California Fish Passage Forum

Project Name	Mid-Klamath Tributary Fish Passage Improvement Project
Lead Organization	Salmon River Restoration Council
Name of Project Lead/Point of Contact	Sophie Price
Contact Email	fisheries@srrc.org
Phone Number	(530) 462-4665
Location of Project	41.377561, -123.493405
Attach a map of your project	CFPF_2022_Project Map_SRRC.pdf CFPF_2022_Project Vicinity Map_SRRC.pdf

PROJECT INFORMATION

1. Concisely describe why this project is important, what activities you will undertake to meet your objectives (clearly identify all objectives), resulting outcomes/deliverables to benefit fish passage in California, and why this project should be selected for funding through this RFP. If the funding you are seeking from the Forum is part of a larger project,

Since 2001, the Salmon River Restoration Council (SRRC) and the Mid Klamath
Watershed Council (MKWC) have been working together, alongside other partners,
to identify and manually treat barriers to anadromous

please clearly describe which portion of the project Forum funding would be applied to, and the specific deliverables and outcomes expected to result from this funding.

fish passage on key tributaries in the Klamath watershed. Seasonal low flow barriers into these anadromous streams will be manually reconstructed using hand tools to allow for adult and juvenile fish passage. The proposed project will improve juvenile and adult salmonid fish passage into 30 to 40 tributaries in the Klamath and Salmon River subbasins through manual modification of natural and anthropogenic barriers. This work is seasonal and is not expected nor intended to remain after annual winter flooding, but it is cost-effective and provides immediate results to the fishery.

Fish passage problems in the Klamath River watershed include human-influenced barriers, natural barriers, or a combination of both. The majority of human-caused barriers are the result of road crossings, but swimmer's dams at popular recreation areas also pose an obstacle to fish passage. Natural barriers include aggraded stream mouths where streams will either run sub-surface or become too shallow for fish to navigate because of large alluvial deltas. This problem has been exacerbated by past upslope disturbances such as wildfires, road failures, and mining, which have increased the sediment load particularly at the mouths of these tributaries. Chronic low flow conditions increase the impact of seasonal barriers, particularly at aggraded stream mouths.

Recent research in the Klamath Basin indicates that both summer and winter refugia associated with the lower reaches of tributaries are critical for the survival of juvenile salmonids. Fisheries surveys have identified consistently high numbers of juvenile salmonids in habitats that function both as summer and winter refugia. The size, distribution, accessibility, and quality of these habitats throughout the year are a major

limiting factor for
juvenile salmonids in the Klamath River basin. Fish passage improvement at
coldwater tributaries will improve the function and capacity of thermal refugia
during drought conditions and connect habitats critical to the survival of
juvenile and adult salmonids. Maintaining access, improving habitat quality,
and increasing capacity of thermal refugia is critical during drought years
when lack of access is the difference between life and death for both adult and
juvenile salmonids.

The objectives of this project are to maintain and improve access to
existing salmonid habitat by removing or manipulating seasonal barriers that
impede fish passage and to improve connectivity at coldwater refugia sites.
This project is designed to ensure both juvenile and adult fish passage into
high-quality thermal refugia and spawning habitat during critical periods of
rearing and migration.

Project
deliverables:

1. Assessments of
the first 1000 feet of up to 40 tributaries to the Klamath and Salmon Rivers to
identify any barriers that would include low flow barriers, swimmers dams,
debris jams, or perched alluvial creek mouths that inhibit juvenile and adult
salmonid migration. All barriers or impediments to passage will be prescribed a
treatment and if possible, manual hand work will be conducted at the barrier
site to improve fish passage.

2. SRRC and MKWC
staff will conduct fish passage improvements on identified barriers and
impediments to passage. These improvements typically include manual
construction of step pools, deepening existing pools or

channels by hand, and concentrating flow.

3. Snorkel surveys will be conducted up and downstream of barrier sites before and after treatment to establish baseline fish abundance estimates, and assess treatment effectiveness. Before and after photos will be taken at each site. Each barrier identified will be mapped and included in final report.

4. All identified barriers will be mapped and documented in final report with information on type of barrier, barrier characteristics, and fish counts before and after and treatments.

5. Final report to grantor including description of all work, before and after photos of every treated barrier site, fish presence/absence data before and after work, and any other relevant data collected during the season.

This project will be supplemented by a rearing habitat enhancement project which will be implemented concurrently at many of the passage improvement sites. This will include brush bundling, woody debris supplementation, and thermal refugia enhancement. This component of the project will be funded by matching funds. The Mid Klamath Tributary Fish Passage project is an ongoing annual project. Forum funding would be applied to passage improvement work implemented in the 2023 or 2024 field season depending on when funds become available.

2. Select all components that apply to your project.

Barrier removal or remediation | Habitat restoration | Barrier assessment | Fish passage monitoring | Education/outreach

3. List all partner organizations, and describe their involvement in the project (funder, planning/design, technical assistance, outreach, monitoring/evaluation, etc.)

California Fish Habitat Partnership - Funder
National Fish and Wildlife Foundation (NFWF) - Funder
US Forest Service – Landowner
Mid Klamath Watershed Council (MKWC) – Planning, implementation, monitoring, data management, reporting

4. If proposed project addresses a barrier to fish passage, does it have a California Passage Assessment Database (PAD) identification number(s)?

NO

5. Describe the barrier(s) under "average" conditions, if it is a complete, temporal, or partial barrier, how often passage is provided for both adult and juvenile anadromous fish, and if the information is available (e.g., meets fish passage criteria for adults 45% of the time and 0% of the time for juveniles) for each barrier addressed. Please specify which species you are referring to when describing barrier status.

Typical barriers encountered during this annual passage improvement project are seasonal low flow barriers, perched alluvium, and debris jams at or near the mouths of tributaries. These barriers are mostly considered seasonal, often partial, barriers that impede adult and/or juvenile migration of Chinook, coho, and steelhead into spawning tributaries and cold water refugia habitat. The damaged nature of the Klamath watershed causes these barriers to be considered anthropogenic in many cases. Swimmer's dams are also often encountered at these sites and remediated. Implementation of this project takes place during the summer months, starting in May and finishing in September. Low flow conditions in the summer and fall typically create passage issues into tributaries until the flows begin to rise in the late fall or early winter. This low-flow window coincides with peak water temperatures which reach stressful, and sometimes lethal, levels in the mainstem Klamath and Salmon Rivers, and also with the fall Chinook spawning season in some years.

