

*OCHOCO PRESERVE  
RESTORATION –  
PHASES 2 AND 3*

DESCHUTES LAND TRUST

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## Executive Summary

The Deschutes Land Trust (Land Trust) and its partners will restore aquatic habitats, floodplain and uplands across 124 acres on Ochoco Preserve (Preserve). Owned and managed by the Land Trust, the Preserve is located in Crook County, Oregon and is adjacent to the western urban growth boundary of the City of Prineville. Ochoco Preserve – Phases 2 and 3 will occur in 2024 and 2025 on the lower half-mile of Ochoco Creek, to its confluence with the Crooked River, and on a mile of the Crooked River within the Preserve. The Crooked River and Ochoco Creek support reintroduced spring Chinook salmon (*Oncorhynchus tshawytscha*) and summer steelhead (*Oncorhynchus mykiss*), as well as resident redband trout (*Oncorhynchus mykiss gairdneri*) and a host of other native aquatic species. Both waterways frequently experience low flows, elevated summer stream temperatures, and poor water quality. These issues are compounded by a lack of suitable habitats for fish, other aquatic species, and terrestrial wildlife. The Land Trust will lead efforts to create over 2 miles of new main baseflow stream channels, nearly 1.5 miles of side channels, over 11 acres of wetland, almost 37 acres of floodplain, and 75 acres of upland. These newly restored habitats will increase habitat availability for reintroduced anadromous fish, resident fish, other aquatic dependent species, and terrestrial wildlife. Many partners were involved in project planning and continue to participate in implementation activities. Some of those partners are the Confederated Tribes of the Warm Springs (CTWS), Oregon Department of Fish and Wildlife (ODFW), Ochoco Irrigation District, Portland General Electric (PGE), City of Prineville, and the U.S. Fish and Wildlife Service. This project, supported by the Deschutes Partnership – Strategic Action Plan and The Conservation and Recovery Plan for Oregon Steelhead Populations in the Middle Columbia River Steelhead Distinct Population Segment, has been endorsed by elected officials, conservation groups, government agencies, and the private sector.

## Project Location

The Preserve is located in Crook County, Oregon, directly adjacent to the western urban growth boundary of the City of Prineville (see the map on the cover sheet of the attached project design). The city center is about one mile to the east of the Preserve. Ochoco Preserve Restoration – Phases 2 and 3 will occur across 124 acres of the Preserve. The latitude is 44°19'38.60"N, and the longitude is 120°53'34.17"W.

## Technical Project Description

Ochoco Preserve Restoration – Phases 2 and 3 includes the second and third step in a multi-year, multi-phased restoration effort that supports the reintroduction of spring Chinook salmon and summer steelhead and helps to achieve the restoration of self-sustaining upland, wetland, floodplain, and stream ecological processes. Over the past 150 years, landscape changes have occurred on the Preserve in order to facilitate agricultural practices. Common land manipulations such as stream relocation, straightening, armoring, and diking have transpired. Further, most oxbows and wetlands were filled and leveled. The ecological value of the Preserve has been drastically reduced. This project is designed in order to allow Ochoco Creek and the Crooked River to access floodplains to the maximum extent possible with consideration for risk and

constructability. This will allow for a more sustainable project over time, where dynamic stream processes occur, the floodplain is frequently accessed, and variable habitats form that are able to support all life stages of anadromous and resident fish.

Significant land manipulation must occur in order to reset the current channelized conditions on both systems. Therefore, as designed, heavy equipment such as, but not limited to, excavators, bulldozers, tractors, scrapers, and dump trucks will be used to construct stream channels, off-channel habitats, wetlands, floodplains, and uplands. This equipment will be used to construct over 2 miles of new main baseflow stream channels, 80 instream or floodplain wood structures, nearly 1.5 miles of side channels, over 11 acres of wetland, almost 37 acres of floodplain, and 75 acres of upland (Sheets C-107 through C-122 of the attached design depicts plan views, cross sections, and profiles of Phases 2 and 3). Specific habitat types will be created within or connected to the new baseflow channels, such as about 2 acres of alcove, 16 pools and 19 riffles in the Crooked River, and 34 pools and 35 riffles in Ochoco Creek. Most excavators and bulldozers will have Global Positioning System (GPS) capabilities, where the operator will be able to follow the topography of the designed earth surface. Additionally, heavy equipment will be used to place water control materials. These materials will aid in the isolation of work areas, reduction of turbidity, dewatering of existing channels, and activation of newly constructed habitats.

Earthen materials that are cut in order to lower surfaces to design elevations will be loaded in to dump trucks or scrapers and hauled to designed upland locations. Subsequently, that material will be shaped by bulldozers and excavators to form upland features or islands. All disturbed surfaces will be seeded with a native seed mix. Upland, or dry areas will be drill-seeded and wet areas will be broadcast seeded. Furthermore, all cut and fill surfaces will be planted with native species, per the project design and planting plan. All plants will be installed within the appropriate planting zone (see sheet L-101 in the attached project design for a visual representation of planting zones).

Note: drawings related to the installation of pedestrian bridges and trails have been removed from the attached design, the construction of these elements is not part of this funding request. Community connections and increased recreational opportunities are project objectives, but will be funded separately. Phase 1 was completed in 2022, therefore detailed drawings of this phase have also been removed.

