



# R & E Grant Application 21-23 Biennium

Project #: 21-023

## Ochoco Preserve Restoration - Phase 1

### Project Information

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**Requested Cycle:** 21-3  
**R&E Project Request:** \$101,092  
**Other Funding:** \$1,646,204  
**Total Project:** \$1,747,296  
**Spending Start Date:** 4/1/2022  
**Spending End Date:** 12/30/2022  
**Project Start Date:** 2/1/2022  
**Project End Date:** 12/30/2022  
**Organization:** Deschutes Land Trust (Tax ID #: 93-1186407)

### Fiscal Officer

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**Name:** Pat Cohen  
**Address:** 210 NW Irving Avenue Suite 102  
Bend, OR 97703  
**Telephone:** 541-330-0017  
**Telephone 2:**  
**Fax:**  
**Email:** pat@deschuteslandtrust.org

### Applicant Information

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**Name:** Jason Grant  
**Address:** 210 NW Irving Avenue Suite 102  
Bend, OR 97703  
**Telephone:** 541-330-0017  
**Email:** jason@deschuteslandtrust.org

### Past Recommended or Completed Projects

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This applicant has no previous projects that match criteria.

### Authorized Agent

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**Name:** Tim Porter  
**Address:** 2042 SE Paulina Highway  
Prineville, OR 97754  
**Telephone:** 541-447-5111 x24

**Email:** [timothy.k.porter@odfw.oregon.gov](mailto:timothy.k.porter@odfw.oregon.gov)

## **Location Information**

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### **Where is it?**

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

### **Site Description**

*Street Address, nearest intersection, or other descriptive location.*

3041 NW Madras Hwy.  
Prineville, OR 97754

*Directions to the site from the nearest highway junction.*

Head west on U.S. Hwy 26 from the junction of U.S. Hwy 126 and U.S. Hwy 26 in Prineville, OR; continue west on Hwy 26, in 2 miles the destination will be on your left.

*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.*

Currently, there are no agreements in place to ensure angler access. The Deschutes Land Trust, the City of Prineville, and local ODFW staff will discuss future angler access to Ochoco Preserve from the City of Prineville's property across the Crooked River. Regardless, angler access can not occur prior to the completion of all restoration and access point construction at Ochoco Preserve (estimated to be completed by the end of 2024). If needed, an access agreement will be completed at that time. There is no angler access associated with Phase 1 restoration (this request).

*Dominant Land Use Type:*

Cropland

### **Project Location**

*General Project Location.*

**County:** CROOK  
**Town/City:** Prineville  
**ODFW Dist:** Deschutes  
**Stream/Lake/Estuary Name:** McKay Creek  
**Sub-basin:** 17070305  
**Tributary of:** Crooked River

*Specific Project Location.*

Latitude	Longitude
44.32831	-120.89603

## **Project Summary**

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### **Project Summary**

*Please provide a couple sentence summary of the proposal.*

We seek to maximize fish and wildlife habitats on Ochoco Preserve via a multi-phased, multi-year restoration project. This proposal focuses on smolt acclimation pond construction, as part of Phase 1 implementation on McKay Creek, in order to aid in the effort to reintroduce spring chinook salmon and summer steelhead.

### Overall Project Goals

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

Reestablish aquatic and upland ecological processes to the maximum extent possible.

Construct aquatic and floodplain habitats that promote chemical and physical processes.

Establish and maintain naturally appearing acclimation ponds on McKay Creek and Ochoco Creek in order to acclimate spring chinook salmon and summer steelhead smolts prior to release.

Provide public access in strategic locations by way of constructed interpretive trails and footbridges that connect to the City of Prineville's Crooked River Wetlands Complex.

### Primary objectives of R&E funding

*Please describe the measurable objectives for the R&E portion of the funding request.*

Excavate approximately 6,000 square feet (1,111 cubic yards of material) to an average depth of about 4 feet in order to establish the acclimation pond in a side channel of McKay Creek.

Remove, haul, and grade about 15,074 cubic yards of material in the area around the acclimation pond in order to establish functional floodplain surfaces.

Construct adjacent stream channels and channels leading in and out of the acclimation pond by removing, hauling, and grading around 438 cubic yards of material.

Build at least three post-assisted log structures in stream channels in and around the acclimation pond.

Construct one beaver dam analogue at the entrance, and one at the outlet of the acclimation pond in order to maintain the desired average pond depth and surface area.

### Current Situation/Justification

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

Ochoco Preserve (Preserve) has been operating as a farm since the 1960s, with about 127 acres of land devoted to raising alfalfa and grass hay for livestock (farming is no longer occurring within the Phase 1 project boundary). Oxbows and wetlands were filled, streams were relocated, straightened, and diked to facilitate agricultural production. As such, existing stream, wetland and floodplain ecological and physical processes are diminished.

