

Appendix __. Riparian Funding Policies and Guidelines

Funding

This program has been funded wholly by Climate Commitment Act associated funding. The Climate Commitment Act¹ created a market-based program to help reduce greenhouse gas emissions in the next few decades. A portion of the revenues are directed into the Natural Climate Solutions Account and were distributed into several standing grant programs, including this riparian program. Funding comes with additional reporting, assessment, and tribal consultation requirements. The Governor’s Office and state agencies plan to engage with tribal governments on how best to meet these requirements. The Recreation and Conservation Office (RCO) will provide any needed guidance to applicants after tribal government engagement has concluded.

Funding Objective

Enhance salmon recovery through the protection and restoration of fully functioning riparian ecosystems. Riparian projects are defined as those that change riparian areas above the ordinary high-water mark and within the flood plain of streams in order to improve the environmental conditions necessary to sustain salmonids throughout their life cycle. This includes marine near-shore, estuaries, wetlands, and lakeshores of connected lakes.

Available Funding

There is \$23,870,000 available for riparian-specific projects in the 2023-25 biennium. The funding will be allocated to regional salmon recovery organizations according to the allocation table below, provided that no lead entity is allocated less than \$300,000 of this funding.

Regional Recovery Organization	Riparian Allocation	Percent
Coast Salmon Partnership	\$2,284,359	9.57%
Hood Canal Coordinating Council	\$572,880	2.40%

¹Revised Code of Washington 70A.65

Regional Recovery Organization	Riparian Allocation	Percent
Lower Columbia Fish Recovery Board	\$4,774,000	20.00%
Kalispel Tribe of Indians	\$453,530	1.90%
Puget Sound Partnership	\$9,070,600	38.00%
Snake River Salmon Recovery Board	\$2,014,628	8.44%
Upper Columbia Salmon Recovery Board	\$2,460,997	10.31%
Yakima Basin Fish and Wildlife Recovery Board	\$2,239,006	9.38%
Total: \$23,870,000		100.00%

Funding Rounds

This funding may be used for eligible projects, as described below, in the 2023 or 2024 annual Salmon Recovery Funding Board (SRFB) grant rounds. If a lead entity chooses to use funding for projects in the 2023 grant round, sponsors will be given the chance to refine their scopes of work to meet the eligible project types and allowable costs in this program. Note that in-stream elements may not be added to a 2023 project as part of refining a sponsor’s scope of work (see “Riparian: In-stream Habitat” section below).

There is no limit on the number of funded projects in a region or lead entity.

If a lead entity is unable to fully obligate its riparian funding after the 2024 grant round, it will be able to either carry the money into 2025 or transfer its allocation to another lead entity.

General Policies

Manual 18

Except as modified in this appendix, projects with riparian-specific funding must meet the requirements in [Manual 18: Salmon Recovery Grants](#).

Project Scope

Except as limited in the “Eligible Project Types” section below, multiple project types eligible for riparian-specific funding may be combined into a single scope of work. However, riparian funding cannot be used to pay for non-eligible project elements. Eligible and non-eligible elements of a larger project must be funded as separate project agreements.

Riparian funding also may not be combined with SRFB or Puget Sound Acquisition and Restoration (PSAR) funding unless the work proposed is eligible in both funding sources. Riparian-specific funds are not eligible to match SRFB or PSAR funding.

Tracking

RCO will track the riparian-specific funding separately from SRFB funding. RCO will create a separate program in PRISM to track and report on spending.

Costs Increases

Funding may not be used for cost increases on projects previously funded by the SRFB or PSAR. However, SRFB, PSAR, or riparian-specific funds may pay for cost increases for a project initially funded in whole or in part with riparian-specific funding.

Riparian-specific funding that is returned shall follow the SRFB policies and procedures described in the "Projects Returning Funds" section of this manual, provided it is only reallocated towards project types and elements eligible for riparian-specific funding and is consistent with the limitation on cost increases stated above.

Indirect

Indirect costs are only eligible for a riparian project that receives federal funding or that will be used by RCO as programmatic match to a federal grant. RCO may elect to use a portion of the riparian-specific funding as match to the Pacific Coastal Salmon Recovery Fund. Applicants may request agency indirect costs as part of a riparian application, but decisions about which projects will receive indirect will be made on a case-by-case basis by RCO staff.

