KINGS RIVER FISHERIES MANAGEMENT PROGRAM

Annual Implementation Plan

Program Year 2024 - 2025

Submitted to:

Executive Policy Committee

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Addendum 1: Regarding Element SE1 approved July 11, 2024

Introduction

The following are the planned program elements for program year 2024 - 2025. These elements align with the Long-Term Implementation Plan and support the creation of the annual budget.

The results will be documented in the Annual Technical Report; which will also include additional supporting documents, such as the annual population surveys and a final budget to actual report.

I. Program - Support Elements (SE)

SE1 Fishery Habitat Master Plan

Section G(1)(f) of the Framework Agreement (funding/projects) discusses habitat improvements to enhance fish and wildlife resources in the lower Kings River. In 2021-2022 the KRFMP contracted with Cramer Fish Sciences to develop two enhancement projects and 30% designs on selected projects vetted by the TSC. The TSC will continue pursuing grant funding for program element SE1 design, permitting, and construction.

This program element is contingent on grant funding or a decision by the Executive Policy Committee to pursue. Table 1 summarizes the detailed cost estimate of project planning, and design. An additional estimate for permitting of the two habitat enhancement projects is provided, along with shovel ready cost and construction estimates. Additional funding will be required to implement and complete monitoring and construction of these enhancement projects.

Table 1: Element SE1 Enhancement Project Planning Estimates

Element SE1	Description	River Gravel Project	Thorburn Channel	Total
Task 1	**Data Collection**			
1.1	Surveying	$ 2,844	$ 2,844	$ 5,687
1.2	Drone topography and bathymetry	$ 14,456	$ 14,456	$ 28,911
1.3	Pebble Counts and velocity transects	$ 5,011	$ 5,011	$ 10,022
1.4	Long-term gravel budget analysis	$ 20,000	$ -	$ 20,000
	Task 1 Subtotal	**$ 42,311**	**$ 22,310**	**$ 64,620**
Task 2	**Design Analysis and Development**			
2.1	65% Design	$ 26,906	$ 73,542	$ 100,448
2.2	100% Design	$ 6,726	$ 18,386	$ 25,112
	Task 2 Subtotal 100% Design	**$ 33,632**	**$ 91,928**	**$ 125,560**
Task 3	**Project Management**			
3	**Project Management and Invoicing**	**$ 6,644**	**$ 6,644**	**$ 13,288**
	65% Design Total	**$ 75,860**	**$ 102,496**	**$ 178,357**
	100% Design Total	**$ 82,587**	**$ 120,882**	**$ 203,469**
	Monitoring and Analysis Plan Development	$ 15,000	$ 15,000	$ 30,000
	Permitting and Compliance Estimate	$ 100,000	$ 100,000	$ 200,000
	Shovel Ready Estimate	$ 197,587	$ 235,882	$ 433,469
Estimated Construction Cost based on 30% design (High)*		$ 761,554	$ 463,154	$ 1,224,708
Estimated Construction Cost based on 30% design (Low)*		$ 502,371	$ 114,053	$ 616,424
	Annualized Operation and Maintenance Cost	TBD	TBD	TBD

*Original Estimates from 2022 inflated by 26% per Department of General Services California construction Cost Index

SE2 Public Education

As provided in Section G(1)(n) of the Framework Agreement, the Program will continue to engage in public awareness and education activities relative to the Program. The Public Advisory Group (PAG) has been actively meeting and engaging the TSC in discussions regarding the program. To encourage the continued involvement and effectiveness, the TSC recommends continued funding of Public Education activities. Some activities that have been identified for funding include maintenance of the website, and the manufacturing and placement of fishing regulation and educational signs. The program will continue efforts to update the KRFMP website http://krfmp.org on a regular basis to provide timely public information and a repository of program documents. We will continue to aid with safety and informational sign placement in public use areas and continue to involve local school districts and universities in educational opportunities with the incubator building, annual electrofishing survey and other sampling events. Public information will also be circulated on river flows and water temperature, through sharing of the monthly Pine Flat Reservoir temperature profiles and the daily hydrologic and climatic summary reports throughout the temperature management period when in effect. The budget also includes publication cost for printing additional KRFMP informational brochures and support of Kings River Clean-up efforts.

SE3 Monitoring (Baseline, Project, and Special Study)

Section G(1)(k) of the Framework Agreement "Development of Criteria/Monitoring" calls for the agencies to carry out a monitoring program to determine the effects of various elements of the programs and the overall status of the fishery.

For the 2024-2025 program year, we propose a flexible monitoring plan that could occur dependent on work related restrictions or other unforeseen circumstances. The following monitoring activities are meant to outline potential budget needs. The TSC may act on these monitoring items at the direction of the ExCom dependent on what is allowed at that time.

Monitoring without Budget Need:

Infrastructure for real-time monitoring of temperature is in place at the ACOE Bridge Weir and Fresno Weir, and dissolved oxygen monitoring is in place at the ACOE Bridge Weir. Along with measurements of flow, these real-time monitors allow for adaptive temperature management. Within the Reservoir, temperature is monitored at levels associated with all water release points, allowing for blended water temperature calculations. Periodic profiles of reservoir temperature and dissolved oxygen are taken to identify habitat quality within the reservoir and potential river conditions from river releases. No planned budget for monitoring associated with infrastructure.

