable Salmonid Population Parameters: abundance, productivity, spatial structure and diversity.

categories[3], and establishes impact reduction targets for each potentially manageable threat category. Collectively, impact reduction targets identify the overall threat reduction likely necessary to achieve the population viability objectives. Impact reduction targets are assigned across threat categories in proportion to the significance of the threat.

When developing projects that address habitat threats to salmon and steelhead, it is essential to consider other factors that may reduce or negate any potential habitat gains. The Recovery Plan is a good information source for understanding other threats to the salmon and steelhead populations a project intends to support. Additional resources are outlined below and available via the LCFRB library and partner resources:

- The Conservation and Sustainable Fisheries Plan and associated reports: This document is a collaborative plan between the LCFRB and Washington Department of Fish and Wildlife to identify natural and hatchery origin population viability and productivity targets, and identify hatchery and harvest reform actions to achieve them, by target population and watershed;
- Water Resource Inventory Area 25/26, 27/28 and 29A Watershed Management Plans, and associated Detailed Implementation Plans: These WRIA plans outline recommended and approved water supply, stream flow, water quantity and water quality measures, strategies and actions. Watershed management plan recommendations and provisions are incorporated into the Recovery Plan;
- Regional Salmon and Steelhead Population Viability Assessments: The LCFRB periodically evaluates progress toward achieving recovery goals and objectives. These assessments identify the biological status of populations relative to Viable Salmonid Population (VSP) parameters and targets, as well as the role of habitat in that status. These assessments will be published on the LCFRB website as they become available.
- NOAA 5-Year Status Reviews of Listed Salmon and Steelhead: The status of ESA listed salmon and steelhead is reviewed every 5 years by NOAA Fisheries. These reviews describe the status of each species in relation to viability and threat reduction goals;
- A Vision for Salmon and Steelhead: Goals to Restore Thriving Salmon and Steelhead to the Columbia River Basin: This report summarizes goals for achieving healthy and harvestable populations or salmon and steelhead within the Columbia River basin, and identifies key limiting factors for each stock; and,
- Programmatic reviews of recovery partner habitat action implementation across the region. The Board periodically reviews the effectiveness of various recovery programs, and how they supports overall recovery plan implementation success. Reports from such efforts will help direct project applicants to watershed areas where management supports long-term habitat restoration and protection. To date, one habitat program review has been completed:

[3] Salmon recovery entails reducing impacts across threat categories, i.e. an "All-H" salmon recovery strategy. Seven threat categories are identified in the recovery plan: subbasin stream habitat and watershed conditions, estuary habitat, hydro-regulation, hatcheries, ecological interactions, and climate and ocean conditions (LCFRB 2010).

Lower Columbia Salmon Recovery Plan Partner Program Implementation Review, East Fork Lewis River Habitat Pilot Study (PC Trask & Associates, Inc. 2020).

The Lower Columbia Salmon Resource Map is the online web map containing the Regional Habitat Strategy. The Regional Habitat Strategy is based upon the Recovery Plan's technical foundation, identifies high priority restoration and protection opportunities, and serves as the foundation for project development and evaluation. Applicants may submit a proposal for a project addressing a need not identified in the Regional Habitat Strategy, but it is the applicant's responsibility to provide sufficient technical justification demonstrating the proposal is consistent with the intent, goals, strategies and priorities of the Recovery Plan, and supporting implementation documents.

The following documents and forums complement the information and priorities included in the Regional Habitat Strategy, and should be consulted in project development:

- SRFB Monitoring Resources: The SRFB funds and supports Intensively Monitored Watershed (IMW) and project effectiveness studies along with other monitoring projects. IMW studies have been active for over 20 years across the Pacific Northwest. These studies are designed to monitor habitat and salmon responses to restoration actions at watershed and population scales. One IMW is located in the Mill, Abernathy and Germany Creek watersheds of the Lower Columbia, with habitat restoration focused on improving winter rearing habitat for coho salmon. IMW and project effectiveness reports are available on the Salmon Recovery Portal monitoring page;

- Tidal Habitat Review and Recommendations: The LCFRB and the TAC reviewed literature to inform restoration and protection priorities for salmon and steelhead in tidally-influenced habitat areas. Reconnecting floodplains, providing access to functional habitat, restoring floodplain riparian habitat conditions, and restoring estuarine wetlands and off-channel habitats are generally identified as high priority multi-species priorities in tidally influenced reaches. The LCFRB and TAC tidal habitat review can be found in the "More Resources" Lead Entity information tab on the Salmon Resource Map. Additional estuarine research and recommendations can be found on the Lower Columbia Estuary Partnership's website: http://www.estuarypartnership.org/restoration-prioritization-strategy;

- Climate Change Impacts on Habitat Priorities: Climate change is expected to impact salmon estuarine and freshwater habitat quantity and quality due to shifts in precipitation patterns, stream flow regimes and temperature. The LCFRB and TAC reviewed literature to recommend estuarine and freshwater restoration and protection priorities considering climate change impacts to salmon habitat. Recommendations can be found in the "More Resources" Lead Entity information tab on the Salmon Resource Map;

- Habitat Studies and Watershed Assessments: LCFRB has worked with recovery partners and stakeholder groups to develop watershed assessments and strategies that build on Recovery Plan information and actions to recommend specific habitat projects to support salmon recovery. Not all subbasins have completed assessments, but you can find the current list on the LCFRB's website; and,

- Integrated Watershed Assessment (IWA) watershed process impairment ratings: Hydrologic, sediment and riparian process impairment ratings were developed in 2004 as part of the Recovery Plan. These modeled ratings are based on geomorphology and land cover characteristics, and can help provide a landscape perspective on watershed drivers of salmon habitat conditions. Staff can provide IWA information upon request.

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 3).

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
Projects should target high priority populations for recovery.	Projects should target high priority populations (e.g., Primary, Contributing, Stronghold, Stronghold Expansion) for species-scale recovery. Greater benefits are expected when multiple high priority 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.
Projects should maximize habitat benefits for salmon.	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.
Projects should protect properly functioning habitat and key watershed processes.	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.
Projects that remove barriers to substantial areas of high quality habitat provide important near and long-term benefits to fish.	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.

Principle	Rationale
Restoration projects should focus on the causes of degraded habitat conditions rather than symptoms.	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 benefiting 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.
Active and passive habitat restoration measures can be combined to support near and long-term salmon benefits.	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.
Restoration work in one area should not adversely affect habitat conditions or watershed processes in other areas.	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.
Habitat projects should be coordinated with and support current, ongoing, and planned recovery efforts in a watershed.	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).
Habitat project and strategy development should seek to build landowner and community support.	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.

Principle	Rationale
Projects that target chum spawning and rearing are encouraged and should promote spatial diversity across the ESU and complement chum reintroduction efforts of WDFW	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.

Project Review and Funding

Proposal Submittal

Depending on the grant program, applicants will submit either an application with opportunities for revisions or a single, final application. LCFRB staff will then coordinate and facilitate the proposal review, evaluation, and ranking process by the TAC, other internal review committees, and LCFR Board. Application submittal steps are described in the grant-specific appendices, along with information regarding project evaluation, scoring, and ranking.

Applicants should contact LCFRB staff if they are considering increasing their grant requests as part of any revised application submittals. Staff will be able to provide guidance on funding potential given other grant requests and available grant allocations as well as work with grant managers and review committees to ensure there is support for larger grant requests.

Technical Advisory Committee Recommended Ranked Project List

Each participating TAC member evaluates and scores all project proposals according to grant-specific evaluation criteria. TAC members then submit score sheets to LCFRB staff along with any supporting comments by the due date identified in the grants calendar. Scores are averaged across participating TAC members to determine overall numeric scores and associated ratings for each evaluation question. Total proposal scores are calculated by summing averaged scores for each evaluation question. These total scores are used to develop a draft ranked project list, which LCFRB staff publish along with summary scoring statistics (i.e. minimum, maximum, median, and average scores and rank positions) and any provided scoring rationales from TAC members. TAC members then meet to review the draft ranked list (see TAC Ranked List Meeting event in the calendar) and to discuss any outstanding variability or ranking concerns that are not supported by rationales. Attending TAC members then recommend a final ranked project list to the LCFRB for approval, along with supporting deliberations, which are approved by consensus procedures. If the TAC does not reach consensus, staff will forward a summary of TAC member positions on the project ranking to the LCFR Board, and will provide guidance for making a final decision. The TAC may also recommend conditions for approval of a project if members deem it necessary and appropriate. See grant-specific appendices for more details on TAC considerations when reviewing and scoring projects.

Consistency in application review and scoring is important. To ensure statistical parity among projects, each participating TAC member must score all applications. One exception is if a TAC member's

organization is submitting a project proposal as a sponsor or would receive funds from a proposal, that TAC member shall recuse themself from scoring that project. However, that TAC member may still actively engage in all other aspects of the grant round, including project discussions and deliberations and scoring of all other proposals. If unable to attend proposal presentations, TAC members can provide written comments or questions for the applicant for all proposals if they plan on scoring them. Feedback should be provided to LCFRB staff in advance of the proposal presentations so it can be shared with the rest of the TAC members. If a TAC member is unable to attend the TAC Ranked List Meeting, that member may still submit their scores and any rationales to be used in developing the draft ranked list for this meeting. If a TAC member does not provide their scores and rationales before the TAC Ranked List Meeting, that information will not be used in calculating a project's total score, nor included in the deliberations and recommendations forwarded to the LCFR Board.

LCFRB Review and Approval of Ranked Project List

The LCFRB shall consider the TAC recommended ranked project list, staff report, and TAC deliberations when approving a ranked project list. A ranked project list includes a Klickitat Lead Entity allocation for proposals supporting Lower Columbia populations, and Lower Columbia Lead Entity proposals. The LCFRB may consider additional factors such as community support, economic impacts, and social and cultural issues when reviewing and approving the list. The LCFRB may approve or modify the ranked list. The LCFRB will document in writing the rationale for any changes it makes to the ranked project list recommended by the TAC. In developing a single project regional list to be submitted to the SRFB, the LCFR Board will first subtract the Klickitat Lead Entity allocation from the total regional allocation. This includes the standard 2.7% allocation per annual grant round, as well as any unused allocation from the prior grant round(s). The remaining allocation will then be applied to habitat projects for the Lower Columbia Lead Entity, in ranked order.

Notification of Funding Decision

Applicants with projects receiving awards shall be notified in writing by the granting agency. Funding awards will also be posted on the LCFRB website and distributed via email by LCFRB staff to LCFR Board and TAC members.

Public Comments

The LCFRB and TAC shall consider comments from the public in reviewing, evaluating and ranking applications. Comments may be made in writing or verbally at the TAC or LCFRB meetings during which project proposals are being evaluated or considered for approval. Written comments submitted to staff in advance of such meetings shall be provided to the TAC or LCFRB for consideration. Depending on how many people wish to speak, the Chair of the TAC or LCFRB, as applicable, may limit the time permitted to each speaker.

Project Implementation

Project Agreement and Grant Administration

Successful applicants enter into agreements with the granting organizations. The LCFRB assists organizations with agreement administration, including reviewing progress reports and grant deliverables, and monitoring on-the-ground project work. Specific requirements for reimbursement and progress reporting will be included in the grant agreement. Sponsors are encouraged to work with the LCFRB to present on completed projects and lead field tours. Project sponsors are also encouraged to

copy LCFRB staff on correspondence with granting organizations regarding agreement details, to facilitate tracking and monitoring.

Sponsor Responsibility

It is the sponsor's responsibility to successfully complete the project and to comply with the requirements of the project agreement or grant. While the LCFRB works to assist sponsors with their project by providing guidance and technical support, the project itself remains the sole responsibility of the sponsor. The LCFRB assumes no responsibility to the sponsor other than as expressly stated in the grant agreement (e.g. reviewing work products or restoration designs). The responsibility for the implementation of the project is solely that of the sponsor, as is the responsibility for any claim or suit of any nature by any third party related in any way to the project. It is the responsibility of the sponsor to notify the LCFRB when a project is not completed as reviewed by the LCFRB. It is also the responsibility of the sponsor to comply with the terms and conditions set forth in the grant agreement.

Completed Project Data

LCFRB staff will reach out to sponsors of completed projects to ensure project data are accurately captured in LCFRB and RCO databases. It is essential that LCFRB has the most accurate project data so restoration and conservation metrics and other project details reported to granting agencies, policymakers, and salmon recovery partners are accurate. This information helps LCFRB request habitat project funding allocations and track Recovery Plan implementation. Until 2019, LCFRB staff tracked habitat project data in their SalmonPORT database. Data is now managed in the statewide Salmon Recovery Portal (SRP) database.

Technical and Administrative Assistance

While it is the responsibility of the sponsor to successfully complete the project and to comply with the requirements of the project agreement or grant, the LCFRB will, when requested, work with project sponsors and appropriate agencies to resolve technical, permitting, and administrative issues in a timely manner. Project sponsors may request staff assistance at any time.

Sponsor Training

The LCFRB works with funding and regulatory agencies to arrange and conduct training for project sponsors. Training topics may include: regional habitat strategy overviews, reimbursement procedures, records maintenance, procurement, contracting, safety, project monitoring, and permitting. Please notify the LCFRB if you have suggestions on training that would help you develop and complete successful salmon recovery projects.

Project Amendments

Granting agencies may require grant amendment processes needing LCFRB approval. Review the grant-specific sections to determine if amendments are allowed, and for information on associated procedures. Amendments can take time and out of scope work is at risk of not being approved, so sponsors should review the procedures in advance, and start the process as soon as they are able.

Project Success

Project Monitoring

The project sponsor is responsible for monitoring activities to ensure consistency with granting agency policies and project-specific grant contracts. LCFRB staff are available to assist sponsors in conducting

such evaluations. The LCFRB encourages sponsors to provide the LCFRB with an assessment of the project's results and its effectiveness. The sponsor may also provide recommendations to improve the implementation of future projects.

Adaptive Management

In consultation with the LCFRB and other technical personnel, the project sponsor may incorporate adaptive management strategies to enhance the monitoring and evaluation of a project's effectiveness and improve its performance. Consideration will be given to the time elapsed since the project was completed and to the availability of necessary funds to continue monitoring, evaluating and improving the project.

Appendix A: Definitions

The following terms and acronyms are commonly used in this policy manual. Additional context is available in the Additional Resources appendix.

