Fisheries Habitat Restoration 2019
Proposal Solicitation Notice

Juvenile Coho Salmon
Photographer: Derek Acomb, CDFW

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California Department of Fish and Wildlife
Wildlife and Fisheries Division
Fisheries Branch and
Watershed Restoration Grants Branch

In partnership with

National Oceanic and Atmospheric Administration's
Pacific Coastal Salmon Recovery Fund

FHR PSN 2019/2020

SOLICITATION OVERVIEW

The California Department of Fish and Wildlife (CDFW), is soliciting proposals for projects that restore, enhance, or protect anadromous salmonid habitat in watersheds of California or projects that lead to process-based restoration, enhancement, or protection of anadromous salmonid habitat, as well as contribute to the objectives of the California Water Action Plan, State Wildlife Action Plan, and fulfillment of CDFW's mission.

The Proposal Solicitation Notice (PSN) contains all the information necessary to prepare a complete, fundable proposal. Applicants are encouraged to read this PSN carefully.

The main body of this document is divided into five parts.

Part I provides a general introduction to the 2019 Fisheries Habitat Restoration Proposal Solicitation Notice (FHR PSN), as well as its focuses, funding prospects, and relationship to climate change, wildfires, and invasive species.

Part II lists project types and discusses proposal submission procedures, applicant eligibility, and the submission deadline. In addition, Part II gives guidance for proposal preparation and submission.

Part III identifies the funding programs that are available through this PSN and discusses program criteria that must be met for a proposal to be eligible for funding.

Part IV presents the eligible project types and proposal requirements. Each project type is composed of three sections: 1) required proposal information, 2) required supplemental documents, and 3) required information that must be supplied if the project is funded.

Part V provides definitions and descriptions of required information. References to these definitions appear in parentheses throughout the project descriptions in Part IV, and applicants are strongly encouraged to adhere to these definitions and descriptions when compiling the information for their proposal.

In addition to the main body of the PSN, there are six appendices (Appendix A-F) with additional information that guides applicants through the application process and assists with preparation of a quality proposal.

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APPENDICES

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PART I: INTRODUCTION

The California Department of Fish and Wildlife (CDFW) through the Fisheries Restoration Grant Program (FRGP) is soliciting proposals for projects that restore, enhance, or protect anadromous salmonid habitat in anadromous watersheds of California or projects that lead to process-based restoration, enhancement, or protection of anadromous salmonid habitat, as well as contribute to the objectives of the California Water Action Plan, State Wildlife Action Plan, and the fulfillment of CDFW's Mission.

There are two funding programs under which funds can be awarded: Fisheries Restoration Grant Program (FRGP), and Forest Land Anadromous Restoration (FLAR). See "Part III: Funding Programs" for requirements of funding under each program.

Funding Prospects for Fiscal Year 2019/2020

Approximately $16 million is available for grants.

- $14 million from the Pacific Coastal Salmon Recovery Fund and
- $2 million for the Forest Land Anadromous Restoration program.

Fiscal Year 2019/2020 funding for this solicitation is expected to be similar to 2018/2019 in regard to federal funding, however funding for proposals submitted under this PSN are subject to availability of funds and approval of the Budget Act for the 2019/2020 Fiscal Year.

Visit https://www.wildlife.ca.gov/Grants/FRGP/Funded to view projects funded in previous years. Applicants are encouraged to propose projects that implement process-based restoration techniques with a scope large enough to restore the target degraded ecosystem.

Climate Change

Current scientific evidence supports the necessity to address climate change impacts. Climate change is expected to alter the behavior and distribution of ocean and coastal species as air and water temperatures rise and natural ecosystems are altered. The *2009 California Climate Adaptation Strategy* (California Natural Resources Agency) includes, as a guiding principle, to "Give priority to adaptation strategies that initiate, foster, and enhance existing efforts that improve economic and social well-being, public safety and security, public health and environmental justice, species and habitat protection, and ecological function." (Visit the California Climate Change website for

updates to the Strategy and climate information.) As a near-term action, the Strategy states that for Habitat Protection, “State agencies should identify key habitats that may require more protections as a result of climate change impacts and should plan additional buffer areas where necessary to allow for climate change phenomena…” For nearly three decades, projects funded by the CDFW FRGP have enhanced salmonid species survivability potential by restoring and preserving habitat. The realization of climate change places a great urgency on CDFW and its partners to accelerate and continue restoring and preserving habitat that will be resilient to current and future impacts.

California Wildfires

Wildfires have extraordinary impacts to watersheds and forestlands. Canopy, understory, and ground cover are lost, soils change to repel water rather than absorb it, and stable root structures are compromised. The damages resulting from wildfires pose a serious threat to society and salmonid habitat. Mudslides and sediment transport can adversely impact infrastructure and stream habitat. The process of recovery can take years in a wildfire area, but restoration can speed up the process. Prioritization of restoration projects will take into account projects to reduce the risk and consequences of large, damaging wildfires, including in areas impacted by recent wildfires.

Invasive Species

Restoration projects should not be vectors for invasive species, such as New Zealand mud snail or sudden oak death. Personal field gear and heavy equipment used in working in a stream must be properly decontaminated before moving to a new location even within the same watershed. See Part V: Definitions “Invasive Species Prevention Plan” for required compliance and links to examples of invasive species prevention plans.

PART II: SOLICITATION SUMMARY AND PROPOSAL GUIDANCE

Eligible Project Types

Proposal applications will be accepted for the types of projects listed below, subject to funding program criteria. Projects are listed by the NOAA Pacific Coastal Salmon Recovery Fund (PCSRF) Priorities. CDFW has developed a two-letter coding system for project types below, which are described in detail in Part IV.

Priority 1: Projects that restore, enhance, or protect anadromous salmonid habitat in anadromous watersheds through implementation or design projects that lead to implementation. Approximately 65% of the PCSRF grant award will fund Priority One Projects.

- *FP**+ *Fish Passage at Stream Crossings*
- *HB**+ *Instream Barrier Modification for Fish Passage*
- *HI**+ *Instream Habitat Restoration*
- *HR**+ *Riparian Restoration*
- *HS**+ *Instream Bank Stabilization*
- *HU**+ *Watershed Restoration (Upslope)*
- *PD* Project Design (100% design)*
- *RE*+ *Cooperative Rearing*
- *SC**+ *Fish Screening of Diversions*
- *WC**+ *Water Conservation Measures*

Priority 2: Projects that monitor status and trends that directly contribute to population viability assessments for ESA-listed anadromous salmonids will be administered through a separate solicitation process outside of this 2019 FHR PSN. Other eligible projects include:

- *MO Monitoring Watershed Restoration (Large-scale)*
- *PL* Watershed Evaluation (Large-scale)*

Approximately 25% of the PCSRF grant award will fund Priority Two Projects.

Priority 3: Projects that support implementation projects through planning, outreach, and/or education. Approximately 10% of the PCSRF grant award will fund Priority Three Projects.

- *EF* Enforcement and Protection*
- *MO Monitoring Watershed Restoration (Project-scale)*
- *OR Watershed and Regional Organization*
- *PD* Project Design (feasibility study)*
- *PI Public Involvement and Capacity Building (includes AmeriCorps projects)*
- *PL* Watershed Evaluation, Assessment, and Planning (Project-Scale)*
- *TE* Private Sector Technical Training and Education*

WD[*+] *Water Measuring Devices (Instream and Water Diversion)*

Projects may require the services of a licensed professional engineer or licensed professional geologist to comply with the requirements of the Business and Professions Code section 6700 et seq. (Professional Engineers Act) and section 7800 et seq. (Geologists and Geophysicists Act).* ***If a proposed project requires the services of licensed professionals, these individuals and their affiliations must be identified in the proposal application. If this information cannot be provided with the application, an explanation must be provided.*

[+]All implementation type projects must have all designs and plans 100% completed before grant is executed if proposal is funded.

Eligibility Criteria

Eligible applicants are limited to state and local government agencies, public entities, Native American Indian Tribes, and nonprofit organizations. Grant proposals from private individuals or for-profit enterprises will not be accepted. Private individuals and for-profit enterprises interested in submitting restoration proposals are encouraged to work with a public agency, Native American Indian Tribe, or nonprofit organization.

No project that is required mitigation or used for mitigation under the California Environmental Quality Act (CEQA), California Endangered Species Act (CESA), Federal Endangered Species Act (ESA), National Environmental Policy Act (NEPA), California Forest Practices Act (FPA) or Section 404 of the Clean Water Act (CWA) will be considered for funding. No project that is under an enforcement action by a regulatory agency will be considered for funding.

Proposal Due Date

In order to be considered for 2019/2020 funding, **all** proposals are due by **April 16, 2019, at 3:00 p.m.**

Application Proposal Package

Applications must be submitted on-line at https://watershedgrants.wildlife.ca.gov. This is the only method of submission. Some instructions for using the on-line process are in Appendix A. Applicants may want to complete a draft of the application in a word processing program compatible with WebGrants (e.g. Word) and copy and paste the information into the on-line application. Appendix B is a Word sample application. When

using the on-line application process you are still required to provide all materials requested in this PSN and comply with all requirements listed in this PSN for your project type.

Awarded Proposals

Proposals will be awarded between December 2019 and January 2020. Awarded proposals must provide the following information to CDFW before grant agreements can be executed. This information is provided here so the applicant is able to budget for these in the proposal if necessary. More details can be found in Appendix E.

1. An authorizing resolution from your governing body that confirms its approval of the projects and grant monies (if applicable);
2. Payee Data Record form (STD. 204) (http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=152218);
3. 501(c)(3) Certification (for non-profit organizations);
4. Final Landowner Agreements
5. Drug-Free Workplace Certification (STD. 21) (http://www.documents.dgs.ca.gov/dgs/fmc/pdf/std021.pdf);
6. A current (non-expired) federally Negotiated Indirect Cost Rate Agreement (NICRA) (if applicable);
7. Federal Funding Accountability and Transparency Act 2006 Contractor Certification (DFW 868). Any project receiving federal funds as part of the grant award is required to complete this form.
8. NOAA performance measures for each worksite. Performance measures are not required in the 2019 FHR application, but if awarded the grantee will be required to update WebGrants with worksite performance measures (see Appendix B for performance measures).
9. Update the budget in WebGrants to reflect the proposed Detailed Project Budget Spreadsheet. Applicants should only input budget category subtotals in WebGrants, but provide an itemized Detailed Project Budget Spreadsheet as a supplemental document (see Appendix A & B and WebGrants for budget instructions).

Public Information

Under Fish and Game Code, Section 1501.5 and Public Resources Code, Section 6217.1, the CDFW is authorized to collect information from grant applicants in order to process, track, and ensure completion of funded projects. All information requested on this application is mandatory unless otherwise indicated. An applicant's name and address may be provided to the public, if requested. Other personal information submitted on this application may be released to governmental entities involved with the funding of the project, to law enforcement agencies pursuant to a court order, or for official natural resources management purposes.

Tribal Consultation

CDFW recognizes the need for consultation regarding projects that affect California tribal communities. As such, applicants should make every effort to involve Native American Tribes or stakeholder groups as appropriate.

Guidance

This PSN is a legal document. Applicants are encouraged to work closely with local CDFW FRGP staff in the planning and development of proposals well in advance of the solicitation release. See Appendix C for a list of CDFW contacts.

Workshops highlighting changes to the application submission requirements will be held throughout the state. Locations and dates will be posted on CDFW's Public Meetings and Notices webpage at https://www.wildlife.ca.gov/notices and on the FRGP webpage at https://www.wildlife.ca.gov/Grants/FRGP/Solicitation.

Additional information and forms used in this PSN can be found and downloaded from the internet at https://www.wildlife.ca.gov/Grants/FRGP/Guidance.

All information requested in this Solicitation is mandatory unless otherwise indicated. Failure to submit any required attachment or complete all required Application components will make the proposal incomplete. Incomplete proposals will not be reviewed or considered for funding.

If the project is selected for funding, the project proponent shall comply with all applicable federal, state, and local laws, rules, regulations, and/or ordinances. As may be necessary, the grantee shall be responsible for obtaining the services of appropriately licensed professionals to comply with the applicable requirements of the Business and Professions Code including but not limited to section 6700 et seq. (Professional Engineers Act) and/or section 7800 et seq. (Geologists and Geophysicists Act).

If the project is selected for funding and the project proponent fails to perform in accordance with the provisions of the enacted grant agreement, CDFW retains the right, at its sole discretion, to interrupt or suspend the work for which the monies are appropriated or to terminate the grant agreement.

Please see Appendix A & B for application instructions. Proposals must conform to the instructions in Appendix A and the web application. Appendix B is a sample application form to assist in preparing the application for online submission. It is recommended that applicants get familiar with the web application interface before they start to draft application responses/information.

Prevailing Wage

State grants may be subject to California Labor Code requirements, which include prevailing wage provisions. Certain State grants administered by the California Wildlife Conservation Board and the California Department of Fish and Wildlife are not subject to Chapter 1 (commencing with Section 1720) of Part 7 of Division 2 of the Labor Code. For more details, please refer to California Fish and Game Code Section 1501.5 and to the Department of Industrial Relations (DIR) website at http://www.dir.ca.gov. Grantee shall pay prevailing wage to all persons employed in the performance of any part of the Project if required by law to do so.

Project applicants who intend to pay prevailing wages should indicate this in the project proposal so that associated costs can be considered during the proposal review process.

Indirect Charges

Indirect costs (administrative overhead) are those that cannot be directly assigned to a particular grant activity, but are necessary to the operation of the organization and the performance of the grant project. Indirect costs include operating and maintaining facilities, accounting services, and administrative salaries that cannot be recovered in other budget categories.

In accordance with the Federal Uniform Grant Guidance 2017 (2 CFR part 200) applicants have two options for requesting indirect costs:

1. Use their federally approved Indirect Cost Rate. Federal approval documentation must be included with the proposal as a supplemental document;

OR

2. Use a de minimis rate, of ten percent (10%) of the Subrecipient's Modified Total Direct Costs (MTDC). The MTDC base cannot include any distorting costs such as equipment, rent, capital expenditures, or any sub-awards, contracts, or consultant beyond the first $25,000.

Where the applicant does not have a federally approved rate, any indirect costs incurred over 10% are not eligible for reimbursement but can be used as cost share. MTDC means all direct salaries and wages, applicable fringe benefits, materials and supplies, services, travel, and up to the first $25,000 of each subaward. MTDC excludes equipment, capital expenditures, charges for patient care, rental costs, tuition remission, scholarships and fellowships, participant support costs, and the portion of each subaward in excess of $25,000 as stated in 2 CFR section 200.68.

Workers compensation insurance is an allowable fringe benefit as stated in 2 CFR section 200.431.

For the 10% rate provide a list of what is included in indirect charges in "Section 8.3: Indirect Charges Justification/Explanation". This list can also be supplied as a supplemental document but reference should be made to the document in Section 8.3. Section 8.3 should also reference the federal approval documents. Items included in indirect charges cannot be included as separate line items in the budget.

Subcontractors are subject to the same federal requirements as the applicants. See Federal Uniform Grant Guidance at (2 CFR Part 200)

For information on applying for federal approval of indirect costs contact Lamar Revis at lamar.revis@NOAA.gov. For more information on indirect costs see 2 CFR Part 200.

Cost Share

Proposals providing cost share in the form of cash or in-kind services for the execution of the project must specify the source and dollar amount of all proposed cost share. Applicant must also indicate if any of the cost share is being used as match for other grants or entities. Failure to provide this information may be considered non-responsive and/or result in the withdrawal of funding approval. ***If a proposal is funded under this PSN, the funding cannot be used as match for any other program or entity.*** When completing the application, enter each source of funds. Be sure to enter the funds under the correct entity type. Cost share need only be confirmed by the dates listed below to be counted for scoring purposes. However if the project is funded, the cost share funds must be secured before the grant is executed.

Cost share can be either money or resources other than money (in-kind contributions), provided by the applicant and/or the applicant's partners (e.g. private companies, nonprofit organizations, public agencies, and/or other entities) involved in the implementation of the proposed project. In-kind contributions must be applied directly to the project in order to be considered cost share. When including existing equipment or vehicles in cost share, they must be prorated based on the life of the equipment/vehicles. To be eligible, cost share must be used during the term of the grant. Cost share definitions are as follows:

Cost share not suitable: Projects, personnel, or supplies and equipment previously funded by CDFW; resources expended prior to the term of the grant; salaries of permanently funded employees working for the CDFW or NOAA Fisheries; indirect

charges; mitigation funds and funds used in enforcement actions; cost share funds that will not be confirmed by February 1, 2020.

Hard cost share: All hard cost share must be **Non-Federal** sourced money or in-kind contributions that do not come from a Federal source. Hard cost share can be provided by the applicant and/or the applicant's partners involved in the implementation of the proposed project and must be confirmed prior to August 15, 2019.

Soft cost share: All soft cost share is **Federal** sourced money or in-kind contributions that come from a Federal source. Soft cost share can be provided by the applicant and/or the applicant's partners involved in the implementation of the proposed project. Cost share funds (cash or in-kind) that will be confirmed after August 15, 2019 up until February 1, 2020 can only be counted as soft cost share regardless of funding source.

If a proposal is funded, verification of the proposed cost share is required to complete the grant agreement and all cost share must be secured before the grant agreement can be executed. Project proponents failing to comply with these requirements will be considered non-responsive and ineligible for funding. A certification form, provided by CDFW, will be required for all non-federal cost share. If the project is funded, all cost share must be included in the Final Budget. Supporting documentation may be required for cost share expenses.

PART III: FUNDING PROGRAMS

There are two separate funding programs in this PSN: the Fisheries Restoration Grant Program (FRGP), and the Forest Land Anadromous Restoration (FLAR) program. Proposals are only allowed to seek funding under one program. There are four criteria for each funding program that must be met. See below for a description of the funding programs. See Appendix C for contact information.

Fisheries Restoration Grant Program

The goal of the Fisheries Restoration Grant Program (FRGP) is to recover and conserve California's salmon and steelhead trout populations through process-based restoration activates that restore self-sustaining, ecosystems. The objective is to fund projects that restore, enhance, or protect anadromous salmonid habitat in anadromous watersheds of California or projects that lead to restoration, enhancement, or protection of anadromous salmonid habitat. Projects are determined to be accomplishing this objective by completing, in part or in whole, a task from a State or Federal recovery plan. A general overview of the geographic area covered by FRGP is shown on Map 1, which follows Table 1: FRGP Focus Watersheds. Not all watersheds shown on Map 1 are included in FRGP. See Table 1: FRGP Focus Watersheds for the specific watersheds eligible under this PSN.

Geographic Division for 2019 FRGP Funds

There are four geographic divisions/domain eligible for funds:

(1) Southern Oregon/Northern California Coast
(2) North-Central California Coast
(3) Central Valley
(4) South-Central/ Southern California Coast

No one region shall receive more than $7 million of the available funds.

If there are an insufficient number of eligible projects in each division to meet this objective, remaining funding will be distributed to the highest scored projects statewide. Projects submitted under this funding program cannot exceed four years.

FRGP Criteria

There are four criteria for FRGP funding. All four criteria must be met in order for a proposal to be accepted for consideration under FRGP.

1. Species Criteria: Refer to "Table 1: FRGP Focus Watersheds". Not all species are eligible in all watersheds. NMFS Recovery Plan population priorities are designated by species (A - 1st priority, B - 2nd priority) and may be considered in the ranking of proposals or prioritization of funding. Focus Species are:
   - Coho salmon,
   - steelhead,
   - Chinook Salmon.

2. Geographic Criteria: The proposed project must be within one of the listed focus Hydrologic Unit Code (HUC) watersheds in Table 1 (area listed in the "Watershed" column in table 1). Enter the "Watershed" from Table 1 when asked for the focus watershed on the application. There are restrictions in some watersheds; refer to the "Criteria Detail" column in Table 1. Maps of the watersheds in Table 1 can be found on the FRGP PSN webpage by "Map Number". These maps are a guideline to help locate your project within a watershed. Focus watershed determination for a project will be based on Table 1, not on the maps. Map 1 (which follows Table 1) gives a general overview of the geographic area covered by FRGP.

3. Project Type Criteria: The proposed project must meet the requirements for one of the project types listed in Table 1. Not all project types are eligible in all watersheds. (See Part II for a definition of project type codes and Part IV for project type descriptions)

4. Recovery or Restoration Criteria: To assist in the recovery of CESA and ESA listed Coho Salmon, steelhead, and Chinook Salmon populations and their habitat in California, the proposed project must address one task in one of the eight recovery plans listed below. **It is the applicants' responsibility to select and enter the correct task for their proposal.**

The CDFW *Steelhead Restoration and Management Plan for California* (DFG 1996) includes broad recommendations that were not ranked. Recommendations/tasks have since been updated based on the status of steelhead populations coast wide. The 2013 updated list contains the most recent changes to the Steelhead Recovery Task List and must be used for task selection instead of the Management Plan in order to comply with this PSN. The 2013 Steelhead Recovery Task List can be found on-line at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=58603. Applicants must provide the task number in the proposal if choosing a task from this plan. If you have any questions regarding the DFG steelhead plan or task list, contact Ryon Kurth at (916) 445-3181, ryon.kurth@wildlife.ca.gov.

Tasks from the DFG *Recovery Strategy for California Coho Salmon* (DFG 2004) that are acceptable for compliance with this PSN are listed in an online database available at https://www.wildlife.ca.gov/Conservation/Fishes/Coho-Salmon. This site contains the most recent changes to the Recovery Strategy and must be used for task selection instead of the document. To see all tasks listed, do not check the high priority box. To see range wide tasks, click the "Run Range-wide Report" button at the bottom of the web page. Applicants must provide the task number in the proposal if choosing a task from this plan. If you have any questions regarding the Coho Salmon recovery strategy or task database, contact Stephen Swales at (916) 324-6903, Stephen.swales@wildlife.ca.gov.

Southern California Steelhead Recovery Plan NOAA Final Version: January 2012 available on-line at https://www.fisheries.noaa.gov/resource/document/southern-california-steelhead-recovery-plan. For this Plan specific recovery action tasks may only be drawn from the following tables: Monte Arido BPG, Tables 9-4 to 9-7; Conception Coast BPG, Tables 10-4 to 10-13; Santa Monica Mountains BPG, Tables 11-4 to 11-8; Mojave Rim BPG, Tables 12-4 to 12-6; Santa Catalina Gulf Coast BPG, Tables 13-4 to 13-13; Southern California Steelhead Research, Monitoring, and Adaptive Management, Table 14-1. Applicants must provide the recovery action number in the proposal if choosing a task from this plan. If you have any questions regarding the NOAA steelhead plan, you may contact Mark Capelli at (805) 963-6478, mark.capelli@noaa.gov.

South-Central California Steelhead Recovery Plan NOAA Final: December 2013 available on-line at http://www.westcoast.fisheries.noaa.gov/publications/recovery_planning/salmon_steelhead/domains/south_central_southern_california/2013_scccs_recoveryplan_final.pdf. For this Plan specific recovery action tasks may only be drawn from the following tables: Interior Coast Range BPG, Tables 9-4 to 9-6; Carmel River Basin BPG, Tables 10-4; Big Sur Coast BPG, Table 11-4 to 11-10; San Luis Obispo Terrace BPG, Tables 12-4 to 12-14; South-Central California Steelhead Research and Monitoring, Adaptive Management, Table 13-1. Applicants must provide the specific recovery action number in the proposal if choosing a task from this plan. If you have any questions regarding the NOAA steelhead plan, you may contact Mark Capelli at (805) 963-6478, mark.capelli@noaa.gov.