## Applicant Category and Eligibility

The Land Trust is a Category B applicant, based on the definitions in the Notice of Funding Opportunity. The Land Trust is a 501(c)(3) non-profit conservation organization that is acting in partnership with ODFW and CTWS. ODFW is an agency within the State of Oregon and CTWS is a federally recognized Indian Tribe. Both agencies continue to be active partners in the project. Partner letters have been included as attachments to this application.

## Evaluation Criteria

## Project Benefits

The primary benefit of this project is to reestablish ecological processes using a phased restoration approach that maximizes fish and wildlife habitats. Project goals include, renewed ecologic functionality of Ochoco Creek and the Crooked River on the Preserve to aid in the reintroduction of spring Chinook salmon and summer steelhead, restored perennial wetlands that mimic historic conditions, the creation of well-connected floodplains, and establishment of native plant communities. Further, the attainment of restorative project goals will mitigate local climate change impacts, as connected floodplains and functioning wetlands are known to improve water quality, increase groundwater storage, and reduce the impacts of flooding and erosion (FEMA 2022). As stated in a 2002 report to the U.S. Congress by the Task Force on the Natural and Beneficial Functions of the Floodplain, “the Task Force concluded that protecting and restoring the natural and beneficial functions of floodplains will not only reduce flood damages, but also contribute to a community’s social and economic well-being” (Task Force on the Natural and Beneficial Functions of the Floodplain 2002).

The 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 (located about 50 miles downstream on the Deschutes River). Tens of millions of dollars have been spent on this effort upstream of the dams. The restoration of waterways on the Preserve is vital for the long-term establishment of anadromous fish populations in the Crooked River Basin. This project is designed in order to allow for maximum floodplain connectivity of all stream courses on the Preserve, considering risks and constructability. This connectivity will provide a sustainable project over time, where dynamic stream processes occur, the floodplain is frequently accessed, and variable habitats form that are able to support aquatic and terrestrial wildlife, including all life stages of anadromous and resident fish.

Restoring Ochoco Preserve will increase emergent wetland habitat. Emergent wetland habitat is important to many species of songbirds, including sparrows, wrens, blackbirds, and warblers. They use this habitat to nest, feed, and for thermal shelter and protection from predators (Stewart 2016). Emergent wetland and newly created open water habitats will benefit the following Oregon state-listed sensitive (ODFW 2021) and Oregon Conservation Strategy species (Oregon Conservation Strategy 2016) including: black-necked stilt (*Himantopus mexicanus*), American white pelican (*Pelecanus erythrorhynchos*), common nighthawk (*Chordeiles minor*), Franklin’s gull (*Leucophaeus pipixcan*), sandhill crane (*Antigone canadensis*), and trumpeter swan (*Cygnus buccinator*).

Riparian vegetation provides essential habitat for many songbird and waterfowl species, food and building materials for beaver, browse for deer and elk, and thermal shelter and cover for a wide range of other wildlife species, including bushy-tailed woodrat (*Neotoma cinerea*), northern raccoon (*Procyon lotor*), mountain lion (*Felis concolor*), gray fox (*Urocyon cinereoargenteus*) and weasels. Oregon state-listed sensitive (ODFW 2021) and Oregon Conservation Strategy species (Oregon Conservation Strategy 2016) that will benefit from an increase in riparian habitat include: Columbia spotted frog (*Rana luteiventris*), common nighthawk, willow flycatcher (*Empidonax traillii*), yellow-breasted chat (*Icteria virens*), and Lewis’s woodpecker (*Melanerpes lewis*).

Newly formed upland habitats will benefit many of these same species, as well as western monarchs (*Danaus plexippus*) and numerous native pollinators.

Wetlands, flowing water, and riparian habitats are all classified as strategy habitats in the Oregon Conservation Strategy for all ecoregions of the state, including the Blue Mountains ecoregion, where the Preserve is located (Oregon Conservation Strategy 2016). Proposed restoration actions will provide a substantial increase in these high-quality habitats, thereby increasing biodiversity and benefitting a large suite of species.

The restoration design team performed a high-level water availability analysis using data from OpenET (<https://openetdata.org/>), a website used to calculate how land use changes impact water availability. The team generated per-acre evapotranspiration (ET) estimates for the whole Preserve from the agricultural fields, upland areas, and wetland areas. These estimates were used to compare existing and proposed acreages in order to generate proposed annual ET. Based on this analysis, a 17% reduction in ET the Preserve is expected. That translates to about 85 additional acre-feet (AF) of water per year. The 17% reduction in ET is significant. To put 85 AF of water into tangible terms, that's enough volume to add 6-inches of groundwater to the entire Preserve footprint. Results from the analysis also suggest that the reduction in ET is greatest in the summer months, where ambient and water temperatures are the highest and in-stream flows are the lowest.

The Crooked River Basin contains the Bureau of Reclamation's (BOR) Crooked River Project. This project adversely impacts river ecology in the watershed through the operation of two dams, Arthur R. Bowman on the Crooked River and Ochoco Dam on Ochoco Creek. The primary purpose of the dams is to provide irrigation water to the surrounding area. Neither dam provides upstream fish passage and each interrupts river processes, such as the routing of sediments and capture of organic materials entrained within each waterway. Proposed restoration will help to offset some of the adverse impacts of the dams by providing a source of organic materials for each waterway through the active placement of woody materials and project plantings. Further, proposed restoration will allow sediments that are routed in each waterway to be deposited on the newly created floodplain surfaces, thereby creating surfaces for new plant growth and increasing potential spawning areas for native fish.