6. Indicate how you determined that this barrier is a high priority project and/or addresses a high priority barrier(s). (Please check all that apply.)

Local knowledge/conversation with local representatives

7. List the name(s) of the recovery plans and the specific task that name this barrier/project as a high priority, the agency that endorsed this project, or the local representative that names this project as a priority.

Mid Klamath Subbasin Fisheries Resource Recovery Plan (Karuk Tribe, U.S. Fish and Wildlife Service, and Mid Klamath Watershed Council) includes an "On-the-Ground-Restoration Action" B3. This action reads, "Improve fish passage and in-stream habitat at thermal refugia areas and near tributary mouths."
This project is endorsed by the Karuk Tribe and US Forest Service. Past funding for this project has come from US Fish and Wildlife Service, Pacificorps, and CA Department

of Fish and Wildlife.

8. The California Fish Passage Forum (Forum) has seven (7) overall objectives. Please check each objective your project will help to address. (check all that apply)

1. Remediate barriers to effective fish migration.

7. Implement education and outreach activities, targeting both the general public and fish passage practitioners.

9. Provide a brief explanation of how your project addresses all of the checked boxes in question 10.

1. The fish passage improvement team will use manual construction techniques and native material (i.e. rock, wood, gravel) to treat seasonal barriers and impediments to passage to enhance access opportunities into cold water tributaries, and spawning habitat.

7. SRRC and MKWC plans to arrange several volunteer events to encourage hands on stewardship of important natural resources. These events involve school aged children, local community members, or outside groups that frequently visit the Klamath River Watershed. Participants are trained in fish identification, fish passage issues, and manual restoration techniques to assist in improving fish passage.

10. Select each anadromous fish species that will benefit from your project (select multiple if applicable).

Coho Salmon

Chinook Salmon

Steelhead/rainbow trout

11. Describe anticipated outcomes of implementing the proposed project. Include specific numbers when possible. Outreach accomplishments could include workshops/presentations/webinars given, educational materials developed, volunteers engaged, websites developed, social media metrics, etc.

- Stream miles restored or enhanced: Access will likely be improved to approximately 40 miles of stream
- Acres of habitat restored: NA
- Number of barriers remediated: 30 to 40
- Number of barriers assessed: 30 to 40
- Number of watersheds or rivers assessed: 2
- Number of stream miles assessed: 5.6 to 7.5
- Number of fish populations assessed: 3
- Outreach accomplishments: Youth crew and intern involvement, volunteer work days, informational signs, information on website
- Other: NA

12. Provide the location and distance in stream miles of the proposed project to downstream river structures, and whether each structure represents an insignificant, partial, or total barrier to fish passage.

NA

13. Provide the location and distance in stream miles of the proposed project to upstream river structures, and whether each structure represents an insignificant, partial, or total barrier to fish passage.

NA

14. Indicate which of the Forum's priority habitats that will be enhanced or restored as a result of this project (choose all that apply).

- Spawning habitat
- Rearing habitat

15. Has the owner and/or responsible organization/agency of the barrier(s) proposed for removal and/or remediation been identified, notified, and given permission for this project to proceed as proposed?

YES

If YES, please provide the name of the entity that owns/is responsible, and describe how consent to proceed was obtained/documented, and their role (if any) in any monitoring.

The Klamath National Forest is the primary land manager in the Salmon River and Mid Klamath watersheds, the Klamath National Forest is aware of and in support of the Salmon River Restoration Council and subcontractor's ongoing work to perform important tributary fish passage work on federally managed lands. The Klamath National Forest grants access to SRRC and MKWC to perform the work necessary to complete the project after funding is received. Access is also granted to California Fish Passage Forum representatives to perform project evaluations for the project if funded. The permission and support of the Klamath National Forest for this project is documented in the uploaded letter.
This project has been approved by the US Forest Service since its conception in 2008.

Documentation of consent to proceed may be uploaded here if applicable.

pdf CPFPF_2022_Landowner Access Letter_SRR...

16. Describe how the success of this project will be evaluated, and attach a copy of your monitoring and evaluation plan and indicate the person and/or organization that will be responsible for implementing.**

pdf CFPF_2022_Monitoring Plan_SRRC.pdf

***For any barrier remediation projects, the Forum recommends, at a minimum, applicants use the California Fish Passage Forum's Fish Passage Barrier Removal Performance Measures and Monitoring Worksheet, and one year minimum pre- and post-project monitoring.*

17. Will your project be implemented within 12-18 months?

YES

18. Describe below the project's timeline of major tasks and milestones (including permits), as well as implementation and monitoring dates keeping in mind that funding through this RFP will likely be available in Spring/Summer 2023. Please describe any issues that may exist and/or arise that could delay project implementation.

Tasks-

Project coordination (duration of project): The project leader will coordinate with the California Fish Passage Forum and with members of the SRRC and MKWC fish passage team throughout the duration of the project to ensure that deliverables are met.

Planning and training (March-June): Prior to the start of the field season, the project leader and team coordinators will purchase equipment and supplies needed to complete the project, finalize protocols, create schedules, and provide

training to crew members including field safety, assessment and treatment procedures, and monitoring protocols.

Passage assessments and pre-implementation monitoring (May-September): SRRC and MKWC field crews will survey the first 1000ft of selected tributaries, when possible, to conduct passage assessments and formulate treatment plans. Pre-implementation monitoring will be conducted, including snorkel survey fish counts up and downstream of identified barriers or impediments to passage.

Implementation of passage treatments (May-September): SRRC and MKWC field crews will implement manual treatments to improve passage for juvenile fish, and adult fish when appropriate. This could include the formation of step pools and fishway chutes to increase depth and reduce velocity, and removal of debris blockages. Popular recreation sites will be checked for swimmer's dams, which will be notched. Secondary treatments may be applied at select sites if dropping flows or recreational activity necessitates further action.

Post-implementation monitoring (May-September): SRRC and MKWC field crews will conduct post-implementation monitoring at treated sites including a snorkel survey fish count up and downstream of treated barriers or impediments to passage.

Public outreach (May-September): SRRC and MKWC fish passage team members will coordinate with youth crews and watershed education programs to include students, interns, and volunteers in fish passage improvement activities. Educational signs will be posted at recreation sites, and information about the fish passage project will be included on the SRRC and MKWC websites, and in published materials such as newsletters.