1. **Creel/Angler Survey and Trout Tag Survey**
   CDFW will plan on continuation of an angler creel survey in 2023-2024, to assess angler catch rates, angler satisfaction and angler demographics. The angler creel survey will be ran in conjunction with the supplemental trout tagging survey to determine survivorship, mortality rates and angler harvest rates of supplemental

trout release groups. Angler surveys may be performed ten days each month for eight months (August – May). Angler survey activities will be pending State restrictions on employee/public interaction. The TSC will discuss variations of the angler survey to best pair monitoring efforts. Angler creel surveys will be performed by two CDFW staff.

CDFW is planning a tagging survey using supplemental trout provided by a contracted hatchery (see P1 – Rainbow Trout Supplemental Stocking Plan). The study aims to determine survivorship, mortality rates and angler harvest rates of supplemental trout release groups. CDFW has 5,500 Floy Tags on hand. The Floy Tags were ordered in 11 solid colors (500 each in brown, purple, yellow, blue, red, gray, green, white, fluorescent green, fluorescent yellow and orange). CDFW is proposing to tag 500 trout each from 11 groups of supplemental trout released (November – March).

Monitoring with Budget Need:

1. **Annual Electrofishing Survey**
   In cooperation with CDFW, KRCD may conduct a fisheries population survey. The annual survey typically takes place at six locations, to track population dynamics and fish assemblages in the lower Kings River. A budget is included for the electrofishing surveys, which included equipment replacement and supplies for the survey including survey equipment batteries, nets, waders, boots, gloves, and food for volunteers. TSC will discuss the ability for this monitoring using agency and volunteer resources based on current State and Federal restrictions on personal interaction.

2. **Episodic Monitoring**
   Additional monitoring efforts will be considered as applicable in the upcoming year, which may include snorkel surveys, water quality sampling, hook and line surveys, observations of geomorphic channel condition, and other studies appropriate for monitoring the fishery. This additional monitoring may also include sampling for episodic events on as needed basis. A $5,000 budget is included to cover episodic monitoring needs.

SE4 Incubator Facility (eggs)

Section G(1) of the Framework Agreement includes an element addressing adaptive management (Section 1b) and the stocking program (Section 1j). Fisheries population surveys results suggest that rainbow trout from the incubator may be present in survey reaches. Annually, three cycles of approximately 100k diploid rainbow trout eggs are purchased for incubation, each season (November – April) at a cost of approximately $3,300/cycle. When ready, each round of fry will be released into multiple river locations at approximately eight-week intervals. River conditions and other factors may limit the number of fry released and the number of incubator cycles per season. For FY 2024-2025, two to three cycles of egg incubation are planned, due to expected ‘Exhibit D’ flow regime this fall and winter. The TSC may also decide to do less cycles of eggs with larger numbers

of eggs, such as two 130,000-150,000 egg cycles in later months when colder temperatures are expected.

SE5 Reservoir Projects (Pine Flat Reservoir)

The purpose of this element is to allocate money in this program year's budget to accomplish in-reservoir Aquatic Resource Enhancement Goals in Exhibit "A" of the Framework Agreement. US Army Corps of Engineers (USACE), Pine Flat staff and the California Department of Fish and Wildlife (CDFW) Reservoir Biologist seek to work with the KRFMP on new habitat strategies in the upcoming program year. The KRFMP routinely commits annual funds in support of reservoir habitat projects. Project proposals for 2024-2025 include purchase and placement of commercially available habitat structures – approximately $10,000.

II. Program - Maintenance (M)

M1 Incubator Facility

Routine operations and maintenance activities will continue in the facility as needed in support of Section G(1)(f) of the Framework Agreement - Funding/Projects. This may also include, but is not limited to, regular generator checks, cleaning the pumps and pump components, cleaning/disinfecting or replacing gauges, hoses, raceways and raceway components as necessary, maintaining ventilation systems, plumbing and pest control measures.

The TSC will evaluate future options for the incubator building to determine if capacity can be increased. The TSC will collect information on options, such as physical building expansion, additional raceways, water temperature control, or other options to increase egg cycle capacity or the number of cycles per season. The TSC will evaluate program costs, personnel resources, and benefits of the options and present findings to the ExCom. This evaluation has no expected budget impact in this program year.

M2 Thorburn Spawning Channel

Section G(1)(f) of the Framework Agreement - Funding/Projects - discusses fish habitat improvements to enhance fish and wildlife resources in the lower Kings River. The program's first habitat improvement project, the Thorburn Spawning Gravel Project, was constructed in spring 2000.

Work will be needed to clear trail, spray weeds, and general upkeep of the access area. These maintenance activities are estimated at $1,000.