The Preserve's potential for stream and floodplain restoration is substantial, as it contains about a mile of the Crooked River, and the lower half of a mile of both McKay and Ochoco creeks, including the confluences of each with the Crooked River. In particular, proposed restoration will create habitats required by all life stages of reintroduced spring chinook salmon and summer steelhead. Restoring the Preserve will be complicated and expensive. For each phase of restoration, including Phase 1, multiple funding sources will be required. This proposal focuses on funding the acclimation pond in Phase 1 and the surrounding floodplain and uplands;

however, these funds will aid in the overall effort to restore McKay Creek and its surrounding floodplain by funding a specific part of the project, thereby allowing other funds to be used elsewhere.

*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.*

There are several ways that this project will contribute to increased opportunities for anglers. First, resident rainbow/redband trout are present in McKay Creek and the Crooked River. Additional stream length, hyporheic/groundwater interactions, habitat structures, and habitat types will allow for increased production and survival of these fish, thereby increasing angler encounters in the main stem Crooked River. Second, smolt acclimation decreases the probability of straying. Therefore, the proposed acclimation pond increases the probability that returning adult summer steelhead will swim through the fishery on the lower Deschutes River. As a result, additional angler encounters with these fish may occur. Lastly, returning adult spring chinook salmon derived from the proposed acclimation pond have the potential to add to commercial harvests in the mainstem Columbia River.

*Percent benefit split between Commercial and Recreational anglers:*

10 % Commercial  
90 % Recreational

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

Potential increases in survival and production of both resident and anadromous fish from the acclimation pond and overall the Phase 1 restoration will provide benefits to both recreational and commercial anglers. The heavily skewed percentage split in favor of benefits to recreational anglers stems from the prediction that angler encounters with resident redband/rainbow trout in the mainstem Crooked River and angler encounters with returning reintroduced summer steelhead adults swimming through the lower Deschutes River fishery will, more than likely, occur much more frequently than encounters with reintroduced spring chinook adults in the commercial fishery in the lower Columbia River.

*This project has been identified as an ODFW priority for:*

Basin/regional

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

Yes

This proposal aligns with the overarching goals of the ODFW Strategic Plan. Particularly, goals that are most aligned include effective stewardship of resources managed by ODFW and increased diversity and enjoyment of those resources. Proposed project actions ensure that resources are stewarded for the benefit and enjoyment of the public.

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

Smolt acclimation has been identified by ODFW staff as an important aspect of reintroduction in order to increase the number of returning adults. As part of the Fish Committee (set up as part

of dam relicensing), ODFW prioritized the need for constructing an acclimation site in the Crooked River watershed.

*Identify any plan or other document that identifies this priority.*

<https://prbfishcommittee.com/prbfc-roadmap/>

Click on "L" in the roadmap for details (PDF attached)

Acclimation (this project) is considered to be part of reintroduction adaptive management

*Is this project part of an approved Salmon-Trout Enhancement Program (STEP) activity?*

No

*This project is intended to benefit the following species:*

Spring Chinook Salmon

Summer Steelhead

Rainbow Trout

*This project will benefit anglers or fishery by providing:*

Habitat Enhancements

Hatcheries/Propagation/Liberation

#### Habitat Enhancements

*The primary purpose of this project is to improve/increase:*

In water structure, complexity, and habitat

Wetland - restoration or creation

Planting or vegetation management

#### Hatcheries/Propagation/Liberation

*Hatchery Name:*

Wizard Falls/Fall River (adults collected at Round Butte Hatchery)

*This is a:*

State hatchery

*As a result of this request hatchery production will:*

Maintain

*This project will:*

Add new or upgrade production/acclimation facilities/capacity.

*Fish produced at this facility are for:*

Mitigation

### ***Project Description***

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#### Schedule

Activity	Date	RE Funding
Mobilization and Project Layout - Equipment and project supplies delivered; staking and ground marking project elements	02/2022-3/2022	No
Cut, fill, and shape landscape features - Excavate, haul, place and blend earthen materials to produce desired landscape features including the acclimation area	04/2022-11/2022	Yes

Fish salvage - Remove, transport and release fish from the existing channel in cooperation with ODFW and other project partners	07/2022	No
Wood structure construction - construct wood structures throughout project area, including the acclimation pond	04/2022-10/2022	Yes
Seeding, planting, and mulching - Using native species, plant, seed, and mulch the entirety of the disturbed area, including the acclimation area	10/2022-12/2022	Yes

### Permits

Permit	Secured?	Date Expected
Nationwide Permit No. 27 - (USACOE/USFWS) - Federal programmatic permit covering instream work	Yes	
Oregon Department of State Lands - Removal/Fill below ordinary high water	Yes	
Crook County - Site Plan Review, Land Use	Yes	
ODFW - Passage Plan for Beaver Dam Analogue and Post Assist Log Structures	Yes	
National Historic Preservation Act Section 106 - compliance	Yes	
National Environmental Policy Act (NEPA) - compliance	No	03/2022
Endangered Species Act - compliance, no effect letter	Yes	
401 Water Quality Certification	Yes	

### Project Design and Description

*Please describe in detail the methods or approach that will be used to achieve the project objectives.*