Data management and reporting (October-February): With the assistance of SRRC and MKWC field crew leaders, the project leader will manage data collected by field crews, and compile a report upon completion of the project which will include objectives met, associated deliverables, and before after photos of remediated sites. Tri-annual updates will also be prepared (March and July).

No environmental compliance documents (including permits and authorizations) are needed for this project. This project will not impact soil, air, water quality, or wildlife habitat. No ground disturbing activities are associated with this project. A small pulse of sediment may be released during manual (hand) manipulation of fish passage barriers; this will be limited in both extent and duration.

The attached timeline demonstrates the annual task schedule for this project. Implementation will take place during the 2023 or 2024 summer field season depending on when funds become available, and the project will be

completed within 12-18 months. Implementation start dates are dependent on flow conditions in the spring, but this is unlikely to cause problematic delays.

If you would like to also upload a document to help illustrate the project's timeline (as described above) please do so here. A template timeline can be found on the Forum's funding page (www.cafishpassageforum/funding)

pdf CFPF_2022_Timeline_SRRC.pdf

19. Attach any project designs, plans, and/or photos.

pdf CFPF_2022_Previous Work Photos_SRRC.pdf

PROJECT COSTS & BUDGET

20. Total Project Cost. $90,934.40

21. Total funding amount being requested from the Forum. 45188.30

22. List all partner contributions (cash and/or in-kind) and indicate whether match is considered federal, non-federal, or tribal using the table below:

	Name of Partner Organization	Type of Match	Value of Cash Contributions ($)	Cash Contributions Secured?	Value of In-Kind Contributions ($)	In-Kind Contributions Secured?	Total Contribution ($)
1	National Fish and Wildlife Foundation	Non-Federal	41226.10	Yes			41226.10
2	Salmon River Restoration Council	Non-Federal			2365.00	Yes	2365.00
3	Mid Klamath Watershed Council	Non-Federal			2155.00	Yes	2155.00
4							
5							
6							
7							

23. Will the project be fully funded if funding currently being requested from the Forum through this RFP is awarded?

YES

24. All budgets must include the following information. Please check each box indicating understanding of this requirement and upload a copy of your budget (including budget narrative) below.

- Total coast of project
- Total funding being requested from the Forum clearly indicating how/on what Forum funds will be spent.
- Total match (cash/in-kind) and resulting deliverables. Please include and differentiate federal and non-federal match.
- Monitoring/evaluation costs
- Accompanying narrative explaining budget categories, amounts listed, what will be accomplished, and what deliverables are expected, etc.

Attach a project budget, including a narrative that describes the overall project budget and a detailed budget breakdown. (Word, .pdf, or .xls) A budget template is available on the Forum's funding page (www.cafishpassageforum.org/funding).

xlsx CFPF_Budget_SRRC_2022.xlsx

PROJECT TEAM CAPABILITIES

25. Describe the experience and capabilities of up to three of the project leaders relative to their ability to implement this project. Include any work on other Forum-supported projects or efforts project leaders have been involved with.

Sophie Price, SRRC Fisheries Program Manager: Sophie is the project leader for this project. She has been the SRRC Fisheries Program Manager since 2020 and holds a B.S. in Applied Zoology from McGill University, Canada. Prior to working for SRRC, Sophie worked as a biologist for the Karuk Tribe Fisheries Program for three years. She has been working in the fisheries field in the Klamath basin since 2012. Sophie has coordinated collaborative fish passage improvement efforts with MKWC for the last two years. SRRC and MKWC have worked together to identify and manually treat barriers to anadromous fish passage on key tributaries in the Mid Klamath subbasin and tributaries since 2001.

Charles Wickman, MKWC Fisheries Program Director: Charles has been planning, designing, implementing, and monitoring fisheries restoration projects within the Middle Klamath River Sub basin since 2005. In 2008, Charles was hired by the Mid Klamath Watershed Council to co-direct their Fisheries Program with Executive Director Will Harling, and has since worked in coordination with MKWC staff, Federal and State agencies, the Karuk Tribe, and many local

landowners to develop and implement sixteen large scale habitat restoration projects, as well as dozens of small scale, non-mechanical projects directly benefiting state and federal ESA listed coho salmon.

James Peterson, MKWC Fisheries Project Coordinator: James graduated from the University of Minnesota Duluth in 2010 with a B.A in Environmental Studies. He has over ten years of fisheries experience working for various agencies along the west Coast. He has been a fisheries project coordinator with MKWC since 2015 and has successfully implemented both small and large scale in stream restoration projects along the Klamath River including a reach scale channel reconfiguration, installation of engineered log jams, off-channel pond construction, and has coordinated the fish passage improvement and creek mouth enhancement projects since 2015.

James and Charles have been involved with three projects previously funded by the Forum. In 2018, the Forum funded the Mid Klamath Fish Passage Improvement Project, and, in 2019, the Seiad Creek Fish Passage Improvement Project. The Mid Klamath Creek Mouth Enhancement Project was funded by the Forum in 2021.

OUTREACH

26. Describe how this project conducts outreach and education to the local or regional community? Examples could include, but are not limited to: public workshops, tours, signs, scientific journal articles, scientific conference presentations, educational forums, professional photo/video development, website, press release, newsletter, social media outreach, volunteers, schools, etc. Include any existing urls, social media handles, etc.

The community value for at-risk native fish will be enhanced through community volunteerism as well as the involvement of local students. Students from local schools will participate in passage improvement activities in coordination with habitat stewardship projects coordinated by SRRC's Watershed Education program and MKWC's youth programs. Since 2017 high school students from the Scott Valley have participated in fish passage improvement work through their enrollment in the Youth Environmental Summer Studies (YESS) program, and collaboration with the YESS program is expected to continue into the future. MKWC staff accompany the local outdoor school on an annual raft trip, training local youth in fish identification and ecology, and guiding them in fish passage improvement work at several creeks along the reach. MKWC typically employs up to six restoration interns (ages 16-21) who spend approximately 25% of their six-week internship working with experienced fisheries technicians on the fish passage improvement project. MKWC and SRRC staff also recruit local volunteers throughout the season to assist with the project. Involvement of the local community is intended to strengthen the lasting impact of this project, restoring the ecological process over the long-term. Community participation will be recorded using SRRC's events management database. Volunteer workdays associated with this project will be advertised on SRRC's monthly calendar which is e-mailed out to a list to of approximately 1000 interested individuals, community

members, students, and organizations. Due to the covid-19 pandemic, some volunteer events are uncertain at this point in time, but the outdoor nature of the work makes it likely that volunteer involvement will be possible. SRRC and MKWC will also provide education and assistance to landowners regarding the maintenance of habitat enhancement projects adjacent to private property, and will install informational signs at popular swimming holes and river access points to highlight our projects and educate the public on fish passage and fish health issues in the Klamath and Salmon Rivers. Further information about SRRC and MKWC projects, including fish passage improvement, is available to the public on the SRRC and MKWC websites:
srrc.org
mkwc.org