Match

A project funded solely with riparian funding does not need matching funds. However, if a project also includes funding from SRFB or PSAR, the portion of funding provided by those grant programs must meet the matching share requirements in the "Matching Share" section of manual 18.

Multi-Site Projects

An applicant may propose eligible riparian work on multiple properties with different landowners. If an applicant identified all the properties where work will occur and secured landowners' permission before application, each property must be included as "properties" in the application along with a Landowner Acknowledgement Form for each.

Geographic Envelope Projects

An applicant planning to work on multiple sites or reaches, and who has not secured all properties in advance, should identify an appropriate geographic envelope where they intend to work. At a minimum, applicants for geographic envelope projects must provide

a map showing all possible parcels where the work will occur. These parcels should provide similar benefits to fish, certainty of success, and conservation values so that they effectively are interchangeable when being evaluated. An applicant must describe clearly how parcels will be prioritized and pursued for implementation and include any previous assessments that informed the proposed approach.

For geographic envelope projects, enter the Landowner Acknowledgment Form into PRISM for one or more of the top priority properties. Add these top priority sites as “properties” in the PRISM application.

A geographic envelope project presents an ongoing responsibility for contract management and cultural resources review. RCO will amend the grant agreement when the sponsor identifies new properties and provides landowner agreements. RCO must complete cultural resources consultation on all property added to the grant agreement before any site-specific work can occur.

After a geographic envelope project has been funded, the applicant may request additional riparian funding in the future to either increase the area restored or protected within the geographic envelope or to add funds if the initial project was partially funded. Any additional work must occur on previously identified sites in the previously approved geographic envelope (i.e., the sites have already been reviewed). The applicant must work with the grants manager to determine the appropriate pathway for such a request.

Eligible Project Types

Only the project types and specific elements described below are eligible to receive riparian-specific funding. These types and elements may be combined as described below.

Project Type	Eligibility
Acquisition	May be proposed as a sole, primary, or secondary project type.
Restoration–Riparian Habitat	May be proposed as a sole, primary, or secondary project type.
Restoration–Site Stewardship	May be proposed as a sole, primary, or secondary project type.
Restoration–In-stream Habitat	Some work types may be proposed as a sole, primary, or secondary project type if the primary goal of the project is to restore riparian function by supporting native riparian plant survival.
Planning–Design	Design costs for eligible in-stream or floodplain elements or preparing a riparian enhancement plan are eligible AA&E costs in a restoration project.

Project Type	Eligibility
Planning–Assessment and Inventory	Only may be proposed as a sole project type, except for approved combination projects that require assessment as a necessary precursor to a majority site-specific restoration or acquisition project.

Acquisition

Only an acquisition project with 50 percent or less uplands is eligible for riparian-specific funding. The area proposed for riparian funding may be part of a larger acquisition that includes more uplands; however, the area purchased with riparian-specific funding may only include 50 percent uplands. For this purpose, uplands are areas that fall outside of riparian, lake, tideland, or wetland habitat, as more specifically defined in Manual 18, appendix L.

An acquisition project with more than 50 percent uplands continues to be eligible for regular SRFB or PSAR funds and follows the matching share requirements described in the “Matching Share” section. All acquisition projects are subject to the policies and eligible costs in *Manual 3: Acquisition Projects*.

Restoration: Riparian Habitat

A riparian habitat project includes activities above the ordinary high-water mark and within the floodplain of a stream to improve the environmental conditions necessary to sustain salmonids throughout their life cycles. This includes marine near-shore, estuaries, wetlands, and lakeshores of connected lakes. Activities may include planting vegetation, managing invasive species, grazing management, water gap development, and installing fencing to control livestock, vehicle, and foot traffic in protected areas.

Eligible Costs

Information about eligible elements and costs may be found in *Manual 5: Restoration Projects*. In addition, riparian habitat projects may request funding for temporary, on-site nursery development or off-site nursery operations to provide plant materials for the requested restoration work.