Ochoco Preserve was identified by upper Deschutes basin fisheries professionals as critical for stream and floodplain restoration in order to aid in the regional effort to reintroduce spring Chinook salmon and summer steelhead upstream of the Pelton Round Butte Hydroelectric Complex. Tens of millions of dollars have been spent on this reintroduction effort upstream of the dams and this project is vital for the long-term establishment of anadromous fish populations in the Crooked River basin. Therefore, one primary goal of this project is to benefit the watershed by reestablishing ecological processes and maximizing fish and wildlife habitats in, and along McKay Creek. In its current form McKay Creek is channelized and functions much like an irrigation ditch, where water drains quickly through the Preserve with little floodplain access. In order to remedy this condition, per engineered restoration designs, the main stem of McKay Creek will be more than doubled to a length of about a mile, about three-quarters of a mile of side channels will be constructed, at least 48 wood structures will be installed (using guidance from ODFW/ODF 2010), and about 11 acres of floodplain and 5 acres of wetland will be created.

Partner engagement and participation has been integral to formulating the engineered restoration design for this project. With regards to this funding request, fisheries management partners communicated to the Deschutes Land Trust the need for a location to acclimate spring Chinook salmon and summer steelhead smolts. Early in the design process we were able to identify that location in this phase of restoration. An acclimation pond will be located adjacent to McKay Creek with inflow from a side channel of McKay Creek and outflow returning to the main stem of McKay Creek. The inflow and outflow will be hydraulically controlled by beaver dam analogue structures. These structures will be constructed by driving vertical posts into the ground using a vibratory post pounder or excavator bucket. Willow cuttings will be woven in between these vertical posts, thereby mimicking a beaver dam. GPS controlled devices may be used during construction in order to ensure elevational and longitudinal integrity. Pond dimensions are similar to those identified in BPA 2017, where approximately 50,000 spring chinook salmon and 50,000 summer steelhead may be acclimated at any given time, dependent upon smolt size at the time of acclimation. Further, in order for the pond to function appropriately, the surrounding floodplain, uplands, wood structures, and side channels must be constructed per the engineered design. These elements will be constructed using heavy equipment such as excavators, bulldozers, scrapers, and haul trucks. Wood structures, or post-assisted log structures, will require vertical untreated posts to be installed with the same method

as the previously mentioned analogue structures. Lastly, this area surrounding the pond will be mulched to prevent surface erosion, seeded and planted with native vegetation.

#### References\*:

BPA (Bonneville Power Administration). 2017. Upper Columbia Spring Chinook and Steelhead Acclimation Program: Final Environmental Assessment. July 2017. DOE/EA-1998.

ODFW/ODF. 2010. Final Draft – Oregon Guide to Placement of Wood, Boulders and Gravel for Habitat Restoration.

\*Additional references related to all aspects of restoration design are available upon request

#### Review Team Comments and Responses:

\*Project seems to be an important habitat restoration component of the reintroduction efforts and is supported by FIP Partnership that ODFW belongs to and has local support from ODFW staff.

Response (by ODFW and the Land Trust): This is one of the few, most protected, and best geographically situated locations in the Crooked River basin to acclimate smolts. Therefore, ODFW requested that acclimation be included as part of the restoration plan, and the Land Trust graciously agreed. Discussion ensued about how to include acclimation while still meeting the Land Trust's vision of an ecologically functioning, restored Preserve. All partners agreed that an acclimation pond, within a constructed side channel of McKay Creek, would work best in this scenario.

\*The applicant should more directly spell out how this project and fish produced/acclimated at it fit in the context of production in the Deschutes basin. This might provide a clearer connection to the overall benefit to anglers.

Response (by ODFW and the Land Trust): The project, as a whole, will restore severely lacking spawning and rearing habitat for native redband trout and reintroduced spring Chinook salmon and summer steelhead. The portion of the project where R&E funding will be used, the acclimation pond, is an extremely important location for ODFW and partners to acclimate spring Chinook salmon and summer steelhead smolts. Without this location, acclimation in the Crooked River basin will be severely limited due to a lack of secure locations with easy truck access and locations that will allow for the acclimation of a significant number of smolts. The acclimation pond is located in an area that will encourage returning adult salmon and steelhead to move into the upper portion of the reintroduction area, either in the Crooked River, McKay Creek, or Ochoco Creek, where better spawning and rearing habitat exists. The overall goal of the reintroduction program is to restore natural, self-sustaining populations of spring Chinook salmon and summer steelhead leading to future angler harvest opportunities. Proposed acclimation provides the opportunity for a significant number of smolts to imprint on, and return to, restored habitat reaches within the project, or suitable reaches above. Overall, this helps to improve the chances of a successful reintroduction program leading to multiple benefits to anglers.



\*Currently it comes across more as "this is an important site" but there is limited context of what this project means to the fishery as a whole.