ALIGNMENT WITH NATIONAL PRIORITIES

27. Which of the National Fish Habitat Partnership's (NFHP) FY23 National Conservation Strategies will be addressed by your project? (select all that apply)

2. Restore hydrologic conditions for fish.

3. Reconnect fragmented fish habitats.

Review the *FY23 NFHP National Conservation Strategies*.

28. What U.S. Fish & Wildlife Service (USFWS) Climate Change Strategies will be addressed by your project? (select all that apply)

3.1 Take conservation action for climate-vulnerable species.

3.2 Promote habitat connectivity and integrity.

Review the *USFWS: Rising to the Urgent Challenge – Strategic Plan for Responding to Accelerating Climate Change*.

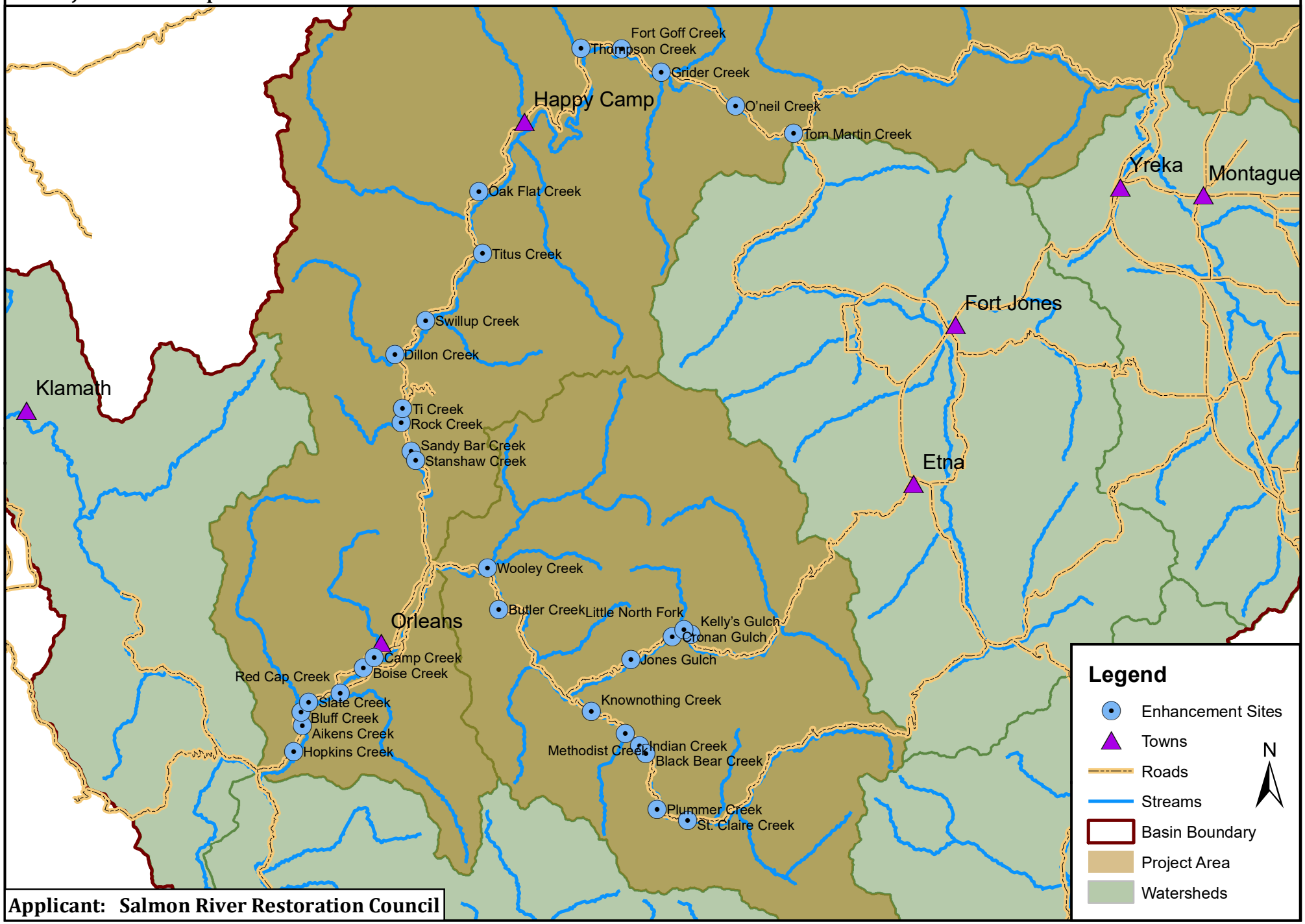
29. Provide specific information about how your project addresses the climate change strategy you checked in question 32.

Warmer winters and summers, reduced precipitation, and diminishing snow pack has caused the mainstem Klamath and Salmon Rivers to reach stressful or even lethal temperatures earlier in recent years, and to last for several weeks longer than historically recorded. After several years of intensive drought, with diminishing returns of adult salmonids caused by habitat degradation, poor ocean conditions and poor water quality, this project has become critical for ensuring that out migrating juvenile salmonids and returning adults have access to high quality coldwater refugia habitat. Studies by the Karuk Tribe and USFWS have shown that access to coldwater refugia habitat is critical for salmonids when mainstem river or tributary temperatures become inhospitable. Mobilizing a small adaptable crew of well trained technicians on the ground during the summer season allows SRRC and MKWC to use real time data to guide our restoration decisions and track fish health and activity.