The proposed project will benefit aquatic and riparian ecosystems and reduce the intensity of floods, by increasing the floodplain widths of the Crooked River and Ochoco Creek, thus reducing flood flow velocities and erosion potential. A graphic depicting existing and proposed 10-year flood flow velocities is attached. This was produced by the design engineer using a 2-D hydraulic model as part of the project design process.

Currently, the project area is dominated by non-native vegetation and invasive weeds. Project actions will shift the plant community from one that is dominated by non-native vegetation, to a diverse native plant community. This new community will benefit native terrestrial and aquatic species by providing food, cover, and soil stability. A planting plan was created by a botany contractor and incorporated in the project design. Sheets L-108 through L-113 of the attached project design lists native plants that will be installed. Further, sheet L-101 depicts planting

zones that correlate to the appropriate zone for each type of plant (wetland, riparian, or upland). All 124 acres of the proposed project phases will be planted.

The reintroduced Upper Deschutes/Crooked River summer steelhead population above the Pelton Round Butte Hydroelectric Complex is listed as nonessential, experimental under Section 10(j) of the Endangered Species Act (NMFS 2013). The reintroduced Spring Chinook population in the Upper Deschutes/Crooked River is listed as “sensitive” for the State of Oregon (ODFW 2021). As stated above, many species will benefit from project actions, however the primary driver for the proposed project is to provide habitats for these reintroduced anadromous fish. Specifically, adult spawning, juvenile rearing, and adult migration habitats will be created. For example, juvenile Chinook slow-water rearing habitats will be created in the Crooked River and Ochoco Creek by constructing about 2 acres of alcove, 50 pools, 11 acres of connected wetland, and 1.5 miles of side channels (see attached 2-year flood Habitat Suitability graphic for Chinook rearing).

Summer steelhead are included in the Deschutes Basin Habitat Conservation Plan (DBHCP) (Deschutes Basin Board of Control and the City Prineville 2020). For the Crooked River, operation of irrigation systems is included in the DBHCP as a land use activity that negatively impacts summer steelhead by altering seasonal hydrographs and increasing summer water temperatures. The aforementioned BOR project is the dominant irrigation system in the Crooked River Basin. The proposed project will create conditions that are favorable for all life stages of steelhead. Newly connected floodplain and wetland habitats will allow for an increased likelihood of warmer surface and cooler subsurface water interactions, thereby reducing stream temperatures in occupied habitats. Further, increased floodplain storage through the construction of connected wetlands and other off-channel habitats provides these fish with increased habitat area and water availability throughout the warmest months of the year.

The geographic area surrounding the City of Prineville, Oregon, including the proposed project area is in Exceptional Drought (category D4, the highest drought rating). With that rating, 100% of people living in the county are affected by drought. Moderate drought began in the county in 2020, which then progressed to its current exceptional status. The U.S. drought outlook predicts that the drought will persist over the next three months (NOAA 2023). This project helps to build resilience to drought and mitigate some drought-related impacts. It is predicted that summer stream flows in Ochoco Creek and the Crooked River will be low as a result of drought. However, constructed floodplain water storage features, like ponds, alcoves and wetlands will ensure that surface water is available for water-dependent organisms. Further, drought affects riparian vegetation through low stream flows and a reduction in groundwater elevations. The aforementioned storage features will boost surrounding groundwater elevations and allow for the growth and vigor of riparian and wetland plantings.

Current conditions include a lowered water table caused by degradation of the streams in the project area. Proposed restoration is expected to provide long-term improvements to water quality as a result of restored ecological and geomorphic functions. Project actions will increase water table elevations through new baseflow stream channels and associated water storage features (instream wood structures) allowing surface waters to frequently seep into the floodplain, thereby raising groundwater elevations over time (see attached conceptual

groundwater conditions graphic, adapted from Pollack et al. 2014). This increased storage will serve to enhance riparian and wetland habitats and moderate stream temperatures over time.

#### Invasive Species – Vegetation

Proposed project actions include the removal of Reed Canarygrass (*Phalaris arundinacea*) across the project area. Removal will occur with an excavator by digging out the roots to a depth of at least 18 inches and subsequently burying excavated materials in upland locations at a depth of at least three feet. Reed Canarygrass has the capacity to form dense monocultures in riparian areas and wetlands, thus outcompeting native vegetation. The removal of this invasive grass will allow native wetland and riparian plantings to thrive. As mentioned previously, the project includes a robust planting plan, and all removal areas will be planted and seeded with native species.

#### Multiple Benefits

The project will benefit multiple water uses by setting the foundation for future recreational and educational opportunities. As previously mentioned, funding for community connections that will increase recreational opportunities through the construction of trails and pedestrian bridges are not included in this funding request. However, increasing community connections is a long-term management objective for the Preserve. Proposed restoration actions will set the topographical foundation where the trail system, including pedestrian bridges, will be constructed in the future. The trails will include interpretive information and will be used for activities like hiking, biking, youth educational opportunities, and bird watching. Additionally, the pedestrian bridges and trail system will connect the Preserve with existing trails derived from the city limits of Prineville, as well as the City of Prineville's Crooked River Wetlands Complex. This holistic trail system will make recreating within the local riverine environment simple and easily accessible to the public.