Response (by ODFW and the Land Trust): Currently, there is no fishery in the upper Deschutes basin for spring Chinook salmon or summer steelhead. Building this acclimation pond improves the chances of a successful reintroduction program because released smolts will be imprinted on the area. This success could lead to increased angler opportunities for these anadromous fish in lower Deschutes River fishery, as well as in the upper Deschutes River basin should reintroduction be successful. The benefits of habitat restoration from the proposed project could lead to increased production and abundance of native, resident redband trout, thereby increasing the number of fish available to anglers in the Crooked River basin.

\*This is private land and proposed public access seems centered on natural resource interpretation/nature walks. Future angler access is not guaranteed. Applicant should explain how future angler access could be incorporated if R & E funding is awarded.

Response (by ODFW and the Land Trust): This project should lead to increases in recreational fishing opportunities by enhancing natural fish production, but not necessarily lead to an increase in angler access to the project location. For the safety of acclimating smolts and the protection of spawning adults and rearing juveniles in restored habitats, the district (ODFW) would not be supportive of increasing angler access to the project location at this time. Perhaps we could discuss angler access in the future when resident and anadromous fish populations are stronger and self-sustaining. The Preserve is located across the Crooked River from the City of Prineville's Crooked River Wetland Complex. Currently, anglers have access to the river on the wetland complex side. The most important aspect of this project is to increase the number of anadromous and resident salmonids that will be available to anglers throughout the area.

\*This is an innovative way to incorporate an acclimation site, but the application was lacking adequate detail on the proposed design. Beaver dam analogs may not be the correct application for a water control structure as they start to degrade immediately after they are installed. The applicant needs to much more clearly demonstrate how this alternative was selected and how it will be maintained as a water control structure.

Response: The restoration design process began in 2020, starting with three conceptual design alternatives that were reviewed by all project partners. Early on, conversations between ODFW, PGE and the Confederated Tribes of Warm Springs were conducted to determine the best way to incorporate smolt acclimation as part of restoration designs. It was important to the Land Trust and other partners to not have concrete or other permanent facilities constructed on the Preserve. The restoration design firm had previously worked on acclimation pond documentation for the Yakama Nation in Washington. Upon review of the ponds they use, it was determined that the design engineer could design something similar on McKay Creek as part of Phase 1 restoration. The use of beaver dam analogues was selected in order maintain the water surface elevation of the acclimation pond for a several reasons. First, when compared to other hardened water control structures they are relatively inexpensive to construct. Second, the Land Trust and other Deschutes Basin partners have experience installing these structures. For example, a pilot BDA project on Land Trust property in Whychus Creek near Sisters, Oregon

has performed well. The objectives of increasing water depth and inundation in the side channels where the BDAs have been installed continues to be achieved. Lastly, the 2-D hydraulic model that was completed as part of the design shows that the proposed depth and velocity of the pond remains desirable with typical seasonal flows in McKay Creek. The Land Trust has had many conversations with local ODFW staff and PGE regarding the maintenance of BDA structures. All parties understand that the BDA structures will require ongoing maintenance (see attached email PDF from PGE). As weaved willow stakes break down over time, the Land Trust and those partners will harvest willow stakes from the Preserve (or other Land Trust properties) and maintain the BDAs, as needed. Further, the Land Trust has an army of eager volunteers that we will use to help with ongoing acclimation pond maintenance. Some of our volunteers already have experience constructing BDAs. Additionally, vertical posts can be easily acquired and the equipment used to install them is owned by in-basin partners. When the time comes to replace vertical posts, the Land Trust is willing to purchase and install them in cooperation with project partners.

\*Why was an off-channel acclimation pond that is less expensive, easier to maintain, and potentially more reliable not selected?

Response: The proposed acclimation pond is the most effective approach with regards to implementation costs and maintenance activities. As previously mentioned, this design fits with the Land Trust's vision for the Preserve and was agreed upon by project partners after extensive discussions during the conceptual design phase. The design focuses on creating an off-channel acclimation pond that optimizes flows from the main channel to ensure water levels are appropriate for smolt acclimation. As mentioned above, similar acclimation sites have been implemented in the Columbia basin. In addition, ODFW and PGE have been acclimating smolts using net pens (live cars) in ponds at other locations in the upper Deschutes basin. This proposed off-channel acclimation pond improves on those efforts.

\*This in stream acclimation pond with beaver dam analogue seems like an experimental design with the potential for risk of the long-term viability and these large investments.

Response: This is not an experimental design, rather it builds off of similar acclimation pond designs elsewhere in the Columbia basin. The risk to long-term viability of this pond design is much lower than risks, investments, and maintenance costs for other types of acclimation infrastructure. For the proposed pond there are two risks with lower upfront investments and lower long-term maintenance costs: 1) Limited flows and eventual sedimentation of inflows into off-channel area; 2) Flood flows result in BDA loss and bank erosion and scour. For either risk, maintenance would likely only require limited materials (e.g., willow branches and posts) and hand equipment to repair the off-channel inlet and pond. Specifically, hand tools can be used to address sedimentation, improve inflow, and repair BDAs. The risk for bank erosion and scour is extremely low, as the velocities and shear stresses under proposed conditions are low enough to limit extents and sizes of erosive forces. The slopes of the inlet channel are low (between 0.4 and 0.7%, with bank slopes between 4:1 and 8:1) and erosion would likely only occur at flows greater than a 500-year flood event. Regardless, if undesirable bank erosion or scour occurs, the Land Trust and project partners will install additional post-assisted log structures (comprised of willow branches and vertical untreated posts) in order to protect eroded areas and redirect flows to the center of the pond to maintain acclimation suitability.