Deliverables

To promote restoration best practices and likelihood of success, RCO strongly recommends that a full riparian enhancement plan (see “Riparian Enhancement Plan” section below) or comparable planning documentation be completed before application site visits. At a minimum before application site visits, the applicant is expected to provide information about site conditions and restoration objectives, conceptual site preparation and planting methods, and maps for priority sites or identified sites.

Exceptions may be made on a case-by-case basis by RCO staff in collaboration with the SRFB review panel. Note that preparation of a riparian enhancement plan is an eligible pre-agreement cost (see “Planning: Design” section below).

Riparian Planting Projects

Buffer Width Standard

RCO developed buffer width standards for forested and dryland ecoregions for projects where riparian planting is the primary purpose; see appendix K for a full description. For forested eco-regions, the standard is one, two-hundred-year Site Potential Tree Height measured from the edge of the active channel or active floodplain. For dryland ecoregions, the standard is the greater of a two-hundred-year Site Potential Tree Height (if available), the width of the riparian vegetation community, or one hundred feet. These buffer standards are synonymous with the riparian management zone or the area with potential to provide full riparian functions.

Some projects may not be able to meet these buffer width standards due to landowner willingness or site constraints. The applicant is strongly encouraged to apply even if the project does not meet these standards. If a project does not meet the standards, the SRFB Review Panel will evaluate it based on the site-specific conditions and determine whether the proposed buffer width will provide riparian function, provide a benefit to salmon recovery, and achieve goals as articulated in the regional recovery plan. Furthermore, a sponsor who cannot meet the buffer widths for streams listed for temperature on the 303(d) list must provide (1) adequate justification as to why the project still restores riparian function and (2) a letter of support from a technical expert as further described in appendix K.

If a project with riparian planting as the primary purpose is funded in part with SRFB or PSAR in addition to this riparian funding and does not meet these buffer standards, the applicant must supply a 15 percent match for the portion of the project funded by SRFB or PSAR.

Agreement Periods

Upon request, riparian planting projects are eligible for a grant agreement period of up to five years to support monitoring and maintenance of the planted area. Monitoring, maintenance, and adaptive management elements will be reimbursable after completion of planting activities and RCO review of proposed monitoring, maintenance, and adaptive management approaches included in the riparian enhancement plan or other comparable document.

Invasive Plant Removal and Control

Invasive species control must directly contribute to establishment, survival, or protection of established native riparian vegetation to benefit salmonid recovery. If invasive species

control is being proposed for riparian funding as the sole activity, the applicant must clearly demonstrate how salmonid recovery represents the primary management objective and why invasive species control alone represents the best way to achieve or improve native plant establishment and riparian function at the site.

Restoration: Site Stewardship

An applicant may propose stewardship for previously installed riparian habitat site(s). If a previous riparian project is failing significantly to meet objectives (e.g., more than 50 percent mortality), technical reviewers will determine whether stewardship is warranted instead of a new riparian habitat project.

Eligible activities in stewardship projects may include managing invasive species, replacing unsuccessful plantings, supplementing the site with water, and installing fences or other browse-protection methods. RCO encourages the sponsor to follow the guidance for riparian buffer widths in appendix K.

Deliverables

If an applicant requesting funding for stewardship of previous sites has a site-specific plan that meets some or all the riparian enhancement plan expectations (see “Riparian Enhancement Plan” section below), please include this past work as part of the application. If not, RCO strongly recommends completion of these plan elements (see “Riparian Enhancement Plan: Element Descriptions” section below) to codify the technical background that justifies the proposed stewardship work, as well as to create a clear plan for longer-term maintenance and adaptive management. Note the preparation of elements of a riparian enhancement plan for a stewardship project is an eligible administrative pre-agreement cost and before closing (see “Planning: Design” section below).

At a minimum, the applicant is expected to provide information about stewardship objectives, conceptual proposed management activities, and supporting maps for identified or priority sites before application site visits. Exceptions may be made on a case-by-case basis by RCO staff in collaboration with the SRFB review panel.