Recovery Plan for Evolutionarily Significant Unit of Central California Coast Coho Salmon Final Plan September 2012 (CCC Plan) tasks are available on-line at https://www.westcoast.fisheries.noaa.gov/protected_species/salmon_steelhead/recovery_planning_and_implementation/north_central_california_coast/central_california_coast_coho_recovery_plan.html. An excel workbook of all the recovery actions can be found

at the link above. Eligible recovery actions from this plan are the specific action steps for the species level (ESU), Diversity Strata, and Watershed (i.e., population). The ESU, Diversity Stratum, and watersheds have their own unique worksheet tab. The watershed tabs are organized alphabetically. If choosing a task from the CCC Coho Salmon Recovery Plan, applicants must reference a unique Action Step ID number associated with the specific action step in an eligible watershed (e.g., Albion River AlR-CCC-1.1.1.1). If you have any questions regarding the NOAA CCC Coho plan, you may contact Erin Seghesio (707) 578-8515, erin.seghesio@noaa.gov.

Recovery Plan for the Evolutionarily Significant Unit of Southern Oregon/Northern California Coast Coho Salmon Public Final: September 2014 (SONCC Plan) available on-line at https://www.westcoast.fisheries.noaa.gov/protected_species/salmon_steelhead/recovery_planning_and_implementation/southern_oregon_northern_california_coast/SONCC_recovery_plan.html. Action steps for each population area can be found in the "SONCC coho salmon recovery plan action list" link. The link will download an Excel file with recovery action steps from the recovery plan. The recovery action step must be referenced by a unique "Step ID" number (e.g. SONCC-HBT.2.2.3.2). Applicants must provide the specific Step ID number in the proposal if choosing a task from this plan. Eligible action types and locations are described in Table 1 of this PSN. If you have any questions regarding the SONCC Plan, you may contact Julie Weeder at (707) 825-5168, julie.weeder@noaa.gov.

Recovery Plan for the Evolutionarily Significant Units of Sacramento River Winter-Run Chinook Salmon and Central Valley Spring-Run Chinook Salmon and the Distinct Population Segment of California Central Valley Steelhead NOAA Final: July 2014 available on-line at https://www.westcoast.fisheries.noaa.gov/publications/recovery_planning/salmon_steelhead/domains/california_central_valley/final_recovery_plan_07-11-2014.pdf. Specific recovery actions by watershed can be found in Microsoft Excel format at the above website under the title "Spreadsheet of All Recovery Actions". These actions must be referenced by the unique recovery Action ID number (e.g. MIC- 1.4). Applicants must provide the specific recovery Action ID number in the proposal if choosing a task from this plan. If you have any questions regarding the Central Valley Plan, you may contact Brian Ellrott at (916) 955-7628, Brian.Ellrott@noaa.gov.

Coastal Multispecies Final Recovery Plan, North Central California Coast Recovery Domain: California Coastal Chinook Salmon, Northern California Steelhead, Central California Coast Steelhead NOAA: October 2016 available on-line at http://www.westcoast.fisheries.noaa.gov/protected_species/salmon_steelhead/recovery_planning_and_implementation/north_central_california_coast/coastal_multispecies_recovery_plan.html. Action steps for each area/species can be found in the "All Recovery Actions" link for each area/species found on the website above. The link will

download an Excel file with recovery actions from the recovery plan. The recovery actions for ESU/DPS level and population level are found in their own unique worksheet tab. The population tabs are organized by diversity strata and then alphabetically within each stratum. The ESU/DPS or population recovery action step must be referenced by a unique Action Step ID number (e.g., GarcR-NCSW-1.1.1.1). Applicants must provide the specific recovery Action ID number at the Action Step level in the proposal if choosing a task from this plan. If you have any questions regarding the Coastal Multispecies Plan, you may contact Erin Seghesio (707) 578-8515, erin.seghesio@noaa.gov, or Julie Weeder (707) 825-5168, julie.weeder@noaa.gov.

Table 1: **FRGP Focus Watersheds**

A "✓" in the project type columns represent eligible project types within that watershed.

Map Number (See website)	Watershed	Criteria Detail	Species[1]																			
	The HUC watershed system is used. The number following the name indicates the HUC level.	***Proposals will be considered for designated project types benefiting the target species in the focus streams and watersheds listed below.***	**Coho**	**steelhead**	**Chinook**	**EF**	**FP**	**HB**	**HI**	**HR**	**HS**	**HU**	**MO**	**OR**	**PD**	**PI**	**PL**	**RE**	**SC**	**TE**	**WC**	**WD**
2	Smith River - 8		A			✓	✓	✓	✓	✓			✓		✓	✓	✓			✓		
2	Smith River - 8	Smith River Plain	A				✓	✓	✓	✓			✓		✓	✓	✓			✓		
2	Smith River - 8	Wilson Creek	B					✓	✓				✓		✓	✓	✓			✓		
2	Turwar Creek - 10, Tectah Creek - 10, Blue Creek - 10	Lower Klamath	A				✓	✓	✓			✓	✓		✓	✓	✓			✓		
2	Indian Creek - 10, Thompson Creek - 10, Elk Creek - 10, Clear Creek - 10, Ukonom Creek - 10, Rock Creek - 10, Bluff Creek - 10, Dillon Creek - 10	Mid-Klamath	B			✓		✓	✓	✓			✓		✓	✓	✓		✓	✓	✓	✓
1	Upper Klamath - 8	Upper Klamath (below Iron Gate Dam)	A			✓	✓	✓	✓	✓			✓		✓	✓	✓		✓	✓	✓	✓
1	Scott River - 4	Scott River	A				✓	✓	✓	✓			✓	✓	✓	✓	✓		✓	✓	✓	✓
1	Shasta River - 8	Shasta River (below Dwinnel Dam)	A			✓	✓	✓	✓	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓

A "✓" in the project type columns represent eligible project types within that watershed. A solid black box represents species and project types that are ineligible for designated watersheds.

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1	Salmon River - 8	Salmon River	B			✓		✓	✓				✓		✓	✓	✓			✓		
3	Weaver Creek - 10, Canyon Creek - 10, NF Trinity River - 10, Big French Creek - 10	Upper Trinity (below Lewiston Dam)	A			✓	✓	✓	✓				✓		✓	✓	✓		✓	✓	✓	✓
3	New River - 10, Big French Creek - 10, Horse Linto Creek - 10	Lower Trinity	A			✓	✓	✓	✓			✓	✓		✓	✓	✓		✓	✓	✓	✓
3	SF Trinity - 8	SF Trinity	B			✓		✓	✓			✓	✓		✓	✓	✓			✓	✓	✓
3	Mad-Redwood - 8	Mad River (below Ruth Lake Dam)	B	A	A	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓			✓	✓	
3	Mad-Redwood - 8	Redwood Creek	A	A	A	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓			✓	✓	✓
3	Mad-Redwood - 8	Maple Creek/Big Lagoon		B				✓	✓				✓		✓	✓	✓			✓		
3	Mad-Redwood - 8	Little River	B	A	B		✓	✓	✓				✓		✓	✓	✓			✓		
3	Humboldt Bay tribs - 10	Humboldt Bay tributaries (tribs)	A	A	B		✓	✓	✓	✓		✓	✓		✓	✓	✓			✓		
4	Mattole River - 10	Mattole River	B	A	A	✓	✓	✓	✓	✓			✓		✓	✓	✓			✓	✓	✓

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4	Larabee Creek-10, Lower Van Duzen River-10, Price Creek-Eel River-10, Salt River-Eel River-10, Upper Van Duzen River-10, Yager Creek-10	Lower Eel/Van Duzen River	A	B	B	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓			✓	✓	✓
4	SF Eel River - 8	SF Eel River	A	A	A	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓			✓	✓	✓
4	Woodman Creek-Eel River-10, Chamise Creek-Eel River-10, Basin Creek-Eel River-10	Mainstem Eel River (below Lake Pillsbury)	B	A	A	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓			✓	✓	✓
4	Usal Creek-Frontal Pacific Ocean - 12	Usal Creek and tribs	B	B				✓	✓	✓		✓	✓		✓	✓	✓			✓		
4	Cottaneva Creek - 12	Cottaneva Crk. & tribs	A				✓	✓	✓	✓		✓	✓		✓	✓	✓			✓		
4	Wages Creek-Frontal Pacific Ocean - 12	Wages Creek & tribs	B	B		✓		✓	✓	✓			✓		✓	✓	✓			✓		
5	Ten Mile River - 10	Ten Mile River & tribs	A	A	B		✓	✓	✓	✓		✓	✓		✓	✓	✓			✓	✓	✓
5	Tomki Creek - 10, Outlet Creek - 10, Bucknell Creek-Eel River - 10	Middle Mainstem Eel River	A	B	A	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓			✓	✓	✓
5	Pudding Creek – 12	Pudding Creek & tribs	A	B			✓	✓	✓	✓			✓		✓	✓	✓			✓	✓	

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5	Noyo River - 10	Noyo River & tribs	A	A	B	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓			✓	✓	
5	Hare Creek - 12	Caspar Creek, Hare Creek, & tribs	A	B		✓	✓	✓	✓	✓			✓		✓	✓	✓			✓	✓	
5	Big River - 10	Big River & tribs	A	A		✓	✓	✓	✓	✓		✓	✓		✓	✓	✓			✓	✓	
5	Albion River - 12	Albion River & tribs	A				✓	✓	✓			✓	✓		✓	✓	✓			✓	✓	
5	Lower Navarro, NF Navarro, North and South Branch NF Navarro, Upper Navarro River, Indian Creek - 12	Lower Navarro River and tribs, NF Navarro River and tribs, Mill Creek and tribs, Indian Creek and tribs, Floodgate Creek	A	A		✓	✓	✓	✓	✓		✓	✓		✓	✓	✓			✓	✓	✓
6	Lower Garcia River, Middle Garcia River - 12	Garcia River and tribs	A	A	B	✓	✓	✓	✓	✓			✓		✓	✓	✓	✓		✓	✓	✓
6	North Fork Gualala River - 12	North Fork Gualala River and tribs	B	B		✓	✓	✓	✓	✓			✓	✓	✓	✓	✓			✓	✓	✓

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6	South Fork Gualala River-Gualala River, Rockpile Creek, Upper Wheatfield Fork Gualala River, Buckeye Creek, House Creek, Marshall Creek, Lower Wheatfield Fork Gualala River - 12	South Fork Gualala River and tribs		B		✓	✓	✓	✓	✓		✓	✓		✓	✓	✓			✓		
6	Buckeye Creek - 12	Buckeye Creek and tribs	B	B		✓	✓	✓	✓	✓		✓	✓		✓	✓	✓			✓	✓	✓
8	Russian Gulch-Frontal Pacific Ocean - 12	Russian Gulch and tribs	B	B			✓	✓	✓			✓	✓		✓	✓	✓			✓		
8	Willow Creek-Russian River - 12	Willow Creek and tribs, Sheephouse Creek and tribs, Freezout Creek and tribs, Jenner Gulch	A				✓	✓	✓	✓			✓		✓	✓		✓		✓	✓	✓
8	Green Valley Creek - 12	Green Valley Creek and tribs, and Atascadero Creek and tribs	A	B	B		✓	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓

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8	Dutch Bill Creek-Russian River - 12	Dutch Bill Creek and tribs, Hulbert Creek and tribs, Fife Creek and tribs	A				✓	✓	✓	✓		✓	✓		✓	✓	✓	✓		✓	✓	✓
8	Porter Creek-Mark West Creek - 12	Mark West Creek and tribs	A	B	B		✓	✓	✓	✓		✓	✓		✓	✓	✓	✓		✓	✓	✓
8	Porter Creek-Russian River - 12	Porter Creek and tribs	A				✓	✓	✓	✓			✓		✓	✓		✓		✓	✓	✓
8	Ward Creek-Austin Creek - 12	Austin Creek, Kidd Creek	A	A			✓	✓	✓	✓			✓		✓	✓		✓		✓	✓	✓
8	Ward Creek-Austin Creek - 12	Austin Creek and tribs		A	A		✓	✓	✓	✓			✓		✓	✓		✓		✓	✓	✓
8	Mill Creek - 12	Mill Creek and tribs	A	A	B		✓	✓	✓	✓			✓		✓	✓		✓		✓	✓	✓
8	East Austin Creek - 12	East Austin Creek and tribs	A	A	B		✓	✓	✓	✓			✓		✓	✓		✓		✓	✓	✓
8	Pena Creek - 12	Pena Creek and tribs	A	A	A		✓	✓	✓	✓			✓		✓	✓		✓		✓	✓	✓
8	Maacama Creek - 12	Redwood Creek, Yellowjacket Creek, Kellogg Creek	A	A			✓	✓	✓	✓			✓		✓	✓		✓		✓	✓	✓
8	Maacama Creek, Franz Creek - 12	Maacama Creek and tribs		A	A		✓	✓	✓	✓			✓		✓	✓		✓		✓	✓	✓

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8	West Slough-Dry Creek - 12	Grape Creek and tribs, and Wine Creek and tribs.	A	A	B		✓	✓	✓	✓			✓		✓	✓		✓		✓	✓	✓
8	West Slough-Dry Creek - 12	Dry Creek downstream of Warm Springs Dam	A	A	A		✓	✓					✓		✓	✓				✓		
8	Russian - 8	Russian River mainstem downstream of Coyote Dam		B	A		✓	✓					✓		✓	✓				✓		
8	Upper Russian River, Headwaters Russian River, Big Sulphur Creek, Middle Russian River - 10	Anadromous waters of Russian River tribs upstream of Maacama Creek		B	A		✓	✓	✓	✓			✓		✓	✓			✓	✓	✓	✓
8	Salmon Creek - 12	Salmon Creek and tribs	A	B			✓	✓	✓	✓			✓		✓	✓	✓	✓		✓	✓	✓
8	Walker Creek - 10	Walker Creek and tribs downstream of Soulajule Dam	A	A			✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
8	Lagunitas Creek -10	Lagunitas Creek and tribs downstream of Peters Dam	A	A		✓	✓	✓	✓	✓			✓		✓	✓	✓			✓	✓	✓
8	Redwood Creek-Frontal Pacific Ocean - 12	Redwood Creek and tribs	A				✓	✓	✓	✓			✓		✓	✓	✓	✓		✓	✓	✓

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8	Bolinas Lagoon - 12	Pine Gulch Creek and tribs	B				✓	✓	✓	✓			✓		✓	✓	✓			✓	✓	✓
10	Pescadero Creek - 10	Pescadero Creek and tribs	A	A		✓	✓	✓	✓	✓		✓	✓		✓	✓	✓			✓	✓	✓
10	La Honda Creek, San Gregorio Creek - 12	San Gregorio Creek and tribs	B	B		✓	✓	✓	✓	✓		✓	✓		✓	✓	✓			✓	✓	✓
11	Gazos Creek-Frontal Ano Nuevo Bay - 12	Gazos Creek and tribs, and Whitehouse Creek and tribs	B			✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓		✓	✓	✓
11	Waddell Creek - 12	Waddell Creek and tribs	A	A		✓	✓	✓	✓	✓			✓		✓	✓	✓	✓		✓	✓	✓
11	Scott Creek - 12	Scott Creek and tribs	A	A		✓	✓	✓	✓	✓			✓		✓	✓	✓	✓		✓	✓	✓
11	San Vicente Creek-Frontal Pacific Ocean - 12	San Vicente Creek and tribs	A				✓	✓	✓	✓			✓		✓	✓	✓	✓		✓	✓	✓
11	San Vicente Creek-Frontal Pacific Ocean - 12	Laguna Creek and tribs	B	B			✓	✓	✓	✓			✓		✓	✓				✓	✓	✓
11	San Lorenzo River - 10	San Lorenzo River and tribs	B	B		✓	✓	✓	✓	✓			✓		✓	✓	✓	✓		✓	✓	✓
11	Soquel Creek - 12	Soquel Creek and tribs	B	A		✓	✓	✓	✓	✓			✓		✓	✓		✓		✓	✓	✓

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11	Aptos Creek - 12	Aptos Creek and tribs	B	B		✓	✓	✓	✓	✓			✓		✓	✓		✓		✓	✓	✓
8	Green Valley Creek, Wooden Valley Creek-Suisun Creek - 12	Anadromous waters of Green Valley Creek and tribs, and Anadromous waters of Suisun Creek and tribs		B			✓	✓	✓	✓		✓	✓		✓	✓	✓			✓	✓	✓
8	Adobe Creek-Frontal San Pablo Bay Estuaries, San Pablo Bay Estuaries, San Antonio Creek, San Antonio Creek - 12	Petaluma River mainstem and Adobe, Lynch, Lihau, Washington and San Antonio Creeks		B			✓	✓	✓	✓					✓	✓	✓			✓	✓	✓
8	Novato Creek, San Pablo Bay Estuaries, Miller Creek-Frontal San Pablo Bay Estuaries - 12	Novato Creek and tribs		B			✓	✓	✓	✓					✓	✓					✓	✓

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8	San Pablo Bay Estuaries, Schell Creek-Frontal San Pablo Bay Estuaries, Tolay Creek-Frontal San Pablo Bay Estuaries, Fowler Creek, Lower Sonoma Creek, Upper Sonoma Creek - 12	Sonoma Creek and tribs		A			✓	✓	✓	✓		✓	✓		✓	✓	✓		✓	✓	✓	✓
8	Upper Napa River, Middle Napa River, Dry Creek, Rector Creek-Conn Creek, Carneros Creek-Frontal San Pablo Bay Estuaries, Tulucay Creek-Frontal San Pablo Bay Estuaries - 12	Anadromous waters of the Napa River and tribs		A			✓	✓	✓	✓		✓	✓		✓	✓	✓			✓	✓	✓
8	Corte Madera Creek-Frontal San Francisco Bay Estuaries - 10	Corte Madera Creek and tribs		B			✓	✓	✓	✓					✓	✓					✓	✓

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9	Arroyo de la Laguna, Arroyo Mocho, Arroyo Las Positas, Arroyo Valle, Alameda Creek - 10; San Francisco Bay Estuaries, Plummer Creek-Frontal San Francisco Bay Estuaries - 12	Anadromous waters of Alameda Creek and tribs		B			✓	✓	✓	✓					✓	✓			✓		✓	✓
9	Lower Coyote Creek-Frontal San Francisco Bay Estuaries, Agua Caliente Creek-Frontal San Francisco Bay Estuaries, San Francisco Bay - 10	Coyote Creek and tribs downstream of Lake Anderson		B		✓	✓	✓	✓	✓					✓	✓			✓		✓	✓
9	Stevens Creek - 12	Stevens Creek and tribs		A		✓	✓	✓	✓	✓			✓		✓	✓			✓		✓	✓
9	Guadalupe River-Frontal San Francisco Bay Estuaries - 10	Guadalupe River and tribs downstream of reservoirs and barriers (excluding Los Gatos, Ross, and Canoas Creeks)		B		✓	✓	✓	✓	✓					✓	✓			✓		✓	✓
9	San Francisquito Creek - 12	San Francisquito Creek and tribs downstream of Searsville Dam		A			✓	✓	✓	✓			✓		✓	✓			✓		✓	✓

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9	Arroyo Leon - 12	Anadromous waters of Arroyo Leon Creek and tribs, and Pilarcitos Creek and tribs downstream of Stone Dam		B		✓	✓	✓	✓	✓		✓	✓		✓	✓	✓			✓	✓	✓
9	Gazos Creek-Frontal Ano Nuevo Bay - 12	Whitehouse Creek		B		✓	✓	✓	✓	✓		✓	✓		✓	✓	✓			✓	✓	✓
12	Corralitos, Lower Uvas, Lower and Upper Pajaro - 12	Pajaro River & tribs below confluence with Llagas Creek		A		✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
13 & 14	Salinas River	Mainstem and Upper Westside tribs (including San Antonio and Nacimiento)		A		✓	✓						✓	✓	✓	✓	✓			✓	✓	
13	Arroyo Seco - 10	Arroyo Seco mainstem		A		✓	✓	✓	✓	✓	✓	✓			✓	✓	✓		✓	✓	✓	
13	Potrero Canyon, Las Gazas, San Clemente, Danish - 12	Mainstem Carmel & tribs downstream of Los Padres Dam		A			✓	✓	✓	✓	✓	✓	✓		✓	✓	✓				✓	✓
13	San Jose Creek - 12	San Jose Creek mainstem & tribs to San Jose Creek only		A			✓	✓	✓	✓	✓	✓	✓		✓	✓	✓				✓	

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	The HUC watershed system is used. The number following the name indicates the HUC level.	***Proposals will be considered for designated project types benefiting the target species in the focus streams and watersheds listed below.***	**Coho**	**steelhead**	**Chinook**	**EF**	**FP**	**HB**	**HI**	**HR**	**HS**	**HU**	**MO**	**OR**	**PD**	**PI**	**PL**	**RE**	**SC**	**TE**	**WC**	**WD**
13	Bixby Creek - Frontal Pacific Ocean HUC12	Garrapata Creek		B				✓	✓	✓	✓	✓	✓		✓	✓	✓		✓		✓	
13	Little Sur River - 12	Little Sur River		A						✓	✓	✓										
13	Big Sur River - 12			A			✓	✓	✓	✓	✓	✓			✓	✓	✓			✓	✓	
15	Arroyo de la Laguna - 12 (San Luis Obispo County)	San Carpoforo Creek		B						✓	✓					✓	✓				✓	
15	San Simeon Creek - 12			A			✓	✓		✓						✓	✓			✓	✓	✓
15	Santa Rosa Creek - 12	Mainstem		A					✓	✓	✓	✓	✓		✓	✓	✓				✓	✓
16	Chorro Creek Frontal Morro Bay - 12	Mainstem and all tribs		B			✓	✓	✓	✓			✓		✓	✓	✓			✓	✓	✓
16	Upper and Lower San Luis Obispo Creek - 12	Mainstem and all tribs		A			✓			✓	✓		✓		✓	✓	✓			✓	✓	✓
16	Pismo Creek - 12	Mainstem, West Coral de Piedra, Canada Verde		A			✓		✓	✓	✓				✓	✓	✓			✓	✓	✓
16	Arroyo Grande Creek - 10	Mainstem downstream of Lopez Dam		A			✓	✓	✓	✓	✓				✓	✓	✓			✓	✓	
17	Santa Maria/Sisquoc River - 8	Region 4 & 5 mainstem & tribs		A			✓	✓	✓	✓	✓	✓	✓		✓	✓	✓			✓	✓	✓
17	Santa Ynez River - 8	Lower Santa Ynez River and tribs below Bradbury Dam		A		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓

A "✓" in the project type columns represent eligible project types within that watershed. A solid black box represents species and project types that are ineligible for designated watersheds.