\*How are these going to be maintained into the future once the willow cutting rot out and start to spill sediment/water? Who will fund and do the maintenance work? Will maintenance work be possible with site recovery (vegetation growth) and conservation easements, etc.?

Response: The maintenance of acclimation pond BDAs is explained in a response above. The maintenance of the BDAs will be funded by the Land Trust, ODFW (Pelton Round Butte Mitigation Coordinator) and PGE (see attached email PDF from PGE). As stated above, Land Trust volunteers will play a role in future BDA maintenance. The Land Trust and project partners look forward to project site recovery with regards to physical and biological processes, including the growth of native vegetation. The recovery of the site will not conflict with the maintenance of the acclimation pond. The Land Trust and project partners understand that, over time, vegetation in and around the pond may need to be managed in order for it to properly function for acclimation. The Preserve is owned by the Land Trust with conservation easements held by OWEB. There are no conflicts with the conservation easements, as installing and maintaining a functional acclimation pond are part of the OWEB Management Plan for the Preserve.

\*Please explain the background information and design considerations that assure an excavated acclimation pond will sufficiently hold water.

Response: As previously described, pond design was based on partner comments during the conceptual design phase, the Land Trust's vision for the Preserve, and mimicking similar acclimation pond designs in the Columbia basin. Design criteria were developed based on those elements. Thus, pond dimensions were developed in AutoCAD Civil 3D. Pond design was combined with hydrologic analysis and incorporated into 2-dimensional hydraulic modeling and iterative analyses to evaluate the dimensions. Through this modeling, the dimensions were confirmed to meet acclimation objectives under worst case scenario low flows and high peak flows. The BDAs were then incorporated to further limit risks and ensure water surface extents and elevations were maintained. Based on the design and modeling, the pond will hold water and function as intended. To further evaluate potential losses or gains to groundwater, existing groundwater well logs were reviewed and checked against the bottom elevations of the pond. As an additional measure to ensure the inlet channel will hold water immediately post-construction, the construction specifications call for "washing in" fines until surface water ponding occurs. This is a typical channel construction measure to ensure that post-construction flows in new channels do not go subsurface.

\*The location of this acclimation pond appears to be in an alluvial fan or depositional area at the confluence of multiple streams. Please explain the background information and design considerations that will ensure water will continually flow to the location of the acclimation pond once natural stream flows and processes are allowed to develop in the restored section of stream.

Response: The location of the acclimation pond is not in an alluvial fan. The existing McKay Creek channel slope is 0.6% and is not a depositional area. The proposed main channel slope of McKay Creek is around 0.3%. The location of the acclimation pond has a channel inlet at a slope of between 0.4 and 0.7%. Based on the design and modeling described above, the acclimation pond will receive flows once stream and floodplain processes are restored. The pond design mimics natural stream processes, but is maintained by flow from the inlet channel

and the dimensions and elevations at the outlet.

\*How will this acclimation site be affected by hydrologic alterations above and adjacent to the site in later implementation phases? What will prevent the channel feeding it from drying up and stranding fish?

Response: There is no affect from future phases on the acclimation area. See above comments regarding the inlet channel maintaining flow. Additionally, to limit the risk of the inlet channel not conveying flow to the pond, the design and model incorporated running the lowest possible flow scenario. This was done by limiting the modeled inlet flow to 1 cubic foot-per-second. At that modeled flow, the pond maintained the desired depth and surface area.

\*Will other phases have maintenance implications (e.g., sedimentation; flow regimes) for this project?

Response: No, other project phases will not require ongoing maintenance based on biotic or abiotic factors. All project phases are designed to be self-maintaining and promote stream and floodplain processes to the greatest extent possible. However, there are two exceptions to this. First, as stated in the original application, weed control will be part of project maintenance activities for the foreseeable future. This will occur in order to improve the growth and vigor of plantings. Second, an identical type of pond, like the acclimation pond in Phase 1, will be constructed within a side channel of Ochoco Creek as part of Phase 2 restoration construction. This pond will also use BDAs and excavated depth in order to maintain the desired water surface elevation. The BDAs in this pond would require the same maintenance activities as the acclimation pond on McKay Creek (Phase 1) should fisheries management partners decide to use this pond for acclimation in the future. Ecologically and aesthetically, these ponds fit with the long-term management objectives of the Preserve. Therefore, the Land Trust, design engineers, and project partners felt it was prudent to include an identical pond on Ochoco Creek should the desire to acclimate fish in that creek arise.