30. Would an existing tribal, commercial, recreational, or subsistence fishery be enhanced as a result of the project? If yes, please describe. If not, is there a future fishery that would potentially be restored through increased habitat as a result of this project? If so, describe.	Yes, this project is intended to improve passage for salmonid species at various life stages into habitats which will ultimately increase survival rates and reproductive success. This, in turn, would enhance the commercial, recreational, and subsistence Chinook fisheries, and recreational steelhead fishery associated with the Klamath watershed, as well as tribal fisheries. Many of the project sites will be located within the historical boundaries of Karuk Tribal land, and salmonid species are an integral part of tribal history and culture. MKWC and SRRC work in partnership with the Karuk Tribe to restore damage to the unique ecosystems of the Klamath and Salmon Rivers caused by European settlement, clear cut logging, fire exclusion, gold mining, and homesteading. The proposed project would directly benefit the Karuk Tribe by increasing survival potential of both out migrating juvenile and in migrating adult salmonids.
31. Would this project increase public access to land or water resources for fish and wildlife-dependent recreational opportunities? If so, describe.	This project is just one piece of an immense effort by SRRC, MKWC, the Karuk tribe, and state and federal partners to conserve and restore the salmon and steelhead fisheries of the Mid Klamath and Salmon River subbasins for future generations to enjoy. This project is designed to give fish the annual support they need to help sustain these runs of fish while populations and habitats remain in critical condition. Over time, in combination with the large scale restoration activities and far reaching management actions which are being implemented in the watershed, recreational fishing opportunities are likely to be much improved.

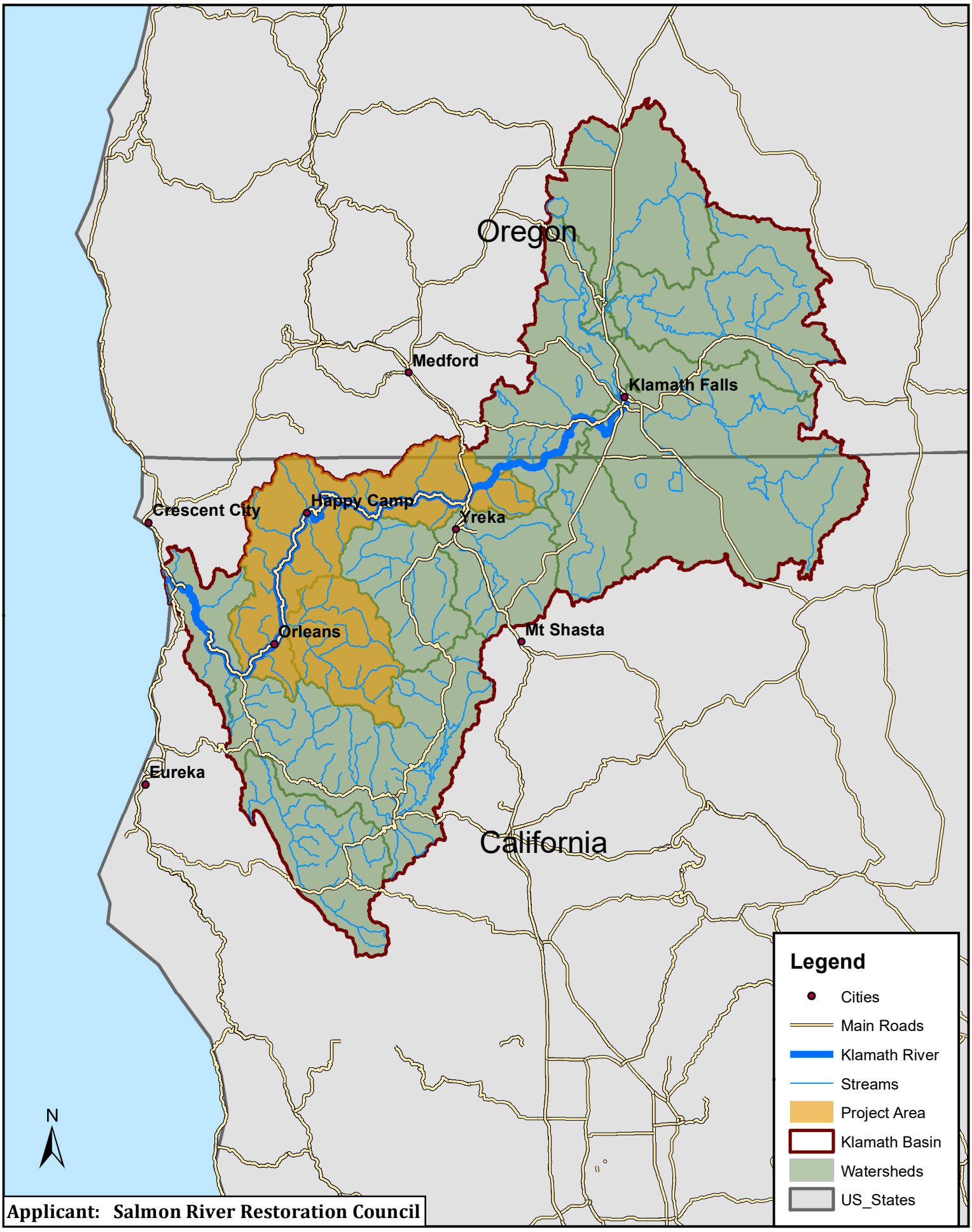
Thank you for your interest in the Forum, and for taking the time to submit this proposal. You will be contacted by the Forum to discuss the outcome of this funding process.

Mid-Klamath Tributary Fish Passage Improvement Project
Project Site Map



Applicant: Salmon River Restoration Council

Mid-Klamath Tributary Fish Passage Improvement Project
Project Location Map



Applicant: Salmon River Restoration Council

United States Department of Agriculture
Forest Service
Klamath National Forest
Salmon/Scott River Ranger District
11263 North Hwy 3
Fort Jones, CA 96032
530-468-5351
TDD: 530-468-1298

File Code: 1950
Date: February 2, 2022

Alicia Marrs
Forum Coordinator
California Fish Passage Forum
aliciamarrs@cafishpassageforum.org

Landowner Access Agreement for Salmon River Restoration Council Fish Passage Work

Dear Mrs. Marrs:

This letter is to confirm that, as the primary land manager in the Salmon River and Mid Klamath watersheds, the Klamath National Forest is aware of and in support of the Salmon River Restoration Council's ongoing work to perform tributary fish passage work on federally managed lands.

