

R & E Grant Application 17-19 Biennium

Opal Springs Fish Passage Vaki Camera System

Project Information

| Requested Cycle: | 17-7 |
|----------------------|--|
| R&E Project Request: | \$120,295 |
| Other Funding: | \$0 |
| Total Project: | \$120,295 |
| Spending Start Date: | 3/1/2019 |
| Spending End Date: | 6/30/2019 |
| Project Start Date: | 3/1/2019 |
| Project End Date: | 3/1/2019 |
| Organization: | Deschutes Valley Water District (DVWD) |

Applicant Information

| Name: | Nuria Holmes |
|--------|------------------------------------|
| Email: | nuria.holmes@kleinschmidtgroup.com |

Past Recommended or Completed Projects

This applicant has no previous projects that match criteria.

Location Information

Where is it?

The project will occur on public land owned or managed by the applicant

Site Description

Street Address, nearest intersection, or other descriptive location.

Opal Springs Hydroelectric Project, RM 7.2 on Crooked River in Culver, Jefferson County, Oregon.

Directions to the site from the nearest highway junction.

From Culver, Oregon, head west on C Street (turns into Huber Lane), head south on SW Feather Dr, head west on SW Iris Lane, head south on SW Green Drive, head west on SW King Lane (Continue onto Lyons Drive). Head west on Kent Lane, south on Shamrock Drive until the intersection with SW Lasalle Lane. Access is through a very steep (25% grade) road. Would need to call ahead to have access to road. 4-wheel drive required.

Following project completion, public anglers will be allowed the following level of access to the project site:

Limited access

Please describe what leases, easements, agreements are in place to ensure angler access to the project site, and what is the length of each agreement.

There is access when the canyon is "open."

Dominant Land Use Type:

Forest Wetland

Project Location

| General Project Location. | |
|------------------------------|-----------------|
| County: | JEFFERSON |
| Town/City: | CULVER |
| ODFW Dist: | Deschutes |
| Stream/Lake/Estuary Name: | Crooked River |
| Sub-basin: | 17070305 |
| Tributary of: | Deschutes River |
| | |

Specific Project Location.

44.48104

Lonaitude

Project Summary

Project Summary

Please provide a couple sentence summary of the proposal.

Fish ladder will benefit from Vaki camera system to monitor and improve fish passage by using a infrared scanner and fish counter remotely. PIT tag reader will capture data that will help

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inform larger fish habitat monitoring for the basin on a whole. See lengthy response in Supplement 1 12-17-18.

Overall Project Goals

Describe the primary goals or outcomes of the entire project, including elements not requesting funding from R&E.

Construct a fish ladder to provide u/s and d/s passage into the spawning, rearing, and foraging habitats of the Crooked River for adult anadromous summer Steelhead, spring Chinook, and bull trout. Reconnect populations of native redband trout.

Raise the maximum operating elevation of the project reservoir.

Establish a water credit system known as the Bypass Flow Accrual Account (BFAA) that will serve as both attraction flow for adult fish that may be holding in the Project's tailrace, and as alternative passage for downstream migrants.

Upon completion of the fish passage facilities, continuously monitor the passage of adult fish >12" in length through the fish ladder for the term of the amended license.

Identify and enumerate fish migrating through the fish ladder using video, electronic counter and/or adult trapping as determined by the FPWG, to identify species, passage date, and passage time.

Primary objectives of R&E funding

Please describe the measurable objectives for the R&E portion of the funding request. Vaki camera system/PIT tag reader will be used to count fish and assess fish ladder

performance against Performance Standards laid out in Settlement Agreement and FERC License for project.

Vaki camera system/PIT tag reader will be used to identify and enumerate fish migrating through the fish ladder using video, electronic counter and/or adult trapping as determined by the FPWG, to identify species, passage date, and passage time.

Current Situation/Justification

Please describe the current situation and explain why this funding is needed.

There is currently no fish ladder at Opal Springs. In the summer of 2018, construction began on an upstream and downstream fish ladder that would provide fish passage. In order to meet Performance Standards that were established in cooperation with state and federal agencies, the Vaki system will be utilized to keep track of fish passage so that fish passage can be measured.

Recreation and Commercial Benefit

This project will provide benefits to: Recreational fisheries Commercial fisheries

Explain how this project will contribute to current (and/or potential) fishing opportunities, access, or fisheries management.