\*Planned restoration in later phases will be extensive, please more clearly identify how this current phase integrates with the rest of those phases and what would occur if those later phases were not fully funded.

Response: The project phase boundaries are depicted within the attached implementation plan and design drawings. One of the deliverables for the design engineer was to create stand alone projects for each phase of restoration. In particular, Phase 1 is separated from other phases by constructed slopes leading to uplands in preparation for Phase 2 construction, or to be stand alone. The effects to Phase 1 restoration will be negligible if other phases aren't constructed in a timely manner, as the restoration elements will be contained within constructed slopes. For example, cross sections A, B, C, and E of the attached implementation plan drawings provide a view of how proposed conditions will fit within constructed slopes.

\*Only one design drawing was included and it appears the design are not very developed, and this project is early in its development. However, the removal/fill permit has been secured which indicates design may be further along. Please more clearly describe where this is in the design stage and include plan details. If too early in design this may not be ready for R&E to obligate funding. If it is too early in design, the budget may not be reliable.

Response: This project is shovel-ready, almost all permits have been secured and the 100% implementation plan and design drawings were completed in January, 2022. The final implementation plan and restoration design are included as attachments to the application (because of size, the document was uploaded in three parts). The construction specifications have also been uploaded to demonstrate the completeness of the design.

\*If awarded, R&E funding should be contingent on receipt of funding from other sources.

Response: Funding has been secured from the Pelton Fund, OWEB, and the U.S. Fish and Wildlife Service. The Pelton Fund award letter was provided previously. The award letters, or proof of secured funding from OWEB and the U.S. Fish and Wildlife Service have been attached to this application.

### 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?*

The earthwork (including the presence of the pond) and planting/seeding are predicted to exist in perpetuity. The analogues that maintain the desired water surface elevation of the pond will be maintained by the Deschutes Land Trust, ODFW, and PGE, as needed.

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

Ochoco Preserve is owned by the Deschutes Land Trust. Therefore, all long term property management is the responsibility of the Land Trust. One exception will be the aforementioned analogue structures at the inlet and outlet of the acclimation pond. The Land Trust will work with ODFW and PGE in order to maintain the acclimation pond in the desired condition.

*Will the project require ongoing maintenance?*

Yes

The aforementioned analogue structures will require maintenance, see above for explanation. Another maintenance type of activity will be controlling weeds on the property. Weed spraying and other techniques will be utilized to ensure the success of project plantings.

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

Yes

Portland General Electric conducts fish surveys (electrofishing) within a reach of McKay Creek on Ochoco Preserve. Prior surveys can be considered the baseline with regards to rainbow/redband/steelhead trout and juvenile spring chinook salmon density estimates. Those surveys will continue to be conducted in the new channel. Pre and post project fish density comparisons may be conducted in the future. Further, an as-built topographical survey will be conducted. That survey will document the baseline physical conditions of the constructed stream

channels and floodplain. Topographical surveys will be conducted at least once, three years after project completion. The Land Trust will ocularly monitor stream and floodplain conditions and conduct topographical surveys as needed, based on streamflow and visible changes to project. All future topographical surveys will be compared with baseline "as-built" conditions.

## ***Project Funding***

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### ***Funding***

*Have you applied for OWEB funding for this project?*

Yes

OWEB application number: 222-8200-19685

Awaiting a decision from the panel.

The OWEB application was submitted through the Deschutes Focused Investment Partnership. As such, we expect to receive all the funds that were requested from OWEB. Further, the project has been reviewed by the regional OWEB Technical Review Team. A grant agreement is expected to be completed by mid-February, 2022.

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

No

Other Funding Source	Type	Secured	Dollar Value	Comments
OWEB	Cash	Secured	579004	OWEB Deschutes Partnership FIP, explantation above
United States Fish and Wildlife Service	Cash	Secured	50000	Partners for Fish and Wildlife Program
Portland General Electric/Confederated Tribes of the Warm Springs	Cash	Secured	1000000	Pelton-Round Butte Fund
		Total	1629004	

## Budget

Item	Unit Number	Unit Cost	In-kind or non-cash contributions	Funding from other sources	R&E Funds	Total Costs
PROJECT MANAGEMENT						
Deschutes Land Trust - Restoration Specialist Project Management	800	43.00	17200	17200	0	34400
		SUBTOTAL	17200	17200	0	34400
IN-HOUSE PERSONNEL						
			0	0	0	0
		SUBTOTAL	0	0	0	0
CONTRACTED SERVICES						
Acclimation area construction - pond and all associated tasks	1	101092.00	0	0	101092	101092
Earthwork - all excavation, hauling, placement and shaping	1	606300.00	0	606300	0	606300
Engineering - construction oversight, layout, staking	1	214594.00	0	214594	0	214594
Mobilization - import/export of all construction equipment and materials	1	131921.00	0	131921	0	131921
Demolition and Disposal	1	12000.00	0	12000	0	12000
Clearing and grubbing	1	4530.00	0	4530	0	4530
Stream structure materials acquisitions	1	180668.00	0	180668	0	180668
Stream structure installation	1	104732.00	0	104732	0	104732
Planting/seeding - acquisition and installation of native plants	1	291059.00	0	291059	0	291059
Water control/dewatering/temporary bridges	1	53000.00	0	53000	0	53000
Construction area BMPs - clean up and close out	1	13000.00	0	13000	0	13000
		SUBTOTAL	0	1611804	101092	1712896
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	17200	1629004	101092	1747296