Another multiple benefit is that a constructed pond will be used to acclimate juvenile steelhead and spring Chinook salmon smolts prior to their outmigration. This pond is depicted and labeled on sheet C-109 of the attached design drawings. Using a constructed project feature as part of reintroduction operations provides a direct link to the reintroduction effort. The purpose of acclimation is to increase survival and the likelihood that smolts will imprint on the water in the pond. Therefore, as fish return as adults, they will use homing instincts to return back to the project area to spawn. Further, increases in juvenile survival helps to boost the abundance of returning adults, thereby increasing the likelihood that these fish will be encountered during Tribal and recreational fishing on the lower Deschutes River and Columbia River.

#### Collaborative Planning

Initial project design alternatives were formulated from field tours and discussions with partners that occurred between 2017 and 2020. In June, 2020, a set of three conceptual design alternatives was sent to partners for review. Based on feedback, the design team and the Land Trust created a second version of the conceptual alternatives, those were submitted to partners in July, 2020. A site tour was conducted in September, 2020, where the design team, Land Trust, and partners discussed alternatives. Based on partner input from the site tour, and further discussions with the City of Prineville regarding the location of trails and pedestrian bridges, a design alternative was selected. All partners felt that the selected alternative presented the greatest opportunity for



ecological benefits. Project activities continue to be a collaborative, with many partners involved with implementation activities.

The project is supported by the Deschutes Partnership – Strategic Action Plan (SAP) and The Conservation and Recovery Plan for Oregon Steelhead Populations in the Middle Columbia River (MCR) Steelhead Distinct Population Segment (Recovery Plan). The Recovery Plan was created through a collaborative process, all participants are listed in the “Acknowledgements” section of the document (the third unnumbered page), they included state and tribal governments, consultants, and other watershed groups. The Land Trust did not participate in the formulation of the Recovery Plan; however, the Land Trust is tasked with implementing local conservation and restoration actions identified in the document. The SAP was formulated through a local collaborative process and authored by the Land Trust, Crooked River Watershed Council, Deschutes River Conservancy, and Upper Deschutes Watershed Council. The SAP identifies the expertise of each organization and what role they play within the partnership.

The Recovery Plan was published on November 30, 2009 to aid in the protection and restoration of MCR steelhead. It addresses key population attributes, primary limiting factors and threats, and tributary management strategies and actions that will improve aquatic ecosystem health. The most relevant section of the Recovery Plan, as in pertains to the proposed project, is Table 1-9 on pages 1-47 and 1-48. That table lists limiting factors and threats for the Deschutes/Crooked River steelhead population, followed by high priority tributary restoration strategies and actions. The proposed project restoration actions are in alignment with those listed in the Recovery Plan. For example, one of the highest priority restoration strategies for the Crooked River is to restore floodplain connectivity and function by reconnecting floodplain and side channels to main channels. Thus, proposed project actions will implement an identified need in the Recovery Plan.

[Link to the Recovery Plan:](https://www.fisheries.noaa.gov/resource/document/recovery-plan-middle-columbia-river-steelhead-distinct-population-segment) <https://www.fisheries.noaa.gov/resource/document/recovery-plan-middle-columbia-river-steelhead-distinct-population-segment>

The SAP was published in November, 2015 in order to implement Recovery Plan actions in the Upper Deschutes Basin, including the proposed project area. The SAP outlines a suite of integrated actions that, when complete, will result in the restoration of suitable spawning and rearing habitats for all life stages of MCR steelhead. The authors also recognized that restoration would create similar spawning and rearing habitats for spring Chinook salmon and resident redband trout populations, while providing significant ecological resilience and uplift to the watershed. The most relevant pages, as in pertains to this application, are pages 13, 17, and 18. Page 13 describes conservation and restoration targets that are focused on addressing limiting factors from the Recovery Plan. Pages 17 and 18 lists the goal and objectives for the restoration of stream habitats in the Crooked River Basin. For example, page 18 of the SAP lists an objective of, “restoring stream habitat (including the suite of channel and floodplain conditions required for successful spawning and rearing) in the lower Crooked River by 2028.” Thus, proposed project actions will implement an identified need in the SAP.

[Link to the Deschutes Partnership SAP:](https://www.deschutespartnership.org/SAP%20Submitted%2011.1.15.pdf) <https://www.deschutespartnership.org/SAP%20Submitted%2011.1.15.pdf>

## Stakeholder Support

The proposed project is supported by a diverse set of stakeholders that represent agricultural, municipal, Tribal, environmental, and private sector interests. Partnership letters have been provided by the CTWS Branch of Natural Resources and ODFW, and support letters have been given by Ochoco Irrigation District, City of Prineville, PGE/CTWS, U.S. Fish and Wildlife Service, Crooked River Watershed Council, and Deschutes River Conservancy. All letters are attached to this application. Out of these stakeholders, cost-share will be provided by the U.S. Fish and Wildlife Service and jointly by and CTWS/PGE through the Pelton Round-Butte Mitigation Fund. Additionally, private sector financial support has been garnered from Meta and Apple, Inc.