The river reach above Opal Springs has been classified as Wild & Scenic from the National Grassland Boundary to Dry Creek since 1988. This river reach is approx. 17.8 miles and is considered a Blue Ribbon native redband trout fishery. With the lack of fish passage at Opal

Springs since the 1980s, trout fishing in this W&S Blue Ribbon reach has declined as trout populations were limited. In is anticipated by opening the project for fish passage, redband trout will be able to freely migrate and return to the waters above Opal Springs.

Percent benefit split between Commercial and Recreational anglers:

50 % Commercial

50 % Recreational

Please explain, or justify, how the percentage split was determined:

This could turn into a revived year-round recreational fishing opportunity for both commercial and recreation anglers since redband trout migrate in the spring, and fall and winter would bring Chinook and Steelhead. The increase in the abundance of fish above Opal Springs would likely increase the number of jobs and economies based around fishing tours, recreational activities, guided trips and camping/concessions along the Crooked River.

This project has been identified as an ODFW priority for:

Local/watershed Basin/regional Statewide

Does this project directly support implementation of the ODFW Strategic Plan and/or current Fish Division priorities?

Please briefly explain when this was identified as a priority and what process or workgroup was used to identified this as an ODFW priority.

Identify any plan or other document that identifies this priority.

ODFW 2013 Fish Passage Priority List: Passage at Opal Springs is the No. 2 fish passage project for ODFW.

https://www.dfw.state.or.us/fish/passage/docs/2013_Statewide_Prioritization_List.pdf

ODFW Crooked River Fish Management Plan (1996) https://nrimp.dfw.state.or.us/nrimp/information/docs/fishreports/Crooked%20River%20Basin%2 0Plan%201996%20Final.pdf (page 43)

Settlement Agreement Fish Passage Protection Plan available on FERC eLibrary https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=14011305

FERC License Amendment May 2018 (Article 48) https://elibrarybackup.ferc.gov/idmws/common/opennat.asp?fileID=14913160

Is this project part of an approved Salmon-Trout Enhancement Program (STEP) activity? No

This project is intended to benefit the following species:

Other Fish Species Bull Trout; Native Redband Trout Spring Chinook Salmon Summer Steelhead

This project will benefit anglers or fishery by providing: Fish Passage

<u>Fish Passage</u>

This fish passage project will:

Add a fishway/passage structure We have contacted or have been working with: ODFW fish passage staff ODFW has been contacted The project has received approval

Project Description

Schedule

| Activity | Date | RE Funding |
|---|-------------------------------|------------|
| Complete Incremental Design from Value Engineering Efforts | January-March 2017 | No |
| Final Engineering Design | July-September 2017 | No |
| Update of NEPA documents and Re-initiate FERC Process | July-September 2017 | No |
| Update Dam Safety Submittals | October-December 2017 | No |
| Finalize permitting (state remove/fill, USACE) | October-December 2017 | No |
| Engineering Services (during Construction) | June 2018 to November 2019 | No |
| Construction Management on-site: DVWD will engage a third party to act as intermediary between the contractor and the project designer. This is a standard practice, encouraged by FERC to ensure | June 2018 to November 2019 | No |
| Construction | June 2018 to November 2019 | No |
| Vaki camera system installation | Spring - Summer 2019 | Yes |

Permits

| Permit | Secured? | Date Expected |
|---|----------|---------------|
| Army Corps/DSL 401 Permit | Yes | |
| Wild and Scenic River Act Boundary Determination | Yes | |
| FERC License Amendment | Yes | |
| Department of Interior/Oregon SHPO | Yes | |
| USFWS/ESA Biological Opinion | Yes | |
| NMFS/Conference Opinion | Yes | |
| Oregon DEQ Water Quality Certificate | Yes | |
| DSL Permit | Yes | |
| Pacific Northwest Power Planning and Conservation Act | Yes | |
| DVWD/ BIA/ BLM/ FWS/ NMFS/ ODFW/ TU Settlement Agreement | Yes | |
| Fish Agencies – FERC Approvals | Yes | |
| BLM/FERC Right-of-Way Project Delineation | Yes | |
| Magnuson-Stevens Fishery Conservation and Management Act | Yes | |