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17	Jalama Creek-Frontal Santa Barbara Channel - 10	Gaviota Creek		B			✓	✓	✓	✓	✓	✓		✓	✓	✓	✓			✓	✓	✓
17	San Pedro Creek Frontal Santa Barbara Channel - 10	San Jose and San Pedro		A			✓	✓	✓	✓	✓			✓	✓	✓	✓		✓	✓	✓	✓
17	San Pedro Creek Frontal Santa Barbara Channel - 10	Atascadero & tribs		A			✓	✓	✓	✓	✓		✓	✓	✓	✓	✓		✓	✓	✓	✓
17	San Pedro Creek Frontal Santa Barbara Channel - 10	Mission		A			✓	✓	✓	✓	✓		✓	✓	✓	✓	✓		✓	✓	✓	✓
17	San Pedro Creek Frontal Santa Barbara Channel - 10	Carpinteria		A			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
17	San Pedro Creek Frontal Santa Barbara Channel - 10	Rincon		A			✓	✓	✓	✓	✓	✓			✓	✓	✓		✓	✓	✓	✓
18	Ventura River - 10	Ventura River including all tribs		A		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
18	Santa Clara River - 8	Santa Clara River & all south flowing tribs west of Boquet Canyon		A			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
19	Big Sycamore Canyon - 10	Arroyo Sequit, Trancas, Zuma		B			✓	✓	✓	✓				✓	✓	✓	✓			✓	✓	✓
19	Malibu Creek - 10	Malibu Creek		A		✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓			✓	✓	✓
19	Garapito Creek - 12	Topanga Creek		A		✓	✓		✓	✓	✓		✓		✓	✓	✓				✓	✓
20	San Gabriel River - 8	San Gabriel River and tribs		A		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	

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20	Santa Ana - 8	Santa Ana River and tribs		B			✓	✓							✓	✓	✓				✓	✓
20	San Juan Creek - 10	San Juan Creek and tribs		A		✓	✓	✓	✓	✓			✓	✓	✓	✓	✓			✓	✓	✓
20	San Mateo Creek - 10	San Mateo Creek and tribs		A		✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓			✓	✓	
20	Santa Margarita - 10	Santa Margarita River and tribs		A			✓	✓	✓	✓			✓	✓	✓	✓	✓		✓	✓	✓	✓
20	San Dieguito - 10			B			✓	✓	✓	✓				✓	✓	✓	✓			✓	✓	
20	San Luis Rey-Escondido - 8	San Luis Rey River and tribs.		A			✓	✓	✓	✓			✓	✓	✓	✓	✓		✓	✓	✓	✓
7	Battle Creek - 10			A	A			✓	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
7	Mainstem Sacramento River (Below Keswick)			B	A	✓	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓	✓	
7	McCloud River - 8			A	A									✓	✓	✓	✓	✓		✓	✓	
7	Cottonwood/Beegum Creeks			B	B			✓	✓	✓		✓			✓							
7	Clear Creek -10			A	A	✓			✓	✓	✓	✓	✓		✓	✓	✓			✓	✓	
7	Yuba River (below Englebright)			B	B		✓	✓	✓	✓	✓		✓		✓		✓					
7	North Yuba River (above Englebright)			A	A									✓	✓	✓	✓	✓		✓	✓	
7	Butte Creek - 10			B	A	✓			✓	✓	✓	✓	✓		✓	✓			✓	✓	✓	✓
7	Deer Creek - 10			A	A	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓

A "✓" in the project type columns represent eligible project types within that watershed. A solid black box represents species and project types that are ineligible for designated watersheds.

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7	Mill Creek - 10			A	A	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
7	Antelope Creek - 10			A	B	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓	
7	Calaveras River (below New Hogan)			A		✓	✓	✓	✓	✓	✓		✓		✓	✓	✓		✓	✓	✓	✓
7	Stanislaus River (below Goodwin)			B	B										✓		✓				✓	
7	Tuolumne River (below La Grange)			B	B										✓		✓				✓	
7	Merced River (below Crocker Huffman)			B	B				✓	✓					✓		✓				✓	
7	San Joaquin River (below Friant Dam)			B	A	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓		✓	✓	✓	✓
7	Suisun Bay - 10			B	A	✓			✓	✓			✓	✓	✓	✓	✓		✓	✓	✓	
7	Delta/Yolo Bypass			B	A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

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Map 1: General Overview of FRGP Geographic Focus

Forest Land Anadromous Restoration

Eligible grantees under the Forest Land Anadromous Restoration (FLAR) funding program will include state and local government agencies, public entities, nonprofit organizations, and recognized tribes. Restoration projects may be implemented as a part of timber harvesting plans and other such types of projects subject to the Z'Berg-Nejedly Forest Practice Act and the California Forest Practice Rules, but should not include mitigation for a plan's potential impacts.

1. Proposals must include pre- and post- project monitoring as a component of the project to assess restoration project outcomes. Proposals must follow the Department's monitoring guidelines. For project monitoring see *DFG's California Salmonid Stream Habitat Restoration Manual 4th edition. Available via Internet at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=22610&inline.* For validation monitoring see *Protocols for Monitoring the Response of Anadromous Salmon and Steelhead to Watershed Restoration in California by Walter Duffy.*

2. The Timber Regulation and Forest Restoration Fund is anticipated to provide at least $2 million to fund projects under FLAR. Projects submitted under this funding program cannot exceed two years.

3. Projects must be within one of the following watersheds on non-federal forest land listed in the FLAR Program Criteria.

4. The maximum that can be requested for a project is $1 million.

5. Applicants are encouraged to work with the California Conservation Corps crews (including the Watershed Stewards Program) for project completion as appropriate.

For questions regarding FLAR, contact Elliot Chasin at (916) 651-7879, Elliot.Chasin@wildlife.ca.gov.

Objectives of FLAR

The primary objective of FLAR is to provide funds to be used on forested watersheds to restore conditions beneficial to State and/or federally listed anadromous salmonids. Projects must address legacy impacts of forest management (e.g., impeded fish passage at forest road stream crossings, sediment discharge from old forest roads and landings, and lack of instream large woody debris providing rearing habitat). Proposals submitted for FLAR consideration must address a legacy impact on non-federal public or private forest land and meet the criteria listed below.

Additional considerations for FLAR

Proposals for FLAR funding must include pre- and post- project monitoring as a component of the project. This effectiveness monitoring is to assess restoration project outcomes. *This **is** a required element for applicants applying under FLAR*

Identifying a task from a State or Federal recovery plan is not required. If projects have equivalent scores and funding is limited, those that address recovery plan tasks are given preference, and may be considered for funding through FRGP. A list of recovery plans with a link to the documents can be found under FRGP funding program criteria. *However, this is not a required element for applicants applying for FLAR.*

FLAR Program Criteria

There are four criteria for FLAR funding. All four criteria must be met in order for a proposal to be accepted for consideration for FLAR funding.

1. Species Criteria: The proposed project must benefit Coho Salmon, Chinook Salmon, or steelhead trout.

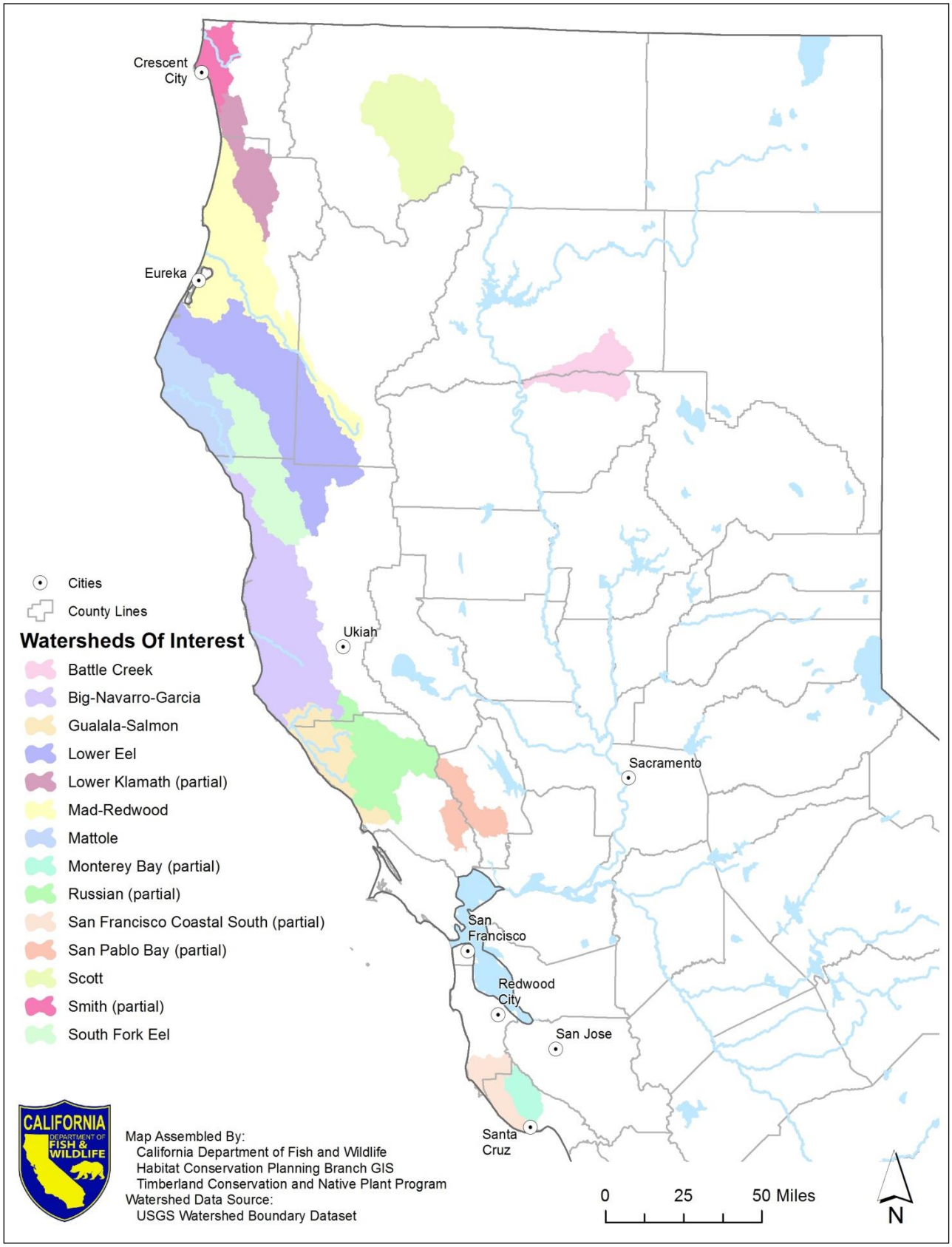
6. 2. Geographic Criteria: Projects must be within one of the following watersheds on non-federal forest land. If a HUC 10 watershed is called out, the HUC 8 watershed it is a subset of has also been identified. However only the specified HUC 10s are eligible watersheds within that HUC 8. (See Map 2 for location of these watersheds.)
   - Within the HUC 8 Smith watershed:
     - Smith River - HUC 10
     - Point Saint George-Frontal Pacific Ocean - HUC 10
   - Mad-Redwood - HUC 8
   - Lower Eel - HUC 8
   - South Fork Eel - HUC 8
   - Mattole - HUC 8
   - Big-Navarro-Garcia - HUC 8
   - Gualala-Salmon - HUC 8
   - Within the HUC 8 Russian watershed:
     - Dry Creek - HUC 10
     - Middle Russian River - HUC 10
     - Austin Creek - HUC 10
     - Lower Russian River - HUC 10
   - Scott - HUC 8
   - Within the HUC 8 Lower Klamath watershed:
     - Tectah Creek-Klamath River - HUC 10
     - Turwar Creek-Klamath River - HUC 10
   - Battle Creek - HUC 8

- Within the HUC 8 San Pablo Bay watershed:
  - Napa River - HUC 10
  - Sonoma Creek-Frontal San Pablo Bay Estuaries - HUC 10
- Within the HUC 8 San Francisco Coastal South watershed:
  - Pescadero Creek - HUC 10
  - Waddell Creek-Frontal Ano Nuevo Bay - HUC 10
- Within the HUC 8 San Monterey Bay watershed:
  - San Lorenzo River - HUC 10

Use these watershed names when asked for the "Focus Watershed System". CDFW's final determination of a specific project being in anadromous waters within forest land may not be based solely on this map.

3. Project Type Criteria: The proposed project must be one of the following types:
   - FP Fish Passage at Stream Crossings
   - HB Instream Barrier Modification for Fish Passage
   - HI Instream Habitat Restoration
   - HR Riparian Restoration
   - HS Instream Bank Stabilization
   - HU Watershed Restoration (Upslope)

4. Objective Criteria for Forest Land Restoration: Proposals for FLAR funds submitted through this PSN are required to document how the project will address legacy impacts of forest management. The initial identification of these objectives should go in "Form: Project Information, Project Objectives" and then described in detail in "Form: Project Objectives". If the proposal does not complete a task from a recovery plan, enter "Legacy Impacts" when asked for "Task Number" on the application in place of a recovery task.



Map 2: Watersheds included in Forest Land Anadromous Restoration program

PART IV: PROJECT TYPE REQUIREMENTS

This section of the PSN describes the specific requirements for each project type. In addition to the information required under Part II, information requested under each project type listed here must be submitted in detail with the proposal application. The applicant will identify the primary project type that best describes the proposed project. Forms and examples of supplemental documents can be found on the FRGP Guidance Tools website. See Part V for definitions of supplemental documents.

All implementation-type projects must have all designs and plans 100% completed prior to grant execution if the proposal is funded.

Enforcement and Protection Projects (EF)

Eligible enforcement and protection projects are projects that clearly lead to enhanced abilities for the public, natural resource managers, public agencies, and counties to utilize important laws and regulations that protect salmon and steelhead and their habitat. Providing protection through enhanced enforcement training and related activities is a valuable tool aiding restoration and recovery efforts. Protection efforts directly and indirectly serve as a conduit to the public, providing education, information, training, and accountability towards the goal of being good stewards of watersheds and fishery resources. EF-type projects fall into three categories:

A. Prevention and Prosecution. This category focuses on protection of salmon and steelhead habitat by enhancing the ability of resource managers and responsible organizations to prevent pollution and habitat degradation, and actions which would help with successful prosecution of illegal take and habitat destruction.
B. Training. This category focuses on training that enhances protection prevention of illegal take of individual fish or populations of threatened or endangered salmon and steelhead.
C. Education and Outreach. This category focuses on education, outreach and training programs that serve to prevent illegal destruction of salmon and steelhead habitat.

Required Information

All proposals must include the following specific information in the project description.

A. A plan which outlines the reason for the proposal as it relates to salmon and steelhead protection.
B. Evidence that the funding requested is necessary to either augment or create a program that offers a reasonable goal of better protection of salmon and steelhead resources.
C. A cost/benefit analysis that demonstrates the need for the requested funding.

D. An evaluation of the activity being proposed to ensure it meets current State enforcement requirements.
E. Identification of organizations and parties that would benefit from implementation of the proposed training.
F. Description of species, geographic or institutional protection issues requiring training to achieve improved protection of habitat or fisheries.
G. For projects involving restoration planning and coordination:
    1. Acres of land affected by plan.
    2. Name of the plan that was developed or implemented for management and enforcement of habitat protection ordinances or regulations, including extent, purpose and application of the plan.
    3. Description and scope of the plan developed/implemented for management/enforcement of habitat protection ordinances/regulations including extent, purpose, and application of the plan.
    4. Number of landowners contacted.
    5. Number of plans or project designs developed.
H. If the project involves public outreach and education:
    1. Acres of habitat restored or protected;
    2. Number and list of watersheds protected;
    3. Number of protection projects proposed;
    4. Number of volunteers committed to enforcement actions;
    5. Dollar amount of donations made to enforcement actions;
    6. Number of outreach/education documents completed and distributed;
    7. Name of education/outreach document.
    8. Number of exhibits/posters prepared.
    9. Number of media materials prepared;
    10. Description of media material and where/when it was used.
    11. Number of interpretive signs used;
    12. Number of locations where interpretive signs were displayed;
    13. Describe where the interpretive signs were posted.
    14. Number of outreach events conducted or sponsored by this project.
    15. Number of workshops/training event;
    16. Number of participants in workshops/training event.

Required Supplemental Documents

All proposals must also include the following supplemental documents:

A. Project location topographic map (see definition in Part V).
B. Watershed Map or County Map. (see definition in Part V). Aerial photos do not satisfy this requirement.
C. Evaluation Plan (see definition in Part V)
D. Photographs (see definition Part V). For all EF-type projects except training, provide photographs which illustrate the issue being addressed.
E. Invasive species prevention plan if field trips or field work are part of project (see definition Part V).

If Funded

If the proposal is funded, the following information will be required with the final report of the grant agreement. This information is provided here so the applicant is able to budget for these deliverables in the proposal if necessary.

A. Actual performance measures per site. Performance measures for each project type can be found in Appendix B.

Fish Passage at Stream Crossings (FP)

Eligible fish passage projects are those that are specifically limited to barriers to migration. The FP category includes any human-made crossing over or through a stream channel such as paved or unpaved roads, railroads, trails and paths, fair-weather Arizona crossings, bridges, and box, pipe, or concrete culverts and baffles. This project type does not include the construction of new fish ladders or upgrading or maintaining existing fish ladders. Dams are not included in this project type, they are included in project type HB. For proposals focusing on road crossings or modification, the proponent must (a) provide evidence of the extent to which the crossing is a barrier to adult or juvenile salmonids, and (b) test the project following construction at two life stage design flows (e.g. fall/winter flows for adult salmonids, summer flows for juveniles, etc.).

This project type does not include pre-project planning or design. It is strictly for constructing implementation projects. Proposals must, at a minimum, include complete intermediate plans (i.e., design plans at 65% level of development). Proposals for pre-project planning and development should be submitted under the project design (PD) category. Regardless of whether pre-project planning is done through a PD project or outside of the FRGP, project applicants are encouraged to engage in discussion with CDFW or NOAA Fisheries technical staff prior to development of 30% plans. If an FP-type proposal is funded, final 100% plans accepted by CDFW and NOAA Fisheries technical and engineering staff will be required prior to grant execution.

Required Information

All proposals must include the following specific information in the project description:

A. Number of miles of stream treated (only the actual length of stream treated by the project, not the length of stream affected by the project).
B. Number of feet of aquatic habitat disturbed (sum of individual feature lengths).
C. Square footage of instream features installed within bankfull channel (footprint of features).
D. Type and number of blockages or barriers removed or altered. Select from: Diversion dam, push-up dam, wood or concrete dam, culvert, bridge, ford, logs, debris, boulders, rock barriers, or landslide.
E. Number of miles, per site, of stream made accessible upstream of each barrier removed.
F. Quantity of habitat made available and how this metric was determined.
G. Quality of habitat made available and how this metric was determined.

H. Type of required listed-species surveys which will be done, and protocols to be used.
I. Name of the assessment or recovery plan (if any) in which the project is identified, in the format: Author, date, title, source, source address.
J. Need for fish relocation, if applicable (see definition Part V).
K. Extent to which the proposed project will meet CDFW and NOAA Fisheries fish passage criteria (see Habitat Restoration Manual, Part IX, Appendix A and B; and Part XII).
L. Presence or absence of other downstream barriers, including how this was determined and existence of treatment plans for downstream barriers.

Required Supplemental Documents

All proposals must also include the following supplemental documents:

A. Intermediate plan. If a design element in the intermediate plan is determined to be unnecessary, a rationale for not including it must be provided.
B. Project location topographic map (see definition Part V).
C. Signed provisional landowner access agreement (see definition Part V).
D. Water law compliance documents. If a water right is involved with the project, written verification of the right to divert, use, store, sell or transfer the water is required for any project that addresses issues related to the diversion, use, storage or purchase of water.
E. Photographs (see definition Part V).
F. An invasive species prevention plan (see definition Part V).
G. A completed project permitting information table. Instructions and a template are located in Appendix F.

If Funded

If the proposal is funded, the following information will be required with the final report of the grant agreement. This information is provided here so the applicant is able to budget for these deliverables in the proposal if necessary.

A. Actual performance measures per site. Performance measures for each project type can be found in Appendix B.
B. Post-implementation longitudinal profile for projects where channel grade is to be restored of otherwise modified.
C. If project includes dewatering and fish exclusion or relocation, a CDFW Incidental Take Permit is required to be submitted to the CDFW grant manager before each fish relocation activity.

Instream Barrier Modification for Fish Passage (HB)

Eligible instream barrier projects are limited to work in the stream channel (bankfull) and along the stream bank. Instream barriers include grade control structures (weirs), flashboard dams, dams, debris basins, water diversion structures, and log debris accumulations. This project type does not include the construction of new fish ladders or

upgraded or maintenance of existing fish ladders. It is recommended that proposals under the HB project type include the baseline data discussed in Parts II and III of the *California Salmonid Stream Habitat Restoration Manual, 4th edition (California Department of Fish and Game)*. For barrier modification and removal proposals, the proponent must (a) provide evidence of the extent to which the crossing is a barrier to adult or juvenile salmonids, and (b) test the project following construction at two life stage design flows (e.g. fall/winter flows for adult salmonids, summer flows for juveniles, etc.).

This project type does not include pre-project planning or design. It is strictly for constructing implementation projects. Proposals must, at a minimum, include complete intermediate plans (i.e., design plans at 65% level of development). Proposals for pre-project planning and development should be submitted under the project design (PD) category. Regardless of whether pre-project planning is done through a PD project or outside of the FRGP, project applicants are encouraged to engage in discussion with CDFW or NOAA Fisheries technical staff prior to development of 30% plans. If an HB-type proposal is funded, final 100% plans accepted by CDFW and NOAA Fisheries technical and engineering staff will be required prior to grant execution.

Required Information

All proposals must include the following specific information in the project description:

A. For large wood projects:
    1. Target habitat metric (e.g., amount of large wood per unit length).
    2. Cite the document in which the stated habitat metric is justified.
    3. Average bankfull width of the project reach.
    4. Quantity of existing target habitat metric in the proposed project reach (how much wood already exists in the reach), for comparison to the target habitat metric.
B. Number of miles of stream treated (only the actual length of stream treated by the project, not the length of stream affected by the project).
C. Number of feet of aquatic habitat disturbed (sum of individual feature lengths).
D. Square footage of instream features installed within bankfull channel (footprint of features).
E. Type and number per site of blockages or barriers removed or altered. Select from: Diversion dam, push-up dam, wood or concrete dam, culvert, bridge, ford, logs, debris, boulders, rock barriers, or landslide.
F. Number of miles, per site, of stream made accessible upstream of each barrier removed.
G. Quantity of habitat made available and how this metric was determined (how is this different from above in blue?)
H. Quality of habitat made available and how this metric was determined.
I. All of the following, by work site (if applicable):
    1. Number of fishway chutes or pools installed.
    2. Acres of estuarine nearshore habitat treated.
    3. Miles of dikes modified or removed and acres of available habitat created.

4. Number of tidegates altered or removed and resulting acres of habitat opened to fish passage.
5. Number of estuarine culverts modified or removed and acres of fill material removed.

J. A unique station number for each project element (pertinent natural features and specific work areas) that reflects its measured distance (in feet) from the project start location. For example, a logjam proposed for modification 250 feet downstream of a bridge designated as the project starting point would have a station number of 250. A scaled map with all pertinent features and work site stations must be included as part of the proposal.
K. Name of the assessment or recovery plan (if any) in which the project is identified, in the format: Author, date, title, source, source address.
L. Type of required listed-species surveys which will be done, and protocols to be used.
M. Need for fish relocation, if applicable (see definition Part V).
N. Extent to which the proposed project will meet CDFW and NOAA Fisheries fish passage criteria (see Habitat Restoration Manual, Part IX, Appendix A and B; and Volume II, Part XII).
O. Presence or absence of other downstream barriers, including how this was determined and existence of treatment plans for downstream barriers.

Required Supplemental Documents

All proposals must also include the following supplemental documents:

A. Intermediate plan. If a design element in the intermediate plan is determined to be unnecessary, a rationale for not including it must be provided (see definition Part V).
B. Conceptual plan, if an intermediate plan is determined to be unnecessary (see definition Part V). Projects where channel grade is to be restored or otherwise modified by the proposed project must also include a longitudinal profile, scaled plan, and elevation view diagrams showing the proposed work (see definition Part V).
C. Project location topographic map (see definition in Part V).
D. Signed provisional landowner access agreement (see definition in Part V).
E. Water law compliance documents. If a water right is involved with the project, written verification of the right to divert, use, store, sell or transfer the water is required for any project that addresses issues related to the diversion, use, storage or purchase of water.
F. Photographs (see definition in Part V).
G. An invasive species prevention plan (see definition in Part V).
H. A completed project permitting information table. Instructions and a template are located in Appendix F.

If Funded

If the proposal is funded, the following information will be required with the final report of the grant agreement. This information is provided here so the applicant is able to budget for these deliverables in the proposal if necessary.