Little opposition has been presented to the Land Trust. However, some opposition was expressed during the permitting process in 2021. The two primary points of opposition were a perceived increase in mosquito production, and, that restoration actions would permanently remove land from agricultural production. One of the restoration design criteria was to limit mosquito production by ensuring that all surface water would be connected and contain velocity, as mosquito larva require a near zero velocity environment for survival. Further, the Land Trust intends to partner with school groups, or other youth organizations, to build bat and bird boxes in order increase the likelihood of seasonal residency of species that predate on mosquitos. Opposition related to the removal of land from agricultural production continues to be addressed through the building of relationships. As witnessed by the Land Trust following the implementation of the first restoration phase in 2022, once relationships are established and trust is developed, opposition lessens, especially once it is understood that the Land Trust seeks to improve the health of human and natural communities.

## Readiness to Proceed

The proposed restoration work is located on Land Trust owned property and is shovel-ready, as all design, permitting and environmental compliances (copies of all are attached) have been completed. Phase 2 will include all work on the lower section of the Crooked River and Ochoco Creek and is proposed for implementation in 2024. Phase 3 is proposed for implementation in 2025, and will include all work on the most upstream 0.4-mile section of the Crooked River. The aforementioned hiking trails and pedestrian bridges may be included in Phase 3, but are not part of this funding request and will only occur once all restoration activities have been completed.

## Implementation Sequencing

Work within each phase will begin from the phase's downstream extent and will start with excavating the proposed channel and associated floodplains in the dry. Once all excavation and habitat feature installation in proposed channel alignments is completed in the dry, flow will be turned into the new channels and then work in the existing channels will proceed in the dry. As each phase is completed, that phase will be "closed out" with no access to that area by machinery.

A proposed construction sequence common to Phases 2 and 3 is below:

- Floodplain and Uplands Work: Before in-water work window, prior to July 1<sup>st</sup>
  - Construction staking, flagging, submittals
  - Mobilization and associated site preparation
  - Clear and grub access locations

- Install temporary erosion and sediment controls
- Separate and stockpile earthen materials for future use
- Excavate new channel and wetlands, place fill for uplands, and construct grade stabilization measures leaving an earthen plug at each end of the new main channel before connecting to existing channel
- Construct floodplain habitat features
- Active Channel: In-water work window for Ochoco Creek and the Crooked River, July 1–August 15. If in-water work dates need to be extended, the Land Trust will work with ODFW in order to obtain an extension waiver (the Land Trust has communicated with ODFW, and they will likely support an extension).
  - Install temporary bridges
  - Install and monitor temporary erosion and sediment controls
  - Install block nets and salvage fish.
  - Install work area isolation and dewater work areas
  - If needed, pump turbid water to an approved location and monitor
  - Remove Reed Canary grass
  - Construct new main channel, and floodplains below the ordinary high water mark (OHWM)
  - Construct wetted channel habitat structures, where temporary bridges or fish-excluded crossings in the wetted channel are required
  - Install habitat structures and surface-placed logs
  - Remove downstream earthen plug, isolate existing channel, complete new main channel downstream confluence with existing channel.
  - Remove upstream earthen plug and re-route stream into new main channel
  - Slowly reintroduce flow to the work areas, monitoring for turbidity
  - Remove temporary bridges or fish-excluded crossings in the wetted channel, final grading and shaping of terrace areas, and grade and subsoil compacted temporary access roads
  - Remove work area isolation
  - Remove block nets
  - Remove temporary erosion and sediment controls
- After In-Water Work Window: From August 15<sup>th</sup> to the end of the year.
  - Complete any excavation and fill remaining above OHWM
  - Stabilize site using hydro-mulch or similar product, seed may be incorporated in this product
  - Plant and seed all disturbed areas
  - Site cleanup and demobilization
- Additional work items (work outside of the OHWM and may be included in Phase 3, but are not part of this funding request):
  - Complete foot bridge installations
  - Install trail and interpretive sites

## Performance Measures

### As-built survey

The primary tool that will be employed to measure the immediate performance of each phase will be as-built surveys and subsequent reporting. These surveys will include assessments and investigative analyses. The purpose of this is to document the as-built conditions and assist in evaluating whether implemented restoration actions achieved objectives. Outputs will include quantified results for metrics associated with project objectives related to in-channel and floodplain characteristics, such as increased channel length and complexity, improved stream channel habitat, increased floodplain connectivity, and reestablished wetlands. Further, results will be compared with pre-project conditions in order to clearly identify the ecological benefits of project actions. An official as-built record will be produced in post-survey reporting that includes a comparison between design cross-sections and channel profiles with as-built cross-sections and channel profiles. This is done to ensure the project was constructed as designed. Additionally, as-built flood flow inundation maps will be created. The maps will depict modeled inundation depths during a 2-year, 10-year, and 100-year flood. Funding for the completion of this will be derived from cost-share sources.