## ***Internal Review Results***

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**Review Score:** 1 out of 3

(0 = Do Not Fund, 1 = Strengthen Proposal, 2 = Recommend, 3 = Strongly Recommend)

### ***Summary of Review Team Comments***

The review team, after getting additional information from the local district, supports funding of this project as it is a priority for reintroduction and was requested by the district staff. However, the application lacked sufficient detail for a full review by the team and deficiencies need to be addressed before the board's consideration. Based on the information in the application the review team felt this was potentially an experimental or inappropriate design, too early in design and development, and potentially not appropriate for R&E funding. If the applicant can successfully update the application to address the concerns and questions raised by the team, the board should consider funding this project. Scores included two 0s, six 1s, and two 2s.

### ***Specific Review Team Comments***

Project seems to be an important habitat restoration component of the reintroduction efforts and is supported by FIP Partnership that ODFW belongs to and has local support from ODFW staff.

The applicant should more directly spell out how this project and fish produced/acclimated at it fit in the context of production in the Deschutes basin. This might provide a clearer connection to the overall benefit to anglers.

- o Currently it comes across more as "this is an important site" but there is limited context of what this project means to the fishery as a whole.
- o This is private land and proposed public access seems centered on natural resource interpretation/nature walks. Future angler access is not guaranteed. Applicant should explain how future angler access could be incorporated if R & E funding is awarded.

This is an innovative way to incorporate an acclimation site, but the application was lacking adequate detail on the proposed design.

- o Beaver dam analogs may not be the correct application for a water control structure as they start to degrade immediately after they are installed. The applicant needs to much more clearly demonstrate how this alternative was selected and how it will be maintained as a water control structure.
- o Why was an off-channel acclimation pond that is less expensive, easier to maintain, and potentially more reliable not selected?
- o This in stream acclimation pond with beaver dam analogue seems like an experimental design with the potential for risk of the long-term viability and these large investments.
- o How are these going to be maintained into the future once the willow cutting rot out and start to spill sediment/water? Who will fund and do the maintenance work? Will maintenance work be possible with site recovery (vegetation growth) and conservation easements, etc.?
- o Please explain the background information and design considerations that assure an excavated acclimation pond will sufficiently hold water.
- o The location of this acclimation pond appears to be in an alluvial fan or depositional area at the confluence of multiple streams. Please explain the background information and design considerations that will ensure water will continually flow to the location of the acclimation pond once natural stream flows and processes are allowed to develop in the restored section of stream.
- o How will this acclimation site be affected by hydrologic alterations above and adjacent to the site in later implementation phases? What will prevent the channel feeding it from drying up and stranding



fish?

o Will other phases have maintenance implications (e.g., sedimentation; flow regimes) for this project?

Planned restoration in later phases will be extensive, please more clearly identify how this current phase integrates with the rest of those phases and what would occur if those later phases were not fully funded.

Only one design drawing was included and it appears the design are not very developed, and this project is early in its development. However, the removal/fill permit has been secured which indicates design may be further along. Please more clearly describe where this is in the design stage and include plan details. If too early in design this may not be ready for R&E to obligate funding. If it is too early in design, the budget may not be reliable.

If awarded, R&E funding should be contingent on receipt of funding from other sources.