A. Actual performance measures per site. Performance measures for each project type can be found in Appendix B.
B. Post-implementation longitudinal profile for projects where channel grade is to be restored of otherwise modified.
C. If project includes removal of a diversion dam, flashboard dam, wood or concrete dam, design documents, final costs and final plans will be entered in the Clearinghouse for Dam Removal Information (CDRI) at: (https://calisphere.org/collections/26143/).

Instream Habitat Restoration (HI)

Eligible instream habitat restoration (HI) projects are limited to implementation work in stream channels and floodplains. Project design and planning will not be funded under this project type. HI includes installation of large wood, root wads, boulder features and weirs, gravel augmentation, side channel construction, and floodplain connectivity projects such as off-channel features and floodplain grading projects (See Part V).

HI projects must consider historical and present-day land use practices and infrastructure as well as the geomorphic setting of the project reach. It is important to consider what opportunities are present to restore the geomorphic function of the stream. Projects should be designed with physical and biological processes in mind and structures should mimic natural self-sustaining examples to the extent possible. Restoring the geomorphic function in the project reach will provide benefits to salmonids beyond cover. These benefits include increased pool frequency and depth, increased or sorted spawning gravels, increased aggradation leading to floodplain connectivity, velocity and temperature refugia, increased sinuosity as well as an increase in available food from additional benthic macroinvertebrate productivity that occurs on inundated floodplains.

It is recommended that proposals under this category include the baseline data discussed in Parts II and III, of the California Salmonid Stream Habitat Restoration Manual, 4th edition (California Department of Fish and Game).

An HI proposal must have a clearly identified goal and describe the specific measurable objective(s) the project will achieve in order to meet that goal. There are a number of planning documents referenced in Parts III-6 through III-9 and Part V-97 of the PSN that can help guide applicants toward appropriate goals and objectives. Methods and techniques for implementing instream habitat improvement projects are found in the California Salmonid Stream Habitat Restoration Manual, Part VII.

HI projects that include wood loading and non-engineered log and boulder features (similar in size and design to those identified in Part VII of the Restoration Manual) must include Conceptual Plans as described in Supplemental Documents in this section. All

other HI projects must include completed Intermediate Plans (i.e., design plans at ~65% level of development as described in Part V of this document) with their proposal. For treatments requiring Intermediate Plans at the proposal phase, Final Plans (100% plans) accepted by CDFW/NOAA Fisheries technical/engineering staff will be required prior to grant execution, if funded. Regardless of whether planning is done through an FRGP funded Project Design (PD) or outside of the FRGP, applicants are encouraged to engage in discussion with CDFW or NOAA technical staff prior to development of 30% plans.

If the applicant is seeking funds to monitor an HI project as a component of this proposal, they must also include all the required information for a Monitoring Watershed Restoration Project (MO). The funding requested for the monitoring task of the proposal must also be clearly identified and detailed in the budget.

Required Information

All proposals must include the following specific information in the project description:

A. The Goal(s) of the Project. Describe the main purpose of the project, the goal to be achieved (e.g., improve instream habitat conditions for rearing and spawning).
B. The Objective(s) of the Project. Describe the measurable steps that will accomplish the goal.
C. The total linear length in feet, downstream to upstream where the project will take place. If work is taking place on multiple streams, supply this information separately for each stream proposed for implementation.
D. The length of aquatic habitat to be disturbed in feet. This is the stream length to be excavated, stream length to be dewatered, or the linear length of a stream channel where work will take place. For projects with multiple project locations, this is the combined linear length where disturbance will occur. If work is taking place on multiple streams, supply this information for each stream separately.
E. Area (feet^2) of instream features to be installed within the bankfull channel or the channel area to be excavated. See appendix F for instructions on measuring instream features. If work is taking place on multiple streams, supply this information for each stream separately.
F. If the treatment/project is identified in a stream habitat survey, a watershed assessment, or a state or federal recovery plan, provide the name of the survey/assessment/plan in the format: Author, date, title, name, source, and source address.
G. If attaining permits outside of FRGP, indicate type of required listed species surveys which will be completed and the protocols to be used.
H. See additional requirements for specific HI project types listed below.

Each proposal must describe in detail the following additional specific project information in the Project Description-Introduction section of the proposal:

A. **Channel Feature Placement and Wood Loading** projects must describe in detail the following for each project site:
    1. Number of instream features to be installed or modified.

2. Target habitat metric specific to your project objective (e.g., number of off-channel features, area of off-channel features, pool shelter complexity, residual pool depth, amount of large wood per unit length, pool frequency per reach length, etc.). If the project objectives are related to reach scale wood loading and pool depth or frequency, target metrics should follow Table 1 in this section. For other project objectives, target metrics should be based on the best available scientific literature where applicable. Cite the document in which the stated habitat metric is justified if appropriate.
3. Quantity of existing target habitat in the proposed project reach for comparison to target metric (e.g. how many pieces of large wood currently exists in the reach, what is the length and area of side channel habitat).
4. Sum of linear stream length where individual features will be installed.
5. Average bankfull width of the project reach (see California Salmonid Stream Habitat Restoration Manual, Part III).
6. Type of materials to be used for channel structure placement, select from: individual logs (unanchored), individual logs (anchored), logs fastened together (complex structure), stumps with roots attached (root wads), rocks/boulders (unanchored), rocks/boulders (fastened or anchored), log or boulder weirs, deflectors/barbs, or other engineered structures.

B. **Channel Reconfiguration and Connectivity** projects must describe in detail the following specific information for each project site:
   1. Type of channel to be reconfigured and connected. Select from creation/connection to off-channel habitat, creation of instream pools, channel bed restored, or meanders added.
   2. Target habitat metric specific to your project objective.
   3. Miles of stream treated for channel reconfiguration and connectivity.
   4. Miles of off-channel stream to be created.
   5. Acres of off-channel or floodplain to be connected.
   6. Number of instream pools to be created for channel reconfiguration.

C. **Spawning Gravel Augmentation** projects must describe in detail the following specific information for each project site:
   i. Target habitat metric specific to your project objective.
   ii. Miles of stream to be treated with spawning gravel placement.
   iii. Cubic yards of spawning gravel to be placed.

D. **Aquatic Non-native Invasive Plant Removal** projects must describe in detail the following specific information for each project site:
   1. Target metric specific to your project objective.
   2. Miles of stream treated for removal of aquatic non-native invasive plants.

3. Acres of plants to be removed/controlled.
4. Scientific name(s) of plant species to be removed.

E. **Predator/competitor Removal** projects must describe in detail the following specific information for each project site:
   i. Target metric specific to your project objective.
   ii. Scientific names and number of predator/competitor species to be removed.
   iii. Miles of stream to be treated for predator removal/control.
   iv. Describe the methods used to control/remove predators or competitors

Required Supplemental Documents

All proposals must also include the following supplemental documents:

A. Intermediate Plan and applicable design plan criteria (see Part V). Most boulder, engineered wood, off-channel or side-channel projects, floodplain connectivity, and gravel augmentation projects should be at the intermediate plan level in the proposal. If a design element in the intermediate plan is determined to be unnecessary, a rationale for not including it must be provided.
B. Conceptual Plan, if an Intermediate Plan is determined to be unnecessary (see Part V). HI projects that include wood loading and non-engineered log and boulder features must include a Conceptual Plan for all features to be implemented (see **Sketch Requirements**). Generic drawings referred to as “typicals”, which do not represent the proposed feature or site, are not acceptable.
C. Projects where channel grade is to be restored or otherwise modified by the proposed project must also include a longitudinal profile, scaled plan, and elevation view diagrams showing the proposed work.
D. Project location topographic map (see definition in Part V).
E. Signed provisional landowner access agreement (see definition in Part V).
F. Photographs (see definition in Part V). Include representative photographs, upstream and downstream, of proposed project site or individual feature locations showing existing conditions.
G. An invasive species prevention plan (see definition in Part V).
H. A completed project permitting information table. Instructions and a template are located in Appendix F.

Sketch Requirements

Sketches should include feature locations, material types and quantities, and channel dimensions. A cover page with feature totals for the project, per stream, average bankfull channel width and gradient for the stream reach, and a key to the symbols found in sketches should be included. Sketches should include the following:

A. A feature number and location code following mapping protocol (Part V). Each feature shall be assigned a unique station number that reflects its measured distance from an identified landmark.
B. A plan view of the feature including the following:
    a. log orientation, lengths and diameters
    b. anchoring locations
    c. existing habitat conditions (e.g., habitat type, residual pool depth, primary cover type, existing large wood, dominant substrate)
    d. an arrow showing streamflow direction
    e. bankfull width
C. Goal of the feature (e.g., increase cover and/or scour, aggrade the channel, increase sinuosity, increase frequency of floodplain or side-channel inundation, etc.).
D. Linear length of channel to be treated by feature.
E. Feet of aquatic habitat disturbed at feature location.
F. Area (feet^2) of the feature built within bankfull width and height.
G. Identify the source location for wood and boulders and provide the quantity, size and type of materials that make up each feature including wood species and hardware.
H. Labor required to complete each feature.

If Funded

If the proposal is funded, the following information will be required with the final report of the grant agreement. This information is provided here so the applicant is able to budget for these deliverables in the proposal if necessary. The required information is as follows:

A. Actual performance measures per site. Performance measures for each project type can be found in Appendix B.
B. As-built drawings that include feature placement, alignment, sizes and quantity of material added.
C. Before and after photos of individual feature locations. A representative sample of up to 10 features should be supplied in the final report with a complete set of before and after photos delivered on a CD.
D. Post-project longitudinal profiles and cross-sections where channel grade is restored or otherwise modified by the project.

Table 1. Target Habitat Metrics for Feature Implementation.

Habitat Indicators	Good	Very Good
Pool Depths	3-3.3 ft.	>3.3 ft.
Pool Frequency (per reach length)	41-50%	>50%
Key Log Piece (pieces† per 330 ft of channel length)	2-3	>3
Large Wood <20 ft. wide‡ (piecesˢ per mile)	54-84	>85
Large Wood 20-30 ft. wide‡ (piecesˢ per mile)	37-64	>65
Large Wood >30 ft. wide‡ (piecesˢ per mile)	34-60	>60

†Key Log Pieces:
Length: for logs with root wads attached, length of a key piece must be 1.5 times the bankfull width of the stream; If no rootwad is attached, the length of the log must be two times the bankfull width (ODFW 2010).
Diameter: should be equal to or greater than ½ the bankfull depth (ODFW 2010) or 12", whichever is greater.
‡The number of pieces of wood in streams with a bankfull channel width of less than 20 feet, between 20 and 30 feet, or greater than 30 feet (The Nature Conservancy, 2006).
ˢLarge Wood is defined as all wood pieces greater than 12 inches in diameter and a minimum of 20 feet (CDFW 2002).

Riparian Restoration (HR)

Eligible riparian restoration projects are for riparian restoration of bare or partially denuded banks adjacent to the stream and within the stream corridor. Also included is eradication of non-native, invasive vegetation species and revegetation with native endemic riparian species. This project type does not allow funding for developing a riparian restoration plan. Refer to the project type 'Watershed Assessment, Evaluation and Planning' (PL) if a plan needs to be developed for a future riparian restoration project. The riparian area is defined as the area between a stream and the adjacent upland area identified by soil characteristics and distinct vegetation. It in ludes wetlands and those portions of floodplains and valley bottoms that support riparian vegetation. If an HR-type proposal is funded, final 100% plans accepted by CDFW and NOAA Fisheries technical and engineering staff will be required prior to grant execution.

Required Information

All proposals must include the following specific information in the project description:

A. Demonstration how the proposal would be instrumental in restoring the natural function of the riparian corridor using appropriate successional stage native species.
B. For project that include fencing, a wildlife-friendly fence must be constructed (see FRGP website for guidelines: https://www.wildlife.ca.gov/Grants/FRGP/Guidance.

C. Number of miles of stream treated (only the actual length of stream treated by the project, not the length of stream affected by the project). Count stream reach only once, even if it has multiple treatments.
D. Number of feet of aquatic habitat disturbed (sum of individual feature lengths).
E. Square footage of instream features installed within bankfull channel (footprint of features).
F. For each work site, the following must be provided:
    1. Miles of riparian stream bank treated, measuring both sides of the bank if appropriate.
    2. Total acres of riparian area treated (including fencing, excluding invasive species treatments).
    3. Number of riparian plants planted.
    4. Planting densities.
    5. Provisions made for annual survival monitoring and replanting or reseeding.
    6. Provisions for watering.
    7. Acres of riparian area planted.
    8. Scientific names of plant species planted.
    9. Miles of fencing installed or repaired.
    10. Type of fencing material used.
    11. Acres of riparian area protected by fencing.
    12. Acres of riparian area treated for removal of non-native invasive plants.
    13. Scientific names of non-native invasive plant species removed.
    14. If project includes trail or campground improvements, number of acres improved.
G. For projects involving streambank stabilization, provide the following for each site:
    1. Type of streambank stabilization materials used, selected from the following list: logs; rocks/boulders; rock barbs; log barbs; revetments; or vegetation.
    2. Miles of streambank stabilized, counting both sides of the bank if appropriate.
H. Identification of any work sites that include wetlands, and number of wetland acres treated.
I. Type of required listed species surveys that will be done and protocols to be used.
J. If the project is identified in an assessment or recovery plan, provide the name of the assessment or plan, in the format: Author, date, title, name, source and source address.

Required Supplemental Documents

All proposals must also include the following supplemental documents:

A. Project location topographic map (see definition in Part V).
B. Signed provisional landowner access agreement (see definition in Part V).
C. Fence maintenance plan (see definition in Part V).

D. Riparian revegetation or restoration plan (see definition in Part V).
E. Photographs (see definition in Part V).
F. An invasive species prevention plan (see definition in Part V).
G. A completed project permitting information table. Instructions and a template are located in Appendix F.

If Funded

If the proposal is funded, the following information will be required with the final report of the grant agreement. This information is provided here so the applicant is able to budget for these deliverables in the proposal if necessary.

A. Actual performance measures per site. Performance measures for each project type can be found in Appendix B.
B. An agreement that the landowner or proponent will maintain the livestock exclusion fencing for a period of at least ten years and completely exclude livestock from the riparian zone. Maintenance must include repair of fencing to a level that will effectively exclude livestock from the livestock exclusion project area. Maintenance does not need to include damage exceeding 50% of the fencing due to natural disaster.

Bank Stabilization (HS)

Eligible bank stabilization projects include stabilization of eroding, collapsing, or otherwise destabilized banks. It is recommended that proposals under this category include baseline data discussed in Parts II and III of the California Stream Habitat Restoration Manual, 4th edition (California Department of Fish and Game). If an HS-type proposal is funded, final 100% plans accepted by CDFW and NOAA Fisheries technical and engineering staff will be required prior to grant execution.

Required Information

All proposals must include the following specific information in the project description:

A. Description of previous bank stabilization in the vicinity of the project location.
B. Number of miles of stream treated (only the actual length of stream *treated* by the project, not the length of stream *affected* by the project).
C. Number of feet of aquatic habitat disturbed (sum of individual feature lengths).
D. Square footage of instream features installed within bankfull channel (footprint of features).
E. For each work site, the following must be provided:
    1. Types(s) of stream bank stabilization material used, selected from: logs; rocks/boulders; rock barbs; log barbs; revetments; or vegetation.
    2. Miles of stream bank treated, measuring both sides of the bank if appropriate.
    3. Total acres of riparian area treated.
    4. Total acres of riparian plants planted, including number and types of riparian plants used.

5. Miles of fence installed or repaired.
6. Type of fencing material.
7. Acres of riparian area protected by fencing.
8. Acres of riparian area treated for removal of non-native invasive plants.
9. Scientific names of non-native invasive plant species removed.

F. Type of required listed species surveys that will be done and protocols to be used.
G. If the project is identified in an assessment or recovery plan, provide the name of the assessment or plan, in the format: Author, date, title, name, source and source address.
H. If the project involves bioengineering, the proposal must identify and describe the type of treatment and define linear feet of bank stabilized and riparian area treated.
I. Indication if fish relocation is needed (see "Stream Dewatering and Fish Exclusion / Relocation" definition in Part V).

Required Supplemental Documents

All proposals must also include the following supplemental documents:

A. Intermediate plan (see Part V). If a design element in the intermediate plan is determined to be unnecessary, a rationale for not including it must be provided.
B. Project location topographic map (see definition in Part V).
C. Signed provisional landowner access agreement (see definition in Part V).
D. Photographs (see definition in Part V).
E. An invasive species prevention plan (see definition in Part V).
F. A completed project permitting information table. Instructions and a template are located in Appendix F.

If Funded

If the proposal is funded, the following information will be required with the final report of the grant agreement. This information is provided here so the applicant is able to budget for these deliverables in the proposal if necessary.

A. Actual performance measures per site. Performance measures for each project type can be found in Appendix B.

Watershed Restoration - Upslope (HU)

Eligible watershed restoration projects include road treatments, road decommissioning, and upland erosion and sediment control that will reduce sediment delivery to the stream channel. Upslope erosion assessments and the method for determining sediment saved from delivery to the stream channel must use the protocol described Parts X of the *California Stream Habitat Restoration Manual, March 2006 (California Department of Fish and Game)* or a CDFW-approved alternative method. Road treatments, road decommissioning, and other sediment prevention actions must meet

the criteria for the specific action as described in Parts X of the *California Stream Habitat Restoration Manual, March 2006 (California Department of Fish and Game).* HU-type projects are only for sites that are expected to erode and deliver sediment to an anadromous fish-bearing stream. CDFW staff assigned to evaluate projects will consider current and anticipated land use when evaluating the biological merit of the project.

A separate proposal is required for each watershed restoration project. Each proposal must demonstrate how the project would be instrumental in restoring the natural function of the watershed. Sub-watersheds within a hydrologic basin that are not contiguous may be submitted under a single watershed restoration project proposal if restoration of these non-contiguous sub-watersheds will, in conjunction with other restoration being undertaken in the hydrologic basin or on its own, correct the major problems affecting anadromous Coho Salmon and steelhead in the entire hydrologic basin. Upslope restoration work that is beyond the riparian area must focus on the correction of major problems affecting the watershed.

This project type does not include pre-project planning or assessment. Planning, assessments or re-assessments should already be complete for this project type. Proposals for pre-project planning and development should be submitted under the Watershed Evaluation, Assessment, and Planning (PL) project type or the Project Design (PD) project type.

Required Information

All proposals must include the following specific information in the project description:

A. Total number of miles of road treated.
B. Total number of acres of upslope area treated.
C. For each work site, the following must be provided:
    1. Cubic yards of sediment prevented from entering the stream.
    2. Miles of road treated for road drainage system improvements.
    3. Miles of road decommissioned or abandoned.
    4. Number of upslope stream crossings treated (not for fish passage).
    5. Number of springs and landslides treated.
    6. Type and number of upland erosion or sediment delivery control used, selected from: erosion control structures; planting; or slope stabilization.
    7. Scientific names of plant species planted.
D. If project involves non-native vegetation removal or control, indicate per site:
    1. Acres of upslope area treated for vegetation removal or control.
    2. Scientific names of plant species removed or controlled.
E. Type of required listed species surveys which will be done and protocols to be used.
F. If the project is identified in an assessment or recovery plan, provide the name of the assessment or plan, in the format: Author, date, title, name, source and source address.

Required Supplemental Documents

All proposals must also include the following supplemental documents:

A. Conceptual plan (Road log) (see definition Part V). The road log must include site number, site name and site location (by distance from a designated fixed point); name or identity of the stream where direct sediment delivery is expected; statement that stream is focus species-bearing; stream order; feature number and type; estimated excavation volume (cubic yards); estimated hydrologically connected sediment savings (cubic yards); priority of potential sediment delivery (high, medium or low); and proposed treatment at each feature. All subsequent road logs prepared for the project must follow the identification parameters (site number, site name, site location, stream name, etc.) to provide consistent representation of the project area for the purpose of comparing features proposed with features implemented.
B. Project location topographic map (see definition in Part V).
C. Watershed map (see definition Part V).
D. Signed provisional landowner access agreement (see definition in Part V).
E. Photographs (see definition in Part V). Photographs must show ‘high’ and ‘moderate’ sediment delivery sites (e.g., road crossings, culverts, etc.) and include a representative photograph of each road segment proposed for surface treatment.
F. An invasive species prevention plan (see definition in Part V).
G. A completed project permitting information table. Instructions and a template are located in Appendix F.

If Funded

If the proposal is funded, the following information will be required with the final report of the grant agreement. This information is provided here so the applicant is able to budget for these deliverables in the proposal if necessary.

A. Actual performance measures per site. Performance measures for each project type can be found in Appendix B.

Monitoring Watershed Restoration (MO)

Eligible restoration monitoring projects are those which will address one or more of the following tasks: 1) assess grant compliance, assess implementation quality, and document the location and as-built condition of restoration features constructed (implementation monitoring); 2) determine if restoration treatments and features have produced the desired habitat conditions or watershed processes (effectiveness monitoring) or 3) determine whether the desired responses of habitat, watershed processes, or populations to restoration activities were achieved (validation monitoring). Protocols for validation monitoring should follow those outlined in "Protocols for Monitoring the Response of Anadromous Salmon and Steelhead to Watershed

Restoration in California" (Duffy, 2006), which can be found on the FRGP Guidance Tools website.

Monitoring projects that involve fish collections must possess a current CDFW Scientific Collecting Permit (SCP) before any fish sampling may be initiated. If the project may result in either a direct or incidental take of fish listed under the California Endangered Species Act (CESA), a Memorandum of Understanding (MOU) enacted between CDFW and the applicant authorizing a limited level of take for scientific purposes (pursuant to Fish and Game Code (FGC) Section 2081 (a)) must also be in effect before any fish sampling is initiated. Applicants are advised to contact the local CDFW District Biologist with regards to establishing an MOU. Applicants will be required to demonstrate current Federal Endangered Species Act (ESA) take coverage in order to obtain a CESA MOU. Applicants should include in their project proposal an estimated project budget which includes costs required to obtain the permit(s) and comply with permit reporting requirements. Information on collecting take permits and application is available online at https://www.wildlife.ca.gov/Licensing/Scientific-Collecting.

Required Information

All proposals must include the following specific information in the project description:

A. Management questions and hypotheses addressed.
B. Overall project goals, measurable project objectives, and specific tasks to meet the objectives.
C. Spatial and temporal monitoring scales.
D. Study design and the parameters to be monitored.
E. Sampling scheme.
F. Sampling protocol, including appropriate report or literature citation (for example, Protocols for Monitoring the Response of Anadromous Salmon and Steelhead to Watershed Restoration in California, Duffy 2005).
G. Analysis of results.
H. Name of the habitat restoration project complemented by this monitoring project.
I. Name of the plan or watershed assessment that identifies this monitoring project, in the format: Author, date, title, source, source address.
J. Name and number of organizations cooperating with this project. If multiple organizations are involved in the monitoring project, clearly state the role of each organization (e.g., monitoring, data analysis, reporting, coordination, administration).
K. Number of reports prepared on key management or restoration data and name of the reports prepared, in the format: Author, date, title, source, source address.
L. Name of the reports prepared in the format: Author, date, title, source, source address.
M. Type of monitoring conducted, select from: post-project implementation or design compliance monitoring, restoration effectiveness monitoring, or restoration

validation monitoring.

N. Miles of stream monitored for each monitoring type.
O. Acres of habitat monitored for each monitoring type.
P. Describe the comprehensive monitoring strategy/program of which the project is a part, if applicable.
Q. Describe the component of the comprehensive monitoring strategy that the project addresses.
R. Number of reports prepared on key management or restoration data, information and needs, and name of each report in citation format.
S. If the project is identified in an assessment or recovery plan, provide the name of the plan/assessment, in the format: Author, date, title, name, source, and source address.
T. Literature Cited section.