### Other Monitoring

There are a few other monitoring efforts that will occur for the foreseeable future (longer than five years post-project). First, the Land Trust funds monitoring on the Preserve annually as part of the accreditation process. From that, a report is generated regarding the current conditions, past changes, or any other pertinent information, like restoration work. Land-based photo points and aerial images are included. This imagery is an invaluable tool to assess proposed revegetation efforts and changes to stream channel flow paths over time. Further, weed species presence and associated management information is included. This monitoring is a requirement for Land Trust certification and will continue in perpetuity. Second, the Crooked River Watershed Council and Deschutes River Conservancy monitor stream discharge and water quality at a fixed site on Ochoco Creek within the proposed project boundary. That site will be moved following the implementation of Phase 2. However, pre-project stream temperature and discharge data may be compared with post-project data in order to monitor changes.

## Presidential and DOI Priorities

### Climate Change

Water quantity and quality are currently negatively impacting waterways in and around the project area as a result of climate change. It is anticipated that climate impacts that negatively impact water will continue to worsen. Specifically, it is anticipated the stream temperatures will worsen in the watershed, making some areas, especially in the lower Crooked River, inhospitable to salmonids. That said, the proposed project provides many climate mitigating elements that are important to aquatic and terrestrial biota. Future climate projections in the Crooked River Basin indicate that this basin is at risk of increased winter flows with larger runoff events (BOR 2020). Proposed connected floodplains and wetlands will be vital for the long term sustainability of biota in the Crooked River Basin.

Climate considerations were a large part of the design process. Project partners expressed the need for the proposed habitats based on expected climate related watershed changes. Other than fish habitat, proposed habitats were designed in order to specifically mitigate climate impacts.

For example, it is expected that water quality will continue to worsen in the lower Crooked River watershed. As such, the design team focused on wetland and floodplain connections within all phases of restoration. This was done in order to filter as many contaminants as possible as water flows through the Preserve. Hyporheic exchange (the interaction between subsurface and surface water) between a river channel and its floodplain supports processes like nutrient removal and temperature regulation (Singh et al. 2020). So, a focus was made to maximize floodplain area in order to maximize the contributions of cool subsurface water to surface water.

### Disadvantaged or Underserved Communities

The project location is within an area that is defined as disadvantaged, according to the Climate and Economic Justice Screening Tool (<https://screeningtool.geoplatform.gov/en/#8.18/44.605/-120.803>). The area is identified as Tract Number 41013950200 within Crook County, Oregon and is considered disadvantaged because it meets a climate change burden threshold of projected flood risk and an associated socioeconomic threshold. The climate change flood risk threshold is defined as a projected risk to properties from projected floods from rain-driven, riverine related storm surges within 30 years. The socioeconomic threshold is defined as low income, where income for households is less than or equal to twice the federal poverty level.

Benefits to disadvantaged community members as a result of implementing the proposed project include, but are not limited to:

1. Increased floodplain and connected wetland area will slow flood waters and decrease the likelihood of property damage to adjacent and downstream properties.
2. Connected floodplains and wetlands will boost groundwater and surface water interactions, thereby providing cold water refuges aquatic species.
3. The fly fishing community will benefit from the project, as access to cool water during the summer months will allow for native redband trout populations to persist. Therefore, economic benefits associated with recreational fly fishing are maintained.
4. Increased local economic activity will occur. Large projects, like the proposed, lead to financial infusions in the local economy through employment and purchasing. For example, during the implementation of the first phase of restoration in 2022, the implementation contractor purchased accommodations, equipment maintenance, food, and project materials from local sources.

### Tribal Benefits

The proposed project is located within the boundaries of land ceded to the CTWS in the Treaty of 1855 (Treaty). Proposed project actions directly benefit the CTWS by improving ecological conditions, stream processes, and providing habitats for resources defined in the Treaty. For example, the construction of the aforementioned Pelton Round-Butte Hydroelectric Complex blocked the migration of anadromous fish to the Crooked River Basin in the 1960s. Funded in part by the CTWS, efforts to reintroduce spring Chinook salmon and summer steelhead began around 2009, after the dam relicensing process. Fish habitats that are constructed, or that form over time as a result of project actions will increase spawning, rearing and migration habitats for reintroduced fish, or Treaty resources. Ultimately, it is anticipated that natural production will occur within the project area. Increased production will benefit the CTWS by potentially increasing the abundance of adult fish swimming through downstream Tribal ceremonial fisheries. Ultimately, the reintroduction goal is to provide for self-sustaining and harvestable runs

of spring Chinook and summer steelhead (<https://prbfishcommittee.com/prbfc-roadmap/>). Another example of increasing adult anadromous fish, to the benefit of the CTWS, is the construction and use of the previously mentioned acclimation pond. Acclimation increases juvenile survival, reduces stray rates, and helps boost the abundance of returning adult anadromous fish.

Should the BOR decide to become a partner of the project by providing funding, Tribal trust responsibilities will be supported. The BOR will become a partner in a collaborative project that includes partnership with the CTWS, and through project actions, the protection and enhancement of trust resources will occur.