- **Action Reach:** The stream reach or series of reaches that are directly subject to physical habitat restoration improvements, project designs, or acquisition. Stream reach breaks are found in the Ecosystem Diagnosis and Treatment (EDT) stream line layer.
- **Applicant:** Also called a sponsor; the primary party that develops and submits a project proposal or application for consideration and is responsible for project implementation and monitoring should the project be approved and funded.
- **Contributing Population:** The recovery designation for populations for which some improvement over baseline conditions will be needed to achieve a stratum-wide average viability greater than medium. Varying levels of improvement are identified for Contributing populations: some Contributing populations are targeted for substantial improvements whereas more limited increases are identified for others. See LCFRB Recovery Plan (2010): Volume I, Chapter 4.
- **Ecosystem and Diagnosis Treatment (EDT):** A modeling approach to develop and implement watershed plans (Mobrand Biometrics, Inc. 1999); EDT is used by the LCFRB to support prioritization of habitat restoration and protection actions in the Regional Habitat Strategy based on modeled population performance responses (abundance, productivity and life history diversity) at subbasin-scales in full restoration (Template) and degradation (Patient) scenarios; EDT outputs are available as Species Reach Potential (SRP) ratings and limiting habitat factors. See LCFRB Recovery Plan (2010): Volume III, Appendix E, Chapter 6.
- **Integrated Watershed Assessment (IWA):** Watershed and sub-watershed scale GIS analysis of sediment, flow and riparian processes, conducted as part of the Recovery Plan technical foundation development, to inform watershed health status. Watershed-scale results can be used to understand likely conditions within subbasins. Local and subwatershed-scale results can be used to identify which subwatersheds are likely sources of degraded watershed processes within the subbasin. See LCFRB Recovery Plan (2010): Volume III, Appendix E, Chapter 4.
- **LCFRB:** Lower Columbia Fish Recovery Board, as established under RCW 77.85.200.
- **Lead Entity:** The citizen committee defined by RCW 77.85.050. For the Lower Columbia region this is the management board established in RCW 77.85.200(2).
- **Limiting habitat factors:** The modeled importance of Level 3 habitat attributes to population performance (abundance, productivity and life history diversity) in Ecosystem and Diagnosis and Treatment model outputs; displayed in consumer report diagrams at the reach-scale for individual populations at the reach-scale for all populations combined. Level 3 Limiting habitat factors assessed are: channel stability, chemicals, competition (with hatchery fish), competition (with other species), flow, food, habitat diversity, harassment/poaching, obstructions, oxygen, pathogens, predation, sediment load, temperature, withdrawals, key habitat quantity. See LCFRB Recovery Plan (2010): Volume III, Appendix E, Chapter 6.
- **Match:** The cost-share for a project such as cash, bond funds, grants (unless prohibited by the contracting entity), labor, equipment and equipment use, materials, staff time, and donations.
- **Primary Population:** The recovery designation for populations that are targeted for restoration to High or Very High viability. These populations are the foundation of salmon recovery. At least two populations per strata must be at High or better viability to meet recommended Technical Review Team (TRT) criteria. Primary populations are typically the strongest extant populations and/or those

with the best prospects for protection or restoration. These typically include populations at High or Medium viability during the listing baseline. In some cases, populations with Low or Very Low baseline viability were also designated as Primary populations in order to achieve viable strata and species conditions. See LCFRB Recovery Plan (2010): Volume I, Chapter 4.

- **PRISM:** Project Information System; the online project database administered by the Recreation and Conservation Office. See https://rco.wa.gov/recreation-and-conservation-office-grants/apply-for-a-grant/prism/
- **Project Metrics:** Measurable attributes relating to a specific project category. Project metrics are entered in PRISM and finalized during project close out in Salmon Recovery Portal. See https://srp.rco.wa.gov/
- **Project Type:** The general project work such as acquisition, restoration, monitoring and planning (design and assessment projects), or a combination of these. Project types are selected in SRP and PRISM.
- **Recovery Plan:** The Lower Columbia Salmon Recovery and Fish & Wildlife Subbasin Plan was drafted in 2004, revised in 2010, and adopted by the National Marine Fisheries Service (NMFS) as part of the domain Recovery Plan (2013) for the Endangered Species Act (ESA)-listed species made up of Washington and Oregon populations in the Lower Columbia and Columbia River Estuary. See https://lcfrb.org/library/recovery-plans
- **Recreation and Conservation Office:** The agency designated by RCW 77.85 to administer salmon recovery grants. See https://rco.wa.gov/
- **Regional Habitat Strategy:** The LCFRB 6-year Habitat Work Schedule as defined by RCW 77.85.060. For the Lower Columbia region, the Habitat Work Schedule database is the Salmon Resource Map. See https://www.lcfrb.org/salmon-resource-map
- **Salmon Recovery Funding Board:** The Washington State board established by RCW 77.85.110 to allocate certain state and federal funds for salmon recovery projects. See https://rco.wa.gov/boards/salmon-recovery-funding-board/
- **Salmon Recovery Portal:** The Recreation and Conservation Office's online database that tracks habitat projects by lead entity. Salmon Recovery Portal information is used by the LCFRB, other lead entities, and the WA State Recreation and Conservation Office when summarizing habitat project and recovery action implementation. When linked to PRISM, Salmon Recovery Portal project records reflect the most up to date metrics for a project. See https://srp.rco.wa.gov/
- **Salmon Recovery Project:** Activities that preserve, restore, and enhance watershed and stream conditions for the benefit of salmon and steelhead. Project types will vary depending on the granting agency and include, but not limited to, acquisition, planning, restoration, education, and studies.
- **Species Reach Potential (SRP):** Population-specific ratings (low, medium, high) assigned to stream reaches based on modeled population performance (abundance, productivity and life history diversity) responses to full restoration (Template) and degradation (Patient) scenarios across all stream reaches in a subbasin; SRP ratings of High are assigned to reaches that are modeled to support the top third of population performance, Medium ratings are assigned to reaches that are modeled to support the middle third of population performance, and Low ratings are assigned to reaches that are modeled to support the bottom third of population performance. See LCFRB Recovery Plan (2010): Volume III, Appendix E, Chapter 6.
- **Sponsor:** The primary party responsible for project implementation and monitoring should a proposal be approved and funded; the agency or individual receiving grant funds for work performed to support the project.

- **Stabilizing Population:** The recovery designation for populations that must be maintained at baseline viability levels. Stabilizing populations might include those where significance is low, feasibility is low, and uncertainty is high for improving viability. While Stabilizing populations are not targeted for significant improvement, substantive recovery actions will typically be required to avoid further degradation. See LCFRB Recovery Plan (2010): Volume I, Chapter 4.
- **Subbasin:** Watersheds that are defined at population-scales as identified in the Recovery Plan and the Northwest Power and Conservation Council Fish & Wildlife Plan. See LCFRB Recovery Plan (2010): Volume I, Chapter 7 and all of Volume II.
- **Technical Advisory Committee (TAC):** The Lower Columbia Fish Recovery Board's Technical Advisory Committee established in RCW 77.85.200(2). See https://lcfrb.org/about-us/our-people.
- **Tier Ratings:** Ratings of 1 - 4 assigned to tier reaches based on EDT-modeled population performance responses (i.e. Species Reach Potential ratings) and recovery designations (i.e. Primary, Contributing and Stabilizing) for all populations present within a reach. See LCFRB Recovery Plan (2010): Volume I, Chapter 7.
- **Viability:** The ability of a population or group of populations to persist over an extended period; a viable salmonid population defined by NMFS is an independent population with negligible risk of extinction (<5%) due to threats from demographic variation, local environmental variation, and genetic diversity changes over a 100-year time frame. LCFRB Recovery Plan (2010): Volume I, Chapter 4.

Appendix B: Common Questions and Issues

The following highlights typical areas of concern that warrant attention when applying for salmon recovery projects. If you have any questions that are not addressed here, please use the contact table in the **Contacts and Schedule** section to determine who to reach out to with your question or concern.

General Project Development

- **Project Scope:** Ensure all application materials are consistently described and presented throughout the application. This includes project area, timeline, metrics, budget and approach. The project scope should be described clearly, succinctly and accurately, and align with the presented metrics. Thoroughly review draft materials to ensure alignment across application components and related attachments.
- **Budget:** Make sure you are clearly defining budget line items and associated units of measure, as well as meeting any project type match requirements for the grants you are applying for. Match requirements change depending on the project type and landownership. For SRFB projects, contingency costs are not allowed, and indirect rates must match what is submitted on the RCO Fiscal Data Collection Sheet.
- **Permitting and Associated Reviews:** Provide adequate time and ensure funds are sufficient to complete the permitting process and associated reviews prior to construction. Depending on location and the permitting agency workload, it can take over a year for approval. Guiding information can be found at: https://www.oria.wa.gov/site/alias__oria/347/our_permitting_services.aspx
- **Pre-Agreement Costs:** Check early with the granting organization to determine what qualifies as a pre-agreement cost. In general, application preparation does not count as a pre-agreement cost, but certain tasks scoped in the agreement may be reimbursable if work starts pre-agreement.
- **Landowner Outreach:** Landowner acknowledgement forms must be submitted with application materials, and access permission is required for in-person proposal presentations. The earlier project ideas are discussed with landowners the better. If landowners cannot be reached in time to meet application deadlines, it is important to be able to show outreach started early in the process so LCFRB staff can determine the importance of delaying landowner acknowledgement.
- **Revising Applications:** Although applicants may have the opportunity to refine proposals after receiving feedback, significant changes outside of what is recommended by grant managers, the LCFRB, TAC and other review committees may not be allowed. If a proposal is not fully scoped with limited uncertainty by the first application deadline, applicants are encouraged to delay submitting a proposal until the following grant round.
- **Goals and Objectives:** Proposal goals and objectives should be clearly defined, connect back to limiting factors for targeted salmon and steelhead, and achievable, with quantifiable outcomes. Objectives should follow SMART guidelines to support proposal review and evaluation. Unclear goals and objectives may negatively impact final application evaluation and funding recommendations. RCO provides definitions and examples of using SMART objectives for Salmon Recovery Funding

Board applications: https://rco.wa.gov/wp-content/uploads/2020/02/SRFB-Goals-and-Objectives-Examples.docx

Salmon Recovery Portal

- **Starting an application:** LCFRB staff will ask applicants to fill out a form with project information. Staff will use this information to start a Salmon Recovery Portal (SRP) record and link it to PRISM if a PRISM application is also required for the grant program. LCFRB staff will provide applicants with an SRP project number if their application does not include a PRISM component.
- **Data entry:** LCFRB staff will use proposed project details provided by the applicant to start an SRP project record. If an applicant is updating a proposal in PRISM, staff may reach out to make sure selected PRISM metrics qualify for SRP updates. If PRISM metrics do not align, staff will work with applicants to identify equivalent PRISM metrics that are compatible with both programs. Planning project types do not require restoration or acquisition metrics. Projects that include restoration and/or acquisition elements will need to include metrics for all project elements.
- **Completed projects:** When a project is completed, staff will contact sponsors to ensure that metrics in SRP reflect the final project outcomes.

PRISM

- **Starting and editing a project record:** Applicants must have a PRISM login to edit information in PRISM. LCFRB staff will provide applicants with PRISM IDs to start working on a PRISM project record. You can learn more about PRISM and create a PRISM User Account here: https://rco.wa.gov/recreation-and-conservation-office-grants/apply-for-a-grant/prism/
- **Data entry questions or errors:** Applicants should work with the WA RCO to troubleshoot PRISM project record data entry. RCO contacts are included in **Table 1**. General PRISM questions can also be directed to the PRISM support (PRISMSupport@rco.wa.gov or 360-902-3086).

Appendix C: Salmon Recovery Funding Board Application Process and Materials

Applications for Salmon Recovery Funding Board (SRFB) project funding in the Lower Columbia region[4] must be made through the LCFRB. The LCFRB as a lead entity will review, rank, and submit funding recommendations to the SRFB. The LCFRB will provide information on the grant round requirements, and the associated calendar, on the website and with the annual grant manual. Every effort will be made to provide application forms and instructions, procedures and the grant review schedule in a timely manner. However, SRFB approved materials are contingent upon their adoption which may or may not coincide with the LCFRB's opening of the grant cycle. The LCFRB's project grant application process is based largely on the SRFB grants Manuals 3, 5, and 18[5].

Eligibility

SRFB proposals identified as being fatally flawed by the LCFRB TAC and/or a Project of Concern by the SRFB Review Panel in previous grant rounds will not be accepted as returning applications, unless the sponsor re-scopes the proposal to address all the issues and concerns identified by reviewers that led to the designation and/or determination. LCFRB staff will determine if any resubmitted proposals address previously identified issues prior to forwarding applications to the LCFRB TAC for review. Please review the LCFRB Policy Manual (**Application Development** section) and RCO Manual 18 for project type and applicant eligibility.

Data Requests

Applicants should contact LCFRB staff at the pre-proposal meeting stage, but no later than the initial application deadline, with any fish distribution or habitat data requests. Staff will work with WDFW biologists and other technical experts to address data requests. Supporting information will be provided to applicants and reviewers in Benefits to Fish supporting information packets. Applicants should not reach out to WDFW staff with data requests without first consulting LCFRB staff. Interested applicants can access WDFW adult fish data sets online: a tutorial on accessing this information is included in the LCFRB website.

Monitoring Projects

In 2024 the SRFB established a statewide, competitive monitoring grant program that will be offered in odd-numbered years. Monitoring grant opportunities are open to regional recovery organizations and their designated project partners. The program relies upon regional recovery organizations to identify, craft, plan and direct monitoring projects but does include statewide priorities. The regional recovery organization's role is to help focus project priorities based on regional recovery needs, and to establish rankings to inform the science panel's review and SRFB decisions. Project applicants are directed to RCO

[4] An exception to this is for non-monitoring proposals located in the White Salmon subbasin. These proposals should be submitted through the Klickitat County Lead Entity.
[5] The most up to date SRFB manual and forms can be found online: https://rco. wa.gov/grant/salmon-recovery/

Manual 18M (Salmon Monitoring Grants) for information on statewide program requirements and associated grant round steps.

At the beginning of each SRFB grant round, the LCFRB will announce whether statewide funding will be made available for monitoring projects, the amount of funding, and associated priorities. The LCFRB will also release a request for proposals that identifies regional priorities for project solicitation, as well as the regional process for application review and ranking. Applicants considering submitting monitoring proposals are required to attend a pre-proposal meeting with LCFRB staff during the timeframe identified in the monitoring request for proposals. Potential monitoring applicants should be prepared to discuss proposal scope, fit to regional recovery priorities, and LCFRB role in the project.