Required Supplemental Documents

All proposals must also include the following supplemental documents:

A. Project location topographic map (see definition in Part V).
B. Watershed Map (see definition in Part V).
C. Signed provisional landowner access agreement (see definition in Part V).
D. Quality Assurance/Quality Control (QA/QC) plan (see definition in Part V). Proposals for monitoring projects must include a brief (one to two pages) description of the project's QA/QC plan. If funding is awarded, a complete QA/QC plan must be submitted before the Grant will be executed.
E. An invasive species prevention plan (see definition in Part V).
F. Ongoing monitoring projects must provide a copy (or link) to last year's report including data summary and analysis.
G. New monitoring must include an example (or link) to applicant's work, including sample data analysis that demonstrates applicant's ability to collect and analyze anadromous fisheries population data.

If Funded

If the proposal is funded the following information will be required. This information is provided so the applicant is able to budget for these deliverables in the proposal as necessary. The required information is as follows.

A. Actual performance measures per site. Performance measures for each project type can be found in Appendix B.
B. Final manuscript in scientific format suitable for publication in a scientific journal (Abstract, Introduction, Methods, Discussion, Literature Cited).
C. Field sampling database, in Excel or Access.
D. Data compilations and analytical products, in Excel or Access.
E. Names of reports prepared, in the format: Author, date, title, name, source, source address.

F. All data collected and created is a required deliverable and will become the property of the California Department of Fish and Wildlife, and not of the grantee. A condition of final payment shall include the delivery of all related data. Spatial data should be delivered in an ESRI-useable format where applicable and documented with metadata in accordance with minimum BIOS metadata standards (https://www.wildlife.ca.gov/Data/BIOS/Metadata) and FGDC metadata standards (http://www.fgdc.gov/metadata/documents/workbook 0501 bmk.pdf).

Watershed and Regional Organization (OR)

Eligible watershed and public organization proposals are those that will assist locally based organizations to generate landowner or public support for projects that address recovery tasks and demonstrate immediate benefit to anadromous salmonids in local watersheds. Examples include, but are not limited to the initial outreach and inventories associated with barrier remediation, providing flows to keep fish in good condition, instream habitat improvements, etc. Priority will be given to watersheds with no previous organization effort. This project type is not intended to fund ongoing organization over the long term, but to provide the initial funding to build landowner support for restoration purposes.

Required Information

All proposals must include the following specific information in the project description:

A. Need for organization and how it will enhance other efforts within the local and regional area.
B. Description of education or outreach about the watershed and salmonid issues.
C. Number and description of any planning or implementation projects that will be developed, and a description of how they will be accomplished under the project or promoted by the project.
D. Name and description of the plan developed or implemented, in the format: Author, date, title, name, source, and source address.
E. Acres encompassed by planning or assessment.
F. Acres of habitat protected/restored/proposed for restoration.
G. If the project includes outreach and education, the following must be included:
    1. Number of restoration or protection projects proposed.
    2. Type(s) of restoration project treatment select from: fish screening, fish passage, instream flow, instream habitat, riparian habitat, upland habitat, water quality, wetland, estuarine/nearshore, or none.
    3. Number of education or outreach documents completed and distributed.
    4. Name of education or outreach document.
    5. Number of media materials prepared.
    6. Description of media material and where/when it was used.

7. Number of interpretive signs used.
8. Number of locations where interpretive signs were displayed.
9. Describe where the interpretive signs were posted.
10. Number of outreach events (public meetings) conducted or sponsored by this project and description of meeting format.
11. Number of outreach event (public meeting) attendees and their relationship to the watershed (e.g. landowners, local agencies, etc.).

H. If landowners are recruited, indicate the following:
   1. Number of landowners reached and a description of how landowners will be contacted.
   2. Number of plans or designs developed.
   3. Acres of land affected by landowner planning/implementation of restoration/conservation activities.

Required Supplemental Documents

All proposals must also include the following supplemental documents:

A. Watershed or county map (see definition in Part V). The project must be shown on a scaled map that shows the watershed, county, or other appropriate boundary. **Aerial photos do not satisfy this requirement.**
B. Status report (see definition in Part V).
C. Invasive species prevention plan if field trips or field work are part of project (see definition Part V).

If Funded

If the proposal is funded, the following information will be required with the final report of the grant agreement. This information is provided here so the applicant is able to budget for these deliverables in the proposal if necessary.

A. Actual performance measures per site. Performance measures for each project type can be found in Appendix B.
B. Name and Description of plans and designs for restoration or conservation actions developed as a result of this project;
C. Acres of land affected by landowner plans/designs for restoration or conservation actions;
D. Dollar amount of donations made to restoration or conservation activities as a result of this project;
E. Number of volunteers committed to restoration or conservation activities as a result of this project;
F. If the project results in habitat protection or restoration actions:
   1. Acres of salmonid habitat protected or restored.
   2. Number of watersheds protected or restored.
   3. Dollar value of habitat treatments applied.

Project Design (PD)

Eligible proposals for developing project designs for restoration activities are those that would protect or improve habitat for salmonids (e.g., fish barrier modification or removal, bank stabilization, fish screens, water conservation, etc.). A PD-type proposal can be a feasibility study (less than 100% design delivered) or a design development project. A PD-type feasibility study proposal is eligible for Priority 3 funding and a design development project is eligible for Priority 1 funding. A project design development proposal must include all of the following: an options analysis, a basis of design report, 30%, 65%, 90%, and 100% designs as project deliverables (plan for 30-day CDFW review period of each design phase: 30, 65, 90, & 100%). Proposals for water conservation planning will undertake the analyses necessary to develop projects that enhance instream flow, including the permits and agreements for the project (petitions to dedicate instream flow (pursuant to Water Code Section 1707), forbearance agreements, or instream flow leases):

Required Information

All proposals must include the following specific information in the project description:

A. A detailed description of the project and how it (resolved, remediates, addresses) a limiting factor for Coho Salmon or steelhead.
B. A list of all necessary surveys (e.g., longitudinal profiles, water surface profiles, soils, hydrology, geomorphology, scour analysis) required to compete the design.
C. A list of all county, state and federal permits needed for the project.
D. A list of qualified specialists (e.g., water law, fish passage, hydrology, geology) already consulted or to be consulted in the development of the plan.
E. The number of restoration projects proposed as a result of this project.
F. The number of acres encompassed by planning/assessment.
G. The name and description of the plan or assessment in which the need for the project is identified, in the format: Author, date, title, name (?), source, source address.

<u>Water conservation planning projects must also include the following items:</u>

A. Goals and objectives of the project and identify the salmonid species and life stages that will benefit from the project.
B. Updated project map with points of diversion, water distribution system, places of use, and locations of tailwater return.
C. Any infrastructure changes and construction activities necessary to complete the project.
D. Permits or water rights changes required to complete the project (e.g., water rights permit, water rights change, LSAA); provide a draft of each and fee estimate.
E. List of legal tools to ensure objectives of project will be met (e.g., forbearance

agreements, lease agreements); draft of each.

F. Water Accounting and Consumptive Use Analysis (as described in Part V: Definitions of Required Information): A thorough understanding of the amount of water diverted from the stream, lost, used, and returned to the stream based on direct measurements
G. Instream Benefits and Impacts Analysis (as described in Part V: Definitions of Required Information): A defensible model of how the available water will benefit the focus species and life stage, as well as a consideration of any negative environmental impacts of the project.
H. Monitoring plan that describes data to be collected, how it relates to project objectives, who will collect it, and how it will be disseminated.
I. Pre-consultation meeting with SWRCB Division of Water Rights and CDFW.
J. Water right(s) information:
    1. Type(s) of water rights involved, i.e. riparian rights, pre- or post-1914 appropriative rights, or adjudicated rights.
    2. Quantity and season of use allowed for the water right, including any information about carriage water, rotation schedule, and any limitations on diversion rates.
    3. Map of place of use
    4. Proof of validity of the water right. Provide an Initial Statement of Diversion and Use, plus Supplemental Statements of use for the most recent five years (if available).
    5. Additional data on water diversion. If available, provide monthly averages for the last 5 years; more frequent time steps and longer duration data should be provided if available.
    6. Priority of water right. Include schematic of stream with locations of all water rights, their type, their priority, and their quantity.
    7. If applicable, description of alternate source of water that will be used to offset the flow left instream. Provide evidence that the alternate water source will not impact instream flow.
K. Legal tools:
    1. Describe the tools that will be used to reallocate flow to the stream, i.e. Instream Dedication (pursuant to Water Code Section 1707), forbearance agreement, or instream flow lease and why those tools are appropriate.
    2. If an Instream Dedication will be used and a consumptive use analysis is likely to be necessary, discuss how consumptive use analysis will be completed.
L. A landowner and water user outreach plan.
M. Potential threats to achieving project objectives (e.g. probability of water rights protests, other potential resource impacts from reallocating flow back to the stream, etc.).

Water conservation planning projects with infrastructure changes or construction elements:

A. Describe changes and how they further the project objective.
B. Design plan development. For projects with no instream elements (except headgates), provide 65% and 100% plans for review. For projects with instream elements, provide 30%, 65%, 90%, and 100% plans and calculations for review. Submit a Basis of Design Report detailing all project elements and design decisions. Note: some water conservation projects won't require any construction elements, but planning for these projects can still be funded using the PD project type.

Water conservation planning projects involving water rights permitting and changes:

A. If the project has the potential to impact other water users, a consumptive use analysis, as part of the water accounting, must be performed.
B. Pre-consultation meeting with SWRCB Division of Water Rights and CDFW.

Required Supplemental Documents

All proposals must also include the following supplemental documents:

A. Existing Condition Sketch (see definition Part V)
B. Project Location Topographic Map (see definition Part V)
C. Watershed Map (see definition Part V)
D. Signed Provisional Landowner Access Agreement (see definition Part V)
E. Water Law Compliance Documents (see definition Part V)
F. Photographs (see definition Part V)
G. Invasive species prevention plan if field trips or field work are part of project (see definition Part V).

If Funded

If the proposal is funded, the following information will be required with the final report of the grant agreement. This information is provided here so the applicant is able to budget for these deliverables in the proposal if necessary.

A. The Final Plan or Study must be submitted with the final report.
B. For water conservation project plans, a final draft petition for water rights change, forbearance agreement, or water lease. If applicable, 100% plans, specifications, and cost estimate, and final report must be submitted. The final report must include the Water Accounting and Consumptive Use Analysis (if applicable), the Instream Benefit and Impact analysis, the updated project map, the basis of design report, and the monitoring plan.

Public Involvement and Capacity Building (PI)

Proposals for Public Involvement and Capacity Building (PI) within multiple county/regional/watershed areas directed towards salmon and steelhead habitat restoration efforts. This includes proposals for AmeriCorps programs which deal with environmental projects and issues that assess, conserve, restore, monitor and enhance coastal California anadromous watersheds. Information about the AmeriCorps program can be found at http://www.americorps.gov/Default.asp

Required Information

All proposals must include the following specific information in the project description:

A. For AmeriCorps projects describe in detail the process by which outreach is conducted, corps member sites are selected, and placement of members across the state.
B. A detailed description of the regional need for the organization and how it will lead to the recovery of salmon and steelhead.
C. A description of the extent to which the proponent will work with others to achieve the organization's goals and how it might enhance other efforts within the geographic extent of the organization.
D. A complete description of measurable/quantifiable tasks.
E. Need for organization and how it will enhance other efforts within the local and regional area.
F. Description of education/outreach about the watershed and salmonid issues.
G. Number and description of any planning or implementation projects that will be developed and a description of how they will be accomplished under the project or promoted by the project.
H. Name and Description of the plan developed/implemented, in the format: Author, date, title, name, source, and source address.
I. Acres encompassed by planning/assessment.
J. Acres of habitat protected/restored/proposed for restoration.
K. If the project includes outreach and education:
    1. Number of restoration or protection projects proposed.
    2. Type(s) of restoration project treatment select from: fish screening, fish passage, instream flow, instream habitat, riparian habitat, upland habitat, water quality, wetland, estuarine/nearshore, or none.
    3. Number of outreach/education documents completed and distributed.
    4. Name of education/outreach document.
    5. Number of media materials prepared.
    6. Description of media material and where/when it was used.
    7. Number of interpretive signs used.
    8. Number of locations where interpretive signs were displayed.
    9. Describe where the interpretive signs were posted.

10. Number of outreach events (public meetings) conducted or sponsored by this project and description of meeting format.
11. Number of outreach event (public meeting) attendees and their relationship to the watershed (e.g. landowners, local agencies, etc.).

L. If landowners are recruited, indicate proposed:
   1. Number of landowners reached and a description of how landowners will/are contacted.
   2. Number of plans or designs developed.
   3. Acres of land affected by landowner planning/implementation of restoration/conservation activities.

Required Supplemental Documents

All proposals must also include the following supplemental documents:

A. Watershed or county map (see definition Part V). The project must be shown on a scaled map that shows the watershed, county, or other appropriate boundary. **Aerial photos do not satisfy this requirement.**
B. Status Report (see definition Part V).
C. Invasive species prevention plan if field trips or field work are part of project (see definition Part V).

If Funded

If the proposal is funded, the following information will be required with the final report of the grant agreement. This information is provided here so the applicant is able to budget for these deliverables in the proposal if necessary.

A. Name and description of plans/designs for restoration/conservation actions developed as a result of this project format: Author, date, title, name, source, and source address.
B. Acres of land affected by landowner plans/designs for restoration/conservation actions.
C. Dollar amount of donations made to restoration/conservation activities as a result of this project.
D. Number of volunteers committed to restoration/conservation activities as a result of this project.
E. If the project results in habitat protection or restoration actions:
   1. Acres of salmonid habitat protected/restored.
   2. Number of watersheds protected/restored.
   3. Dollar value of habitat treatments applied.

Watershed Evaluation, Assessment and Planning (PL)

Eligible watershed planning projects are for developing watershed plans, ranch implementation plans, conducting watershed assessment, instream flow studies, and

databases, which benefit or coordinate information about salmonids and/or restoration and management of their habitat. A watershed is all land enclosed by a continuous drainage basin that drains to, or contributes to a stream, lake, or other body of water (e.g. ocean, etc.). Watersheds can vary in scale to include multiple sub-watersheds or may be as small as a headwater or first order stream. It is a common area that flows to a larger stream or into the ocean inhabited now or in the past, individually or by any combination of Coho Salmon or steelhead trout.

Planning work in sub-watersheds within a hydrologic basin that are not contiguous may be submitted under a single watershed restoration planning project proposal if restoration of these non-contiguous sub-watersheds will, in conjunction with other restoration being undertaken in the hydrologic basin, or on its own, correct the major problems affecting the entire hydrologic basin.

Watershed Plan

Proposals to develop a watershed plan must describe a complete and detailed process of watershed evaluation and assessment that culminates into an integrated and comprehensive plan. The plan should contain site-specific and prioritized recommendations that will address key limiting factors in the watershed that, when implemented, will lead to restoration of salmon and anadromous trout habitat. If the total landowner access secured does not support the proposed area to be evaluated or assessed for the plan, the project budget will be modified to reflect the reduced effort. If landowner access fails to support at least 50% of the intended scope of the project, then CDFW will determine whether or not the project is worth completing. Both social and landscape elements associated with restoration of the watershed must be addressed.

Ranch Implementation Plan

Proposals to develop ranch implementation plans that will identify opportunities to increase anadromous salmonid populations may be included under watershed planning. These plans will cover specific ownerships or portions of a watershed that lend themselves to property specific planning.

Watershed Assessment

Proposals for partial watershed assessment and evaluation, such as road erosion surveys and stream surveys, should be based on an already completed watershed planning document that is acceptable to CDFW.

Instream Flow Study

Proposals for instream flow studies focus on identification of acceptable instream flows in particular waters and include technical considerations, involving physical opportunities and constraints as well as biological processes and needs. These considerations vary significantly between different waters and in different locations, depending upon the degree and complexity of prior water resource development and upon the complexity of the affected ecosystems. The proposed project must demonstrate outreach to the State Water Resources Control Board relative to water rights considerations, and to CDFW Water Branch instream flow study staff if the project

stream is subject to PRC 10,000 and/or FGC 5937 code considerations. The key elements of the study plan that CDFW would have to support include, but are not limited to, 1) site selection and representation strategy, 2) selection of target flows for assessment, and 3) selection and/or development of habitat suitability criteria.

Database Support

Proposals for database support include the creation or management of data systems that compile information regarding salmonids, salmonid habitat, and habitat management/restoration. Data systems should contribute to the assessment of existing salmonid populations and habitat and/or the prioritization of future restoration and recovery actions.

Required Information

All proposals must include the following specific information in the project description:

A. Acres of land area affected by the planning/assessment activity.
B. Name of the plan developed by the project, in the format Author, date, title, name, source, source address.
C. Describe extent, purpose and application of the plan.
D. Type(s) of assessment activities conducted, select from: salmonid presence/absence survey; instream habitat condition assessment; habitat use by salmonids; instream flow study, or fish passage barrier inventory.
E. Name of the assessment document developed by the project, in the format Author, date, title, name, source, source address.
F. Acres of habitat assessed to determine habitat conditions affecting salmonids.
G. Miles of stream assessed.
H. Miles of road assessed.

In addition to the above general requirements, the following specific information for certain project types must be included in the proposal.

Watershed Plan

A. Describe the area of the watershed and estimate the percentage of the area relative to the size of the watershed to be included in the evaluation and assessment for plan development.
B. If the proposed project is intended to complete a watershed plan or augment a reach-level plan, provide the title and date of completion of the existing document and estimate the percentage of the watershed the work proposed will include that is in addition to the previously completed effort (if evaluation and assessment work has already been completed to CDFW satisfaction, the plan may include, or reference, already completed work to satisfy this element).
C. Identify types of surveys to be completed and a reference to the survey methodology used to assess the physical characteristics of the watershed.

Ranch Implementation Plan

A. Describe the area of the ranch and estimate the percentage of the area relative to the size of the ranch to be included in the evaluation and assessment of plan development.
B. If the proposed project has been identified in a completed document, provide the title and date of completion of the existing document and estimate the percentage of the work proposed that is in addition to the previously completed effort (if evaluation and assessment work has already been completed to CDFW satisfaction, the plan may include, or reference, already completed work to satisfy this element.
C. Identify types of surveys to be completed and a reference to the survey methodology used to assess the physical characteristics of the stream.

Watershed Assessment

A. Reference to a documented plan calling for the assessment and evaluation work, additional project proposal elements that will result in a complete watershed restoration plan.
B. Types of surveys to be completed and a reference to the survey methodology used.

Instream Flow Study

A. Hydrology and geology: A description of historical (i.e., unaltered) hydrological conditions;
B. Description of surface flow via a water budget, including reach-by-reach gains and losses;
C. Fluvial geomorphologic description of stream system;
D. Biology: Reasonably comprehensive species inventory and distribution information (all taxonomic levels);
E. Life-history understanding for all species identified as present;
F. Macro and micro-habitat characterization for aquatic species;
G. Assessment (and monitoring) of fish condition;
H. Study/modeling, uses, and limitations;
I. Water quality protection and pertinent standards (e.g., Basin Plan standards,
    a. Total Maximum Daily Loads, etc.).
J. Study goals, the method(s) to be employed, study/modeling, uses, and limitations;
K. Documentation of current/planned outreach efforts to the State Water Resources Control Board relative to water rights considerations, and to CDFW Water Branch instream flow study staff if the project stream is subject to PRC 10,000 considerations.

Database Support

A. Describe the data standards used in developing the database, and how data will be managed and stored once the grant ends.

Required Supplemental Documents

All proposals must also include the following supplemental documents:

A. Project location topographic map (see definition in Part V).
B. Alternatively, a watershed map or county map. The project must be shown on a scaled map that shows the watershed, county, or other appropriate boundary. **Aerial photos do not satisfy this requirement (see definition Part V).**
C. Signed provisional landowner access agreement (see definition in Part V).
D. Reference Documents. Provide the documents or a web link to planning documents, reference document for survey methodology, or prior document that addressed social issues as required and applicable.
E. An invasive species prevention plan (see definition in Part V).

If Funded

If the proposal is funded, the following information will be required with the final report of the grant agreement. This information is provided here so the applicant is able to budget for these deliverables in the proposal if necessary.

A. For Watershed Plans, Ranch Plans, or Watershed Assessments a final Plan/Assessment must be submitted with the final report, in the format: Author, date, title, name, source, and source address).
B. If the proposal is for Database Support, the final report must include either the completed dataset or a link to a publicly accessible website where the data are available.
C. Final report which would include actual performance measures per site.
D. Miles assessed that contain anadromous salmonids.
E. Miles assessed that are in need of restoration.
F. Acres assessed that are in need of restoration.
G. Number of potential fish passage barriers assessed.
H. Number of barriers to fish passage identified.

Cooperative Fish Rearing (RE)

Eligible cooperative fish rearing projects are for artificial propagation projects designed to supplement and restore depleted populations of ESA-listed salmonids. All projects must comply with the directives of the joint CDFW and NMFS Hatchery Operations Review Committee. The Department only provides grants to projects supporting federal and State conservation hatchery programs and the Department's Chinook salmon fisheries enhancement program. These projects must meet all of the legal and policy requirements of Fish and Game Code Sections 1200-1206. Proposals for new rearing

projects must include detailed justification for estimated production costs. New and existing programs must follow the guidelines outlines in Appendix H of the Recovery Strategy for California Coho Salmon:
(https://www.wildlife.ca.gov/Conservation/Fishes/Coho-Salmon)
These proposals must also include a proposed five-year management plan that follows guidelines in "Cooperative Fish Production in California" (found in the *California Stream Habitat Restoration Manual, Part 1, Appendix B*). Proposals for established programs must have an approved five-year management plan. Proposals for continued operation of established programs must contain summaries of production costs for the past five years or for the life of the project if it has operated for less than five years. The FRGP will only fund the management and operation of fish rearing projects and will not fund design or construction of rearing facilities, or purchase of equipment. Proposed fish marking must be in accordance with CDFW and Pacific Fisheries Management Council (PFMC) standards. Proposals that do not conform to CDFW and PFMC standards are ineligible for funding.

Required Information

All proposals must include the following specific information in the project description:

A. General guidelines of establishment and operation, including, but not limited to, methods of rearing, marking and release of fish and fish release sites.
B. Essential program elements.
C. Number of fish released, by species and life stage.
D. Number of fish marker, and the purpose of marking, by species.
E. Name of the habitat restoration project(s) complemented by this project, if applicable.
F. Name of the assessment or recovery plan in which the project is identified, in the format: Author, date, title, source, source address.
G. Current status of all applicable permits (e.g., CEQA, NEPA, etc.).

Required Supplemental Documents

All proposals must also include the following supplemental documents:

A. Project location topographic map (see definition Part V).
B. Watershed map (see definition Part V).
C. Signed provisional landowner access agreement (see definition Part V).
D. Five-year management plan, following the guidelines stated above.
E. A long-term plan, if fish rearing has continued, or will continue, for more than five years.
F. Photographs (see definition Part V).
G. An invasive species prevention plan (see definition Part V).
H. A completed project permitting information table. Instructions and a template are located in Appendix F.

If Funded

If the proposal is funded, the following information will be required with the final report of the grant agreement. This information is provided here so the applicant is able to budget for these deliverables in the proposal if necessary.

A. Final report (see definition Part V).
B. Data on fish survival at rearing facility.
C. Data on adult fish returns.

Fish Screening of Diversions (SC)

Eligible projects for fish screens must meet CDFW and NMFS screening criteria found in the *California Salmonid Stream Habitat Restoration Manual, 4th edition, Appendix S, (California Department of Fish and Game).* A fish screen is a fish protection device installed at or near a water diversion that physically prevents entrainment, injury, or death of targeted aquatic species. A fish screen is designed to prevent fish from swimming or being drawn into an aqueduct, cooling water intake, dam or other diversion on a river, lake, or waterway where water is taken for human use. Besides simply preventing fish from passing, fish screens are designed to minimize stress and injury that occur when fish impact the screen or are subjected to changes in water velocity and direction caused by the diversion. Fish screens physically preclude fish from entering the diversion and do not rely on avoidance behavior like electrical or sonic fish barrier technology. Fish screens are categorized by: 1) diversion type (gravity vs. pump), and 2) debris cleaning function ("active" or automatic vs. "passive" or manual cleaning). This project type does not include pre-project planning: planning should already be complete for this project type. This project type will not fund design completion. Proposals for pre-project planning and design should be submitted under Project Design (PD) Project Type.