## Project budget

### Funding plan

Funding has been requested from multiple non-federal sources. The Oregon Watershed Enhancement Board (OWEB) has previously funded portions of all project elements including acquisition, design, and implementation of the first phase of restoration. Also, the 2023 OWEB request has gone through an initial review and scoring process, where it scored the highest in the funding region. Therefore, the Land Trust anticipates that the requested 2023 OWEB funds, in the amount of \$689,365, will be received. Further, we are confident that 2024 requested OWEB funds, in the amount of \$300,000, will be received for the same reasons. Similarly, PGE and the CTWS, in partnership with each other, have previously invested in the project through their joint hydroelectric mitigation fund. Further, separate from the mitigation fund, CTWS financially supported project design. As such, it is anticipated that requested mitigation funds from PGE/CTWS, in the amount of \$350,000, will be received. The National Fish and Wildlife Foundation (NFWF) has tentatively awarded \$200,000 toward the proposed project as part of the Bring Back the Native Fish Program. The project has been selected for funding from NFWF, however the fiscal review process is ongoing. Both Apple, Inc. and Meta have a significant presence in the region. Each company owns data centers in close proximity to the project area. Furthermore, both have invested in the project. Funds from Meta have been secured, in the amount of \$30,000, and \$20,000 of the \$120,000 from Apple, Inc have been secured. We're confident that the remaining funds from Apple, Inc will be awarded, based on prior funding history and the company's presence in the region. It is expected that all unsecured funds (other than OWEB 2024 and this request) will be obtained by October, 2023. Official letters of funding commitment aren't currently available for OWEB, NFWF, CTWS/PGE, and \$100,000 of the \$120,000 from Apple, Inc. Letters of commitment, or proof of secured funds, will be available by October, 2023 (other than 2024 OWEB funds). Proof of secured funds for \$20,000 from Apple Inc, and \$30,000 from Meta, as well as email verifications of pending non-federal funding requests, from OWEB, NFWF and PGE are attached to this proposal.

### Budget proposal

Table 1, below, summarizes the non-federal and federal funding sources that will be used and the amount from each source. Table 2, below, summarizes estimated total project costs for both phases by cost item, with cost-share funding amounts listed.

**Table 1. Summary of Non-federal and Federal Funding Sources**

<b>Funding Sources</b>	<b>Amount</b>
<b><i>Non-federal entities</i></b>	
OWEB – 2023	\$689,365
PGE/CTWS	\$350,000
OWEB – 2024	\$300,000
NFWF	\$200,000
Apple, Inc.	\$120,000
Deschutes Land Trust – Cash	\$58,500
Deschutes Land Trust – Labor*	\$45,800
Meta	\$30,000
<b><i>Non-federal Subtotal</i></b>	<b><i>\$1,793,665</i></b>
<b><i>Federal</i></b>	
NRCS	\$450,000
USFWS - BIL	\$400,000
USFWS - Partners	\$50,000
<b><i>Federal Subtotal</i></b>	<b><i>\$900,000</i></b>
<b>Requested Reclamation Funding</b>	<b>\$3,000,000</b>

\* = *In-kind contribution*

**Table 2. Estimated Total Project Costs – Federal and Cost-share for Phases 2 and 3**

Cost Item ( <i>descriptions below</i> )	Amount from Requested Funds	Amount from other federal funds	Amount from Cost-share Funds	Cost Item Total
Preparation	\$0	\$100,000	\$380,000	\$480,000
Earthwork	\$2,700,000	\$107,415	\$470,000	\$3,277,415
Stream Structure Installation	\$0	\$95,000	\$0	\$95,000
Woody Material Acquisition	\$0	\$52,540	\$200,000	\$252,540
Water Management	\$0	\$65,500	\$58,500	\$124,000
Propagation, Planting and Seeding	\$0	\$225,000	\$586,000	\$811,000
Project Management	\$0	\$250,000	\$89,768	\$339,768
Indirect	\$300,000	\$4,545	\$9,397	\$313,942
<b><i>Subtotal</i></b>	<b><i>\$3,000,000</i></b>	<b><i>\$900,000</i></b>	<b><i>\$1,793,665</i></b>	
<b>TOTAL</b>				<b>\$5,693,665</b>

## Cost Item Descriptions

Preparation: This item includes the mobilization and demobilization of heavy equipment to and from the project site. It also includes layout and preconstruction surveying of the project area. Also, preparation includes the clearing and grubbing of certain areas within the project area. Clearing comprises of salvaging desired vegetation that may be transplanted, and stripping topsoil and disposing of non-desirable plants. Temporary erosion control features (e.g., hydro-mulch) will be installed during the implementation of this item.

Earthwork: Includes the average costs of excavation, hauling and shaping of earthen materials and represents the bulk of the work and costs in this application. Heavy equipment including, but not limited to, excavators, tractors, scraper cans, haul trucks, and bulldozers will cut, fill and shape earthen materials per the project design. Excavators and bulldozers will be equipped with GPS-controlled systems in order to ensure elevational and spatial integrity.

Stream structure installation: Structures composed of various sizes of wood and slash will be installed, using the acquired wood. Includes the costs for excavation, placement and staging of all instream structures.

Woody material Acquisition: Trees, branches and other slash will be acquired from other properties within the watershed. Cost includes harvest, haul, and sorting of woody materials. Equipment including, but not limited to, excavators, log trucks, and skidders will be used as part of this work.

Water Management: Actions in this item include, but are not limited to, work area isolation, turbidity control, temporary bridge installation, stream channel dewatering and the activation of new aquatic habitat features.

Propagation, Planting and Seeding: Costs associated with this item include the off-site propagation of plants and subsequent plant acquisition, the installation of acquired plants, and broadcast or drill seeding the entirety of the disturbed area.