#### Specific Review Team Questions

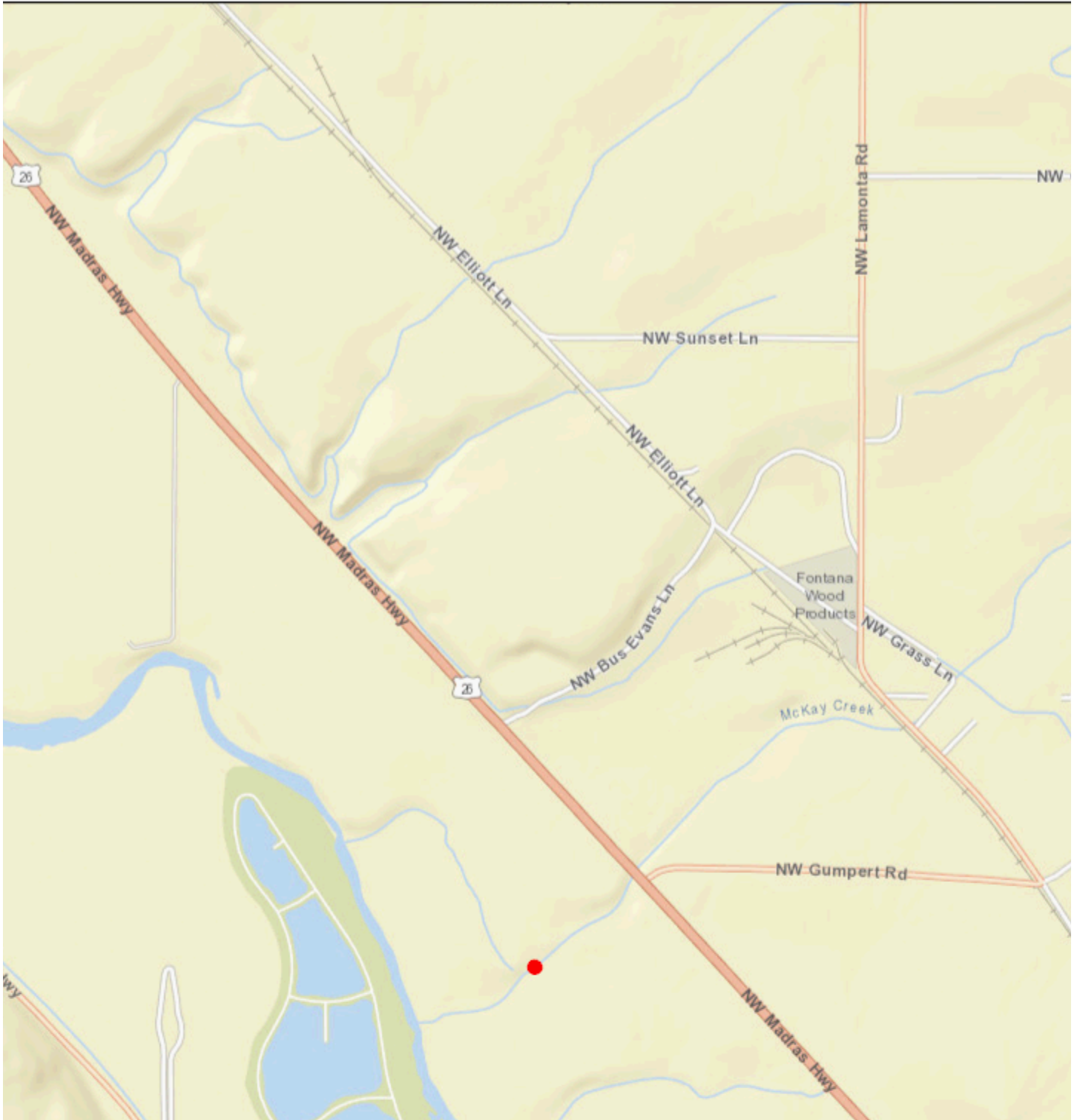
*Is the Pelton Fund money secured? The application stated it was pending, but there is a letter from PGE in the attachments, that allocates 1 million dollars.*

Yes, Pelton Funds are secured. The application should've stated it was secured, that has been changed in the application.

*When are the other funding sources expected to be secured?*

The other funds have been secured and funding letters have been attached to this application. All funding sources have been updated to reflect secured status.

## Project Map



## ***Additional Files***

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### **Budget Information**

[Ochoco Preserve Phase 1 Cost Estimate Single Page](#)

*Cost Estimate for Phase 1 restoration, including acclimation area*

### **Maps**

[Project Map](#)

*Map image of project location*

### **Photos**

[McKay Creek Existing Conditions Aerial Images](#)

*Existing conditions aerial images of McKay Creek - 2021*

### **Design Information**

[Final Construction Specifications](#)

*Engineers construction specifications*

[FinalImplementationPlan\\_2\\_Part2](#)

*Part 2 of the final implementation plan*

[FinalImplementationPlan\\_2\\_Part3](#)

*Part 3 of the final implementation plan*

[Ochoco Preserve Final Implementation Plan\\_2\\_Part1](#)

*Part 1 of the final implementation plan*

[OchocoPreserve\\_HighlightedAcclimationArea](#)

*Highlighted map of acclimation area*

### **Management Plans and Supporting Documents**

[PRB Fish Committee Reintroduction Roadmap](#)

*Executive Summary with Strategy L - Acclimate Smolts in Tributaries*

### **Permits and Reviews**

[401 Water Quality Certificate](#)

*Water Quality Certificate for Project Implementation*

[Permits](#)

*Permit approval combined in one document*

### **Partnerships**

[OWEB Award Memo](#)

*Excerpt from OWEB award memo*

[Proof of Funding](#)

*Combined correspondence document showing commitment from other funders*

[USFWS\\_AwardNotice](#)

*Notice of award for USFWS funding*

### **Public Comment**

[Letters of Support](#)

*Support letters from project partners combined in one document*

[PGE Acclimation Support Email](#)

*Email regarding acclimation and maintenance*

### **Administrative Documents**

[Proof of Tax Exempt Status - 501\(c\)3](#)

*IRS letter stating our status as a qualified 501(c)3 organization*

[Signature Authorization](#)

*Signature Page*

## ***Completion Report***

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A completion report has not been submitted for this project.