Habitat Projects

Habitat planning projects (e.g., assessments, designs, inventories and studies), and restoration, and acquisition projects are the primary project type for the SRFB grant program. All requirements and processes described in this appendix apply to these projects unless noted otherwise.

Planning Projects

Applicants proposing assessment planning project types are required to attend a pre-proposal meeting with LCFRB staff during the timeframe identified on the annual grant round calendar. Assessment applicants should be prepared to discuss assessment type (i.e. design versus assessment primary focus, see RCO Manual 18 guidelines), fit to regional recovery priorities, and potential LCFRB role in the project.

Application Submittal

All applicants seeking grant funding ***must*** submit all required application materials in PRISM by the due date and time posted in the LCFRB grant round schedule. Application materials are identified in the **Application Checklist** section. It is the applicant's responsibility to ensure all materials are included and complete. Applications that are incomplete at the submittal deadline, or that are submitted after the published deadline, will be disqualified from further consideration. Application edits after submittal deadlines are only allowed if the RCO Granter Manager, LCFRB staff, TAC and/or SRFB Review Panel request revisions.

PRISM applications are started by LCFRB staff based on basic project metrics applicants provide early in the grant round process. Staff use this information to create a Salmon Recovery Portal application for proposals and links to PRISM project records. Once the link to PRISM is completed by staff, applicants can start working in PRISM on RCO required application components. Required Salmon Recovery Portal metrics will be posted on the LCFRB website at the beginning of the grant round for applicants to review, complete, and send back to staff. It may take LCFRB staff up to five business days to provide applicants a PRISM project record after receiving the required metrics.

LCFRB staff are available to review proposals prior to application deadlines to ensure that materials are complete and ready for evaluation. If an applicant wishes to have materials reviewed for completeness, they must finalize materials in PRISM and notify LCFRB staff at least one week in advance of the grant application deadline. LCFRB staff prepare application review packages for digital distribution to applicants and TAC members prior to proposal presentations. Application review packages include links to PRISM project materials, proposal presentation schedules, and any supporting information for TAC members to consider for scoring.

Proposal Presentations

Proposal presentation dates are included in the annual grant round calendar, but LCFRB staff will not schedule presentations and publish itineraries until after the application deadline. Applicants are asked to hold all proposal presentation days until after schedules and itineraries are published. Due to the large size of the lead entity area, proposals that are difficult to access, have limited feasibility for viewing the full project area, have high quality aerial imagery of key project area features, or that have been visited in previous years may be shifted to a virtual or in-office presentation format. Proposal presentations may also occur virtually in response to health and safety issues, budget limitations, and staff and reviewer scheduling considerations.

Decisions regarding presentation format will be made by LCFRB staff in consultation with SRFB Review Panel members and the RCO Grant Manager, as proposal presentations are required by the SRFB. For these reasons, applicants preferring virtual or office-based presentations are encouraged to inform LCFRB staff early. Regardless of location, applicants are expected to lead presentations, and are responsible for coordinating site access with landowners or land managers. Time will be limited. To maintain fairness, applicants are not allowed to solicit additional proposal presentations with TAC and LCFR Board members outside of the officially scheduled time. TAC and LCFR Board members may request additional proposal presentations if deemed critical for evaluating a project proposal, provided information gained is shared with all LCFR Board and TAC members and LCFRB staff. LCFRB staff will review available resources to determine the feasibility of conducting any requested additional presentations, and what formats may be supported (i.e., field visit vs. virtual).

LCFRB staff will notify applicants of the presentation schedule and amount of time to expect onsite. If presenting at a proposal site, visual aids such as watershed maps and design drawings and project summary handouts may be helpful in providing context for attendees, especially for large or complex sites. When presenting virtually, applicants are encouraged to include design drawings, modeling results, videos, maps, aerial images, and photos to provide visual support for the proposed approach, and to characterize existing conditions and expected habitat outcomes.

Wrap-up meetings will be held during proposal presentation events to discuss reviewer feedback, which will be incorporated into Lead Entity Feedback. TAC members are encouraged to identify any potential fatal flaws during proposal presentations, although fatal flaw status will not be finalized until the scoring stage of the grant round process. This extended deadline is to provide TAC members an opportunity to adjust their perspective on proposals after they review revised materials in the final applications.

Lead Entity Feedback and Review Panel Comments provides applicants an indication of how their proposal may be scored or conditioned at the final review stage. Lead Entity Feedback considers proposal fit to recovery priorities based on Benefits to Fish, Certainty of Success and Cost scoring questions included in the **Evaluation Criteria** section. Staff feedback will be provided and focused on project alignment with Recovery Plan and Regional Habitat Strategy priorities. Both TAC and staff consider the Regional Habitat Strategy and Guiding Principles in this manual as well as other supporting information in their review and feedback. Draft Lead Entity Feedback will be compiled based on proposal presentation wrap-up discussions with TAC members and grant managers. Finalized Lead Entity Feedback will be posted in PRISM for applicants to respond to in their final application materials. Applicants must respond to all Lead Entity and Review Panel requests in final application materials by the application deadline. LCFRB staff are available to assist applicants in reviewing feedback, to help inform finalization of application materials.

The TAC may recommend any application that requires substantial changes or is not fully developed at the preliminary application phase be withdrawn from consideration for the current grant round. These applications will not be eligible for consideration during TAC scoring. It is incumbent upon each TAC member to identify any substantive concerns or comments regarding a project's consistency with the evaluation criteria during the application review process. Any considerations that could lead to limited or no support scores, including potential fatal flaws as identified in the **Evaluation Criteria** section , or scope change recommendations, need to be identified and discussed as early as possible in the grant round process.

Final Application Submittal

All final application materials are due in PRISM by the due date and time posted in the LCFRB grant schedule. Application materials are identified in the **Application Checklists** section. It is the applicant's responsibility to ensure all materials are included and complete. Applications that are incomplete at the submittal deadline will be disqualified from further consideration. No new materials can be provided after the submittal deadline, unless LCFRB staff or RCO grant managers specifically note a missing document and provide time for applicants to correct this issue.

Applicants are invited to meet with LCFRB staff to discuss their final applications prior to submittal, but this is not mandatory. Staff are also available to review final applications to ensure that they are complete and ready for evaluation. If an applicant would like staff to review an application for completeness, they must submit materials in PRISM and notify LCFRB staff at least one week in advance of the grant application deadline.

LCFRB staff prepare final application review packages for distribution to applicants and TAC members after materials are submitted. Final application review packages include links to PRISM project materials and any supporting information for TAC members to consider for scoring. TAC members also receive a scoring worksheet and scoring rationale template

Application Scoring and Ranked List Recommendations

TAC members use the grant-specific **Evaluation Criteria** section and questions to develop scores and supporting rationales across criteria categories. Rationales are important to support and document a comprehensive evaluation of each proposal. Rationales should include comments that reflect score levels for questions within each criteria category, as well as any recommended conditions for funding and implementation. TAC members must submit scores and supporting rationales to LCFRB staff by the due date and time posted in the LCFRB grant schedule. LCFRB staff then aggregate rationales and any proposed project conditions, develop a draft ranked list and calculate scoring statistics (typically minimum, maximum, median scores and rank positions across TAC members).

TAC members discuss and finalize a recommended ranked project list along with supporting rationales and any recommended conditions at the TAC Ranked List Meeting. Applicants are encouraged to attend this meeting to answer questions from the TAC as needed. Additional details on preparing the draft ranked list can be found in the **Technical Advisory Committee Recommended Ranked** Project List section.

LCFRB staff work with the assigned RCO grant manager to ensure that any project conditions are included in the milestones of the project agreement.

Final applications that are identified as a Project of Concern by the SRFB Review Panel will not be included on the LCFRB ranked project list that is submitted to the SRFB for funding. See RCO Manual 18,

Appendix F (SRFB Evaluation Criteria) for more information on SRFB Review Panel evaluation considerations.

LCFRB Review and Approval

See the Policy Manual information (LCFRB Review and Approval of Ranked Project List section).

Submission to the SRFB

Upon approval by the LCFRB, staff will forward the Lead Entity application, ranked project list(s) and project applications to the SRFB along with any additional required supporting information. Additional SRFB due dates and meetings are included in the RCO Manual 18. The LCFRB will notify applicants of final SRFB funding decisions. Projects designated as alternates may receive funding up to one year after the granting-agency award meeting.

Application Checklists

The following materials are due at each major check-in point for SRFB applications (Table 4). Proposals that do not meet these requirements at the application deadline will be disqualified. Exceptions may be made by the Executive Director, in situations when applicants provide evidence that they are doing diligence in attempting to complete application materials (i.e. email communication with a landowner but no formal signature yet). SRFB forms and checklists are online and detail additional requirements such as completing online PRISM fields: https://rco.wa.gov/grant/salmon-recovery/

An application content checklist is also available for applicants' consideration (Table 5). Although this checklist does not outline eligibility details, it does include key questions relating to LCFRB and TAC reviews. Staff recommend that applicants ensure answers to the questions in this checklist are clearly addressed in application materials and proposal presentations.

Table 4. Applicant checklist for all SRFB applications. Additional information is available in RCO Manual 18. Materials can be accessed via the checklist links.

LCFRB Application Materials Checklist
Project record data ***Applicants cannot work in PRISM until staff receive this information and create a PRISM project record.***
All PRISM Online data fields and tabs completed. ***LCFRB staff will provide applicants a PRISM project record number and link***
SRFB Application Authorization Form
Project photos in .jpg format (two minimum, five maximum)
Project area maps
For acquisition, restoration and design proposals sponsors must provide current signed and dated RCO Landowner Acknowledge Form for all affected landowners.
For monitoring, nutrient enhancement, vegetation management, and assessment proposals sponsors must provide a current signed and dated LCFRB Landowner Certification Form.
RCO Cost Estimate Spreadsheet, in addition to PRISM Online budget.
Signed and dated RCO Project Partner Contribution Forms. ***only for local sponsor contribution(s) when a state agency is also a project sponsor.***
For acquisition projects, a letter of no objection from appropriate county or city officials.
Project design drawings and other supporting information.
For projects on state-owned aquatic lands and state owned uplands, DNR authorization form. DNR contacts can be found here: https://www.dnr.wa.gov/about/dnr-regions-and-districts
For projects on WDFW-owned lands, WDFW landowner authorization form. Project proposals are due before the end of January to WDFW for consideration in the restoration pathways process. Start the restoration pathways process early by contacting the WDFW Region 5 Southwest Washington Habitat Program Manager (Dave Howe: david.howe@dfw.wa.gov)
Intensively Monitored Watershed Regional Organization Certification (if proposed project is located within the Mill, Abernathy or Germany Creek watersheds) ***LCFRB staff will prepare and submit this certification***
For monitoring projects, RCO Regional Certification ***LCFRB staff will prepare and submit this letter***
Responses to Lead Entity Feedback ***complete in PRISM as part of final application***
All other SRFB required forms and PRISM information.

Table 5. Habitat application content checklist. Some questions may only apply to certain project types, such as restoration proposals to install large wood structures.

LCFRB Habitat Application Content Checklist	
Habitat Conditions and Watershed Processes	☐ Identify any habitat assessment(s) where this proposal is identified. LCFRB assessments can be found online. ☐ Reference identified watershed processes impairments, limiting factors, and habitat actions you are proposing to address. ☐ Describe the quantity (if known) and quality of both existing and proposed habitat conditions using appropriate metrics. ☐ Include visuals illustrating existing habitat conditions for all project areas (i.e. floodplain, channel corridor, riparian corridor, etc.). *DNR Lidar data is available online, and can be used for maps illustrating existing valley, stream channel and other watershed conditions.* ☐ Describe the habitat goals for each proposed structure (i.e. reconnect floodplain habitat, split channel flows, provide hiding/rearing cover, aggrade sediment, etc.). ☐ Describe the existing and proposed long-term riparian conditions in the project area. Include information on plant community composition and note any invasive species concerns. ☐ Identify all riparian restoration locations on project maps. ☐ Describe how restored riparian habitat will be managed and sustained in the future. ☐ Describe how proposed riparian restoration widths were determined, including any landowner constraints that limit riparian widths to less than Site Potential Tree Height. ☐ Describe the landowner(s) commitment to supporting project habitat benefits in the long-term. ☐ If proposing to address a fish passage barrier, describe how this site relates to any other barriers in the watershed. If other barriers exist, include details on timeline for when other barriers may be addressed. ☐ If proposing to address a fish passage barrier, describe how barrier correction provides unimpeded fish passage and supports watershed processes improvements. ☐ If proposing acquisition, describe the threat to onsite conditions and watershed processes if land acquisition does not occur. ☐ If proposing acquisition, describe community support or concerns. ☐ Describe how the proposed approach, scope and scale are sufficient to achieve the proposed fish and habitat outcomes.
Overall Proposal	☐ Proposal goals and objectives should connect back to limiting factors for targeted salmon and steelhead and realistic, quantified outcomes, i.e. SMART objectives. RCO provides definitions and examples of using SMART objectives, which can be found online.

Project Amendments

SRFB amendment process requirements are described in RCO Manual 18, Appendix I. The SRFB requires that certain grant amendments be approved by the Lead Entity prior to SRFB approval. Amendment requests must be approved by all listed parties under "Reviewer" in the below table (Table 6). Listed parties may request additional reviews or condition the project if it is determined that it will improve the quality of the amendment review process. The sponsor should coordinate with LCFRB and RCO staff as early as possible to ensure timely review, and to determine whether a cost increase request or new submission of a new grant proposal is most appropriate. Out of scope work is at risk of not being endorsed or funded.

Table 6. LCFRB Amendment Matrix. To start the amendment review process, all requests must be submitted to LCFRB staff.

Reviewer	Required for any of the following elements	Estimated Timeframe for Review Process
LCFRB staff (TAC consultation optional[6])	• Increase in project scope of work or project footprint without a request for additional grant funds • Decrease in project match • Change in project sponsor • Decrease in project footprint • Change in scope of work • Increase in grant fund request	Up to 30 days

Evaluation Criteria

This document describes the criteria used by the TAC to evaluate habitat protection, restoration and assessment proposals. The LCFRB has established technically-based criteria for evaluating and ranking project proposals based on the Recovery Plan priorities and Regional Habitat Strategy, as well as the principles outlined in the policy manual (**Guiding Principles**). Other relevant technical studies, documents, and information may be considered in evaluating proposals.

