

KINGS RIVER FISHERIES MANAGEMENT PROGRAM

Annual Implementation Plan

Program Year 2021 - 2022

Submitted to:

Executive Policy Committee

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Introduction

Following are the planned program elements for program year 2021 - 2022. 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 utilize this report to help guide KRFMP goals and objectives. 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. The KRFMP will move forward with developing a 30% design on several selected projects vetted by the TSC.

The following actions may occur to implement a fisheries habitat enhancement project, these items are included in the budget, totaling \$75,000:

1. Coordination and Project Management): \$3,500
2. Site Reconnaissance: \$8,000
3. Concept Designs: \$42,000
4. Engineering Design: \$6,500
5. Technical Memorandum: \$15,000

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 in order 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.

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.

The 2020-2021 program year had several differences between planned activities and what occurred due to COVID-19 pandemic restrictions and changes to society. For the 2021-2022 program year, we propose a flexible monitoring plan that could occur dependent on work related restrictions from COVID-19 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:

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

CDFW will plan on continuation of an angler creel survey in 2021-2022, to assess angler catch rates, angler satisfaction and angler demographics. Angler surveys may be performed eight days each month for eight months (October – 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.

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. TSC will discuss the ability for this monitoring using agency and volunteer resources based on current State and Federal restrictions on personal interaction.

2. Trout Tag Survey

Planned in coordination with Creel/Angler Surveys, CDFW may conduct a tag survey using supplemental trout provided by Calaveras Hatchery (see P1 –

Rainbow Trout Supplemental Stocking Plan). The study aims to determine survivorship, mortality rates and angler harvest rates of supplemental trout reported by anglers. This information may be applied to trout population data collected annually at the six long-term electrofishing sites. If this survey occurs, CDFW will purchase 5,000 Floy Tags. Cost of Floy Tags will be approximately \$4,500. CDFW is proposing to tag 2,500 supplemental trout (500 fish tagged/released each month (November – March). The remaining 2,500 tags will be used the following season. Staff time to tag fish at release location will cost approximately \$1,700. The proposed survey may not occur based on current State and Federal restrictions on personal interaction, as this survey is planned in parallel with the Creel/Angler Survey. The proposed tagging survey will not include a reward structure. Total budgeted for 2021-2022 Trout Tag Survey \$6,500: \$4,500 (reward tags), , \$1,700 (staff time).

3. Snorkel Survey

In an effort to supplement the Annual Electrofishing Survey, or provide fish population information if the Annual Electrofishing Survey is postponed due to work safety restrictions, the KRFMP will pursue a third-party fish population survey using snorkelers or other methods in various reaches of the river. Total budgeted for 2021-2022 snorkel survey is \$50,000.

4. 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, 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 \$3,500/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 2021-2022, two cycles of egg incubation are planned, due to severely dry conditions and expected water temperatures that will make three cycles impractical. Based on prior dry-year conditions, the egg incubation period will likely be between January – April, 2022.

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 2021-2022 will be drafted and reviewed by the KRFMP.

SE6 River Access Areas Partnership

Section G(1)(i) of the Framework Agreement includes an element addressing enforcement, education and awareness programs. Public access areas are an important asset on the Kings River that can be subject to abuse. In partnership with the KRC, Eastern Choinumni Park (Frustration Lake) and the western bank of Winton Park have been improved. The KRC would like to continue improvement of public access areas, which includes obstructing unnecessary vehicle access into the river and obstructing illegal refuse dumping in and near the river. In support, funds will be directed toward obstructing unnecessary vehicle access and funding cleanup activities. Additional locations are being identified and will be presented to the KRFMP. Vehicle access restriction projects will be in cooperation with Fresno County, landowners and KRFMP. Limiting vehicular access in these areas will likely reduce illegal dumping and the chance for vehicle oil spills directly into the river.

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 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, removal of antiquated drip irrigation lines and old seedling protection cages, and may be needed to install regulation signs. These maintenance activities are estimated at \$5,000.

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 2021-2022. 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 2021-2022, Calaveras Trout Farm will likely be contracted to provide supplemental stocking beyond the current contract. Outlined in Table 1, approximately 50,000 Catchable size rainbow trout (~3 fish per pound) will be stocked. We have budgeted \$79,000 for Catchable size stocking. Delivery of all supplemental stocking will likely begin October 2021 and run through March 2022. 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 2021 - 2022

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: 2021 - 2022 Projected Budget

Element #	Description	Projected Budget
SE1	Fisheries Habitat Master Plan	\$ 75,000
1	Coordination and Project Management	\$ 3,500
2	Site Reconnaissance	\$ 8,000
3	Concept Design	\$ 42,000
4	Engineering Design	\$ 6,500
5	Technical Memorandum	\$ 15,000
SE2	Public Education	\$ 5,000
SE3	Monitoring Total	\$ 63,500
1	Annual fish survey supplies	\$ 2,000
2	Trout tag survey	\$ 6,500
3	Snorkel Survey	\$ 50,000
4	Episodic Monitoring	\$ 5,000
SE4	Incubator Facility (eggs)	\$ 7,000
SE5	Reservoir Projects	\$ 10,000
SE6	River Access Areas	\$ 10,000
M1	Incubator Facility	\$ 1,000
M2	Thorburn Spawning Channel	\$ 5,000
P1	Supplemental Stocking Plan	\$ 79,000
Total Projected Budget 2021-2022		\$ 255,500
Grants or Reimbursable Expenses		\$ -
Net KRFMP Budget 2021-2022		\$ 255,500