Restoration: In-stream habitat

Riparian planting is eligible if it is in the active channel above baseflow to support restoration objectives. Additional eligible in-stream work types are limited to the following:

- Beaver dam analogs
- Channel structure placement (anchored or unanchored log placement, post-assisted log structures, engineered logjams, large woody materials, root wads,

anchored or unanchored rocks or boulders, weirs, gabions, flood fencing, deflectors or barbs)

- Streambank stabilization (see the “Restoration Projects” section of manual 18 for additional criteria associated with streambank stabilization projects)
- Floodplain re-grading or side channel reconnection

These additional work types are eligible for funding only under the following circumstances:

- The primary goal of the proposed project is to restore riparian function by supporting native riparian plant survival, and the proposed in-stream and floodplain elements directly support riparian plant survival and/or natural regeneration.
- Application and existing designs clearly demonstrate why current conditions or site constraints are not suitable for a planting-only project, why in-stream and floodplain work is necessary for the success of the riparian habitat elements of a project, and, if applicable, how natural regeneration represents a more efficient and effective approach to meeting plant establishment goals.
- The in-stream elements meet current appendix D design deliverable thresholds based on the amount requested for restoration and design, and construction will be completed by project closing.

An applicant planning to submit a project for riparian funding that involves in-stream or floodplain work types is highly encouraged to connect with the grants manager to ensure the project meets the eligibility requirements for this funding. The applicant must provide the required design deliverables associated with the in-stream elements as part of a final application and before site visits. In-stream and floodplain elements may not be added to a 2023 project as part of refining a sponsor’s scope of work.

Planning: Design

Design projects are not eligible for riparian funding.

Design costs for eligible in-stream and floodplain elements (see “Restoration: In-stream Habitat” section above) and the riparian enhancement plan (see “Riparian Enhancement Plan” section below), which serves as a “design report” for riparian habitat and stewardship projects, are eligible for reimbursement as part of a restoration project’s administrative and architecture and engineering (AA&E) budget. These design costs are allowable pre-agreement costs that may be reimbursed upon execution of the grant agreement. The applicant should track those pre-agreement costs accordingly.

Planning: Assessment and Inventory

Assessment and inventory projects must be riparian-specific and lead directly to the development of actionable projects. In general, these projects are larger scale (reach or watershed level), standalone projects that provide the foundational plan for implementation work. For example, assessment and inventory projects may document and evaluate habitat quality and use, identify the extent and nature of problems and habitat deficiencies, identify and prioritize riparian habitat restoration and protection activities to address these issues, or evaluate landowner willingness to participate in riparian restoration and protection activities. An applicant should demonstrate clearly the coordination with local, regional, and statewide riparian prioritization initiatives. Applicants may include the development of riparian enhancement plans for priority properties identified in the project as part of the assessment budget.

No region may use more than 10 percent of its riparian allocation to fund riparian-specific assessment or inventory projects. This limit does not apply to combination projects that involve assessment and/or inventory elements *and* site-specific riparian restoration or acquisition work. However, the inventory or assessment elements must be a minority of the project and an essential precursor to the proposed site-specific work (e.g., prioritizing parcels for planting or acquisition in a geographic envelope project). Otherwise, site-specific restoration or acquisition projects should plan on budgeting elements like landowner outreach and feasibility into allowable administration or architecture and engineering budgets.

The applicant must contact the grants manager when planning to propose a combination project that includes riparian-specific assessment and/or inventory elements.

Riparian Enhancement Plan

The riparian enhancement plan serves as a standard design report and visual design plan tailored to the short- and long-term methods used to restore riparian areas and establishment of functional riparian habitat. The plan serves as an adaptable, long-term plan developed at the initial implementation phase and submitted for future phases of stewardship funding until a project site is fully established.

Though a sponsor may use similar techniques and approaches across project sites and watersheds, the plan is site-specific and created for all separate sites (typically at the landowner level) in a funded project. An applicant with a geographic envelope project will produce plans for top priority properties and subsequently for properties incorporated during the project.

RCO provides several resources online, including a riparian enhancement plan example, planting plan guidance, and guidance for adaptive management.

Plan Elements

RCO strongly encourages an applicant to submit a plan with as many of the required elements as possible two weeks before the application site visit to allow technical reviewers to effectively evaluate a project's impact and likelihood of success. At a minimum, the applicant must provide conceptual drafts of elements one through five below by the site visit deadline and additional detail as requested through the technical review by the final application deadline.