Monitoring Projects

Monitoring proposals are evaluated and ranked separately from habitat protection, restoration and assessment proposals. Staff develop ranking recommendations for monitoring proposals based on how well they address priority, regional-scale monitoring needs and gaps, and satisfy requirements identified in the Recovery Plan, the RM&E Program, and NOAA guidance. See the **Monitoring Projects** section and RCO Manual 18 for more details on monitoring proposal evaluation.

Habitat Projects

TAC members score habitat proposals using evaluation questions across three categories: Benefits to Fish; Certainty of Success; and Cost. Each evaluation question is assigned a point range, with definitions describing what constitutes strong, moderate, limited and no support scores. If a TAC member assigns a

[6] TAC consultation may occur via email or at a meeting. Consultation is limited to TAC recommendations, not a consensus decision.

limited or no support score for any evaluation question, this indicates there is a potential fatal flaw, or a concern that the project as proposed is not likely to succeed and therefore should not be funded. Although potential fatal flaws are best identified early in the process, TAC members may wait until final application scoring to identify a fatal flaw as proposals are revised to address reviewer feedback. A potential fatal flaw occurs when the average of all participating TAC members' scores is in the low or no support point range for any individual evaluation question. If any proposal meets this fatal flaw criterion, staff will introduce a fatal flaw discussion at the TAC Ranked List meeting. TAC members will be asked to discuss and determine whether the concerns leading to a low or no support are significant enough to prevent the project from moving forward, or whether concerns could be adequately addressed through project conditions or other means. If TAC members determine a proposal is fatally flawed, it will be removed from the TAC recommended ranked project list. More information on the TAC recommended ranked list is found in the **Technical Advisory Committee Recommended Ranked Project List** section.

Supporting Information

Staff will work with TAC members and applicants to identify supporting resources for the TAC to consider when evaluating and scoring proposals (Table 7). The Regional Habitat Strategy is a key resource for this information, as are the supporting materials and guiding principles identified in the Grants Manual. Key data types and sources are described below. Regional Habitat Strategy information is available via the Lower Columbia Salmon Resource Map. Other resources are available via the LCFRB online library.

Table 7. Data types and sources that staff may consider when providing supporting information to the TAC for proposal scoring. Data sets available as a data layer or data attribute in the Lower Columbia Salmon Resource Map are flagged with a "yes" value.

Data Type	Data Source	Available in the Salmon Resource Map?
Population Recovery Designation	Recovery Plan	Yes
Population historical legacy and core status	Grants Manual, **Appendix E: Additional Resources**	No
Population viability status	Recovery Plan reporting	Yes
All-H threat targets and impact reduction progress at population and species-scales	Recovery Plan reporting, NOAA Status Review	No
Habitat trajectories at watershed-scales	Recovery Plan reporting, NOAA Status Review	No
EDT stream reach tier ratings	Recovery Plan	Yes
Species Reach Potential ratings for EDT stream reaches	Recovery Plan	Yes
Multi-species restoration and protection priorities	Recovery Plan	Yes
Limiting factors for populations	EDT outputs (consumer report diagrams), watershed assessments, population-scale monitoring data	No
Population performance bottlenecks	IMW reporting, watershed assessments, population-scale monitoring data	No

Project sequencing history (i.e. previous assessments, design, or construction efforts linked to current proposal)	Regional Habitat Strategy	Yes
Climate change impacts to salmon habitat	Grants Manual, **Appendix E: Additional Resources**	No
Tidally-influenced habitat benefits	Regional Habitat Strategy	Yes
Protected Lands	Regional Habitat Strategy	Yes
At-Risk Habitat	Regional Habitat Strategy	Yes

Regional Habitat Strategy Priorities

Benefits to Fish evaluation questions are developed with the goal of ensuring proposals target survival bottlenecks for high priority populations in watershed areas where the benefits are expected to persist. Priority populations are identified in the Recovery Plan and Regional Habitat Strategy as well as summarized in the Grants Manual **Guiding Principles**. Priority populations are identified are based in part on the recovery designations (Table 8) and recovery progress since ESA listings (Table 9). Priority populations identified based on recovery progress are identified with the goal of protecting populations that have already achieved High or greater viability status (i.e. Stronghold populations) as well as protecting and restoring populations that still need to make substantial gains in abundance to meet recovery goals (i.e. Stronghold Expansion populations). Stronghold populations may not be prioritized based on their recovery designations (i.e. Stabilizing populations that are identified as viable) but Stronghold Expansion populations are already considered high priority populations for recovery based on their recovery designations (Primary or Contributing). Population priorities are included in Appendix E (**Supplemental Fish Population**).

Table 8. Recovery designations for Lower Columbia populations.

Recovery Designations	Viability Goal	Description	Persistence Probability
Primary (P)	High (H) or greater	Low (negligible) risk of extinction	95-99%
Contributing (C)	Medium (M)	Medium risk of extinction	75-94%
Stabilizing (S)	Very Low (VL) to Low (L)	Stable, but relatively high risk of extinction	40-74%

Table 9. Recovery progress categories to inform population priorities for recovery. Stronghold and Stronghold Expansion populations are identified based on a recent viability assessment by the LCFRB and WDFW (2020) and abundance status and trends reporting by WDFW (2024), available on the LCFRB website.

Recovery Progress Status	Description
Stronghold	Populations identified as viable (i.e. 2020 viability status of High or greater). It is assumed that protecting and recovering these populations support species-scale recovery and resiliency.
Stronghold Expansion	Populations identified as important to species-scale recovery that still need to make substantial gains in order to meet ESA delisting abundance goals to support species-scale recovery: Primary and Contributing populations with 5-year geometric mean abundances of natural-origin spawners that are 25% or less of ESA delisting goals (WDFW 2024).

Population survival bottlenecks and limiting factors indicate which habitat or non-habitat impacts are preventing populations from improving and achieving viability targets. There is no single data source for survival bottlenecks and habitat limiting factors. Instead, habitat restoration and protection priorities at stream reach scales are included in the Regional Habitat Strategy, and watershed assessments, Intensively Monitored Watershed Studies and other monitoring efforts provide key information. All-H impacts were integrated into the lower Columbia viability status assessment and provide important information on how hatchery and harvest programs, hydropower impacts and fish passage may limit population viability. Project sponsors are encouraged to review the data sources in and included as part of the Regional Habitat Strategy as well as reach out to staff with any specific questions.

Non-Habitat Factors	Resources
Hatchery locations and hatchery program types	WDFW Future Brood Reports
pHOS and PNI rates compared to population targets	WDFW Hatchery Indicators
Weir locations	LCFRB, WDFW
Fish passage rates or volitional access opportunities	Tacoma Power (Cowlitz basin), WDFW (North Fork Toutle), PacifiCorp (Lewis basin)
Harvest rates	NOAA, WDFW

Stream reach priorities include the single-species restoration/protection priority for a targeted stream reach (Species Reach Potential, SRP and the multi-species recovery priority for the targeted stream reaches (Tier Rating) are defined in **Appendix A: Definitions**. Priorities can also be found in watershed-scale assessments and by reviewing available monitoring data and information.

The Regional Habitat Strategy also identifies multi-species restoration ratings (High, Medium, or Low) and restoration and protection percentages for stream reaches modeled in EDT. Multi-species restoration ratings are based on the relative importance of limiting factors modeled in EDT to supporting population performance improvements in restoration/protection scenarios and are weighted by the recovery priorities of populations in the stream reach. Greater weight is assigned to restoration strategies and approaches that support high priority limiting factors for Primary populations than strategies that support low priority limiting factors for Primary populations or low to high priority limiting factors for Contributing or Stabilizing populations. Multi-species restoration and protection percentages identify the relative population performance benefit from restoring conditions versus preventing degradation of existing conditions. For example, a stream reach that has a 70% restoration value and a 30% protection value indicates that population performance benefits are primarily modeled for improving conditions.

At-Risk and Protected Habitat

Historic, current and future land use programs are primary drivers of watershed processes and salmon and steelhead habitat conditions. Upland and aquatic habitats that are currently sustaining salmon and steelhead populations may become at risk from future development if programs and policies are not in place to adequately protect riparian and floodplain habitats, and water quantity and quality in the long-term. Evaluation criteria therefore consider existing land use programs and likely future habitat conditions in identifying areas where benefits of habitat restoration work will be sustained over the long-term, and where conservation actions are needed. Landscape Units included in the Lower

Columbia Salmon Resource Map provide information on land use patterns and land cover, but project sponsors are encouraged to work with staff to identify existing and future project constraints and opportunities imposed by land use plans, programs and resulting habitat conditions. At-Risk and Protected Lands are defined below and inform Benefits to Fish evaluation.

- At-Risk Habitat: upland and aquatic habitats important for watershed process functions or salmon and steelhead migration, rearing and/or spawning that could be degraded through land use changes if land is not acquired or conserved through easements or other management programs or policies that support natural ecosystem conditions. Land use changes include conversion of forest or other open space and natural area lands to rural or other development types with smaller riparian buffer requirements and potential for increased impervious surfaces. Risk factors for conversion or development include: proximity to already developed lands and road networks, and level of protection via Shoreline Master Programs, Comprehensive Plans, zoning designations and/or other land use programs.
- Protected Lands: upland and aquatic areas that are managed for long-term natural ecosystem benefits and functions and do not meet at-risk habitat criteria because ownership or other management controls demonstrate conservation in perpetuity (i.e. land trust properties, secured green spaces, state/federal conservation lands, etc.) or for multiple generations of fish (i.e. U.S. Forest Service reserved lands, Department of Natural Resources managed and regulated lands, open space land use designations, etc.). The presence of critical areas do not indicate protected lands as critical area ordinances are not necessarily indicators of protection or conservation status.

Projects Identified in Watershed Assessments and Strategies

A number of watershed-scale assessments and strategies have been completed in the Lower Columbia Lead Entity that refine our understanding of limiting habitat factors to salmon and steelhead and watershed processes and identify project concepts and/or preliminary-level designs. Concepts and designs are developed through a stakeholder review process, and supplement Recovery Plan and Regional Habitat Strategy priorities through the collection of new information and analysis. For these reasons, projects identified in assessments and strategies may receive additional consideration in scoring and ranking, especially if the project was identified as a relatively high priority. Applicants should indicate if proposals were identified in a past watershed assessment or strategy project, although LCFRB staff and TAC will determine if current proposals align well with originally identified projects. Watershed assessments and strategies can be found on the LCFRB website: https://lcfrb.org/library/habitat.

Process-Based Restoration

Certainty of Success evaluations questions are designed to assess if proposals rely on the most appropriate approaches for protecting and improving watershed processes and salmon habitat considering All-H salmon recovery, implementation methods and constraints and project team capabilities. Habitat projects should be compatible with watershed processes to ensure habitat restoration efforts do not further degrade existing conditions and habitat gains are sustained by natural processes in the long-term. There are several process-based restoration resources for project sponsors to consider when developing project ideas, including:

- Stream Habitat Restoration Guidelines for the Washington State Aquatic Habitat Guidelines Program;
- Guidance for Stream Restoration from the National Stream & Aquatic Ecology Center;
- Low-Tech Process Based Restoration of Riverscapes Design Manual;

- Design Criteria for Process-Based Restoration of Fluvial Systems; and,
- Process-Based Principles for Restoring River Ecosystems.

Considering ongoing climate change impacts to watershed processes is an important part of process-based river restoration. The Recovery Plan calls for consideration of climate change in establishing protection and restoration priorities for fish populations, and for development of recovery objectives, strategies and measures that adequately consider the likely long-term impacts of climate change on population viability[7]. The LCFRB worked with the TAC to collect and synthesize available information on likely climate change effects to watershed processes in the Lower Columbia region, and how these may impact salmon and steelhead life histories and recovery needs (LCFRB 2018). Recommendations are below, in Appendix E: Additional Resources, and the Climate Change and Habitat Priorities report (LCFRB 2018). Recommendations should be considered by applicants when developing restoration and protection proposals.

1. Proposals should address **habitat diversity**, which is necessary to support life history diversity and population and species resiliency. Establishing, improving or preserving longitudinal (tributaries), lateral (off-channel/side-channel, floodplains, wetlands), and vertical connections (re-aggrading channels) are important considerations for effectively addressing climate change. Life history diversity is supported when a variety of complex and diverse (i.e. flow heterogeneity) habitats are available to fish to use across life stages.

2. Connection to and enhancement/preservation of **cold water refugia** are essential for priority populations that are, or likely will be, limited by thermal stress, such as stream-type salmon and steelhead populations. Table 16 identifies preliminary cold water refugia habitat available to fish migrating through the Lower Columbia mainstem. Increasing hyporheic exchange via increased vertical habitat connectivity can also support cold water refugia.

3. **Mature riparian and upland forest** restoration and protection is essential to reducing temperature increase rates, although watershed-scale benefits are more likely in small tributary and headwater habitats.

4. Providing and maintaining access to **high quality floodplain habitat** is essential to reducing negative impacts to fish resulting from increased magnitude and frequency of high flow events. Efforts to increase quality and connectivity of floodplain areas will benefit both stream-type and ocean-type salmon and steelhead.

5. **Mid and lower watershed areas** should be targeted for restoration and protection efforts when additional headwater work cannot fully offset climate change impacts. This may be true for headwater areas with already mature forest stands and limited anthropogenic fish barriers.

6. Implement **WRIA water supply and instream flow actions** that directly and/or indirectly support increased quality and quantity of fish habitat. This is especially important when addressing impacts to fish habitat from expected increases in low flow magnitude and frequency, as well as increases in summer temperatures.

[7] See Volume 1, Chapter 5 (Climate and Ocean Effects) in the Recovery Plan for details on this guidance (LCFRB 2010).

Fish Passage Projects

Improving fish passage to isolated, high-quality habitat is a high priority for salmon recovery. Additionally, fish passage correction is an effective restoration tool with relatively quick and positive fish distribution responses (see Roni et al. 2002[8]). However, limited fish passage information was available when EDT models were developed in the region, which led to limited information on how fish passage supports population viability improvements under restoration and protection scenarios. Proposals for fish passage improvements that are expected to support increased distribution and productivity for salmon and steelhead may receive more credit. The following questions will be used to help determine the expected fish benefit of proposed fish passage improvements:

- Is the habitat proposed for reconnection considered low quality for targeted populations because of water quality, water quantity, physical habitat, and/or other ecological factors?
- Will the habitat proposed for reconnection support high priority populations for regional recovery?
- Are viability gains expected by targeted populations if habitat is reconnected and, if so, are viability gains essential for near-term and long-term recovery?
- Will watershed processes be improved by the proposed project (i.e. upstream, downstream and lateral flow, sediment and wood recruitment transport and deposition)?
- Is the proposed approach climate resilient, and designed to address more extreme flow regimes?
- Will passage be fully or partially restored at the site?
- Are there other downstream or upstream passage constraints limiting the benefits from improving the targeted site?