Required Information

All proposals must include the following specific information in the project description:

A. Miles of stream treated, count one side of the stream only (include only the actual length of stream *treated* by the project, not the length of stream *affected* by the project);
B. Feet of aquatic habitat disturbed (sum of the individual feature lengths);
C. Square feet of instream features installed within bankfull channel (footprint of features);
D. Number of new fish screens installed;
E. Flow rate in cubic feet per second (cfs) of diversions with new screens installed;
F. Number of fish screens modified or replaced;
G. Flow rate in cubic feet per second (cfs) of diversions with fish screens modified/replaced;
H. Acre-feet per year of water protected by screens;

I. Indicate type of required listed species surveys which will be done and type of protocols to be used; and
J. If the project is identified in an assessment or recovery plan, provide the name of the plan/assessment, in the format: Author, date, title, name, source, and source address.

Required Supplemental Documents
All proposals must also include the following supplemental documents:

A. Intermediate Plan. If a design element within the intermediate plan is thought to be unnecessary, please provide the rationale for not including it (see definition Part V).
B. Project location topographic map (see definition in Part V).
C. Signed provisional landowner access agreement (see definition in Part V).
D. Water Law Compliance Documents: Written verification of the right to divert, use, store, sell or transfer the water, for a project that addresses issues related to the diversion, use, storage, or purchase of water. Copies of Statement of Water Diversion and Use that has been filed with the SWRCB (minimum last 3 years or up to the last 10 years). For applicants who have not filed a Statement of Water Diversion and Use, a copy of that form may be obtained at http://www.waterboards.ca.gov/waterrights/water issues/programs/diversion use /index.shtml. **The Department will not accept a Statement of Water Diversion and Use unless it has been filed with the SWRCB**
E. Photographs of site where fish screen will be installed. Also include representative photos upstream and downstream of site (see definition Part V).
F. An invasive species prevention plan (see definition in Part V).
G. A completed project permitting information table. Instructions and a template are located in Appendix F.

If Funded
If the proposal is funded, the following information will be required with the final report of the grant agreement. This information is provided here so the applicant is able to budget for these deliverables in the proposal if necessary.

A. Actual performance measures per site. Performance measures for each project type can be found in Appendix B.
B. Final Plans (100% plans) accepted by CDFW/NOAA Fisheries technical/engineering staff, will be required before implementation of the project.
C. A 10-year Lake and Streambed Alteration Agreement defining the implementation, operation and maintenance of the fish screen according to design standards.
    1. For fish screen projects, a written agreement must be provided by the applicant from the landowner or responsible party.

2. Notwithstanding Fish and Game code, Section 6027, the agreement must state that the fish screen will be operated whenever water is being diverted and the possibility of entrainment of salmonids exists.
3. It shall also identify the party responsible for maintaining the screen to ensure that it is functioning as designed.
4. The landowner or responsible party must operate and maintain the fish screen project for a period not less than 10 years.
5. The landowner or responsible party will operate the fish screen to effectively prevent the entrainment of fish whenever water is being diverted and the possibility of entrainment of salmonids exits.
6. The landowner or responsible party will maintain the fish screen and bypass return so that they are functioning as designed and are meeting NMFS criteria for fish screens (criteria at time of construction).
7. This shall include regular inspection during operating periods (at least bi-weekly), lubrication, replacement of worn parts, and removal of debris which may affect the operation of the screen.
8. In the event of an act of nature which results in partial or complete failure of the project, the landowner or proponent will not be held responsible for costs incurred after the act of nature. Acts of nature include, but are not limited to, floods, earthquakes, volcanic eruptions, and wind storms.
9. The agreement shall be for a period of 10 years following completion.
10. If proposal is funded the project will be required to be tested at two life stage design flows (e.g., fall/winter flows for adult salmonids and summer flows for juveniles).

Private Sector Technical Training and Education Project (TE)

Eligible technical training and education projects are for the support of private sector training and education in the field of anadromous salmonid habitat analysis and restoration. Proposals may include those for:

A. Teaching private landowners about practical means of improving land and water management practices that, if implemented, will contribute to protection and restoration of salmon and anadromous trout stream habitat.
B. Scholarship funding for attending workshops and conferences that teach restoration techniques.
C. Operation of nonprofit restoration technical schools.
D. Production of restoration training and education workshops and conferences.

Required Information

All proposals must include the following specific information in the project description:

A. Information on how the project addresses needs of the local watershed.
B. Target audience(s).

C. Overview of training focus, goals, and objectives.
D. Description of partners and/or local stakeholder support.
E. Number of workshop/training events.
F. Number of participants in workshop/training events.
G. Name and Number of educational documents completed/distributed.
H. Number of exhibits/posters prepared.
I. Number of media materials prepared.
J. Description of media material and where/when it was used.
K. Number of landowners reached by project.

Required Supplemental Documents
All proposals must also include the following supplemental documents:

A. Watershed map (see definition in Part V).
B. Signed provisional landowner access agreement (see definition in Part V).
C. Evaluation (see definition Part V)
D. Invasive species prevention plan if field trips or field work are part of project (see definition Part V).

If Funded
If the proposal is funded, the following information will be required with the final report of the grant agreement. This information is provided here so the applicant is able to budget for these deliverables in the proposal if necessary.

A. Number of plans and designs for restoration and conservation actions developed as a result of this project.
B. Acres of land affected by landowner plans and designs for restoration and conservation actions.
C. Dollar amount of donations made to restoration and conservation activities as a result of this project.
D. Number of volunteers committed to restoration and conservation activities as a result of this project.
E. If the project results in habitat protection or restoration actions:
1. Number of restoration projects proposed.
2. Type(s) of treatments applied, indicate the FRGP Proposal Project Type(s).
3. Acres of salmonid habitat protected/restored.
4. Number of watersheds protected/restored.
5. Dollar value of habitat treatments applied.

Water Conservation Measures (WC)

Eligible water conservation projects are those that provide more efficient use of water extracted from stream systems and result in an increase of instream flow

and/or improvement of instream water quality that benefit aquatic species. The project should be consistent with and contribute to the implementation of the California Water Action Plan or California Climate Strategy. Off-channel water storage, changes in the timing or rate of diversion or source of water supply, moving points of diversion, irrigation ditch lining, piping, stock-water systems, and agricultural tailwater recovery/management systems are included in this category when the water savings are quantified and dedicated for instream beneficial flows. CDFW will only fund water conservation projects that include an instream dedication of 100% of the water saved due to project implementation and in a manner to support fish during water limited seasons. Water conserved by projects considered for funding by this PSN shall be dedicated to the stream for anadromous salmonid benefits through a mechanism such as a Forbearance Agreement, an Instream Flow Lease, and/or a formal dedication or transfer of water rights pursuant to Section 1707 of the California Water Code (1707 petition). Please note that one of the parties in the lease or forbearance agreement must be an organization with the capacity to coordinate and develop agreements and leases and experience performing habitat monitoring and measuring water use. If any of the items in sections 3 or 4 below have not been developed, then the applicant should consider applying under the PL project type in order to develop the information necessary for a WC proposal.

Required Information

All proposals must include the following specific information in the project description:

A. Total miles of stream treated, count one side of stream only (include only the actual length of stream *treated* by the project, not the length of stream *affected* by the project).
B. Feet of aquatic habitat disturbed (sum of individual feature lengths).
C. Square feet of instream features installed within bankfull channel (footprint of the features).
D. Explain how the proposed project is consistent with and contributes to the implementation of the California Water Action Plan or California Climate Strategy.
E. State the goals and objectives of the project and identify the salmonid species and life stages that will benefit from the project.
F. Project map with points of diversion, water distribution system, places of use, and locations of tailwater return.
G. Identify any infrastructure changes/construction activities necessary to complete the project.
H. Identify permits and/or water rights changes required to complete the project (e.g., water rights permit, water rights change, LSAA); provide a draft, ready for submittal, of each and fee estimate.
I. List of legal tools to ensure objectives of project will be met (e.g., forbearance agreements, lease agreements); draft, ready for signature, of each.

J. Provide a monitoring plan that describes data to be collected, how it relates to project objectives, and how it will be disseminated.
K. Describe any existing instream flow studies that have been conducted on the proposed stream. Include a copy of the study as supplemental documents.
L. Indicate type of required listed species surveys that will be performed and type of protocols to be used.
M. If the project is identified in an assessment or recovery plan, provide the name of the plan/assessment, in the format: author, date, title, name, source, source address.

Required Supplemental Documents

Grant applications for this project type must include the following supplemental documents. This information will allow the Department to evaluate the water conservation cost-to-fisheries benefit and will be necessary to develop the materials for the instream flow dedication regardless of the mechanism chosen to formalize the commitment:

A. Intermediate plan (see definition in Part V).
B. Conceptual Plan, if an intermediate plan is determined to be unnecessary (see definition Part V).
C. Instream Benefits and Impacts Analysis (see definition Part V).
D. Water Accounting and, if applicable, a Consumptive Use Analysis (see definition Part V).
E. Project Location Topographic Map (see definition Part V).
F. Signed provisional landowner access agreement (see definition in Part V).
G. Water Law Compliance Documents:
    1. Describe the kinds of water rights involved, i.e. riparian rights, pre- or post-1914 appropriative rights, and/or adjudicated rights
    2. Quantity and season of use allowed for the water right. Include any information about carriage water, rotation schedule, and any limitations on diversion rates.
    3. Proof of validity of the water right. Provide an Initial Statement of Diversion and Use, plus Supplemental Statements of use for the most recent five years (if available).
    4. Additional data on water diversion. If available, provide monthly averages for the last 5 years; more frequent time steps and longer duration data should be provided if available.
    5. Priority of water right. Include schematic of stream with locations of all water rights, their type, their priority, and their quantity.
    6. If applicable, description of alternate source of water that will be used to offset the flow left instream. Provide evidence that the alternate water source will not impact instream flow.

7. Provide sufficient information to confirm that pre-or-post-1914 water rights remain valid and have not been subject to more than five years of consecutive non-use (Water Code section 1241).

H. Photographs (see definition Part V). Photos should include any planned off-channel water storage sites, current and future points of diversion, irrigation ditches to be lined, piping, stock-water systems, and agricultural tailwater recovery/management systems.
I. Invasive Species Prevention Plan (see definition Part V).
J. A completed project permitting information table. Instructions and a template are located in Appendix F.

If Funded

If the proposal is funded, the following information will be required with the Final Report of the grant agreement. This information is provided so the applicant is able to budget for these deliverables in the proposal as necessary. NOTE: In order to provide the requested information, the grant agreement must extend one year beyond the end of construction. The required information is as follows:

A. Actual performance measures per site. Performance measures for each project type can be found in Appendix B.
B. The first year of monitoring results that are called for in the project monitoring plan provided in the proposal.

Water Measuring Devices (Instream and Water Diversions) (WD)

Eligible water measuring device projects are those that will install, test and maintain instream and water diversion measuring devices. The project should be consistent with and contribute to the implementation of the California Water Action Plan or California Climate Strategy. Project designs must follow guidelines described in the *Water Measurement Manual, third edition (United States Bureau of Reclamation):* https://www.usbr.gov/tsc/techreferences/mands/wmm .html.

The instream gauges must be installed so they do not impede fish passage in anadromous streams. The WD project type does not provide funding for monitoring or water management purposes although testing/rating of the measuring system may be allowed or required as a part of a funded agreement. A separate monitoring (MO) or planning (PL) proposal should be prepared for extensive or long-term monitoring purposes. Consideration of the intended use of the water measuring devices will be included in the technical merit and biological soundness evaluation of proposals in the WD category.

Required Information

All proposals must include the following specific information in the project description:

A. Explain how the proposed project is consistent with and contributes to the

implementation of the California Water Action Plan or California Climate Strategy;
B. Number of water flow gauges installed; and
C. Indicate type of required listed species surveys which will be done and type of protocols to be used.

Required Supplemental Documents

Grant applications for this project type must include the following supplemental documents. This information will allow the Department to evaluate the water conservation cost-to-fisheries benefit and will be necessary to develop the materials for the instream flow dedication regardless of the mechanism chosen to formalize the commitment:

A. Intermediate plan (see definition in Part V).
B. Conceptual Plan, if an intermediate plan is determined to be unnecessary (see definition Part V).
C. Project Location Topographic Map (see definition Part V).
D. Watershed Map (see definition Part V).
E. Signed provisional landowner access agreement (see definition in Part V).
F. Water Law Compliance Documents: Written verification of the right to divert, use, store, sell or transfer the water, for a project that addresses issues related to the diversion, use, storage, or purchase of water.
G. Photographs of site where water measuring device will be installed (see definition Part V). Also include representative photos upstream and downstream of site(s).
H. Invasive Species Prevention Plan (see definition Part V).
I. A completed project permitting information table. Instructions and a template are located in Appendix F.

If Funded

If the proposal is funded the following information will be required with the Final Report of the grant agreement. This information is provided so the applicant is able to budget for these deliverables in the proposal as necessary. The required information is as follows:

A. Actual performance measures per site. Performance measures for each project type can be found in Appendix B.
B. Stream/Diversion Gauge Evaluation report, including as-built plans of the measuring device, its location (lat/long; decimal degrees, NAD 83), and intended use (stream flow or diversion measurement).
C. An operation/maintenance agreement defining who keeps a weir or gauge operating.

PART V: DEFINITIONS OF REQUIRED INFORMATION (Supplemental and Other Terms)

Following are definitions for required information throughout this PSN. The definitions are listed in alphabetical order and include required supplemental documents indicated in Part IV. Not all of the following are required for each project type. See Part IV for the requirements for each project type.

Design Plan Criteria

Project design consists of several phases that, depending on the agency or locality, may have different names, but generally the process advances as follows:

1. Conceptual plans (or ~30% plans):
   - Conceptual plans, along with the Conceptual Report, should indicate the general location of any activities and project elements, show overall layout of the project location, and identify any constraints (e.g. infrastructure elements or geologic hazards).
   - The Conceptual Report and Plans should demonstrate that the project is feasible and reflect a preferred alternative. Alternatives analysis often compares a number of concept level plans.
2. Intermediate Plans (or ~65% plans):
   - These plans should show detailed plan views and profiles of any improvements and standard details.
   - Individuals reviewing Intermediate Plans should be able to interpret exactly where the project will be built and where project impacts will occur.
3. Draft Plans (or ~90% plans):
   - These plans should incorporate revisions to the Intermediate Plans and add details that are required for construction, such as survey notes, instructions for erosion and sediment control, staging areas, access, and the like.
4. Final Plans (or 100% plans):
   - These plans should incorporate any revisions to the Draft Plans and should represent the final set of design documents. These are the plans used for construction bids.

These design plan criteria, as applicable, are to be included in the “Intermediate Plan” (i.e., ~65% design level plans) submitted with the proposal for specific project types. See Part IV for specific requirements for each project type. Descriptions (i.e., a Basis of Design Report including a narrative that outlines the set of conditions, needs, and requirements taken into account in designing the project) and intermediate plans for

these project categories should be sufficient for the review required by CDFW/NOAA Fisheries geotechnical/engineering staff.

At-Grade Diversions Design Plan Criteria

The following information should be included in the design plans for at-grade diversions and submitted with proposals.

- Instream and ditch/pump hydraulic calculations showing there is sufficient head to divert maximum diversion flow and bypass flow at minimum stream flow considering head losses at flow measurement devices, fish screens, pipes, open ditches, head gates, etc.
- Design drawings showing structural dimensions in plan, elevation, longitudinal profile, cross-sectional views, and important component details.

Bank Protection Design Plan Criteria

- Calculation of design flow and 100-year flow
- Water surface profiles and average channel velocities for design and 100-year flows
- Geotechnical assessment may be necessary to ensure project design is structurally appropriate.
- Design calculations, i.e. shear stress, rock sizing; root strength and suitability of selected vegetation; and determination of spur, groin, bendway weir dimensions, spacing, angle, etc.
- Alternatives analysis and justification for using rock slope protection, if applicable.
- Design drawings showing site topography, control points, dimensions of the bank protection in plan, elevation, longitudinal profile, and cross-sectional views, and important component details, and planting plans.

Bridge and Bottomless Culverts Design Plan Criteria

(Review pertains to impacts to stream and aquatic environment, but not structural integrity or bridge loading)

- Identify and apply applicable fish passage technique: stream simulation, hydraulic design, not applicable, etc.
- Calculation of 100-year flow and any other design flow
- Water surface profiles and average channel velocities for the design flows and the 100-year flow.
- Description of geomorphic setting of bridge and why bridge design is appropriate for the setting

- Potential for debris loads or jams at bridge site
- Scour analysis
- Justification for increases in water surface elevation or velocities near the bridge (if any) and the use of any scour protection.
- Geotechnical assessment may be necessary to ensure project design is structurally appropriate.
- Design drawings showing site topography, control points, dimensions of bridge/culvert structure in plan, elevation, longitudinal profile, and cross-sectional views, and important component details.
- HEC-RAS model files including boundary conditions and other model parameters.

Boulder Weirs Design Plan Criteria

The following information should be included in the design plans for boulder weirs and submitted with proposals. (See Parts IX and XII, *California Salmonid Stream Habitat Restoration Manual*, 4th edition, California Department of Fish and Game.)

- Target species, life stages, and migration timing at project site.
- Calculation of lower and upper fish passage stream flows for each species life stage and project design flow.
- Water surface profiles at existing conditions for upper and lower fish passage stream flows and the project design flow.
- Water surface profiles with proposed boulder weirs for upper and lower fish passage stream flows, and project design flow.
- Spacing of drops over, cross-sectional shape of, and pool depths above and below boulder weirs.
- Rock sizing calculations.
- Geotechnical information as necessary to ensure project design is structurally appropriate.
- If specific low flow notches are planned, calculations of depths and velocities within notches.
- When a boulder weir project includes a water diversion component, ditch/pump hydraulic calculations showing boulder weirs provide sufficient head to divert maximum diversion flow and bypass flow at minimum stream flow considering head losses at flow measurement devices, fish screens, pipes, open ditches, head gates, etc.
- Design drawings showing site topography, control points, structural dimensions in plan, elevation, longitudinal profile, and cross-sectional views along with important component details, including construction notes on the placement of bed material and boulders.
- Post-construction evaluation and monitoring plan.

Engineered Log Jams Design Plan Criteria

Installation of large logs in streams to improve fish habitat is a proven channel restoration technique, and the *California Salmonid Stream Habitat Restoration Manual*, includes several alternatives for relatively small (i.e., three or four logs) installations tightly anchored to the streambanks. Those installations are designed to increase local fish habitat in terms of pool depth, cover, and velocity refugia. Over the last few decades, restorationists have expanded the use of logs in channel restoration by constructing large (i.e., 20 to 30 logs) instream structures that serve as hydraulic controls designed to create not only fish habitat but geomorphic complexity and/or bank stabilization. These structures present greater risks to channel stability, instream habitat, infrastructure and property, and public safety. Therefore, they require robust structural design based upon engineering analyses. In reference to those analyses, these large wood structures are colloquially known as engineered log jams (ELJs). Consequently, ELJs must be designed in accordance with standards of professional practice. All of the following are required for ELJs.

Data Requirements

- **Purpose and Site Selection Statement** – What is the purpose of the ELJ and where will it be constructed. An important element in this statement is how the ELJ will fit, affect, and be affected by the existing channel configuration. Clearly define the project goals.
- **Risk and Uncertainty Analysis** - Under this item is expected thoughtful discussions regarding the risk afforded by the ELJ on existing habitat, infrastructure and property, and public safety as well as the uncertainty involved in the installation and effectiveness of the proposed ELJ. Both the River Rat approach (Skidmore and others, 2011) and Washington manual (Cramer, 2012) include good discussions regarding risk and uncertainty. It is expected that ELJ designers will fully embrace those discussions and recommendations.
- **As-built map** and details to support future inspection monitoring.
- **Inspection monitoring program** outlining post project monitoring.

Constraints Analysis

- Property ownership along channel reach;
- Recreational activities (e.g., boating and fishing);
- Floodplain partitioning (property boundaries, levees, roads, etc.);
- Existing infrastructure (structures, pipelines, over-head utilities);
- Existing riparian, wetlands, and floodplain habitat areas;
- Construction access; and
- Wood availability and quality.

Biological Assessment

- Document the biological imperative to modify the channel form and function;
- Target species and life stages intended to benefit from the project and their current utilization of the project reach;
- Habitat objective relative to the target species and life stages (e.g., spawning habitat vs. winter refugia vs. summer rearing);
- Potential impacts to existing habitat areas; and
- The predatory species that may benefit from the project.

Geology & Geomorphology

- Description of bedrock and hillside geomorphology if those features will be encountered or affected by the project;
- Scaled map and description of fluvial geomorphologic features (channel plan form, existing bars, pools, riffles) and riparian vegetation;
- Documentation of natural channel slope in reach of crossing;
- Demonstration of natural channel bankfull width;
- Detailed geotechnical characterization of foundational earth materials (i.e., depth of alluvial gravel deposits and depth to/exposure of bedrock);
- Qualitative assessment of streambank/floodplain stability (i.e., how erodible are these features and what is the avulsion potential?);
- Qualitative description of sediment supply, composition, and transport (likelihood and relative significance of aggradation or degradation); and
- Gradation of bed material at several locations in the project reach.

Hydrology & Hydraulics

- Water supply, quality, and sources through the seasons;
- Flood frequencies and inundation depths;
- Calculation of design flow based on the risk and uncertainty analysis and the following table:

Public Safety Risk	Property Damage Risk	Design Flow Criteria
High	High	100-year
High	Moderate	50-year
High	Low	25-year
Low	High	100-year
Low	Moderate	25-year
Low	Low	10-year

- Longitudinal profile through the project site with sufficient extent up- and downstream to evaluate changes in water surface elevations associated with the large wood obstruction;
- Water surface profiles and average channel velocities for design flow;
- Design calculations, i.e. shear stress and scour analyses;
- If the goal of the ELJ is to split streamflow for a particular purpose (e.g., a side channel) then hydraulic calculations demonstrating that the obstruction provides sufficient head to divert maximum diversion flow and bypass flows at minimum stream flows is required; and
- HEC-RAS model files including boundary conditions and other model parameters.

Engineering Design and Structural Stability Analyses

- Reasons for selecting the particular log jam types (e.g., bar apex vs. flow deflection, etc.);
- Buoyancy and drag as a function of flow analysis;
- Local scour analysis at each ELJ – the importance of bed scour associated with these structures cannot be overstated because such scour has the potential to undermine the structure and cause it to collapse. Both the Washington manual (Cramer, 2012) and River Rat (Skidmore and others, 2011) include multiple discussions on bed scour and include methods for analyzing scour. It is expected that ELJ designers will fully embrace those discussions and recommendations.
- Factor of safety stability analysis (force balance): driving forces of buoyancy, drag, lift, and incipient motion vs. resisting forces of passive earth pressure, surcharge weight, and skin friction;
- Material design life; and
- Design drawings showing site topography, control points, structural dimensions in plan, elevation, and cross-sectional views, and important component details. Plan view must be of sufficient channel length to show ELJ alignment with respect to the existing channel.

Fish Screen Design Plan Criteria

The following information should be included in the design plans and submitted with proposals that include a fish screen.