III. Program – Plans (P)

P1 Rainbow Trout Supplemental Stocking Plan

Stocking has been an element of the Kings River Fisheries Management Program, included in Section G(1)(j) of the Framework Agreement, and will continue through 2024-2025. Supplemental trout stocking numbers are called out in the following table pulled from the Kings River Fishery Management Program Lower Kings River 2018 Supplemental Rainbow Trout Stocking Plan. The program will utilize program funds for the purchase of

additional CDFW and/or private hatchery produced diploid rainbow trout for the Lower Kings River (Reach 1 and Reach 2) per Table 2.

For 2024-2025, one or more commercial hatcheries will be contracted to provide supplemental stocking. Outlined in Table 1 and depending on availability, 20,000-50,000 Catchable size rainbow trout (~3 fish per pound) will be stocked. We have budgeted $80,000 for Catchable size stocking. Delivery of all supplemental stocking is planned from October 2024 through March 2025. Potential monitoring of a sub-set of the supplemental stocking is outlined in SE3 – Monitoring.

Table 2: KRFMP Supplemental stocking information.

	Incubator Fry	Hatchery Fingerling	Sub-catchable	Catchable	Trophy
Number/Year Stocked by CDFW	0	Variable depending on Hatchery production	25,000	20,000	1,500 (as available)
KRFMP Augmentation	300,000	0	0	20,000 - 50,000	1,000 [1]
Total Annual Stocking	300,000	Variable depending on Hatchery production	25,000 [2]	60,000	2,500
Trout Length (inches)	N/A	N/A	4 - 6	10 - 13 (3/lb)	>16" (>2.5ibs.) Age 2-3yrs.
% Put-and-Take Zone	30	100	70	80	75 [3]
% Catch-and-Release Zone	70	0	30	20	25
Stocking Season[4]	Fall/Winter, Spring	Variable	Fall/Winter	Variable [5]	Fall/Winter
Estimated % Angler Harvest	1	N/A	8	59.8	59.8
Estimated # Angler Harvest	3,000	N/A	1,920	35,880	1,495

[1] Variable and will only occur based on supplemental stocking needs i.e. needs may shift to catchable allotment / broodstock requirements.

[2] The numbers of sub-catchable trout planted is expected to vary among years in response to factors such as high flows, seasonally elevated water temperatures, and demands for catchable trout to support the recreational fishery (sub-catchable trout may be held in the hatchery and grown to catchable size prior to release depending on management objectives and other factors within each year).

[3] CDFW routinely plants trophy trout in the put-and-take zone. Trophy trout produced through KRFMP funding augmentation may be planted in the catch-and-release zone as well as the put-and-take zone of the lower river.

[4] In accordance with the California Fish and Game Commission policy, trout are not stocked when water temperatures are greater than 75 F (24 C). Trout may not be planted from the hatchery during periods of flood control releases or high flows that limit access to planting locations or risk staff safety.

[5] The seasonal period of trout planting may vary among years in response to a variety of factors such as seasonal high flows (e.g., catchable trout may be planted at a reduced rate if river flows are greater than 2,000 cfs). CDFW base stocking practices may occur year-round.

IV. Projected Budget for Program Year –2024-2025

The Fisheries Management Program funding for the elements listed below will be allocated and utilized as listed within the text of this document upon the approval of the Executive Policy Committee.

Table 3: 2024-2025 Projected Budget

Element #	Description	Projected Budget
SE1	**Fisheries Habitat Master Plan**	**TBD, See Table 1**
SE2	**Public Education**	**$ 5,000**
1	Website Maintenance	$ 2,600
2	Other Public Education	$ 2,400
SE3	**Monitoring Total**	**$ 25,000**
1	Annual fish survey supplies	$ 20,000
2	Episodic Monitoring	$ 5,000
SE4	**Incubator Facility (eggs)**	**$ 10,000**
SE5	**Reservoir Projects**	**$ 10,000**
M1	**Incubator Facility**	**$ 1,000**
M2	**Thorburn Spawning Channel**	**$ 1,000**
P1	**Supplemental Stocking Plan**	**$ 80,000**
Total Projected Budget 2024-2025		**$ 132,000**
Grants		$ -
Net KRFMP Budget 2024-2025		**$ 132,000**

Addendum 1: Regarding Element SE1

The Executive Policy Committee took action to approve the *Annual Implementation Plan Program Year 2024 - 2025* on May 23, 2024. Program Support Element SE1 was prepared highlighting habitat enhancement project planning. The Executive Policy Committee discussed long term budget and program goals and directed the Technical Steering Committee (TSC) to evaluate the Thorburn Channel in more detail. Following a site visit, the TSC prepared recommended maintenance items that could improve the current habitat and channel flow.

The Executive Policy Committee met on July 11, 2024, to discuss the Thorburn Channel Maintenance and Enhancement Plan. The Executive Policy Committee proposed Thorburn Channel Maintenance and Enhancement Plan be the substitute document for element SE1. Furthermore, the TSC was directed to proceed with acquiring the necessary permits to perform Phase 1 items. Furthermore, the TSC is directed to provide an engineered proposal to ameliorate the sediment movement from the river into the Thorburn Channel and expand on the Thorburn Channel Maintenance and Enhancement Plan actions. No additional budget was approved at this time, but the expectation is budget will be approved upon presentation of an engineered design related to actions presented.