Tidally-Influenced Habitat

Projects proposed for the Lower Columbia mainstem and estuary and tidally influenced tributary reaches may benefit out-of-basin populations. In such cases, out-of-basin salmon and steelhead populations are collectively considered a Primary population. Projects proposed within tidally-influenced habitat are assumed to provide the equivalent of an SRP rating of High for in-basin and out-of-basin populations because of the important foraging and refuge benefits these areas provide fry, parr, and smolts, and the life history diversity benefits they provide to support species resiliency. Tidally-influenced habitat projects can be assumed to support the equivalent of a Medium or Low SRP rating if the TAC determines that habitat benefits are not optimal, or are a low priority for recovery, on a case-by-case basis. The following questions will be used to help determine whether a default SRP High rating should be changed to a medium or low rating:

- Does the project include restoration, enhancement, or creation of historically important habitat types (e.g. tidal flats, emergent and forested tidal wetlands, and sloughs)?
- Does the project preserve, increase, or enhance cold water refuge opportunities?
- Are there overriding concerns regarding water quality that could reduce realized project benefits?
- Does the project support high quality foraging opportunities, with macro-detrital inputs considered optimal?

[8] Roni, P., T. J. Beechie, R. E. Bilby, F. E. Leonetti, M. M. Pollock, and G. R. Pess. 2002. A review of stream restoration techniques and a hierarchical strategy for prioritizing restoration in Pacific Northwest watersheds. North American Journal of Fisheries Management 22:1–20.

- Is there a high degree of connectivity between the targeted habitat and the mainstem Columbia?
- Is the seasonality of habitat availability and accessibility aligned with peak juvenile salmonid presence (January – July)?
- Do spatial location and restoration objectives add complexity to the tidal habitat landscape, to support restoration of historically complex and diverse tidal conditions?
- Has the applicant provided other site-specific fish use and habitat information to substantiate ratings?

Tidally-influenced habitat use by salmon and steelhead is an emerging field of study, and traditional models may not adequately describe benefits, especially for juvenile outmigrants. In preparing supporting materials for proposal evaluation, staff and the TAC may coordinate with other estuary restoration analytical processes and tools, including the Columbia River Estuary Ecosystem Classification, the Landscape Planning Framework, the Restoration Prioritization Strategy, and by consulting new literature.

Based on a review of available literature, reconnecting floodplains, providing access to functional habitat, restoring floodplain riparian habitat conditions, and restoring estuarine wetlands and off-channel habitats are generally identified as high priority multi-species priorities in tidally influenced reaches (Tidal Literature Review and Recommendations, LCFRB 2018).

Nutrient Enhancement Projects

The Recovery Plan and other documents identify marine-derived nutrients as an important element in maintaining stream ecosystem conditions needed by fish. However, a comprehensive assessment of nutrient conditions in the Lower Columbia tributaries has not been conducted. It is also unclear whether benefits from nutrient enhancement are sustainable in the long-term. Consequently, the Regional Habitat Strategy does not identify reach-level nutrient enhancement project needs. The sponsor should supply supporting information for nutrient enhancement proposals, including the targeted stream reaches and populations, nutrient data from the watershed proposed for enhancement that identifies nutrients as a primary limiting factor to targeted populations, proposed nutrient loading levels, type of nutrient delivery, duration (years) of enhancement, and any other pertinent information.

Bank Stabilization

Bank stabilization is not considered as a stand-alone restoration approach in the Regional Habitat Strategy. Instead, it is combined with instream habitat, riparian or off-channel/side channel restoration strategies. Bank stabilization proposals should seek to provide or improve long-term bank stability and channel migration rates through natural processes. Bank stabilization is a justifiable project element when it is used to re-establish natural functions, and does not preclude natural stream processes from occurring in the long-term. Providing stabilization to support the reestablishment of a riparian zone is a good example of a justifiable element. Credit varies based on the function of the structures and techniques used to accomplish bank stabilization:

- Function: Structures used to improve bank stability should also provide instream habitat during targeted flows. The project should also work in concert with riparian plantings to reestablish riparian conditions that support a diversity of wood sizes and species, and increase shade, in addition to reducing sediment supply and short-term channel migration (Cramer 2012[9]).

[9] Cramer, Michelle L. (managing editor). 2012. Stream Habitat Restoration Guidelines. Co-published by the Washington Departments of Fish and Wildlife, Natural Resources, Transportation and Ecology, Washington State

- Technique: Stabilization should be accomplished using soft or bioengineering techniques where combinations of wood, rock, or fiber mats are used to protect the bank until natural riparian systems can become established to protect the bank. Stabilization accomplished using soft engineering techniques receive preference over hard engineering techniques (Cramer 2012).

Habitat Project Scoring

TAC members score proposals across three evaluation categories: Benefits to Fish, Certainty of Success, and Cost. Benefits to Fish scores are intended to reflect to what degree proposals target survival bottlenecks for high priority populations in watershed areas where benefits are expected to persist. The three Benefits to Fish questions are worth 45% of the total project score. Certainty of Success scores are designed to reflect how likely a proposal will achieve proposed outcomes or benefits considering All-H salmon recovery, implementation methods and constraints and project team capabilities. The five Certainty of Success questions are worth 45% of the total project score. The remaining two questions comprise 10% of points and relate to evaluation of Cost. These questions consider whether the requested grant funds are appropriate given the expected long-term benefits from the proposed habitat actions. TAC members can assign 0 – 10 points for each of the ten evaluation questions, with descriptions provided for each scoring category to guide point assignments. Percentage weights are assigned for each evaluation question to align with the total category weights. The total project score is the sum of each evaluation question score x weight, with a potential score range of 0 to 100 points. Evaluation questions, weights and scoring descriptions are found in **Error! Reference source not found.** and Table 11.

Eligible TAC member scores are averaged from each evaluation question and are then used to generate the total project score that is used for developing the draft ranked project list. The draft ranked project list is ordered from highest total score to lowest total score, although the TAC can reorder the list if they provide specific rationale to support the recommendation. More details on how the TAC recommends a ranked list are found in the **Technical Advisory Committee Recommended Ranked Project List** and **Application Scoring and Ranked List Recommendations** sections.

Recreation and Conservation Office, Puget Sound Partnership, and the U.S. Fish and Wildlife Service. Olympia, Washington.

Table 10. The ten evaluation questions for each of the three scoring categories. Maximum available points are the same for each question (10), but each question is assigned equal weight for the overall scoring category weights.

Evaluation Questions	Question Text	Available Points	Weight
Benefits to Fish Evaluation Category		**30**	**45%**
Benefits to Fish – Question 1	Does the proposal target high priority populations for species-scale recovery?	10	15%
Benefits to Fish – Question 2	Does the proposal target key survival bottlenecks and habitat limiting factors?	10	15%
Benefits to Fish – Question 3	Does the proposal target watershed areas and salmon habitat that are likely to persist in the long term?	10	15%
Certainty of Success Evaluation Category		**50**	**45%**
Certainty of Success – Question 4	Does the proposal use a process-based and climate informed approach to watershed restoration and protection?	10	9%
Certainty of Success – Question 5	Does the proposal have a well-defined scope and scale consistent with and appropriate for the stated goals and objectives?	10	9%
Certainty of Success – Question 6	Is the proposal logically sequenced with other All-H salmon recovery efforts in the watershed?	10	9%
Certainty of Success – Question 7	What is the potential for funding, scientific/technical, permitting, legal, and/or physical constraints or uncertainties to affect successful project implementation?	10	9%
Certainty of Success – Question 8	How qualified and experienced is the project team at successfully completing similar projects?	10	9%
Cost Evaluation Category		**20**	**10%**
Cost – Question 9	Are the requested project costs reasonable relative to the expected salmon recovery benefits?	10	5%
Cost – Question 10	Does the project demonstrate partnership and resource leveraging to support and/or expand the benefits of the proposed work?	10	5%
Total Points and Scoring Weights		**100**	**100%**

Table 11. TAC evaluation questions for scoring habitat protection, assessment, design and restoration project proposals. Scoring bins are described with number of potential points TAC members can assign per question. "No Support" and "Limited Support" scores for one or more questions may indicate a fatally flawed proposal, which may not be included on the Lead Entity Ranked List for funding.

Scoring Category and Question #	Question	Strong Support – 8 to 10 Points	Moderate Support – 4 to 7 Points	Limited Support – 1 to 3 Points	No Support – 0 Points
Benefits to Fish: Question 1	**Does the proposal target high priority populations for species-scale recovery?**	2 or more LCFRB identified high priority populations (Primary, Stronghold/ Stronghold Expansion) will benefit from the proposal.	1 LCFRB identified high priority population (Primary, Stronghold/ Stronghold Expansion) will benefit from the proposal.	No high priority populations will benefit from the proposal. 1 or more LCFRB identified moderate priority population (Contributing) will benefit from the proposal.	No LCFRB identified high or moderate priority populations will benefit from the proposal.
Benefits to Fish: Question 2	**Does the proposal target key survival bottlenecks and habitat limiting factors?**	Clear focus on habitat factors that limit survival at the population, strata or species scales.	Some focus on habitat factors that limit survival at the population, strata or species scales.	Minimal focus on habitat and unlikely to improve survival at the population, strata or species scales.	The proposal does not address any known survival bottlenecks or habitats for the targeted populations.
Benefits to Fish: Question 3	**Does the proposal target watershed areas and salmon habitat that are likely to persist in the long term?**	**Acquisition Proposals** Proposal protects at-risk habitat that supports important watershed processes or salmon habitat.	**Acquisition Proposals** Proposal protects at-risk habitat that supports moderately important watershed processes or salmon habitat.	**Acquisition Proposals** Proposal protects at-risk habitat that supports minimally important watershed processes or salmon habitat.	**Acquisition Proposals** Proposal does not demonstrate risk to habitats or watershed processes that warrant protection actions.
		Planning and Restoration Proposals Proposal includes restoration work on or passage to fully protected lands and is expected to persist and be maintained by compatible land use practices.	**Planning and Restoration Proposals** Proposal includes restoration work on or passage to some, but not all, protected lands and may not persist because of land use practices.	**Planning and Restoration Proposals** Proposal includes restoration work on or passage to lands with limited protection, and is unlikely to persist because of land use practices.	**Planning and Restoration Proposals** Proposal includes restoration work that is not expected to persist beyond a 10-year landowner agreement because of land use practices.

Scoring Category and Question #	Question	Strong Support – 8 to 10 Points	Moderate Support – 4 to 7 Points	Limited Support – 1 to 3 Points	No Support – 0 Points
Certainty of Success: Question 4	**Does the proposal use a process-based and climate informed approach to watershed restoration and protection?**	The proposal is fully compatible with watershed processes and targets underlying drivers or impairments. And, the proposal mitigates for climate change impacts to watershed processes and/or key habitat.	The proposal is compatible with watershed processes but does not fully consider underlying impairments, including climate change impacts.	The proposal may not be fully compatible with watershed processes, nor account for underlying impairments or climate change impacts.	The proposal does not account for overriding watershed process and climate change impacts. The proposal is not expected to achieve goals and objectives because of these underlying disconnects.
Certainty of Success: Question 5	**Does the proposal have a well-defined scope and scale consistent with and appropriate for the stated goals and objectives?**	The proposal has a detailed and comprehensive scope that is highly likely to meet all of the clearly defined goals and objectives.	The proposal has a moderately detailed and comprehensive scope that is expected to meet at least the primary stated goals and objectives.	The proposal does not have a detailed and/or comprehensive scope and is not likely to meet most, including primary, stated goals and objectives.	The proposal scope and/or goals and objectives are unclear, and no goals or objectives are likely to be met.
Certainty of Success: Question 6	**Is the proposal logically sequenced with other All-H salmon recovery efforts in the watershed?**	The proposal leverages and builds upon ongoing watershed scale efforts, including other habitat projects and non-habitat factors.	The proposal accounts for some but not all ongoing habitat projects and non-habitat factors at watershed scales, potentially delaying or reducing benefits from the proposed habitat actions.	The proposal accounts for some but not key, ongoing habitat projects and non-habitat factors at watershed scales, likely delaying or reducing benefits from the proposed habitat actions.	The proposal does not account for other habitat projects and non-habitat factors in the watershed, potentially creating more complex, expensive and delayed activities, resulting in negative outcomes.
Certainty of Success: Question 7	**What is the potential for funding, scientific/technical, permitting, legal, and/or physical constraints or uncertainties to affect successful project implementation?**	Constraints and uncertainties are minimal, and project implementation is highly likely to be successful.	Constraints and uncertainties are present but project implementation is likely to be successful.	Constraints and uncertainties are present and project implementation is likely to be delayed or incomplete.	Constraints and uncertainties are expected to limit or prevent implementation.

Scoring Category and Question #	Question	Strong Support – 8 to 10 Points	Moderate Support – 4 to 7 Points	Limited Support – 1 to 3 Points	No Support – 0 Points
Certainty of Success: Question 8	**How qualified and experienced is the project team at successfully completing similar projects?**	The project proposal clearly demonstrates the project sponsor and team, based on their abilities, qualifications, and combined record of project implementation, can complete the project scope on time and within budget.	The project proposal demonstrates to a moderate degree that the project sponsor and team, based on their abilities, qualifications, and combined record of project implementation, can complete the project scope on time and within budget	The project proposal demonstrates to some but limited degree that the project sponsor and team, based on their abilities, qualifications, and combined record of project implementation. can complete the project scope on time and within budget	The project proposal does not demonstrate that the project sponsor and team, based on their abilities, qualifications, and combined record of project implementation, can complete the project scope on time and within budget
Cost: Question 9	**Are the requested project costs reasonable relative to the expected salmon recovery benefits?**	The project costs are highly reasonable given the certainty of long-term population, strata or species-scale recovery benefits.	The project costs are somewhat reasonable given the certainty of long-term population, strata or species-scale recovery benefits.	The project costs are high given the certainty of long-term population, strata or species-scale recovery benefits.	The project costs are not reasonable given high costs and/or minimal certainty in long-term salmon recovery benefits.
Cost: Question 10	**Does the project demonstrate partnership and resource leveraging to support and/or expand the benefits of the proposed work?**	The project maximizes opportunities to support and/or expand the benefits of the proposal by leveraging partnerships and resources.	The project demonstrates moderate efforts to leverage support through pursuing partnerships and/or other resources.	The project demonstrates limited efforts to leverage support through pursuing partnerships and/or other resources.	The project does not demonstrate any efforts to leverage support through partnerships and/or other resources. The project may be contradictory to ongoing partnerships in the proposal area.