The Klamath National Forest grants access to the Salmon River Restoration Council and project subcontractor(s) to perform the work necessary to complete project activities after funding is received.

Access is also granted to California Fish Passage Forum representatives to perform project evaluations for the Tributary Fish Passage Improvement Project, if funded.

Sincerely,

Luis Palacios
District Ranger

California Fish Passage Forum FY23

Mid-Klamath Tributary Fish Passage Improvement Project

Monitoring and Evaluation Plan

Salmon River Restoration Council

In order to document the achievements of this project and assess project benefits, pre- and post-treatment monitoring will be conducted at each work site, with a focus on presence and abundance of target salmonid species. Where appropriate, the California Fish Passage Forum Fish Passage Barrier Removal Monitoring Worksheet will be used. The project leader (SRRC Fisheries Program Manager) will be responsible for coordinating the monitoring effort. SRRC and MKWC field crews will conduct pre- and post- treatment surveys, and assist the project leader with data management.

Metrics that will be measured and documented for each site before and after treatment include:

- Site name and location (GPS coordinates)
- Number of barriers or impediments to passage
- Description of barrier(s)/impediment(s) and assessment of "passability"
- Description of passage improvement treatment(s)
- Salmonid presence and abundance
- Before and after photos

Strategy: This project includes pre- and post-implementation surveys to monitor treatment effectiveness. Pre-implementation surveys will include an assessment of "passability" and fish count in the mixing zone and lower 1000ft of each tributary where possible. Fish counts will be conducted by snorkel survey – species, age class, and abundance of fish will be recorded. Post implementation monitoring will include a survey of the same area following the same protocol after treatment to identify change, assess passage improvements, and note presence, abundance, and benefits to the targeted species. Photos before and after implementation at each site will document barrier remediation.

Metrics used to determine success:

- Number of barriers or impediments to passage remediated
- "Passability"
- Presence or abundance of salmonids upstream of remediated sites

California Fish Passage Forum FY23

Mid-Klamath Tributary Fish Passage Improvement Project Timeline

Salmon River Restoration Council

The following timeline demonstrates the annual task schedule for this project. Implementation will take place during the 2023 or 2024 summer field season depending on when funds become available, and the project will be completed within 12-18 months.

Task	Mar	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb
Project Coordination	X	X	X	X	X	X	X	X	X	X	X	X
Planning and Training	X	X	X	X								
Assessments and Pre-Implementation Monitoring			X	X	X	X	X					
Fish Passage Treatments (Implementation)			X	X	X	X	X					
Post-Implementation Monitoring			X	X	X	X	X					
Public Outreach			X	X	X	X	X					
Data Management and Reporting	X				X			X	X	X	X	X

Tasks

Project coordination: The project leader will coordinate with the California Fish Passage Forum and with members of the SRRC and MKWC fish passage team throughout the duration of the project to ensure that deliverables are met.

Planning and training: Prior to the start of the field season, the project leader and team coordinators will purchase equipment and supplies needed to complete the project, finalize protocols, create schedules, and provide training to crew members including field safety, assessment and treatment procedures, and monitoring protocols.

Passage assessments and pre-implementation monitoring: SRRC and MKWC field crews will survey the first 1000ft of selected tributaries, when possible, to conduct passage assessments and formulate treatment plans. Pre-implementation monitoring will be conducted, including snorkel survey fish counts up and downstream of identified barriers or impediments to passage.

Implementation of passage treatments: SRRC and MKWC field crews will implement manual treatments to improve passage for juvenile fish, and adult fish when appropriate. This could include the formation of step pools and fishway chutes to increase depth and reduce velocity, and removal of debris blockages. Popular recreation sites will be checked for swimmer's dams, which will be notched. Secondary treatments may be applied at select sites if dropping flows or recreational activity necessitates further action.

Post-implementation monitoring: SRRC and MKWC field crews will conduct post-implementation monitoring at treated sites including a snorkel survey fish count up and downstream of treated barriers or impediments to passage.

Public outreach: SRRC and MKWC fish passage team members will coordinate with youth crews and watershed education programs to include students, interns, and volunteers in fish passage improvement activities. Educational signs will be posted at recreation sites, and information about the fish passage project will be included on the SRRC and MKWC websites, and in published materials such as newsletters.

Data management and reporting: With the assistance of SRRC and MKWC field crew leaders, the project leader will manage data collected by field crews, and compile a report upon completion of the project which will include objectives met, associated deliverables, and before after photos of remediated sites. Triannual updates will also be prepared.

Aikens (2019)

Before and after treatment

Boise (2019)

Before and after treatment

Camp (2019)

Before and after treatment

East Fork Swimmer's Dam (2019)

Before and after treatment

Elk (2019)

Before and after treatment

Fort Goff (2019)

Before and after treatment

Grider (2019)

Before and after treatment

Knownothing (2019)

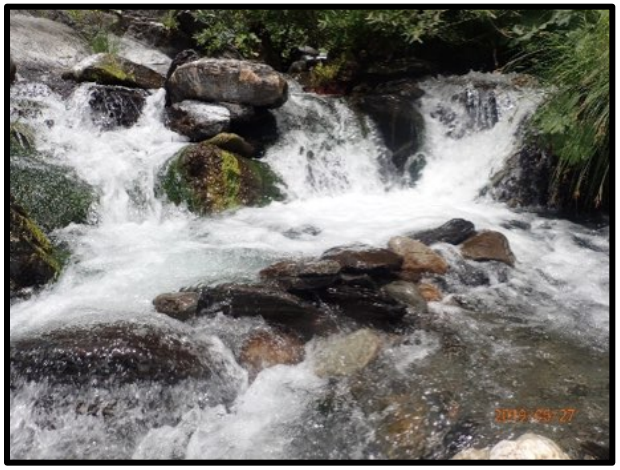
Before treatment (middle row)
&
After treatment (bottom row)

Little North Fork (2019)

Before and after treatment

Nordheimer (2019)

Before treatment (middle row)
&
After treatment (bottom row)



Oak Flat (2019)

Before and after treatment

Plummer (2019)

Before & after treatment (bottom row)

Rock Creek (2019)

Before and after treatment (left column)

Volunteers joined MKWC for the Rock Creek Fish Passage and Brush Bundling Work Day (right column)

Slate (2019)

Before and after treatment

South Russian (2019)

Before and after treatment

Stanshaw (2019)

Before and after treatment

Wooley (2019)