The table below lists the key elements of a plan including when, at a minimum, each element is expected in riparian habitat or stewardship projects. Ideally, the applicant requesting funding for stewardship of existing riparian habitat enhancement sites already will have the site-specific planning work and elements to meet this requirement. If the plan does not exist for a proposed stewardship project, the applicant is expected to include the plan elements described below by the application deadline.

Plan Element Deadlines

Riparian Habitat Project (Initial Construction)

- **Existing Conditions Assessment** - Draft due by application site visit. Final due before restoration. Materials are due two weeks before application site visit.
- **Restoration Objectives** - Draft due by application site visit. Final due before restoration.
- **Plan Map** - Draft due by application site visit. Final due before restoration.
- **Site Preparation Methods** - Draft due by application site visit. Final due before restoration.
- **Riparian Planting Methods** - Draft by application site visit. Final before restoration
- **Implementation Monitoring** - Draft after completion of restoration. Final by closing.
- **Post-Implementation Maintenance** - Draft after completion of restoration. Final by closing.
- **Adaptive Management** - Draft due after completion of restoration. Final due by closing.
- **As-Built Documentation** - Due before closing.
- **Stewardship Activity Report** – Not applicable

Riparian Stewardship Project

- **Existing Conditions Assessment** - If available, original conditions assessment due by application site visit, including an update of current conditions.
- **Restoration Objectives** - If available, original objectives due by application site visit, including an update if objectives have changed.
- **Plan Map** - Original project maps due by application site visit. If they are not available, create a map of the estimated original planting area before application site visit. Provide updated maps of stewardship activities if helpful by application site visit.
- **Site Preparation Methods** - Attach original site preparation information by application site visit. If not available, focus on post-implementation maintenance, number 7 below.
- **Riparian Planting Methods** - Attach original planting methods by application site visit. If not available, focus on post-implementation maintenance, number 7 below.
- **Implementation Monitoring** - Attach original monitoring plan by application site visit. If not available, development of implementation monitoring approach due by closing. Provide update on monitoring results by application site visit.
- **Post-Implementation Maintenance** - Due by application site visit. If not available, a plan for post-implementation maintenance activities due before starting stewardship activities.
- **Adaptive Management** - Due by application site visit. If not available, the adaptive management approach is due before closing.
- **As-Built Documentation** - Attach original as-built documentation by application site visit.
- **Stewardship Activity Report** - Description of final stewardship activities due before closing.

Element Descriptions

1. Existing Conditions Assessment

Describe the existing conditions of the project area. Include the following details as appropriate:

- The current level of conservation protection of the project site (e.g., publicly owned, nonprofit fee ownership, conservation easements) or future conservation protection plans in process.
- The current use of the riparian area.
- Climate: precipitation and aridity zone.
- Water quality concerns, including 303(d) listed impairments or total maximum daily load directives.
- If temperature is a limiting factor, describe the stream reach’s aspect (cardinal direction), channel width, location in the watershed, surrounding topography, and how, if feasible, the riparian area at the project site addresses the impacts of temperature.
- Condition of native plant community and its successional stage.
- Overview of soil types and their conditions from current or previous land use.
- Overview of site ground and surface hydrology and condition. Discuss potential irrigation demand, including climate change considerations. Anticipated flood frequency or inundation zones.
- Local and surrounding topography and channel migration zone as it influences riparian function.
- Access for equipment and crews.
- Other local constraints to achieving riparian establishment and long-term restoration such as onsite or adjacent land use or natural processes.

2. Restoration Objectives

Use SMART objectives (Site-specific, Measurable, Achievable, Relevant, Timebound) to define the riparian ecosystem functions to be restored and tie them to site-specific limiting factors for salmon that use the site. Define what performance measures will be used to determine successful establishment outcomes via implementation monitoring. The example table below is one way to illustrate objectives and link them to performance measures.