Award Information

SRFB awards are administered and contracted through the Washington State Recreation and Conservation Office. Please review RCO Manual 18 and discuss any award concerns with the RCO grant manager assigned to the Lead Entity.

Appendix D: Cowlitz Restoration and Recovery Habitat Program (CRR) Application Process and Materials

Background

The Cowlitz Recovery and Restoration (CRR) Fund was established and approved by the Federal Energy Regulatory Commission (FERC) in 2019 as a grant program to fund habitat and hatchery-associated production (HAP) projects in the Cowlitz River watershed in lieu of upstream volitional fish passage through the Cowlitz Hydroelectric Project. Habitat project awards are funded by Tacoma Power's dedicated CRR Habitat Program Fund. The fund was established with $15,000,000 in 2008 and is interest bearing. As described in the CRR Implementation Plan (Tacoma Power 2017), the CRR Habitat Program shall be used for the purposes of protecting and promoting the recovery of ESA-listed upper Cowlitz basin salmonid stocks. Funded habitat projects must be located in the Cowlitz River basin upstream of the mouth of the Toutle River. This includes the mainstem Cowlitz River, river mouths of the tributaries below Mayfield Dam, and the entire basin upstream of Mayfield Dam, consistent with the purposes of the fund.

Figure 2 below shows the CRR focus area and priority watersheds. Tacoma Power's FERC license also allows CRR Habitat Program funds be made available for HAP projects meeting specific criteria. There is an entirely separate application and review process for HAP projects that is administered directly by Tacoma Power[10].

[10] More information on the HAP program can be found online: https://www.mytpu.org/community-environment/fish-wildlife-environment/cowlitz-river-project/cowlitz-restoration-recovery-project/crr-grants-hatchery-associated-projects/

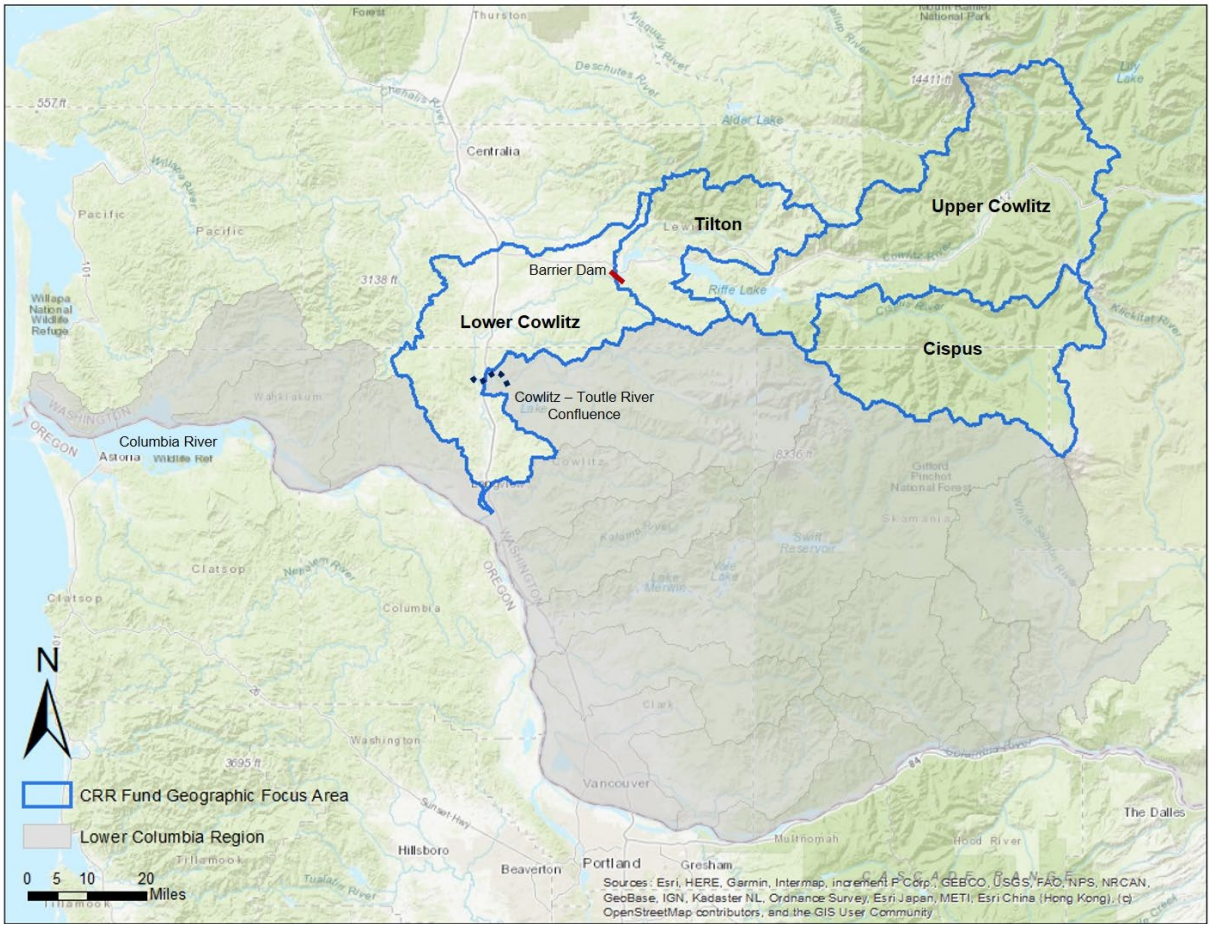


Figure 2.The CRR Fund Geographic Focus Area: Cowlitz River Basin upstream of Barrier Dam and lower Cowlitz mainstem and tributary mouths between Barrier Dam and Toutle River.

Tacoma Power plans to expend the entire CRR fund on projects before the FERC license expires in 2037 and will make available up to $3,000,000 per biennium for CRR grant awards. This funding may be distributed between both habitat projects (through the LCFRB Salmon Recovery grant round) and HAP projects.

As lead entity for salmon recovery efforts in southwest Washington and regional salmon recovery organization, the LCFRB has existing habitat programs and resources to evaluate habitat restoration and acquisition projects that are focused on restoration and recovery of ESA-listed salmon and steelhead, within the context of a federally adopted recovery plan. As of 2021, Tacoma Power is partnering with the LCRFB to align the CRR Habitat Program with the Salmon Recovery Funding Board (SRFB) habitat project grant program.

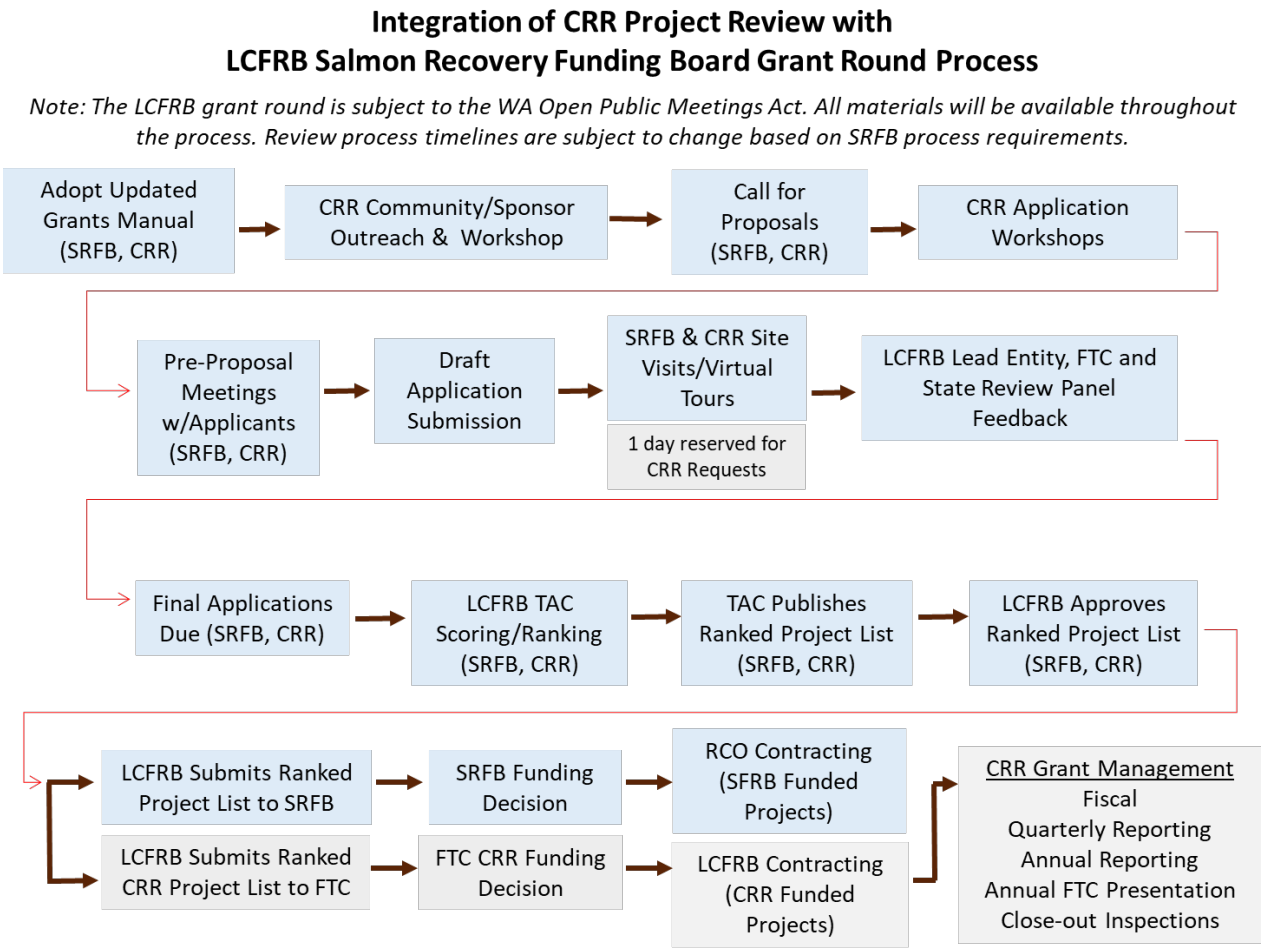
About the Process

The LCFRB will integrate review and evaluation of habitat project applications for the CRR Habitat Program within its annual SRFB Grant Program, as described in this document. Applicants through the CRR Habitat Program will generally follow the guidance and processes described in the Salmon Recovery Grants Manual with additional CRR details and requirements as stated herein. Applicants that are

seeking a combination of CRR and SRFB funding will also need to follow the guidance and processes described in the LCFRB Salmon Recovery Grants Manual Appendix C: Salmon Recovery Funding Board (SRFB) Application Process and Materials (hereafter Grants Manual Appendix C).

Project applications for the CRR Habitat Program must be made through the LCFRB. The LCFR Board, with assistance from their Technical Advisory Committee (TAC) using the process described in the project review and funding section of the LCFRB Salmon Recovery Grants Manual, will review, rank, and submit funding recommendations to Tacoma Power's Cowlitz Fisheries Technical Committee (FTC). Applicants to the CRR Habitat Program should review the CRR Project Review flow chart (Figure 3) and the Application Materials Checklist (Table 12). This chart illustrates the application review and ranking process steps for the Salmon Recovery Grants program, and integration of the CRR Habitat Program into that process. The annual schedule can be found in the grants calendar (Table 2). The program requirements and schedule will be posted on the LCFRB website at the initiation of the grant round each year.

Figure 3. Integration of CRR Project Review with LCFRB Grant Round Review. Blue is the LCFRB process, green is the CRR process. This figure replaces the version and review process information in the CRR Implementation Strategy (2017).



Eligibility

The CRR Habitat Program will be used for the purposes of protecting and promoting the recovery of listed upper Cowlitz River basin salmonid stocks through resource projects that are consistent with this purpose.

Targeted Watersheds and Populations

The CRR Habitat Program project priorities are listed in ranked order as follows.

Projects directly benefiting:

1. Upper Cowlitz and/or Cispus spring Chinook
2. Upper Cowlitz and/or Cispus steelhead and coho
3. Tilton coho and fall Chinook salmon and steelhead listed populations
4. Lower basin listed salmon and steelhead having a high proportion of matching funds

While the CRR Habitat Program prioritizes activities focusing on spring Chinook in the Upper Cowlitz and Cispus basins, it does not exclude activities occurring in other geographic locations (e.g. Tilton River) as long as proposed activities also benefit other listed species (e.g. coho and winter steelhead) originating upstream of Mayfield Dam. Proposed habitat activities downstream of the Barrier Dam will be evaluated based on their benefits to populations originating upstream of Mayfield and Cowlitz Falls dams. Regardless of target populations, all habitat activities must occur within the geographic focus area (Figure 2).

Eligible Applicants

Any Native American Tribe, conservation group registered as a non-profit, Regional Fisheries Enhancement Group, Conservation District, or governmental entity (local, state, or federal), including Tacoma Power, may propose a CRR habitat project. Private landowners may propose restoration projects on their own property, but cannot submit an application for land acquisition. Proposals will be considered as long as they are consistent with the solicitation process and meet the criteria and priorities of the program.

Eligible Project Types

The CRR Habitat Program will support the implementation of on-the-ground projects, or activities that lead to on-the-ground projects (e.g., design-only projects), aimed at protection or restoration of habitat for priority species within the geographic focus area. Funding agreements may span multiple years, typically three years with a maximum of five years. Extensions for unforeseen circumstances may be possible with approval. See the LCFRB CRR Project Management Manual for more information on contract requirements.

Resource projects eligible for funding through the CRR Habitat Program are limited to (in no particular order):

- Riparian and wetland protection and enhancement. Funds may be used to protect riparian corridors and wetlands, provide for native species plantings, non-native plant species management, and erosion control, including planning, design, and implementation monitoring. Riparian projects must include actions to ensure plantings are successfully established and maintained in accordance with the project plans and contractual requirements. To ensure

success of riparian habitat projects over the long-term, applicants may propose riparian stewardship for previously installed riparian habitat sites, provided all prior contractual obligations have been met. Sites may be previously funded CRR projects or other similar riparian habitat planting sites. Eligible activities in stewardship projects may include managing invasive species, replacing unsuccessful plantings, supplementing the site with water, or installing fences or other browse-protection methods.