Project Design and Description

Please describe in detail the methods or approach that will be used to achieve the project objectives. The licensee shall, for the duration of the three 5-year Performance Assessment Intervals identified in the Adaptive Management Program, or until any 5-year Performance Assessment Interval demonstrates that the 97% upstream fish passage Performance Goals have been met for adult steelhead and Chinook salmon, monitor adult steelhead and Chinook salmon passing through the lower Crooked River, Project tailrace, bypass reach, fish ladder, and diversion pool (either as upstream migrants or fish that fall back after passing upstream using the ladder). The licensee shall calculate the percent passage success for adult steelhead and Chinook salmon as the number of fish that passed upstream through the fish ladder and diversion pool, minus

any fish killed during fallback, divided by the number that entered the Project tailrace (after subtracting fish known to have exited the Crooked River or to have spawned successfully below the Project). The licensee shall monitor upstream fish passage performance during the initial 5year Performance Assessment Interval using radio-telemetry. For radio-telemetry, the licensee shall monitor at least 25 radio-tagged adult salmon (adult steelhead, adult Chinook salmon, or a combination of adult steelhead and Chinook salmon), annually. Should the FPWG make a determination that fewer than 25 radiotagged adult steelhead and Chinook salmon are expected to enter the Crooked River from downstream radio-tagging studies during any annual monitoring period, the licensee shall radio tag a sufficient number of adult steelhead and Chinook salmon. if available from a trap located within the Project fish ladder, to make up the anticipated short fall. Once the licensee has demonstrated, through the results of any of the 5-year Performance Assessment Intervals, that the 97% upstream fish passage Performance Goals for adult steelhead and Chinook salmon have been met, upstream fish passage performance assessment monitoring shall be limited to a one year fish passage performance monitoring assessment every five years to determine if the goals are continuing to be met. If the upstream fish passage Performance Goals for adult steelhead and Chinook salmon fall below the required fish passage Performance Goals, as determined by a one year fish passage performance monitoring assessment, the licensee shall resume annual monitoring assessments and Adaptive Management as described in the amended license.

Engineering

Does the project involve capital improvement, engineering, site grading or other construction? Yes

Not associated with ODFW

Project Management and Maintenance

What is the life expectancy of R&E funded construction, structures, equipment, supplies, data or fishery?

At the very minimum, the plan is the for the system to operate through the license expiration (2032), however, it is expected that the Vaki system will be operated as long as the fish ladder is in existence. A project of this magnitude is expected to last 50+ years.

Who is responsible for long term management, maintenance, and oversight of the project beyond what is funded by R&E.

Deschutes Valley Water District (DVWD) operators, on-site engineers, construction contractor and a third-party construction management company at the project will be responsible for the oversight of the installation of all fish ladder related components. Repairs will be the responsibility of DVWD and its operators. The VAKI Riverwatcher (Maintenance Manual) is attached.

Will the project require ongoing maintenance?

Yes

On-going maintenance would be conducted based on engineering considerations, and would also occur on an as-needed basis.

Is there a plan to collect baseline data and to conduct monitoring efforts to measure the effectiveness of the project?

Yes

There has been a trap operated at the project since 2012, however, the data collected with the

new fish ladder and Vaki system will be inform fish passage effectiveness of the new ladder. 2019 will serve as the "baseline" year.

Project Funding

Funding

Have you applied for OWEB funding for this project? No

Has this proposal, or similar proposal for this project location, previously been denied by OWEB or other funding source?

[{"source":"","type":"Cash","secured":"Pending","dollarValue":0,"comments":""}]

| Other Funding Source | Туре | Secured | Dollar Value | Comments |
|----------------------|------|---------|--------------|----------|
| | | Total | 0 | |