Enhancement Methods	Primary Objective	Secondary Objective	Time-Based Performance Measures
Control of invasive plants (site	Future large woody material recruitment to	Invasive weed suppression to promote	• X% planting survival at five years

Enhancement Methods	Primary Objective	Secondary Objective	Time-Based Performance Measures
preparation), ten acres planted, mixed deciduous and conifer	support in-stream habitat complexity for rearing and sorting gravel for salmon spawning	native riparian plant diversity	<ul style="list-style-type: none"> • X% ground cover at fifteen years • Dominant conifers measure at least X" DBH at fifteen years • <X% invasive species cover suppression at twenty years • Dominant conifer species thinned to #/acre with established native understory at twenty-five years
Two hundred acres alder thinned, planted conifer understory	Provide thermal protection of stream to reduce summer rearing mortality	None	<ul style="list-style-type: none"> • Alder density reduced to X/acres at five years • X% planting survival at five years (i.e., trees, shrubs, herbaceous ground cover, grasses, sedges, rushes) • #/acre density and X% cover of conifer at fifteen years • Dominant conifer species thinned to #/acre at twenty-five years

3. Plan Map

The plan map serves as the project’s restoration design drawings. Individual plan maps illustrate site preparation and enhancement activities in detail (e.g., plant removal, soil preparation, beaver dam analogs, large woody materials, bank shaping, planting, overstory thinning). However, at a minimum, a plan map illustrates the expected post-restoration implementation condition. Important elements of a plan map or maps include the following:

- Property boundaries
- Labelled surface water features and floodplain extent
- Site elevations relative to the channel
- Existing functional vegetation that will remain as part of the activities
- Recent aerial imagery
- Map scale and delineated site potential tree height, if applicable

- Polygons or other visual representation of restoration activities (e.g., planting, in-stream elements, fencing, etc.)
- Delineate different habitat zones (e.g., gravel bar, shoreline, riparian, terrace, wetland, upland)
- Monitoring information if applicable (e.g., photo points, transects)
- Legends as necessary

4. Site Preparation Methods

Describe the site preparation needed as part of the overall riparian establishment objectives, including preparation type, methods used, frequency, and expected duration. In some cases, these elements may be the only necessary actions before moving into a maintenance phase (e.g., alder thinning with adequate conifer understory). In other cases, initial preparation can take years before an activity such as planting is possible (e.g., knotweed monoculture). Provide a plan map and/or design-level plans (appendix D) of significant site preparation elements as necessary. Examples include the following:

- Invasive plant control (e.g., mechanical, chemical, hand)
- Soil preparation (e.g., ripping, disking), amendments (mulching, etc.)
- Overstory species thinning (e.g., alder conversion, pre-commercial thinning)
- Other project elements, such as in-stream work (e.g., beaver dam analogs for better site hydrology) or agricultural best management practices (e.g., fencing, off-stream water) that must be implemented initially to support effective riparian establishment

5. Riparian Planting Methods

If riparian planting is a component of the project, provide the following detail:

- Species list, separated by plant community zones if more than one on site. For each zone provide the following information:
 - Describe if using seed and stock sourced from across the species' geographic and elevational ranges.
 - Stock type (seed, bareroot, potted + age or size class)
 - Quantity and planting density for each species and/or planting zone
- Planting methods

- Planting seasons
- Herbivory protection or exclusion
- Sun and wind protection (shade cloth)
- Irrigation and watering installation
- Other methods as appropriate

6. Implementation Monitoring

Implementation monitoring, or the process of tracking performance of riparian establishment activities, is an eligible expense as part of a restoration or stewardship project. Describe the methods and metrics used to track how the project's SMART restoration objectives are performing. Consider how the performance measures may change as a riparian project matures with time and stewardship and maintenance activities. RCO compiled resources of standard techniques on its website. Examples include the following:

- Annual counts on set transects to estimate percent survival and invasive species cover
- Densimeter or drone imagery to assess canopy cover and light penetration
- Photograph points to illustrate native growth and invasives suppression
- LiDAR imagery showing native canopy cover

7. Post-Implementation Maintenance

Post-implementation maintenance is the long-term strategy that starts after completing initial planting treatments and/or construction. Regardless of who takes long-term responsibility, it is important for the sponsor to illustrate it understands the steps to establish functioning and self-sustaining riparian conditions over time. This element will include a detailed schedule of maintenance activities chronologically appropriate to the different stages of riparian establishment and who is responsible for funding, planning, and completing maintenance actions.