- Target species and life stages to be protected at proposed screening site (e.g. will steelhead fry be present?).
- Fish screen structure placement (e.g. on-stream, in-canal, in-reservoir, or pumped).

- Evidence of infeasibility for an on-stream screen if an in-canal or in-reservoir project is proposed.
- Applicable approach velocity and sweeping velocity criteria.
- Records of diversion flows **and** stream flows, including maximums and minimums, during irrigation season.
- Stream flow vs. depth rating curve at diversion intake.
- Water depth and approach velocity calculations in front of the fish screen throughout range of diversion flows.
- Sweeping velocity calculations at several locations along the length of the screen throughout range of diversion and bypass flows.
- Evidence that flow uniformity criterion will be met.
- Screen exposure time calculation.
- Velocity calculations between end of screen and bypass entrance.
- Flow depth calculations within bypass conduit **and** in stream at bypass outlet at minimum bypass flow.
- Velocity calculations in stream at bypass outlet.
- Drop height and impact velocity calculation at bypass outlet, if applicable.
- Estimated bypass flow needed to meet fish screen criteria (cuffs).
- Fish screen area calculation performed in accordance with CDFW Fish Screening Criteria (6/19/00).
- For paddle wheel driven cleaning systems, fish screen area calculations showing passive screening criteria are met when paddle wheel driven wipers no longer operate.
- Description of fish screen cleaning mechanism, including proposed frequency of cleaning.
- Description of fish screen openings, including porosity and dimensions of round, square, or slotted openings.
- Assessment of sediment transport/scour conditions at fish screen for on channel installations.
- Specific information describing the type of corrosion-resistant screening material, bypass control/pipe and other materials that will directly affect fish.
- Design drawings showing site topography, and dimensions of fish screen structure in plan, elevation, longitudinal profile, and cross-sectional views along with important component details. Drawings should show smooth joints at bypass pipe bends and screen faces flush with adjacent walls and/or piers.
- Any additional information which may be required to show that screen will meet current CDFW/NMFS screening criteria.
- Operation and maintenance plan which includes preventive and corrective maintenance procedures, inspection and reporting requirements, maintenance logs, etc.
- Post construction evaluation and monitoring plan.

Additional information can be found at:

- https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=22610&inline http://www.westcoast.fisheries.noaa.gov/publications/hydropower/fish_screen_criteria_for_pumped_water_intakes.pdf,
- http://www.westcoast.fisheries.noaa.gov/publications/hydropower/fish_passage_design_criteria.pdf
- https://www.westcoast.fisheries.noaa.gov/publications/hydropower/southwest_region_1997_fish_screen_design_criteria.pdf National Marine Fisheries Service – Southwest Region. 1997.

Off-Channel/Side Channel Habitat Design Plan Criteria

Off-channel or side channel habitat projects must be maintained through natural processes to be considered for funding. These types of projects include the following:

- Re-connection of existing and naturally formed but abandoned side channel or alcove habitats to restore fish access lost as the result of anthropogenic activities. Re-connection of side channels refers to restoration of hydraulic and hydrologic connection to the main channel by restoring the relative elevation of the channel to the mainstem or removing flow blockages such as levees and sediment plugs.
- Improvement of hydrologic connection between floodplains and main channels.
- Creation of new, self-maintaining side channel or off-channel habitat that mimics or replicates naturally formed and maintained fluvial features, which does not replace or displace other functioning floodplain or riverine environments.
- Re-connection of still water floodplain features that have been isolated from the meandering channel by anthropogenic activities. Oxbow lakes, features of meandering channels that naturally evolve from fully aquatic to increasingly terrestrial habitat, often represent distinct, biologically rich ecosystems worthy of conservation regardless of their utility to anadromous fishes. Projects that propose altering such habitat will be required to demonstrate the ecological imperative for doing so.

This project type is not intended to provide for regular maintenance of a constructed channel feature that would not otherwise be formed and maintained by the stream itself. However, it is recognized that the success of some projects may depend on the reconnection to or recovery of natural stream-wide processes. Projects developed as part of such larger-scale stream recovery are likely to evolve over time and may require periodic intervention to maintain or enhance the functional use of the off-channel habitat feature. Anticipated project maintenance associated with

overarching stream recovery efforts should be described, planned for accordingly, and may be considered for funding.

The use of appropriately designed large woody debris (LWD) structures or LWD and boulder weirs as water level control structures, or that are intended to redirect flow are acceptable project components.

Projects that will not be considered for funding include those where the constructed habitat would be used as a point of water diversion, or that involve the installation of a flashboard dam, head gate, or other mechanical structure to guarantee project performance.

Proposals must provide design plans at the 65% level that fully describe the project elements and how those elements will operate to produce or ultimately result in the establishment of a naturally sustainable habitat feature. The outline of Design Plan Criteria that follows includes the information generally required for the adequate review of this project type and to ensure the project will result in the construction of sustainable habitat, result in no harm to the aquatic community or otherwise detrimentally affect existing ecosystem values. The project applicant should submit this information with the design plans. **If a listed item is considered unnecessary, the rationale for excluding it should be provided.** Conversely, while this list attempts to cover the key parameters for most projects, there may be site-specific conditions and opportunities to provide better and sustainable habitat that cannot be easily translated into a simple checklist, and the project applicant should expand on this list as they feel appropriate.

Concept Description

- Description of the type of off-channel or side channel feature to be constructed, its dimensions, bathymetry, and over what range of stream flows the habitat will be connected to the stream;
- Site constraints and project limits (e.g., existing infrastructure, preservation of floodplain conditions, property limits), including risk to infrastructure or other properties due to increased flow through a project side channel or reconnected floodplain; and
- Description of how geomorphic and hydraulic processes will maintain habitat. Include a description of how flow will enter and exit the off-channel feature (e.g., hydraulic connections to main channel, groundwater inflow, etc.). Describe how the proposed off-channel feature is anticipated to change and adjust over time.

Biological Assessment

- A narrative description of the evidence that this type of habitat is limited (e.g., site-specific habitat typing; investigations of changes in land use and stream form);
- The biological imperative for a project that intervenes on behalf of the stream to correct anthropogenic changes to channel form and function;
- The habitat objective relative to the target species and life stages (e.g., spawning habitat, high flow winter refugia, summer rearing habitat);
- The target species and life stages intended to benefit from the project and their current utilization of the project reach, including predatory species (e.g., centrarchids);
- If the off-channel feature is designed to receive water intermittently (e.g., functional only for a specific time period for the purpose of providing high flow winter refugia), provide a description of what, if any, features or behaviors will reduce or prevent stranding of the target or any other aquatic or semi-aquatic species.

Site Hydrology and Hydraulics

- Availability, sources, and quality of water across seasons and especially during periods of low flow;
- Description of shallow groundwater-surface water relationships if project performance is linked with or depends on groundwater contributions. The description should include evidence of a) the connection between stream flow and groundwater, and b) the annual change in shallow groundwater or water table elevations;
- Calibrated water level rating curves developed through modeling, direct measurements, and/or gage records of the main channel near upstream and downstream ends of project channel across the range of design flows;
- Calculation of the tidal prism for the purpose of determining an appropriate channel geometry for projects in tidally influenced areas.

Site Physiography

- An assessment of existing habitat elements (i.e. water temperature, dissolved oxygen, salinity; habitat type: pool, riffle, flatwater; estimate of instream shelter and shelter components; water depth; dominant substrate type, etc.);
- Description of existing stream geomorphology, hydrology, shallow earth and geologic relations in and beneath areas of proposed excavation;
- A qualitative assessment of the vertical and lateral stability of the main channel relative to the pre- and post-project potential for an abrupt change in the course of the project stream (avulsion);

- Qualitative description of sediment supply, composition, and mode of transport through the project reach, and areas that may be impacted by the project within, and upstream and downstream of the project area. Assess if project is likely to be impacted by aggradation or degradation (e.g. accumulation of fine sediments, blockage of entrance or exits, etc.). Assess likely design life of improvements if sediment issues are significant;
- Projects that propose to reestablish stream flow through disconnected water bodies, such as oxbow lakes, must include an assessment of the still water habitat values that may be detrimentally impacted or lost altogether by the reestablishment of surface flow.

Engineering and Implementation

- Topography and cross-sections of project area should include the river and floodplain, identification of critical hydraulic features and be an integral part of the project monitoring plan (see Monitoring Requirements below);
- Description of the volume of material to be excavated, how it will be utilized, or how and where it will be disposed of;
- Description and plan for of any woody debris/boulder weir control features proposed; and
- Description of how stream flow and/or groundwater will be managed during project construction.

Monitoring Requirements for Off-Channel Habitat Features

Projects to increase off-channel and side channel habitat are relatively new to California, and the biological and geomorphic merits of these projects have not yet been demonstrated by broad scale monitoring. As appropriate to such experimental projects, all off-channel habitat proposals must include physical and biological monitoring appropriate to the targeted species and targeted time period of project use. The monitoring plan must be developed in coordination with local CDFW-FRGP biologists, cover the first and second post-construction seasons, and should include but not limited to the following:

- Pre- and post-project photo monitoring;
- Pre- and post-construction and design flow surveys of constructed inlet and outlet structures, including any other critical hydraulic features;
- A description of, if and/or when the off-channel features became active and/or disconnected from the main channel;
- Biological surveys of the functional use of the constructed habitat by the target species during the targeted life stage and the anticipated time period of use;

- Water quality monitoring (e.g., dissolved oxygen, temperature, salinity, turbidity or other water quality attributes that might be indicated as an area of concern in the project reach).

The monitoring reports will necessarily be submitted after closure of the grant and at a date after each monitoring season agreed upon by the project applicant and the CDFW-FRGP biologist. Failure of a good faith effort by the project manager to conduct project monitoring and to provide the monitoring reports specified will detrimentally affect the award of future grants across all project types.

Removal of Small Dams (permanent and flashboard) Design Plan Criteria

The *California Salmonid Stream Habitat Restoration Manual* does not cover the removal of small dams, however guidelines and minimization measures have been developed in this proposed action. Types of small dams included for including in this permit are permanent, flash board, and seasonal dams that are NOT considered high risk. Implementing these types of projects may require the use of heavy equipment (e.g., self-propelled logging yarders, mechanical excavators, backhoes, and explosives). Small dam removals that are considered high risk are those that:

- Mobilize contaminated sediment,
- Potentially impact infrastructure during or following removal,
- Negatively affect valuable limited habitat,
- Expose problematic bedrock or sediment layers (e.g. slaking clays),
- Require more than 5 vertical feet total of grade control to avoid the conditions described in Items 2 through 4,
- Affect storage of flood flows.

These high-risk removals may be considered for funding under FRGP, but will have to seek separate permitting. Dam removals covered by this permit must not contain any of the risks listed above.

Data Requirements and Analysis

- Soil boring in the impoundment upstream of the dam and larger grab samples of any suspicious layers for contaminant analysis,
- Analysis of bank stability and bed erosion with regards to impacting infrastructure on the overbanks, including bed material samples and cross-sections surveys,
- Analysis of debris and sediment to be transported downstream that may impact infrastructure and habitat,
- Analysis of the potential to trigger a headcut that may impact upstream infrastructure and habitat, including a survey of the longitudinal profile within the expected zone of adjustment,

- A map of any exposure of bedrock or cohesive layers within the expected zone of adjustment and test those materials for problematic characteristics,
- Analysis the impact on peak flood flows and flooding extents/channel capacity by removing the dam,
- A habitat typing survey (DFG Manual Part III, Habitat Inventory Methods) that maps and quantifies all upstream and downstream spawning areas that may be affected by sediment released by removal of the small dam,
- Analysis of fish passage for appropriate species and life stages.

Rock Chutes Design Plan Criteria

The following information should be included in the design plans for rock chutes and submitted with proposals. (See Parts IX and XII, *California Salmonid Stream Habitat Restoration Manual*, 4th edition, California Department of Fish and Game.)

- Target species, life stages and migration timing at project site.
- Calculation of lower and upper fish passage stream flows for each species life stage and design flow.
- Water surface profiles at existing conditions for upper and lower fish passage stream flows and design flow.
- Water surface profiles with proposed boulder weirs for upper and lower fish passage stream flows and design flow.
- Rock and engineered streambed material sizing calculations for both bed and banks.
- Geotechnical information as necessary to ensure project design is structurally appropriate.
- Calculations of depths and velocities along length of individual rock chutes.
- If at a water diversion, ditch/pump hydraulic calculations showing rock chutes provide sufficient head to divert maximum diversion flow + bypass flow at minimum stream flow considering head losses at flow measurement devices, fish screens, pipes, open ditches, headgates, etc.
- Design drawings showing site topography, control points, structural dimensions in plan, elevation, longitudinal profile, cross-sectional views, and important component details, including construction notes on placement of bed material and boulders.
- Post-construction evaluation and monitoring plan.

Roughened Channels Design Plan Criteria

The following information should be included in the design plans for roughened channels and submitted with proposals. (See Parts IX and XII, *California Salmonid Stream Habitat Restoration Manual*, 4th edition, California Department of Fish and Game.)

- Target species, life stages, and migration timing at project site.
- Calculation of lower and upper fish passage stream flows and design flows.
- Water surface profiles at existing conditions for upper and lower fish passage stream flows and design flows.
- Water surface profiles with proposed boulder weirs for upper and lower fish passage stream flows and design flows.
- Rock and engineered streambed material sizing and thickness calculations for bed and banks.
- Geotechnical information as necessary to ensure project design is structurally appropriate.
- Calculations of depths and velocities along length of roughened channel at the upper and lower fish passage and design flows.
- Calculations of the overall drop and slope along the roughened channel.
- If at a water diversion, ditch/pump hydraulic calculations showing roughened channel provides sufficient head to divert maximum diversion flow and bypass flow at minimum stream flow considering head losses at flow measurement devices, fish screens, pipes, open ditches, headgates, etc.
- Design drawings showing site topography, control points, structural dimensions in plan, elevation, longitudinal profile, cross-sectional views, and important component details, including construction notes on the placement of bed material and boulders.
- Post-construction evaluation and monitoring plan.

Environmental Compliance and Permitting

All funded proposals must comply with the California Environmental Quality Act (CEQA), Federal Endangered Species Act (ESA) of 1973, and California Endangered Species Act (CESA). Projects that have not been designed to meet all requirements of the California Salmonid Stream Habitat Restoration Manual, 4th Edition (California Department of Fish and Game) ("Manual") will have the responsibility of developing the appropriate documentation for CEQA, ESA, and CESA compliance, including financial assurances under CESA. An approved or certified CEQA document will be required in order to execute the project, and CDFW will act as a responsible agency under CEQA.

Projects that are designed to be consistent with the Manual, and for which no CEQA documentation has yet been prepared, will be included within the environmental document prepared by CDFW as a lead agency for CEQA. These projects may also obtain ESA coverage as needed through the U.S. Army Corps of Engineers' programmatic Section 7 consultation for its FRGP regional general permit. If necessary, CESA permitting will be handled on a project-by-project basis.

The project description should include sufficient information for the CDFW to complete the CEQA documents. Pursuant to the Guidelines for the CEQA in the California Code of Regulations (CCR), Title 14, Chapter 3, Article 5, Section 15064.4, the CDFW must determine the greenhouse gas (GHG) emission of projects it funds, permits, or implements to assess the impacts on the environment. The majority of the GHG emissions are presumed to come from fuel consumption; therefore, the CDFW will calculate the GHG emissions based on the amount of fuel (diesel and gasoline) consumption per project it funds, permits, or implements and will provide the results in the CEQA document. Therefore, **the applicant must provide in the application an estimate of the amount of fuel that will be consumed during the implementation of the entire project.**

Eligible proposed projects will avoid significant environmental impacts. **Applicants should budget sufficient time and/or funds in the proposal to complete required threatened and endangered species surveys, biological monitoring, and required reasonable measures that are protective and avoid causing harm to cultural, archeological, paleontological and biological resources, including native species and their habitat.** For more information on surveys, monitoring, and protective measures that a project funded through this PSN may need to complete, see the Mitigated Negative Declaration for the 2018 Fisheries Habitat Restoration Project at https://www.wildlife.ca.gov/Grants/FRGP/MNDSTe. All applicants are strongly urged to work closely with appropriate CDFW staff prior to submission to ensure all potential environmental concerns associated with the proposed project are considered. Email addresses and telephone numbers of CDFW personnel are included in Appendix C.

No project that is a required mitigation or used for mitigation under the CEQA, CESA, ESA, National Environmental Policy Act (NEPA), California Forest Practices Act (FPA) or Section 404 of the Clean Water Act (CWA) will be considered for funding. No project that is under an enforcement action by a regulatory agency will be considered for funding.

Proposals that conduct fishery habitat restoration activities using methods described in the *California Salmonid Stream Habitat Restoration Manual* (Flosi et al 1998, 2003, 2006 and 2009) may be covered by the FRGP's Clean Water Act Section 404 (RGP 12 or RGP 78) and Section 401 programmatic permits. The applicant is responsible for reviewing these permits and incorporating their required conditions into their proposal. Permits can be found in the CDFW Document Library at https://nrm.dfg.ca.gov/documents/ContextDocs.aspx?cat=FRGPRegulatory. If seeking coverage under these FRGP programmatic permits, see Appendix F for

additional information and requirements. If projects do not comply with the implementation methods described in the *California Salmonid Stream Habitat Restoration Manual* 4th Edition, then the applicant is responsible for obtaining its own Section 404 and 401 permitting coverage. The applicant is encouraged to work with CDFW Regional staff prior to submission to determine if the project is eligible for the FRGP programmatic permit coverage.

Monitoring or research projects which involve fish collecting/handling must possess a current CDFW Scientific Collecting Permit (SCP) before any fish sampling may be initiated. If the project may result in either a direct or incidental take of fish listed under the CESA, a Memorandum of Understanding (MOU) enacted between CDFW and the applicant authorizing a limited level of take for scientific purposes (pursuant to Fish and Game Code (FGC) Section 2081(a)) must also be in effect before any fish sampling may be initiated. Contact the local CDFW District Biologist to inquire about establishing an MOU. Applicants will be required to demonstrate current ESA take coverage in order to obtain a CESA MOU. Applicants submitting proposals involving fish collection should incorporate a sufficient timeframe in their proposed project to allow securing a CDFW SCP and CESA MOU, as well as applicable ESA permits. Applicants may include the cost of the fee as a line item in the proposed project budget. Required cost to comply with permit reporting requirements may also be included.

Information on Scientific Collecting permits and application are available online at https://www.wildlife.ca.gov/Licensing/Scientific-Collecting.

Other permits that may be required to implement the restoration project must be obtained by the applicant. Furthermore, it is the applicant's responsibility to ensure all the required permits are obtained prior to project implementation. If the project includes dewatering and fish exclusion/relocation, a CDFW incidental take permit or CDFW Habitat Restoration and Enhancement Act (HRE) approval must be submitted to the CDFW grant manager before each fish relocation activity. Examples of other permits that may be required are the Lake and Streambed Alteration Agreement(s) (https://www.wildlife.ca.gov/Conservation/LSA) and fish collecting/handling permits (https://www.wildlife.ca.gov/Licensing/Scientific-Collecting) from CDFW. The Construction General Storm Water permit (http://www.swrcb.ca.gov/water_issues/programs/stormwater/construction.shtml) from the Regional Water Resource Control Boards (which may include provisions for dewatering), coastal development permit(s) from the California Coastal Commission (https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.html), and other permits from local/state governments or municipalities.

Projects that will not exceed five acres or 500 linear feet of stream bank or coastline may be eligible for coverage under the State Water Resources Control Board's Amended General 401 Water Quality Certification Order for Small Habitat Restoration Projects (see https://www.waterboards.ca.gov/water_issues/programs/cwa401/generalorders_wb.shtml). Further, if a project is eligible for coverage under the Amended General 401 Water Quality Certification Order for Small Habitat Restoration Projects, that project may also be eligible for the Department's Habitat Restoration and Enhancement Act of 2014 permitting process (see https://www.wildlife.ca.gov/conservation/environmental-review/hre-act).

Applicants may include permitting costs as a line item in the proposed project budget under "Operating Expenses: Other."

Evaluation Plan

The Evaluation Plan will be used to evaluate the program's effectiveness in meeting specific objectives for participants. The plan should describe in detail the following:

- Stated education goal(s) for the project;
- Stated quantifiable educational objectives for the project;
- Performance standards;
- Syllabus or course description;
- Reference learning standards or support documents (i.e. restoration manual, recovery plan, or other guiding document);
- Pre- and Post-project student evaluation (testing), or other assessment rubric;
- Report outline for communicating how well the project met stated educational goal and objectives; and
- Feedback loop for adjusting curriculum to better meet goal and objectives of future efforts.

It is mandatory that the successful grant recipient submit the results and analysis of their evaluation within the final report at the end of the project period.

Fish Passage and Screen Criteria and Testing Requirements

Fish passage and screening projects that are constructed with CDFW funding must meet criteria as outlined in the following documents.

- California Department of Fish and Game. 2002. *Culvert Criteria for Fish Passage.* (This document is also included in Part IX Appendix A of the CA Salmonid Stream Habitat Restoration Manual.)

- National Marine Fisheries Service – Southwest Region. 1997. *Fish Screening Criteria for Anadromous Salmonids*
- National Marine Fisheries Service – Southwest Region. 2001. *Guidelines for Salmonid Passage at Stream Crossings.* (This document is also included in Part IX Appendix B of the CA Salmonid Stream Habitat Restoration Manual.)

A project must be tested at a flow within the range of design flows prior to the end of the grant funding. Performance of a project throughout its design life is the responsibility of the grantee.

Instream Benefits and Impacts Analysis

An Instream Benefits and Impacts Analysis is required for all PD-type (Project Design) and WC-type (Water Conservation) proposals, except:

1. In watersheds where the largest diversion is less than 1 cfs.
2. For projects that address one or multiple diversions that individually do not exceed 1 cfs and cumulatively do not exceed 2 cfs.
3. In cases where the goal of the project is to increase summer base flow or water quality.
4. For projects that have an acceptable Streamflow Improvement Plan which includes sufficient information on:
   - watershed conditions (land use, geology, soils, groundwater and hydrology);
   - human water needs (including water rights information);
   - aquatic resources and habitat;
   - flow improvement strategies; and
   - permitting and long-term considerations.

The Instream Benefits and Impacts Analysis starts with establishing specific goals and objectives for the project reach. These goals and objectives could range from setting a minimum depth of flow over a shallow riffle or setting a minimum pool depth, increasing the time where the flow in the stream remains on the surface, increasing the time that the pools in the reach persist, to improving temperature or dissolved oxygen during low flows. The goals should be tied to limiting factors for the species and life stages of interest. The objectives should be established quantifiable metrics such that they can be monitored for project performance. The Instream Benefits and Impacts Analysis is based on instream flows that are determined in the Water Accounting and Consumptive Use Analyses (see below).

The next step is to show that the project goals fit the stream environment and the ways that fish are using it. The goals should fit within the habitat typing of the project reach. For example, if the reach is primarily used for spawning, then the project goals should focus on additional flow improving spawning habitat. However, other

goals may be appropriate if the additional flow is sufficient to allow fish to use the reach at different times or life stages or if habitat restoration is planned for the project reach.

The analysis should provide information through direct measurements or calculations showing the degree to which the flow left instream will achieve the project objectives. For example, if increasing the duration of flow connectivity is the goal of the project and the objective is to show that the flow left instream provides another month of connectivity, it may be necessary to make a series of flow measurements near the point where the flow would be left instream and observe how far down the flow remains on the surface for a given flow. Comparing these flows to the amount of water available to leave instream as a result of the project will help predict the benefits of the project.