Budget

| Item | Unit Number | Unit Cost | In-kind or non- cash contributio <u>ns</u> | Funding from other sources | R&E Funds | Total Costs |
|--|-------------|-----------------|--|----------------------------|-----------|-------------|
| PROJECT MANAGEMENT | | | | | | |
| | | | 0 | 0 | 0 | 0 |
| | | SUBTOTAL | 0 | 0 | 0 | 0 |
| IN-HOUSE PERSONNEL | | | | | | |
| | | | 0 | 0 | 0 | 0 |
| | | SUBTOTAL | 0 | 0 | 0 | 0 |
| CONTRACTED SERVICES | | | | | | |
| Camera Riverwatcher. Includes: IP Camera, multiplexer, IR/white lights, cables, computer, software, scanner, AFC camera tunnel, and remote connectivity). | 1 | 78485.00 | 0 | 0 | 78485 | 78485 |
| Shipping and Handling | 1 | 3500.00 | 0 | 0 | 3500 | 3500 |
| PIT Tag Reader/Antenna | 1 | 21420.00 | 0 | 0 | 21420 | 21420 |
| Training and Initial Support (40 hours) | 1 | 16890.00 | 0 | 0 | 16890 | 16890 |
| | | SUBTOTAL | 0 | 0 | 120295 | 120295 |
| TRAVEL | | | | | | |
| | | | 0 | 0 | 0 | 0 |
| | | SUBTOTAL | 0 | 0 | 0 | 0 |
| SUPPLIES/MATERIALS | | | | | | |
| | | | 0 | 0 | 0 | 0 |
| | | SUBTOTAL | 0 | 0 | 0 | 0 |
| EDUCATION/OUTREACH | | | | | | |
| | | | 0 | 0 | 0 | 0 |
| | | SUBTOTAL | 0 | 0 | 0 | 0 |
| EQUIPMENT | | | - | | | |
| | | | 0 | 0 | 0 | 0 |
| | | SUBTOTAL | 0 | 0 | 0 | 0 |
| FISCAL ADMINISTRATION | | | | | | |
| | | | 0 | 0 | 0 | 0 |
| | | SUBTOTAL | 0 | 0 | 0 | 0 |
| | | BUDGET TOTAL | 0 | 0 | 120295 | 120295 |

Internal Review Results

Review Score: 0.1 out of 3 (0 = Do Not Fund, 1 = Strengthen Proposal, 2 = Recommend, 3 = Strongly Recommend)

Summary of Review Team Comments

While improvements at Opal are very important, this request was not supported, as proposed, by the review team. The team felt the applicant did not demonstrate value to the angler beyond the improved passage already in place or justify the reason that anglers should pay for this system. Monitoring of the passage improvements was made a requirement by ODFW and others, as such should be an obligation of the operator. ODFW has already invested a lot of money into this project and based on the information in the application, the team did not see why we should invest more. Review scores included: eight 0s and one 1.

Specific Review Team Comments

The monitoring associated with the fish passage at Opal Spring Dam is a requirement and should remain the responsibility of DVWD or with PGE to appropriately monitor their fish reintroduction project. PIT tagging is already occurring through PGE, at this time. Why are no funds being contributed for this monitoring from these entities?

How does monitoring the ladder for operational parameters benefit anglers, and how did this become the responsibility of anglers? The benefit to anglers has already been realized with the improved passage. This is not an ODFW responsibility, it should be DVWD's responsibility.

This request demonstrates the typical situation for large-scale projects: funding is available for implementation, but not monitoring.

This is a needed piece of equipment and should be installed. However, this may not be appropriate for R&E funding.

If ODFW is being asked to pay for 100% of this equipment, it seems like it should belong to ODFW.

There is district support for this request.

Specific Review Team Questions

On page 6, it states the "system (passage) expected to last through license expiration (2032)". What it the life expectancy of the Vaki system?

Does trapping not provide the needed information?



Budget Information

Vaki Camerasystem Quote

Maps

Project Map

Photos

| Photo 1 | Powerhouse |
|---------|------------------------------------|
| Photo 2 | Springs |
| Photo 3 | Upstream |
| Photo 4 | Upstream 2 |
| Photo 5 | Upstream 3 |
| Photo 6 | Construction Photo - Fish Ladder 1 |
| Photo 7 | Construction Photo - Fish Ladder 2 |
| Photo 8 | Construction Photo - Fish Ladder 3 |

Design Information

Design Drawings4267008-100-02-24x36 Design Drawings4267008-300-01-24x36 RW tunnel - Short_Sheet_1 RW tunnel - Short_Sheet_2

Management Plans and Supporting Documents

2013 Fish Passage Priority List Crooked River Basin Plan 1996 Final FERC License P-5891 Supplement 1

Responses to IRT Comments/Questions

Permits and Reviews

Partnerships

Public Comment

Administrative Documents Signature Page

district support letter

Signature Page_Edson Pugh

Map image of project location

Completion Report

A completion report has not been submitted for this project.