- Habitat restoration projects. Funds may be used for habitat restoration projects that assist the recovery of upper Cowlitz River basin listed salmonid populations. For example, funds may be used for projects that improve or enhance fish habitat such as cover, pool, and riffle structure, spawning beds, and water quality, including planning, design, and implementation monitoring.
- Other projects not described in the categories above may be eligible upon LCFRB approval for projects that advance the goals/purposes described above.

Ineligible Project Types

Some projects or elements of projects are ineligible as match or for reimbursement. These eligibility requirements are in addition to those described in **Appendix C: Salmon Recovery Funding Board Application Process and Materials**. Activities that are ineligible for reimbursement or match through the CRR Habitat Program include:

- Acquisition of property or easements[11].
- Mitigation projects, activities, or funds.
- Monitoring and maintenance as stand-alone projects, with the exception of riparian stewardship as described above.
- Monitoring for project performance, effectiveness, or validation monitoring.
- Habitat assessments except as provided in the Habitat Assessment section below.
- Effectiveness monitoring costs associated with a project, including purchase of equipment to monitor a restoration or acquisition project.
- Construction of buildings or indoor facilities.
- Capital facilities, public works projects, projects with a primary purpose of flood mitigation, and infrastructure elements, such as sewage treatment facilities, surface and storm water management systems, flood management structures, and water supply systems.
- Converting from septic to sewage treatment systems.
- Operation or construction of fish hatcheries.
- Operation of hydropower facilities.
- Fish harvest and harvest management activities.
- Fishing license buy-back.
- Lobbying or legislative activities.
- Costs to prepare or apply for a grant (or other grant funding).

[11]The CRR Implementation Plan (2014) included land acquisition as resource project category for habitat protection and restoration. Due to the administrative complexities of supporting land acquisition, all projects that require land acquisition or lease are not currently eligible for CRR Funding. Habitat projects in this category will be directed toward other funding sources that can support land acquisition.

- Projects that do not address an important habitat condition or watershed process, or that focus mainly on supplying a secondary need.
- Planning projects intended only for research purposes, stand-alone monitoring, or general knowledge and understanding of watershed conditions and functions.
- Habitat evaluation activities or tasks that do not directly support design or implementation of a concurrent project.

It is the sole responsibility of resource project sponsors to comply with all applicable local, state and federal laws, policies and regulatory requirements. Indirect costs are eligible for CRR funding and will be evaluated as a part of the overall proposal cost.

Project Implementation Monitoring

CRR Fund recipients will be required to monitor project implementation to ensure projects are completed as proposed. Project proponents will be required to report on the project implementation process and status as part of contract administration by providing as-built documentation and final reporting on project accomplishments and metrics. The LCFRB will complete final project inspections prior to final payment and contract close out.

CRR funds are not available for project performance, effectiveness, or validation monitoring. Fund recipients are encouraged to monitor projects as they are able. If monitoring activities are completed using other funding sources, the LCFRB and Tacoma Power request copies of monitoring reports. Please note that LCFRB and Tacoma Power reserve the right, using their own funds, to evaluate CRR projects for performance, effectiveness, and validation metrics and fund recipients shall make reasonable accommodation to provide staff access to project sites following implementation.

Project Budget

The CRR Habitat Program does not have a match requirement, however the SRFB and other salmon recovery-related grant programs have different match requirements. Applicants applying to CRR as match for other grant programs will need to meet the match requirements of those programs.

Applicants requesting only CRR funds are encouraged, but not required, to have matching or leveraged funds in their budget proposals. LCFRB project cost evaluation criteria and evaluation questions incentivize leveraging resources in a manner that maximizes benefits to fish.

Funding from the CRR may be used as matching funds for other granting entities depending on their match source criteria.

Habitat Assessment

Habitat assessments have been conducted to inform high priority restoration or protection projects. As planned, these assessments have largely focused on the Upper Cowlitz and Cispus watersheds above Cowlitz Falls Dam and on spring Chinook priority life history stages, with the understanding that projects addressing spring Chinook limiting factors will likely benefit other species. The Upper Cowlitz

and Cispus (UCC) Habitat Strategy[12], which builds upon the Recovery Plan[13], was completed in 2019 by the LCFRB in partnership with Tacoma Power and other stakeholders. It was in part supported by the CRR fund. The UCC Habitat Strategy describes physical and habitat characteristics of the Upper Cowlitz and Cispus watersheds in the context of salmon recovery and provides a strategy for restoration and protection of aquatic habitat and associated ecological processes. It is primarily focused on the restoring valley floodplain function and stream habitat diversity. It identifies strategic objectives by landscape unit, habitat actions to address them, and action priority areas. Hydraulic modeling of the Randle to Packwood reach of the Upper Cowlitz River[14], and a geomorphic assessment of much of the Upper Cowlitz and Cispus Rivers[15] also have been completed. These assessments were in process and considered during the development of the UCC Habitat Strategy. Previous habitat review includes the upper Cowlitz (e.g. Upper Cowlitz River Basin Reach Characterization Project – Identifying Reaches Suitable for Protection).

The UCC Habitat Strategy (LCFRB and Interfluve, 2019) provides a fully vetted technical foundation to support project identification and development. Additional assessments will therefore not be funded in the Upper Cowlitz and Cispus watersheds. However, the UCC Habitat Strategy did not address the Tilton River watershed. Additional habitat assessments may be proposed by the FTC, Tacoma Power, and/or the LCFRB for that watershed.

Guiding Principles

The **Guiding Principles** described in the Grants Manual are relevant for applicants for CRR Habitat Program funds as long as the additional CRR specific information regarding priorities, geography, and additional resources above (e.g., under Project Types in this appendix) also are considered and fully addressed.

Application Process

The application process for CRR support has been integrated into the LCFRB application and review process and closely mirrors the SRFB process, including application approach and timelines. If applying for both SRFB and CRR funds, ensure that all SRFB application processes are followed in addition to the CRR processes identified in this section. The CRR application process is outlined in Figure 3 below.

CRR applicants must complete and submit all relevant documentation in the CRR Application Checklist (Table 12).

[12] Upper Cowlitz and Cispus Habitat Strategy: Upper Cowlitz and Cispus Rivers, Washington. Prepared for Lower Columbia River Fish Recovery Board by Inter-Fluve, Cramer Fish Sciences, and Lower Columbia Fish Recovery in collaboration with the Upper Cowlitz Cispus Work Group. December 2019.
[13] Washington Lower Columbia Salmon Recovery and Fish & Wildlife Subbasin Plan, Volume II.F – Upper Cowlitz Subbasin, 2010.
[14] Cowlitz Restoration and Recovery Habitat Assessment: Hydrodynamic Modeling and Habitat Suitability Assessment, Final Report. Prepared by Anchor QEA for Tacoma Power. March 2020.
[15] Preliminary Geomorphic Assessment Memo: Cowlitz River Geomorphic Assessment. Prepared for Tacoma Power by Natural Systems Design. February 2019.

Application Workshops

LCFRB staff will conduct annual informational workshop(s) for CRR Habitat Program Fund habitat project applicants. Dates for scheduled workshops will be posted on the Salmon Recovery Grants schedule and webpage.

Application Submittal

The information in this section of the Grants Manual **Appendix C: Salmon Recovery Funding Board Application Process and Materials** applies to CRR Habitat Program applicants. This section identifies additional considerations for CRR proposals. CRR fund only applicants will submit materials to the LCFRB via email by the due date posted in the grant round schedule (Table 2).

The checklist for CRR-only applicants is in (Table 12). This checklist is largely the same as the SRFB application checklist (see Table 4), with the following key differences:

- CRR-only applicants do not use the Recreation and Conservation Office's PRISM system to submit materials. Instead, materials are submitted directly to LCFRB staff.
- The required "CRR Project Proposal" application provides narrative proposal information otherwise included in SFRB required forms and PRISM information and is required.
- The CRR Supplemental Questions are required.

All applicants should use the RCO detailed budget worksheet linked in the CRR Application Checklist. If CRR-only projects include match (not required), that information will be included where the RCO budget worksheet calls for "match information from PRISM". CRR-only applicants with additional questions about adapting this spreadsheet should contact LCFRB staff.

Proposal Presentations

The information in this section of Grants Manual **Appendix C: Salmon Recovery Funding Board Application Process and Materials** applies to all CRR Habitat Program applicants. LCFRB may recommend virtual proposal presentations for some projects in its grant round. The LCRFB may consolidate proposal presentations for CRR only applicants later in the proposal presentation schedule.

Final Application Submittal

The information in this section of Grants Manual **Appendix C: Salmon Recovery Funding Board Application Process and Materials** applies for all CRR Habitat Program applicants, except that CRR only applicants submit all final application materials to LCFRB staff by the due date and time posted in the Salmon Recovery Grant schedule.

Application Scoring and Ranked List Recommendations

The LCFRB TAC will evaluate CRR Habitat Program applications using the same process as all other applications in the grant round, with the additional CRR Habitat Program evaluation questions related to the species in the CRR area. If the TAC conditions CRR projects during its scoring and deliberation, the LCRFB will work with the applicant to ensure that those conditions are included in the milestones of any final project agreements.

LCRFB Review and Approval

See the Policy Manual section **Project Review and Funding**.

Submission to the Fisheries Technical Committee

Tacoma Power's FTC will review the LCFRB ranked CRR project list, along with final applications and any additional supporting information for all projects in the CRR geographic extent, and will make the final funding decision.

Application Checklist

CRR Habitat Program applicants should refer to the Applicant Checklist (Table 12). All CRR Habitat Program applicants need to complete the CRR application documents. Applicants will use RCO-specific forms where called for (e.g., budget spreadsheet) but should submit them to the LCFRB, not in PRISM, when not applying for both CRR and SRFB funds.

Table 12. Applicant checklist for all CRR applications. CRR applicants also seeking SFRB funds should follow the checklist in Salmon Recovery Grants Manual Appendix C, Table 6, plus the CRR checklist and grant calendar. All components are required at the initial application submittal stage. If items are missing or incomplete by the submittal deadline, applications will be disqualified. Applicants should discuss with LCFRB staff early in the process if they are concerned they will not be able to meet a required application component. Materials can be accessed via the checklist links on the CRR webpage or provided by LCFRB staff.

CRR Application Materials Checklist
CRR Application Form
CRR Application Supplemental Questions
CRR Applicant Authorization Form
Project photos in .jpg format (two minimum, five maximum)
Project area maps and drawings: general vicinity map for project site, Area of Potential Effect map for project site, site plans for project area. Site plans must include drawings as specified in Table 4 above and adhere to RCO Manual 18 definitions.
Sponsors must provide current signed and dated LCFRB Landowner Acknowledgement form for all affected landowners.
CRR Detailed Budget spreadsheet
Signed and dated LCFRB Partner Contribution Form (only if proposal includes matching funds).
For acquisition projects, a letter of no objection from appropriate county or city officials.
Project design drawings and other supporting information. ***Project design drawings must comply with RCO Manual 18, Appendix D***
For projects on state-owned aquatic lands and any DNR property, DNR authorization form. DNR contacts can be found here: https://www.dnr.wa.gov/about/dnr-regions-and-districts
For projects on WDFW-owned lands, WDFW landowner authorization form. Start the restoration pathways process early by contacting Dave Howe: david.howe@dfw.wa.gov
Responses to Lead Entity Feedback ***Feedback will be provided by staff***

Evaluation Criteria

The LCFRB TAC will use the same evaluation criteria to evaluate all project applications to the CRR Habitat Program as described in the Policy Manual and **Evaluation Criteria** section of Appendix C. Additional CRR evaluation questions are shown in Table 13 below.

The FTC will review the LCFR Board recommendations for projects applying for the CRR Habitat Program. FTC members will use best professional judgement to evaluate and, if necessary, re-rank projects applying for the CRR Habitat Program through a consensus decision-making process. Scoring will inform the FTC decision-making, and any re-ranking will include written justification for that decision.

Table 13. CRR proposals are reviewed and scored according to the eligibility and evaluation criteria in the CRR Habitat Program of this appendix as well as the processes described in the Policy Manual and SRFB Evaluation Criteria section of Appendix C. CRR proposals are initially assessed using the three eligibility criteria using a pass/fail decision with supporting rationale. For applications that are eligible, there are five additional CRR evaluation questions specific to the CRR Habitat Program. Options for each evaluation question are shown below, with available total points that can be awarded for each question sub category. Reviewers will provide supporting rationale for each submitted evaluation question score.

Eligibility Category	**Eligibility Criteria**	**Pass/Fail**
Population Targeted	Project is directed towards ESA-listed salmon and steelhead populations originating upstream of the Barrier Dam. (Note: these include Upper Cowlitz spring Chinook, coho, or winter steelhead; Cispus spring Chinook, coho or winter steelhead; Tilton fall Chinook, coho or winter steelhead; other salmon or steelhead populations within the geographic focus with matching funds)	Pass/Fail
Geographic Extent	Project is located within the following geographic extent: the Cowlitz River mainstem upstream from the confluence of the Toutle River, river mouths of tributaries upstream of the confluence of Toutle River and below the Barrier Dam, and the entire basin upstream of the Barrier Dam.	Pass/Fail
Project Type	Habitat project supports on-the-ground activities or leads to on-the-ground activities aimed at protection/restoration of habitat for priority species within the geographic focus area.	Pass/Fail
Scoring Category	**Evaluation Question**	**Total Points Available**
CRR Program Priorities	**1. Geography: Location in the basin (select one only)**	
	Resource Project is located upstream of the Barrier Dam.	30
	Resource Project is located downstream of the Barrier Dam, but provides matching funds that support cost sharing.	20
	Resource project is located downstream of the Barrier Dam but will not provide cost sharing.	10
	2. Population: Project primarily benefits (select one only)	
	Resource Project primarily benefits spring Chinook populations originating from the upper Cowlitz and/or Cispus rivers.	40
	Resource Project primarily benefits steelhead and coho populations originating from the upper Cowlitz and/or Cispus rivers.	30
	Resource Project primarily benefits listed salmon originating from the Tilton River, and/or fall Chinook originating from the upper Cowlitz.	20
	Resource Project primarily benefits listed salmon originating from the lower Cowlitz River basin, but provides matching funds that support cost sharing.	10

Benefits to Fish	**3. Direct Support for Reintroduction (yes/no)**	
	Project is paired or integrated with current or planned reintroduction efforts within the basin (e.g., improves habitat for adult holding near an existing or planned release site). Yes = 10, No = 0	10
Certainty of Success	**4. Relevant and Supportive Information Provided (select only 1)**	
	Resource project is exceptionally consistent with / responsive to CRR-specific habitat resources, including UCC habitat strategy and habitat assessment tools (if applicable) and other relevant/supportive information.	30
	Resource project is highly consistent with / responsive to CRR-specific habitat resources, including UCC habitat strategy and habitat assessment tools (if applicable) and other relevant/supportive information.	20
	Resource project is somewhat consistent with / responsive to CRR-specific habitat resources, including UCC habitat strategy and habitat assessment tools (if applicable) and other relevant/supportive information.	10
	Resource project is not consistent with / responsive to CRR-specific habitat resources, including UCC habitat strategy and habitat assessment tools (if applicable) and other relevant/supportive information.	0
Cost	**5. Match (select only 1)**	
	Resource project leverages CRR funding with substantial match.	20
	Resource project leverages CRR funding with some match.	10
	Resource project leverages CRR funding with no match, but there are limited match opportunities.	10
	Resource project leverages CRR funding with no match.	0

Award Information

CRR awards are administered and contracted through the LCFRB. LCFRB will notify applicants about the funding status for their project and distribute administration and contract information at that time. Applicants should refer to the LCFRB CRR Project Management Manual.