To determine the full benefits on the project, the distance that the flow left instream remains in the stream must be determined. The analysis should determine the distance between where the flow is left instream and the next downstream water user, if there is one. If a 1707 instream flow dedication is being used to keep the water instream past downstream users, the analysis should report the distances downstream of these users and how the flow will be monitored at these locations. Another way the flow left in the stream could be lost is through infiltration to the groundwater. Direct flow measurements, groundwater level observations, and observing flow connectivity through the affect reach are techniques that can provide specific to general information about flow losses to infiltration. The technique selection is based on the degree to which infiltration could affect the outcome of the project.

Water conservation projects can also affect water quality. In some cases, water quality in the stream is not an issue and therefore does not need to be assessed. However, if the water being left instream or added to the stream is being released from a reservoir, then it may be necessary to calculate the impacts to the overall water quality. Conversely, if the goal of the project is to improve water quality, water quality calculations may be necessary. The level of analysis required depends on the relative quality and quantity of water being left instream versus that of the flow already in the stream.

Switching the source of diversion water or switching the season of diversion could have negative impacts on the stream. Switching to groundwater pumping could reduce instream flows and negate the benefits of the project. If groundwater pumping is proposed, it must be shown that the source of groundwater is an aquifer that is not connected to the stream. Switching to off-channel storage in the winter is

unlikely to affect the channel forming flows and migration flows, but the timing and magnitude of the diversion flows should be compared to the storm hydrographs to be sure.

Invasive Species Prevention Plan

For all projects, the applicant must include, as part of supplemental documents, a plan describing the specific decontamination protocols proposed for use before, during, and after the project to prevent the spread of invasive species. Restoration projects should not be vectors for invasive species, such as New Zealand mud snail or sudden oak death syndrome. Personal field gear and heavy equipment working in the stream must be properly decontaminated before starting a project and before moving to a new location even within the same watershed. For general information on preventing the spread of invasive species, see CDFW's Invasive Species Program web site at https://www.wildlife.ca.gov/Conservation/Invasives. For decontamination protocols for Sudden Oak Death Syndrome (SODS) see www.suddenoakdeath.org. For an example invasive species prevention plan see the FRGP Guidance Tools webpage.

Licensed Professionals

Project types listed below may require the services of a licensed professional engineer or licensed professional geologist to comply with the requirements of the Business and Professions Code section 6700 et seq. (Professional Engineers Act) and/or section 7800 et seq. (Geologists and Geophysicists Act). Projects described in Parts X and XII of the *California Salmonid Stream Habitat Restoration Manual* (Flosi et al 1998, 2003, 2006 and 2009) are likely to need a licensed professional.

- FP - Fish Passage at Stream Crossings
- HB - Instream Barrier Modification for Fish Passage
- HI - Instream Habitat Restoration
- HR - Riparian Restoration
- HS - Instream Bank Stabilization
- HU - Watershed Restoration (Upslope)
- PD - Project Design
- PL - Watershed Planning
- SC - Fish Screening of Diversions
- TE - Private Sector Technical Training and Education
- WC - Water Conservation Measures
- WD - Water Measuring Devices

If a proposed project requires the services of licensed professionals, these individuals, their license numbers, and their affiliations must be listed in the proposal

application. If this information cannot be provided with the application, an explanation must be provided.

Project review and approval by CDFW and/or NOAA Fisheries engineering staff does not imply CDFW or NOAA Fisheries responsibility or liability for the performance of this aspect or any other aspect of the project. Such liabilities and assurances of performance are the responsibility of the applicant and/or their engineering contractor.

Photographs

Photographs submitted with the proposal should be large enough to depict the proposed project site, in color, and clearly identified (e.g. site numbers, text identifying the site, or other identifying information) in order to cross-reference proposed project features, existing conditions at proposed project location, and existing conditions in the vicinity of the proposed project. Specifications for the types of photographs required are listed under each project type where this supplemental document is required.

Project Location Topographic Map

The project should be shown on an appropriately scaled, USGS (or equivalent) 7.5-minute contoured topographic quadrangle map that shows each location where work is being done. **Aerial photos do not satisfy this requirement.** All maps must be labeled with project title, grantee name, USGS quad name and stream name, and be positioned so that relevant map information such as stream names, towns, main roads, water bodies, etc. are not obscured.

The location map submitted with the proposal to indicate the project location should only have the current proposed project location and must follow the specifications listed below. **Specific requirements for how to define and map project sites for each project type are listed in Part IV under each project type.** Only include the current proposed project on the location map for your proposal. You may submit a separate map with past project information as a supplemental document.

All proposals for habitat restoration (which includes upslope restoration) must also include a detailed plan-view diagram with scale depicting all pertinent features of the project site. The diagram will show the stream channel or other area of work, structure locations, revegetation areas, and distance to each project structure from a reference point, and other significant project and existing features. Applicants may use “typical” drawings if multiple similar physical improvements are proposed.

After a proposal is approved for funding, project worksites may require modification for a variety of reasons. Site modification must be approved in writing by the assigned CDFW grant manager. The project proponent will be required to provide final site descriptions and latitude/longitude coordinates to be incorporated into an agreement before it may be executed.

SITE: A project worksite is defined as a point, line (reach), or polygon that spatially describes a work area where specific restoration activities take place. If there are multiple worksites (spaced a 1/2 mile or more apart) for the project, then location and metrics should be entered for each worksite. For projects that apply to a large geographic scale (e.g., statewide or watershed wide), a single point lat/long will need to be reported. The point could be a 'central' point location for the project; the lat/long of the city where the project staff conduct the work; or, a lat/long that designates the geographic area where most of the work is focused. Many projects employ multiple treatment types (features) within a given worksite. With multiple treatment types (point, line, or polygon) a project may need to be divided into more than one site. Features must be at least ½ mile apart to be designated as separate worksites. For example - a project that includes instream restoration and riparian treatments in a contiguous area (within ½ mile of each other) would be one site with one lat/long, however the project map would show a line for the instream activities and a polygon for the riparian plantings. Another example: a reach of stream may have several treatments, such as; instream habitat structures, stream bank stabilization structures, and a log jam barrier removal, but still be considered as one linear area, provided the distance between any two individual features is less than 1/2 mile. The project map would show one linear feature. Similarly, the area of riparian habitat where Himalayan blackberry are to be removed and conifer trees planted would be considered one polygon site.

FEATURE: A feature is a distinct physical implementation at a location within a project worksite intended to interact with the environment to improve anadromous salmonid habitat. Features consist of one or more restoration treatments. Within one project site there can be numerous features. For implementation monitoring, features are divided by treatment type and location. However, functional groups of structures or treatments can be grouped as one feature. For example, a group of tightly spaced willow baffles should be considered one feature. It is impractical to separate each baffle because they interact and work together as a group for the same objective at the same location. A string of closely spaced (within ½ mile of each other) grade control weirs is another example of a group of structures of the same type functioning together. However, willow baffles and riprap bank stabilization at the same location would need to be separated into different features because they have different objectives.

POINT SITES describe work that occurs at one or more discrete locations that are more than ½ mile from each other.

LINE (LENGTH) SITES are a continuous line along which associated treatments are implemented. Lines must either follow the path of a stream or a road where work is taking place.

AREA SITES are described by the outline of a polygon on the landscape. These areas may be relatively small, such as the planting area for a riparian project, or relatively large, such as a watershed in which a planning project is taking place.

Provisional Landowner Access Agreement

Prior to funding a project, CDFW and NOAA fisheries staff conduct a pre-project site review. The applicant is responsible for ensuring when submitting an application that there is adequate authorization for access to the site for this review. If the applicant owns all of the land on which the proposed project will be conducted, then the applicant must indicate this in the proposal. If the applicant does not own all of lands for the project site, then the applicant must submit documentation that the landowner or land manager of the property has provided written authorization for CDFW and NOAA fisheries staff to enter the property for a pre-project site review. For projects that are conducted on lands owned by multiple owners, such as status and trend monitoring projects, the applicant must submit written authorization from each landowner or land manager. If an applicant does not have the required documentation, then the applicant must explain how it expects to secure any missing written authorization from a landowner or land manager prior to the pre-project site review.

Adequate authorization can be demonstrated by providing a provisional landowner access agreement covering all of the lands for the project site. A sample provisional landowner access agreement can be found on the FRGP Guidance Tools website. At a minimum, the applicant must provide written documentation of the following:

- Landowner or land manager consents to access for pre-project evaluation by CDFW and NOAA fisheries staff;
- Landowner or land manager gives provisional consent for the grantee to complete the proposed project with CDFW oversight and visitation;
- Contact information for the landowner or land manager; and
- Signature of landowner or land manager.

Qualified Nonprofit Organization

A qualified nonprofit organization means any nonprofit public benefit corporation formed pursuant to the Nonprofit Corporation Law (Division 2 (commencing with Section 5000) of Title 1 of the Corporations Code) qualified to do business in California and qualified for exempt status under Section 501(c)(3), 501(c)(4), or 501(c)(5) of the Internal Revenue Code.

Quality Assurance / Quality Control (QA/QC) Plan

Requirements for Monitoring (MO) Projects. Establishing quality assurance and quality control procedures for a monitoring project helps ensure acceptable levels of accuracy and precision for the data collected and analytical procedures applied. Quality Assurance (QA) encompasses the broad plan for maintaining quality in all aspects of the project, and should include a description of how the project will be undertaken, study design, proper documentation and instructions for sampling protocols, training of personnel, data management and analysis, and specific quality control measures. Quality Control (QC) consists of the steps you will take to determine the validity of specific sampling and analytical results. A quality assessment of the overall precision and accuracy of the project data should be included with interim and final project reports.

Proposals for monitoring projects must include a brief (one to two pages) description of the project QA/QC plan. If funding is awarded, a complete QA/QC plan must be submitted before the Grant can be executed. The QA/QC description should include, but is not limited to, the following elements (please provide some detail and not just a copy of the outline below):

a. Project goal, objectives, and application;
b. Project setting;
c. Scope of work and time frame required;
d. Study design;
e. List of sampling protocols;
f. Personnel requirements and roles;
g. Schedule of primary activities, including QA/QC;
h. Training that addresses:
    i. safety practices for field sampling activities,
    ii. identification of fish species likely to be encountered,
    iii. proper handling of fish and,
    iv. proper use of sampling gear and instruments;
i. Data collection control that addresses:
    i. independent sampling of a percentage of previously sampled units,
    ii. independent observers participating in electrofishing;

j. Data management that addresses:
   i. metadata description,
   ii. data entry and storage,
   iii. independent data verification of a percentage of the original entries,
   iv. data analysis,
   v. chain of custody for data.

Recognized Tribe

Recognized tribe means those entities recognized as eligible to receive service from the United States Bureau of Indian Affairs, as listed in the Federal Register, and those tribes designated in the list of non-recognized tribes for California by the Native American Heritage Commission.

Reference Documents

Reference documents are those documents that justify, substantiate, or otherwise support aspects of the proposed project, describe the capabilities to conduct the work, or provide recently completed work. These documents should be included in the proposal application, unless the applicant can provide a direct electronic link to the reference document. Specifications for the types of reference documents required are listed under each project type where this supplemental document is required.

Riparian Revegetation / Riparian Restoration Plan

For projects which result in disturbance within the riparian corridor or other hydrologically linked upland areas that may deliver sediment to a class I or II channel, the grantee will be required to replant disturbed and compacted areas with native plant species at a ratio of 2 plants to 1 plant removed. The species used should be in the composition that will result in riparian vegetation found in the region. Unless otherwise specified in the agreement, the standard for success is 80% survival of plantings or 80% annual survival of ground cover for broadcast planting of seed after a period of three years. Exposed soils will be covered using CDFW approved techniques to prevent delivery of sediment to a stream (i.e. mulching/seeding).

All Riparian Restoration (HR) applications must include a completed riparian restoration plan. The plan shall be prepared by persons with expertise in California ecosystems and native plant revegetation techniques.

The following items should be included in all HR project riparian restoration plans:

- Location of the restoration site(s): This section shall include a regional map, general map illustrating planting locations (polygons), location of any other existing or proposed restoration actions in the general vicinity, ownership information, and directions to the site.
- Site suitability evaluation: This section shall provide the rationale behind selecting the restoration site including information on the soils, hydrology (including risk of scour by high flows, characterization of water table depths and water availability for irrigation if proposed), and native riparian species present at a nearby reference site(s). This information should be based on fieldwork completed during the planning and design phases for the project. Any reports, data, and other information that support site suitability decisions should be included in the plan.
- Site preparation and installation methods: This section shall provide a description of the methods that will be used to install the plants with a detailed discussion of each plant species and type of planting stock (container, stem cutting, pole cutting, bare-root stock, etc.), time of the year when the planting will occur, planting densities based on plant type (e.g. trees, bushes, herbaceous, etc.), and any other pertinent information regarding implementation of the project. Any necessary site prep work (i.e. heavy equipment work, stabilization, soil work, etc.) shall be described in this section of the plan. Exposed soils should be appropriately covered to prevent delivery of sediment to a stream (i.e. mulching/seeding). Other restoration work to be completed during project implementation shall also be described in sufficient detail to allow for proper evaluation.
- Materials: This section shall provide a list of appropriate successional stage native plant species, size of specimens for each species, number of plants, the source of plant materials, and fertilizers if any, for the project. Projects should use a composition of species that will result in mature riparian vegetation found in the region. Information regarding the need for plant protection and the materials necessary to accomplish protection shall be included. If fertilizer is proposed, discuss the rationale including the pros/cons of fertilizer use. If erosion control fabric and/or structures are proposed they are required to be and should be identified as plastic-free. Information regarding the prevention and spread of native plant diseases shall be included. Provide information on native riparian plant diseases, host plants, disease resistant plants and how these influenced selection of native plant species for the project.
- Schematic: This section shall include a detailed planting design that depicts exactly where the plants will go in the restoration area. Include the number of plants and the species to be planted in each location, spacing between plants, and total acreage planned for revegetation.

- Maintenance of plants: This section shall include a description of methods that will be used to maintain plants in good condition, control non-native vegetation, prevent plant disease, and prevent herbivory of the plantings, including a discussion of how maintenance actions will be triggered by changes in plant health over time. If the planting will be irrigated, this section shall include an irrigation plan that includes the type of irrigation, the pros/cons of use, and the watering regime that will be used to successfully establish the plantings. The irrigation plan should be designed to discourage the growth of invasive plants while encouraging deep rooting of planted materials to ensure maximum survival following the plant establishment period.
- Success criteria: This section shall include the performance criteria that will be used to evaluate project success. Performance criteria should be developed for species diversity, structural diversity, overall vegetative cover by species (if important) and how cover will be measured (absolute vs. relative), density (by species), plant vigor, and survivorship. In addition, intermediate thresholds (incremental progress toward performance criteria) should be developed in conjunction with an adaptive management plan that triggers remedial activities that would be implemented if intermediate thresholds were not being met. This will allow the revegetation specialist to increase the likelihood that performance criteria are met by the end of the monitoring period. Unless otherwise specified in the agreement, the standard for success is 80% survival of plantings or 80% annual survival of ground cover for broadcast planting of seed after a period of three years.

- Monitoring methods: This section shall include a detailed description of how the project will be monitored to evaluate whether performance criteria are being met. This section should include a detailed description of the methods used for data collection, sample size, data entry and storage, statistical analyses to be performed, photo point locations, and a description of the monitoring report format.
- Adaptive management and contingency measures: This section shall describe the projects adaptive management strategies and what actions shall be implemented if the monitoring data indicates that the performance criteria may not be met. This section shall identify the party responsible for implementing remedial measures and the source(s) of funding to complete actions.

Status Report

The Status Report must describe the process by which the group has achieved past measurable and quantifiable tasks (e.g. meetings, outreach, etc.), and how the group's efforts have resulted or will result in on-the-ground restoration efforts. The Status Report must also include a list of all completed and in-progress educational

and outreach activities and on-the-ground restoration projects completed by the group, whether funded by FRGP or not. For new groups, the Status Report must describe the process by which the group formed, the entities comprising the group, and the goals and objectives of the group

Stream Dewatering and Fish Exclusion / Relocation

Applicants of projects that require channel dewatering and/or fish exclusion will be responsible for securing dewatering and/or fish exclusion supplies (screens, nets, pumps, etc.) and services. If the project is funded, the Grantee would notify the CDFW Grant Manager a minimum of ten working days before the project site is de-watered and the stream flow diverted. The notification would provide a reasonable time for CDFW personnel to oversee the implementation of the water diversion plan and the safe removal and relocation of salmonids and other native aquatic species from the project area. If the project requires dewatering of the site and the relocation of listed aquatic species, the Grantee will implement the following measures to minimize harm and mortality to listed species as well as other native aquatic species:

- Fish relocation and dewatering activities would only occur between June 15 and October 31 of each year.
- The Grantee would minimize the amount of wetted stream channel dewatered at each individual project site to the fullest extent possible as approved by the CDFW Grant Manager and pursuant to conditions in the USACE Regional General Permit, NMFS Biological Opinion, and the project's Lake and Streambed Alteration Agreement (1600 permit) or Habitat Restoration and Enhancement Act approval.
- Additional measures to minimize injury and mortality of salmonids during fish relocation and dewatering activities would be implemented as described in Volume II Part IX, pages 52 and 53 of the California Salmonid Stream Habitat Restoration Manual.
- Only qualified fisheries biologist that are approved by USFWS and permitted by CDFW under a California Endangered Species Act (CESA) Memorandum of Understanding (MOU) would handle and relocate CESA listed species.
- All electrofishing would be performed by a qualified fisheries biologist under the supervision of CDFW and conducted according to the National Marine Fisheries Service, Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act, June 2000.

NMFS Approved fisheries biologists would provide fish relocation data via the Grantee to the CDFW Grant Manager on a form provided by CDFW.

Water Accounting and Consumptive Use Analysis

A Water Accounting and Consumptive Use Analysis forms the basis of the Instream Benefits and Impacts Analysis described previously. It is required for all PD-type (Project Design) and WC-type (Water Conservation) proposals, except:

1. In watersheds where the largest diversion is less than 1 cfs.
2. For projects that address one or multiple diversions that individually do not exceed 1 cfs and cumulatively do not exceed 2 cfs.
3. In cases where the goal of the project is to increase summer base flow or water quality.
4. For projects that have an acceptable Streamflow Improvement Plan which includes sufficient information on:
   - watershed conditions (land use, geology, soils, groundwater and hydrology)
   - human water needs (including water rights information)
   - aquatic resources and habitat
   - flow improvement strategies
   - permitting and long-term considerations.

A Water Accounting and Consumptive Use Analysis is a necessary part of a water conservation project in order to verify the amount of water that will be left in stream. To get started, it is necessary to have measurements of the amount of flow being diverted. For some projects, this data has already been collected. However, for other projects, it is necessary to collect this data in order to start the accounting. Monthly diversion volumes and maximum diversion rates are the most useful data. Annual variations of diversion flows depending on water year type (wet versus dry) should be calculated from the measurements or estimated based on hydrologic analyses and anecdotal information.

Many water conservation projects involve replacing unlined ditches with pipelines or lined ditches to reduce or eliminate conveyance losses. FRGP requires that all of the water savings realized from these improvements be left instream. Conveyance losses need to be included in the consumptive use analysis, if required, for determining if there is injury to another water user. Determining conveyance losses requires direct flow measurements at several points along the ditch on at least a monthly basis during the diversion season. Additionally, the fate of the lost water should be determined when a consumptive use analysis is required. It is necessary to determine if the water returns to the stream, enters the water user's property either as a beneficial use or not, enters another owner's property either as a beneficial use or not, or infiltrates to an aquifer disconnected from the stream.

For projects where it is desired to dedicate water to the stream past another water user's point of diversion, a consumptive use analysis is likely to be necessary. To

determine the volume of water used consumptively, it will be necessary to determine evaporation and transpiration rates, the amount of water that may infiltrate to a disconnected aquifer, and the amount of water that drains to a location outside the watershed, and determine if any other condition prevents the water from being available to downstream users.

Some water conservation projects also involve tailwater returns. In cases where consumptive use analyses are necessary, it is necessary to map locations of tailwater return and provide monthly measurements of the quantity of tailwater return flow. If tailwater returns to the stream upstream of another water user's point of diversion, then that water user will be able to divert that water. Other water conservation projects with a focus on improving instream water quality seek to reduce or eliminate tailwater returns. For these projects, it is also necessary to locate tailwater returns and measure tailwater quantity and quality in order to demonstrate the benefits of the project.

Water accounting calculations are also needed for rainwater collection and off channel storage projects, such as tanks and ponds. For these projects, the storage capacity proposed needs to be compared to the volume of water used. This will help determine how much water will still need to be diverted from the stream. Additionally, the variability in precipitation or streamflow based on dry years and wet years needs to be considered in whether the storage will be completely filled.

The Water Accounting and Consumptive Use Analysis should provide a summary of the water able to be left instream by month.

Water Law Compliance

Funded proposals that address stream flows and water use shall comply with the California Water Code, as well as any applicable Fish and Game Codes. Any proposal that will require a change to water rights, including but not limited to bypass flows, point of diversion, location of use, purpose of use, off-stream storage, etc., shall demonstrate an understanding of the State Water Resources Control Board (SWRCB) permit processes, timelines, and costs necessary for project approvals by the SWRCB and the ability to meet those timelines within the term of a grant. In addition, any proposal modifying water rights for an adjudicated stream shall identify the required legal process for change as well as associated legal costs.

Prior to a water right purchase or lease, an appraisal of the value of the water right, conducted in compliance with Department of General Services Real Property Services Section specifications must be completed.

An applicant must demonstrate to the Department that they have a legal right to divert water by submitting a copy of a water right permit or license on file with the SWRCB, or some other document that evidences the right. **If a water right is not involved in the project, include an explanation.** Applicants who divert water based on a riparian or pre-1914 water right must document their right to divert by submitting the information outlined below with their proposal.

- A Statement of Water Diversion and Use that has been filed with the SWRCB (minimum last 3 years or up to the last 10 years). For applicants who have not filed a Statement of Water Diversion and Use, a copy of that form may be obtained at https://www.waterboards.ca.gov/waterrights/water_issues/programs/diversion_use/. ***The Department will not accept a Statement of Water Diversion and Use unless it has been filed with the SWRCB.***
- The average volume of water (in acre feet) diverted each month during the period of use at each point of diversion;
- The average volume of water applied at the place of use each month during the period of use from each point of diversion;
- A table that shows the number of acres irrigated for each parcel within the place of use;
- The average amount of water (in acre feet) applied per acre each month calculated by dividing the flow (in acre feet) at the place of use into the number of acres irrigated;
- All data, calculations, and any other information used to estimate the "duty of water";
- The average irrigation requirements for the crops and/or pasture land at the place of use. Information regarding average irrigation requirements may be available from the Natural Resource Conservation Service, U.C. Extension, or in the Department of Water Resource's Bulletin 113;
- The method(s) used to apply the water to the crops and/or pasture land at the place of use;
- The type(s) of soil at the place of use; and
- A map that depicts the place of use, the boundaries of each parcel, each stream or river from which the water is diverted, and the location of each point of diversion on the stream or river.

Watershed Map

A legible 8.5" X 11" map of the watershed showing the following:

- Topographic relief in hillshade;
- All streams in the watershed, label mainstem and any tributaries where work is proposed;

- Scale of the map;
- North arrow or other direction icon;
- Inset of the location of the watershed in the county.

Do not include roads and other features to clutter the map. **Aerial photos do not satisfy this requirement.**

Watershed Assessments / Habitat Inventory

In order to better focus restoration efforts, the CDFW encourages applicants to address limiting factors for salmonids that have been identified in existing watershed assessments and planning documents. A number of watershed assessments specific to California are available on the CDFW's website for the *Coastal Watershed Planning and Assessment Program* (CWPAP) at http://coastalwatersheds.ca.gov. These products include watershed assessment reports with background information, findings, limiting factor analysis, and improvement recommendations that should provide additional guidance to applicants. For more information, contact Allan Renger at allan.renger@wildlife.ca.gov at (707)-725-7194.