List and describe proposed management practices. Consider organizing information into a table or other visual (e.g., Gantt chart). At a minimum, describe the practice, its planned frequency (e.g., three times in spring and summer seasons), the likely duration (e.g., five years), and the expected timeframe (e.g., years five through twenty). Consider the entire establishment period for the site, how the management may change as the site matures, and potential changes due to climate change as it is currently understood. For example, a list of methods for maintaining a young dense

planting (years zero to five); then a list of intermediary methods (years five through fifteen) such as continued competitive invasive plant removal or replanting significant mortality or removing irrigation; and late stage (years fifteen through thirty) techniques such as overstory thinning for health and diversity or herbivory protection removal.

Examples of long-term maintenance and establishment practices are as follows:

- Weed control and mulching
- Replacing or removing herbivory protection (tubes, fencing)
- Removing irrigation infrastructure no longer needed
- Adaptive re-planting such as changing species in areas of high mortality due to changes in climate, localized soil hydrology, or bad stock
- Adaptive under-planting such as incorporating species that better establish under canopy previously planted (e.g., cedar, hemlock)
- Thinning dominant overstory species to allow release and facilitate understory development
- Beaver dam management (pond levelers, temporary relocation)
- Adapting planting, removal, or rescue planting due to planned or adaptive restoration techniques on site (e.g., planned channel reconfiguration through an establishing riparian forest)

8. Adaptive Management

Either as part of the post-implementation maintenance discussion or in a separate section, describe how site management will be adapted if the sponsor does not achieve restoration objectives as determined by implementation monitoring. List typical or known site-specific challenges to riparian establishment and propose adaptive management approaches or contingencies.

Examples of adaptive management are as follows:

- Due to the low gradient of the stream and presence of beavers in the watershed, beaver colonization is highly probable. Although beaver pond levers will be considered, in the case of wetland formation and loss of drier site riparian plants, replanting with wetland-type vegetation or allowing natural recruitment will be considered. High-value trees on site will be protected from beaver browse by wire mesh.

- In the case of heavy mortality of a single species, replanting with a different seed source of that species or planting a different species altogether will be considered.

9. As-Built Documentations

Update the riparian enhancement plan if implementation resulted in significant changes from what was proposed. Be sure to update design drawings, maps, site preparation, planting method, and monitoring elements of the plan as necessary.

10. Stewardship Activity Report

This is a written report that documents activities implemented as part of the stewardship project. If adaptive management was a significant factor, document the changes implemented on site. Provide implementation monitoring results to show how the site is achieving restoration objectives.

Definitions

Riparian area²: A defined area encompassing both sides of a water body, composed of aquatic ecosystems (i.e., the river or stream), riparian ecosystem, and riverine wetlands. Riparian areas are three dimensional: longitudinal up and down streams, lateral to the width of the riparian ecosystem, and vertical from below the water table to above the canopy of mature site-potential trees.

Riparian ecosystem³: Riparian ecosystems are transitional between terrestrial and aquatic ecosystems and are distinguished by gradients in biophysical conditions, ecological processes, and biota. They are areas through which surface and subsurface hydrology connect waterbodies with their adjacent uplands. They include those portions of terrestrial ecosystems that significantly influence exchanges of energy and matter with aquatic ecosystems (i.e., a zone of influence). This definition of riparian ecosystem does not include adjacent waters (i.e., river or streams, but does include riverine wetlands) and recognizes the riparian zone as a distinctive area within riparian ecosystems.

Riparian Management Zone:² A delineable area defined in a land-use regulation; often synonymous with riparian buffer. For the purposes of this document, the riparian management zone is defined as the area that has the potential to provide full riparian functions. In many forested regions of the state this area occurs within one, two hundred-year site-potential tree height measured from the edge of the stream channel.

²NRC (National Research Council). 2002. Riparian areas: functions and strategies for management. The National Academies Press, Washington, D.C. <https://doi.org/10.17226/10327>.

³Quinn, T., G.F. Wilhere, and K.L. Krueger, technical editors. 2020. Riparian Ecosystems, Volume 1: Science Synthesis and Management Implications. Habitat Program, Washington Department of Fish and Wildlife, Olympia. p.292

In situations where a channel migration zone is present, this occurs within one site potential tree height measured from the edges of the channel migration zone. In non-forest zones the riparian management zone is defined by the greater of the outermost point of the riparian vegetative community or the pollution removal function, at one hundred feet.