Rios to Rivers Students & Educators

Aikens (2020)

Before and after treatment

Black Bear (2020)

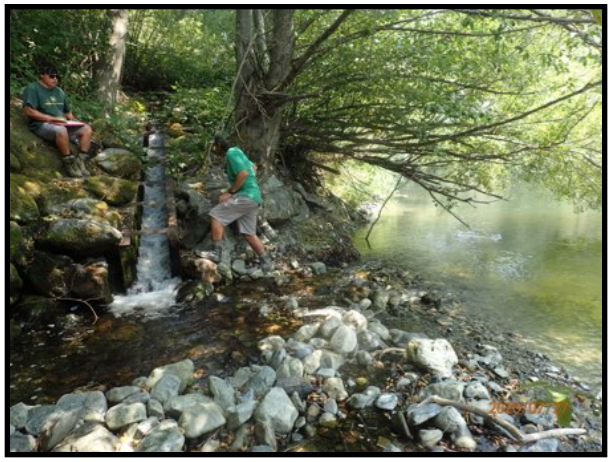
Before and after treatment

Boise (2020)

Before and after treatment

Camp (2020)
Before and after treatment (top row)

China (2020)
Before and after treatment (middle row)



Coon (2020)
Before and after treatment (bottom row)

Cronan (2020)

Before and after treatment

Youth Environmental Summer Studies program volunteers improved fish passage and added brush bundles for cover at Cronan Gulch

Dillon (2020)

Before and after treatment

East Fork Elk (2020)

Before and after treatment

Elk (2020)

Before and after treatment

Elliot (2020)

Before and after treatment

Fort Goff (2020)

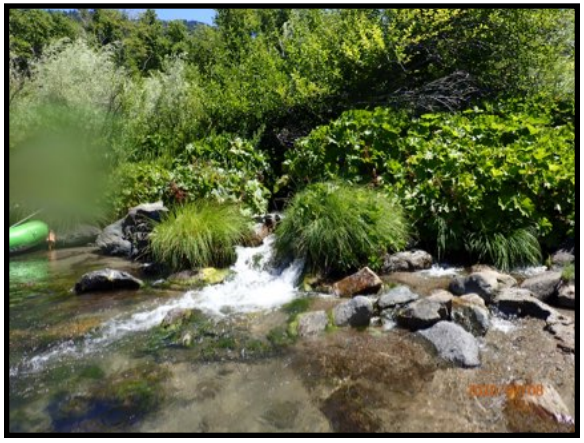
Before and after treatment

Independence (2020)

Before and after treatment

Indian (Klamath) (2020)

Before and after treatment



Irving (2020)

Before and after treatment

Jones (2020)

Before and after treatment

Youth Environmental Summer Studies program volunteers improved passage for juvenile fish at Jones Gulch

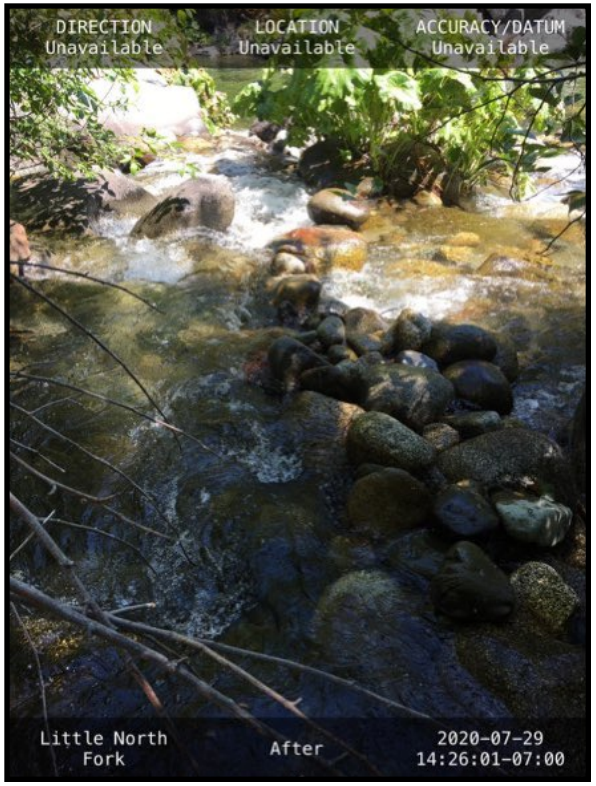
King (2020)
Before and after treatment (top row)

Knownothing (2020)
Before and after treatment (middle row)

Little Horse (2020)
Before and after treatment (bottom row)

Little North Fork (2020)

Before treatment (left column) and after treatment (middle column)



Youth Environmental Summer Studies program volunteers learned to identify salmonid species with SRRC fisheries crew members at Little North Fork (right column)

Methodist (2020)

Before and after treatment

Mill (2020)

Before and after treatment

Nordheimer (2020)

Before and after treatment

SRRC, MKWC, and Karuk Fisheries met for a fish passage training and knowledge exchange at Nordheimer Creek

Oak Flat(2020)

Before and after treatment

Plummer (2020)

Before and after treatment

Portuguese (2020)

Before and after treatment

Red Cap (2020)

Before and after treatment

Rock (2020)

Before and after treatment

Rogers (2020)

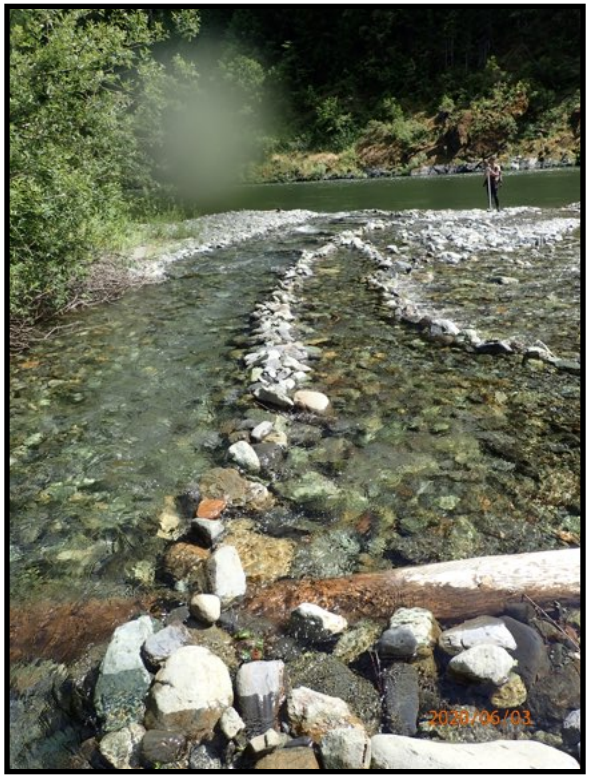
Before and after treatment

Sainte Claire (2020)

