

KINGS RIVER FISHERIES MANAGEMENT PROGRAM

Annual Implementation Plan

Program Year 2023 - 2024

Submitted to:

Executive Policy Committee

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Introduction

Following are the planned program elements for program year 2023 - 2024. 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 2018 Cramer Fish Sciences Inc. was awarded a contract to evaluate previously flown Green LiDAR data, with the expectation that the resulting report would aid in planning future habitat projects and/or identifying management goals. A final report was submitted to the Technical Steering Committee of the Kings River Fisheries Management Program (KRFMP) for review and presented to the Public and approved by the Executive Policy Committee (ExCom) March 2020. The KRFMP will decide the best use of the report pursuant to enhancement opportunities, cost/benefit analysis, public input and investigating funding sources such as grants or other opportunities. 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. Additional work is needed to pursue grant opportunities to fully develop the selected projects and bring them to final design, permitting and “shovel ready” status. A budget is detailed with the intent of pursuing grant applications and funding for this program element.

The following actions are contingent on grant funding to implement a fisheries habitat enhancement project and/or associated planning and development, an estimate of these activities is \$250,000, with additional funding required to implement and complete enhancement projects.

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 2023-2024 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 usually 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 2023-2024, 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.

For 2023-2024 funding for eggs is 100% reimbursable, through Central Valley Community Foundation funding (grant), in cooperation with the Kings River Conservancy (KRC).

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 2023-2024 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. Replace incubator water pumps as lifecycle change out. 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.

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 2023-2024. 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 1.

For 2023-2024, 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 will likely begin October 2023 and run through March 2024. Potential monitoring of a sub-set of the supplemental stocking is outlined in SE3 – Monitoring.

Table 1: 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" (>2.5lbs.) Age 2-3yrs.
% Put-and-Take Zone	30	100	70	80	75 ³
% Catch-and-Release Zone	70	0	30	20	25
Stocking Season⁴	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 –2023-2024

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 2: 2023-2024 Projected Budget

Element #	Description	Projected Budget
SE2	Public Education	\$ 5,000
1	Website Maintenance	\$ 4,000
2	Other Public Education	\$ 1,000
SE3	Monitoring Total	\$ 23,000
1	Annual fish survey supplies	\$ 18,000
2	Episodic Monitoring	\$ 5,000
SE4	Incubator Facility (eggs)	\$ 10,000
SE5	Reservoir Projects	\$ 10,000
M1	Incubator Facility	\$ 14,000
M2	Thorburn Spawning Channel	\$ 1,000
P1	Supplemental Stocking Plan	\$ 80,000
Total Projected Budget 2023-2024		\$ 143,000
Central Valley Community Foundation Grant (SE4)		\$ (10,000)
Net KRFMP Budget 2023-2024		\$ 133,000

Table 3: Elements contingent on grant funding

Element #	Description	Estimate
SE1	Fisheries Habitat Master Plan	\$ 250,000
SE1	Estimated Habitat Construction	\$ TBD