Appendix E: Additional Resources

Supplemental Fish Population Designations and Priorities

Table 14. Supplemental fish population designation and priority details. All Lower Columbia populations are listed along with their Recovery Designation (P = Primary, C = Contributing, S = Stabilizing) and if they are considered a historical Core or Legacy population, a recovery priority population (Stronghold or Stronghold Expansion), part of a Steelhead Gene Bank or Salmonid Management Zone as identified by Washington Department of Fish and, or identified as Chum Priority population in the Guiding Principles. Priority populations are highlighted in blue based on recovery designations and progress priority statuses.

Species	Strata	Population	Recovery Designation	Core Population	Legacy Population	Progress Priority	Steelhead Gene Bank	Salmonid Management Zone	Chum Priorities
fall chum	Coast	Grays/Chinook	P	Yes	Yes	Stronghold			
fall Chinook	Coast	Grays/Chinook	C			Stronghold Expansion		Yes	
coho	Coast	Grays/Chinook	P						
winter steelhead	Coast	Grays/Chinook	P				Yes		
fall chum	Coast	Eloch/Skam	P	Yes		Stronghold Expansion			Yes
fall Chinook	Coast	Eloch/Skam	P	Yes		Stronghold Expansion		Yes	
coho	Coast	Eloch/Skam	P					Yes	
winter steelhead	Coast	Eloch/Skam	C						
fall chum	Coast	MAG	P			Stronghold Expansion			Yes
fall Chinook	Coast	MAG	P			Stronghold Expansion		Yes	
coho	Coast	MAG	C					Yes	
winter steelhead	Coast	MAG	P						
fall Chinook	Cascade	L Cowlitz	C	Yes					
coho	Cascade	L Cowlitz	P			Stronghold			

Species	Strata	Population	Recovery Designation	Core Population	Legacy Population	Progress Priority	Steelhead Gene Bank	Salmonid Management Zone	Chum Priorities
winter steelhead	Cascade	L Cowlitz	C						
fall chum	Cascade	Cowlitz	C	Yes		Stronghold Expansion			
summer chum	Cascade	Cowlitz	C	Yes		Stronghold Expansion			
spring Chinook	Cascade	Tilton	S						
coho	Cascade	Tilton	S						
winter steelhead	Cascade	Tilton	C						
fall Chinook	Cascade	U Cowlitz	S						
spring Chinook	Cascade	U Cowlitz	P	Yes	Yes	Stronghold Expansion			
coho	Cascade	U Cowlitz	P						
winter steelhead	Cascade	U Cowlitz	P	Yes	Yes				
spring Chinook	Cascade	Cispus	P	Yes	Yes				
coho	Cascade	Cispus	P						
winter steelhead	Cascade	Cispus	P	Yes	Yes				
fall Chinook	Cascade	Toutle	P	Yes		Stronghold Expansion			
spring Chinook	Cascade	Toutle	C			Stronghold Expansion			
coho	Cascade	NF Toutle	P						
winter steelhead	Cascade	NF Toutle	P				Yes		
coho	Cascade	SF Toutle	P					Yes	
winter steelhead	Cascade	SF Toutle	P			Stronghold			
fall Chinook	Cascade	Coweeman	P		Yes			Yes	
coho	Cascade	Coweeman	P			Stronghold		Yes	
winter steelhead	Cascade	Coweeman	P			Stronghold			

Species	Strata	Population	Recovery Designation	Core Population	Legacy Population	Progress Priority	Steelhead Gene Bank	Salmonid Management Zone	Chum Priorities
fall chum	Cascade	Kalama	C			Stronghold Expansion			Yes
fall Chinook	Cascade	Kalama	C						
spring Chinook	Cascade	Kalama	C			Stronghold Expansion			
coho	Cascade	Kalama	C						
winter steelhead	Cascade	Kalama	P			Stronghold			
summer steelhead	Cascade	Kalama	P	Yes					
fall chum	Cascade	Lewis	P	Yes		Stronghold Expansion			Yes
fall Chinook	Cascade	Lewis	P		Yes			Yes	
late fall Chinook	Cascade	NF Lewis	P	Yes	Yes	Stronghold		Yes	
spring Chinook	Cascade	NF Lewis	P	Yes		Stronghold Expansion			
coho	Cascade	NF Lewis	C						
winter steelhead	Cascade	NF Lewis	C	Yes		Stronghold Expansion			
summer steelhead	Cascade	NF Lewis	S						
coho	Cascade	EF Lewis	P						
winter steelhead	Cascade	EF Lewis	P			Stronghold	Yes		
summer steelhead	Cascade	EF Lewis	P		Yes	Stronghold	Yes		
fall chum	Cascade	Salmon	S						
fall Chinook	Cascade	Salmon	S					Yes	
coho	Cascade	Salmon	S			Stronghold		Yes	
winter steelhead	Cascade	Salmon	S						
fall chum	Cascade	Washougal	P			Stronghold			

Species	Strata	Population	Recovery Designation	Core Population	Legacy Population	Progress Priority	Steelhead Gene Bank	Salmonid Management Zone	Chum Priorities
fall Chinook	Cascade	Washougal	P						
coho	Cascade	Washougal	C						
winter steelhead	Cascade	Washougal	C						
summer steelhead	Cascade	Washougal	P		Yes	Stronghold			
fall chum	Gorge	L Gorge	P	Yes	Yes	Stronghold			
fall Chinook	Gorge	L Gorge	C			Stronghold Expansion			
coho	Gorge	L Gorge	P						
winter steelhead	Gorge	L Gorge	P						
fall chum	Gorge	U Gorge	C						
fall Chinook	Gorge	U Gorge	C	Yes					
coho	Gorge	U Gorge	P			Stronghold Expansion			
winter steelhead	Gorge	U Gorge	S						
summer steelhead	Gorge	Wind	P	Yes		Stronghold			

Climate Change Resources

The following tables summarize anticipated climate change effects to watershed processes in the Lower Columbia region. Information is based on a literature review and discussions with TAC members, with more details available in the Climate Change and Habitat Priorities report (LCFRB 2018).

Table 15. Summarized climate change effects to watershed processes in the Lower Columbia Region. Expected habitat responses are included for each climate change effect, as well as subsequent fish impacts due to habitat changes. Restoration and protection efforts that could support resiliency of fish in light of these changes are recommended in the last column. Arrows indicate the direction of change: ↓ = decrease, ↑ = increase, and ↕ = unknown or both increase and decrease specified response or action.

Climate Change Effect	Watershed location	Habitat Impacts	Fish impact	Restoration/Protection Considerations
↑ sea level rise	Tidally-influenced habitat	↓ tidal edge habitat quantity, quality, and diversity ↑ salinity intrusion upstream and upland ↓ ocean plume volume	↓ tidal edge rearing habitat ↓ tidal edge (wetland) nutrient sources ↓ support of life history diversity	↓ barriers to fish laterally (floodplain) and longitudinally (upstream) of current tidal range ↑ complexity to floodplain, wetland, and upland habitat to promote diverse tidal edge habitat and to support life history diversity ↑ upland habitat area in acquisition projects to provide adequate buffer to vertical sea level encroachment ↕ incorporate expected relative sea level rise in designing water crossing structures in tidal areas.
↑ water temperatures	Throughout, but biggest impacts in areas without adjacent or upland mature forests, and surface water withdrawals.	↑ rainfall-dominated flow regimes ↑ warm water species range ↓ dissolved oxygen ↑ primary production	↑ stress and mortality ↓ fish passage and habitat availability ↕ altered food webs ↓ support of life history diversity	↑ complexity and connectivity of floodplain, off-channel/side-channel, wetland, and tributary headwater habitat to promote local water infiltration, storage, and temperature moderation, and to support life history diversity ↑ mature forest and riparian stands to promote local water infiltration, storage, and temperature moderation, and to support life history diversity ↑ connectivity and quality of cold water refugia ↑ implementation of WRIA water supply and instream flow actions that support improvement to instream flows

Climate Change Effect	Watershed location	Habitat Impacts	Fish impact	Restoration/Protection Considerations
↑ winter flow magnitude and frequency	Throughout, but greater impacts in watersheds with current and future rainfall-dominated regimes and urbanized areas.	↑ floodplain and off-channel/side-channel inundation ↑ headwater and tributary connectivity ↑ wood and sediment mobility ↑upland material inputs ↑ bankfull widths ↑ bed scour ↑ water velocity ↑ interaction with developed areas	↕ altered habitat availability depending on complexity of connected refugia and/or stream crossing structure design ↑ stranding (in flashy systems) ↕ redd scour and egg-to-fry survival changes ↕ altered life history diversity from potential additional habitat connectivity and/or increased stranding	↑ complexity and connectivity of floodplain, off-channel/side-channel, wetland, and tributary habitat to provide juvenile flood refugia and protected spawning habitat to support life history diversity and resiliency ↓ effective impervious surface area and stormwater runoff to moderate instream flows by providing local water infiltration and storage ↑ bankfull width conditions for project design
↓ low flow magnitude and frequency	Throughout, but greater impacts in watersheds with current and future rainfall-dominated regimes, urbanized areas, and surface water withdrawals.	↓ floodplain and off-channel/side-channel, wetland connectivity and area ↓ headwater and tributary connectivity and area ↓ instream flows from increased and/or greater impact of water withdrawals ↑ predation and competition from reduced habitat quality and quantity	↑ stress and mortality for rearing fish ↑ stranding ↓ fish passage and habitat availability ↓ support of life history diversity ↕ altered food webs ↓ holding and spawning opportunities for fall spawners	↑ complexity and connectivity of floodplain, off-channel/side-channel, wetland, and tributary habitat to promote local water storage, to moderate low flow conditions, and to support life history diversity ↑ mature headwater forest and riparian habitat to promote local water storage, to moderate low flow conditions, and to support life history diversity ↑ connection and quality of cold water refugia ↑ implementation of WRIA water supply and instream flow actions that support improvement to instream flows

Table 16. Tributaries identified as providing cold water refuge to salmon and steelhead in the Lower Columbia mainstem (EPA 2021, Table 2-1). All tributaries were identified to be at least 2°Celsius cooler than the Columbia River. The full report can be found online: https://www.epa.gov/columbiariver/columbia-river-cold-water-refuges-plan#documents

Tributary Name	River Mile	August Mean Mainstem Temperature (DART)	August Mean Tributary Temperature (NorWeST)	August Mean Temperature Difference	August Mean Tributary Flow (NHD & USGS*)
		°C	°C	°C	cfs
Skamokawa Creek (WA)	30.9	21.3	16.2	-5.1	23
Mill Creek (WA)	51.3	21.3	14.5	-6.8	10
Abernethy Creek (WA)	51.7	21.3	15.7	-5.6	10
Germany Creek (WA)	53.6	21.3	15.4	-5.9	8
Cowlitz River (WA)	65.2	21.3	16.0	-5.4	3634
Kalama River (WA)	70.5	21.3	16.3	-5.0	314*
Lewis River (WA)	84.4	21.3	16.6	-4.8	1291*
Sandy River (OR)	117.1	21.3	18.8	-2.5	469
Washougal River (WA)	117.6	21.3	19.2	-2.1	107*
Bridal Veil Creek (OR)	128.9	21.3	11.7	-9.6	7
Wahkeena Creek (OR)	131.7	21.3	13.6	-7.7	15
Oneonta Creek (OR)	134.3	21.3	13.1	-8.2	29
Tanner Creek (OR)	140.9	21.3	11.7	-9.6	38
Bonneville Dam					
Eagle Creek (OR)	142.7	21.2	15.1	-6.1	72
Rock Creek (WA)	146.6	21.2	17.4	-3.8	47
Herman Creek (OR)	147.5	21.2	12.0	-9.2	45
Wind River (WA)	151.1	21.2	14.5	-6.7	293
Little White Salmon River (WA)	158.7	21.2	13.3	-7.9	248*
White Salmon River (WA)	164.9	21.2	15.7	-5.5	715*
Hood River (OR)	165.7	21.4	15.5	-5.9	374
Klickitat River (WA)	176.8	21.4	16.4	-5.0	851*
The Dalles Dam					
Deschutes River (OR)	200.8	21.4	19.2	-2.2	4772*
John Day Dam					
Umatilla River[1] (OR)	284.7	20.9	20.8	-0.1	87*
McNary Dam					

[1] The Umatilla is 2°C cooler than the Columbia River in late August and September.

TAC Consensus Process

Table 17. Definition of consensus as used by the LCFRB TAC.

Definition of Consensus for LCFRB Technical Advisory Committee						
Consensus is defined in terms of agreement along a continuum. Team Members may register the degree of their agreement within any of the first six columns:						
Endorse	Endorse with a minor point of contention	Agree with reservation	Abstain	Stand aside	Formal disagreement but will go with the majority	Block
"I like it"	"Basically I like it"	"I can live with it"	"I have no opinion"	"I don't like it but I don't want to hold up the group"	"I want my disagreement noted in writing but I'll support the decision"	"I veto this proposal"
(Adapted from: *Facilitator's Guide to Participatory Decision-Making*, 1996) The last (shaded) column on the right side of the continuum is *not* considered acceptable for consensus in this process.						