Before and after treatment

Sandy Bar (2020)

Before and after treatment (top row)



Slate (2020)

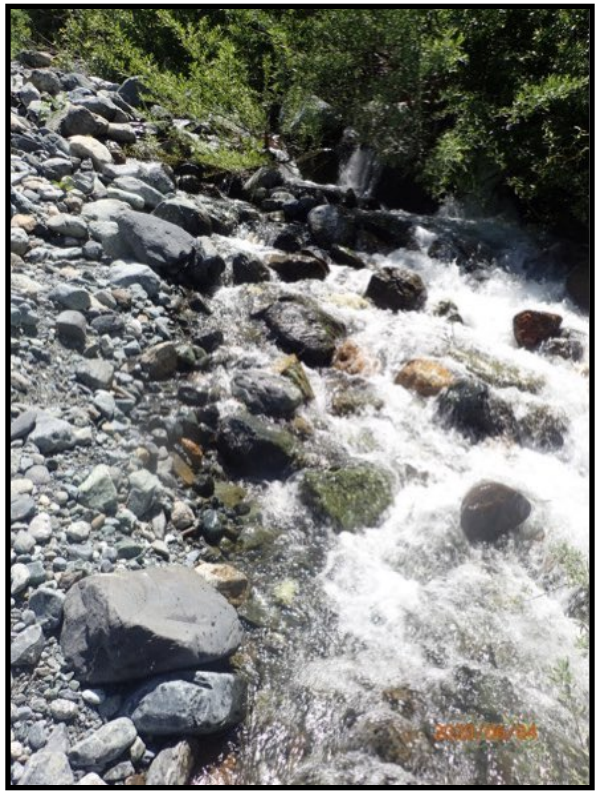
Before and after treatment (middle row)

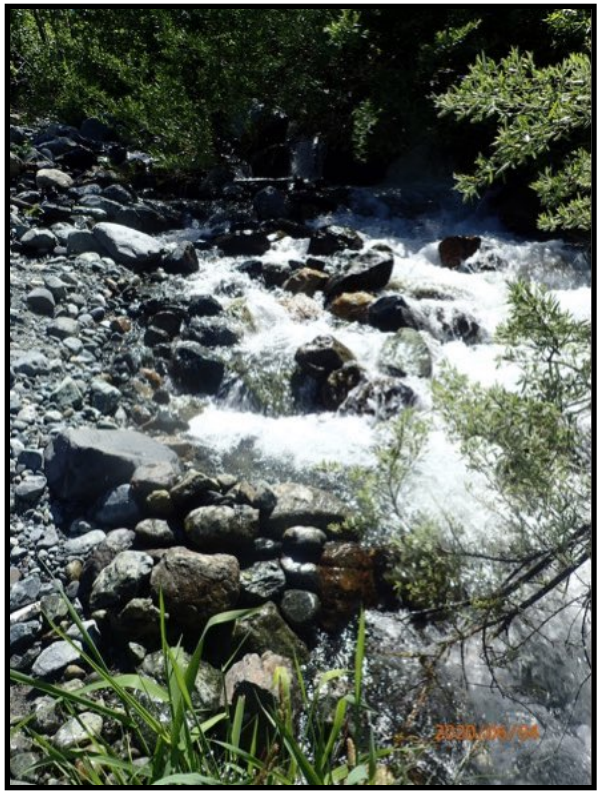
South Russian (2020)

Main channel (no treatment needed) and side channel (treated) (bottom row)

Stanshaw (2020)

Before and after treatment





Swillup (2020)

Before and after treatment

Thompson (2020)

Before and after treatment

Ti (2020)

Before and after treatment

Project Budget Template

PLEASE ENSURE YOU PROVIDE THE OVERALL PROJECT COSTS, AND HOW YOU INTEND TO SPEND THE FORUM'S CONTRIBUTION TOWARD YOUR OVERALL PROJECT

Name of Project: Mid-Klamath Tributary Fish Passage Improvement Project

Category	CFPF Funding Requested	Partner Contributions (cash)	Partner Contributions (in-kind)	Total	Budget Narrative
Salaries and Wages	$13,440.00			$13,440.00	Requested funds will be spent on wages of Field Crew (passage assessments, treatments, and monitoring), Program Manager and Program Assistant (coordination, planning, training, fieldwork, data management, and reporting), and Restoration Director (planning and oversight).
Employee Benefits	$4,435.20			$4,435.20	Requested funds will be spent on employee benefits such as paid time off, sick leave, retirement, worker's compensation
Supplies	$1,870.00		$2,240.00	$4,110.00	Requested funds will be spent on two wetsuits ($250 ea.), two pairs of stream boots ($100 ea.), field supplies such as flagging, thermometers, and work gloves (implementation and monitoring) , and office supplies such as paper and ink ($350) (data management and reporting). Additionally $820 will go towards computer/tablet rental and Garmin
Professional Services				$0.00	
Administrative Overhead	$6,603.10			$6,603.10	Requested funds will be spent on administrative costs (36.94% of Salaries and Wages)
Contracted Services	$18,000.00		$2,155.00	$20,155.00	Requested funds will be spent on contracting the Mid Klamath Watershed Council (MKWC) to provide field crews for passage assessments, treatments, and monitoring, and assissting with data entry and reporting. In-kind match consists of field supplies and equipment contributed by MKWC.
Travel	$840.00		$125.00	$965.00	Requested funds will be spent on vehicle fuel and maintenance (1,500 miles at $0.56/mile) for travel to sites (implementation and monitoring).
Match - NFWF (non-fed.)		$41,226.10		$41,226.10	Mid Klamath Coho Rearing Habitat Enhancement Project (Coho Enhancement Fund) - supplement the fish passage project with installment of brush bundles and woody debris for added cover and complexity in and around remediated sites, with a focus on enhancing thermal refugia zones used by rearing salmonids.
Total	$45,188.30	$41,226.10	$4,520.00	$90,934.40	