Project Management: This includes on-site project implementation management from the Deschutes Land Trust's Restoration Specialist. It also includes construction oversight by the design engineer and other consultant staff. Further, the as-built survey conducted by the engineer and consultant staff are included.

Indirect: These costs are associated with the administration of the requested funds, and USFWS and the 2023 OWEB grant. Costs include, contract management, invoice processing, financial transactions, and all associated overhead costs.

## Budget Narrative – Contracting Details

### Oversight

Design engineer construction oversight contracts will be administered during the implementation of Phases 2 and 3. Further, as part of each oversight contract, an as-built survey will be completed by the consulting team. Both tasks are necessary to ensure that project objectives are



attained. The oversight task includes the design engineer checking and documenting the work of the implementation contractor about twice per week. The as-built survey task includes multiple days of GPS surveys in order to document constructed conditions. The as-built conditions become the new baseline by which all future topographic data are compared.

Tables 3 and 4 are estimated design engineer oversight/survey cost details based on prior work and consultant project manager estimates:

**Table 3. Phase 2 Oversight and As-built Survey**

Design Engineer	\$250/hr x 240/hrs =	\$60,000
Overnight Travel	\$400/day x 16/days =	\$6,400
As-built Design Engineer	\$250/hr x 60/hrs =	\$15,000
Project Manager	\$250/hr x 60/hrs =	\$15,000
Survey Engineer	\$200/hr x 60/hrs =	\$12,000
As-built Report	Lump Sum	\$41,600
<b>TOTAL</b>		<b>\$150,000</b>

**Table 4. Phase 3 Oversight and As-built Survey**

Design Engineer	\$250/hr x 168/hrs =	\$42,000
Overnight Travel	\$400/day x 14/days =	\$5,600
As-built Design Engineer	\$250/hr x 48/hrs =	\$12,000
Survey Engineer	\$200/hr x 48/hrs =	\$9,600
As-built Report	Lump Sum	\$30,800
<b>TOTAL</b>		<b>\$100,000</b>

### Implementation

Restoration implementation contracts will be administered for Phases 2 and 3. Many tasks are associated with implementation including, but not limited to, earthwork, stream structure installation, and water management (cost item descriptions are defined above). This work is dominated by the excavation, hauling, placing, and shaping of earthen materials. Implementation is proposed to occur over a two year period, with Phase 2 in 2024 and Phase 3 in 2025.

Tables 5 and 6 are estimated costs based on prior work, consultant project experience, and engineer estimates:

**Table 5. Phase 2 Implementation**

ITEM	UNIT	QUANTITY	PRICE	AMOUNT
<b>Preparation</b>				
Mobilization And Demobilization	LS	1	\$352,540	\$352,540
Clearing And Grubbing	AC	86.3	\$100	\$8,630
Preconstruction Surveying, Layout	LS	1	\$84,485	\$84,485
<b>Earthwork</b>				
Excavation, Hauling, Placing, Shaping	CY	336,000	\$6.5	\$2,184,000
<b>Woody Material Acquisition</b>				
Trees (Average/Sizes Variable)	EA	2,075	\$150	\$311,250
Slash	CY	206	\$45	\$9,270
<b>Stream Structure Installation</b>				
Habitat Jam Structure	EA	14	\$1,700	\$23,800
Post Assisted Log Structure (PALs)	EA	28	\$1,150	\$32,200
Beaver Dam Analog (BDA) Structures	EA	21	\$825	\$17,325
<b>Water Management</b>				
Dewatering, Turbidity Control, Activation	LS	1	\$78,000	\$78,000
			<b>TOTAL</b>	<b>\$3,101,500</b>

**Table 6. Phase 3 Implementation**

ITEM	UNIT	QUANTITY	PRICE	AMOUNT
<b>Preparation</b>				
Mobilization and Demobilization	LS	1	\$128,240	\$128,240
Clearing and Grubbing	AC	37.1	\$100	\$3,710
Preconstruction Surveying, Layout	LS	1	\$25,300	\$25,300
<b>Earthwork</b>				
Excavation, Hauling, Placing, Shaping	CY	170,000	\$5*	\$850,000
<b>Woody Material Acquisition</b>				
Trees (Average/Sizes Variable)	EA	470	\$95	\$44,650
Slash	CY	108	\$35	\$3,780
<b>Stream Structure Installation</b>				
Habitat Jam Structure	EA	7	\$1,700	\$11,900
Post Assisted Log Structure (PALs)	EA	5	\$1,150	\$5,750
Beaver Dam Analog (BDA) Structures	EA	5	\$825	\$4,125
<b>Water Management</b>				
Dewatering, Turbidity Control, Activation	LS	1	\$50,000	\$50,000
			<b>TOTAL</b>	<b>\$1,127,455</b>

\* = Cost per CY reduced due to proximity to excavation area

## Planting

Planting contracts will be administered for Phases 2 and 3. Contract tasks are to propagate native plants from locally sourced seed, deliver plants to the site, and install the plants per the project design and planting plan. Table 7 includes the types of plants that will be installed and associated costs based on prior work, consultant experience, and engineer estimates (plant or seed quantities may differ from the attached designs based on lessons learned from the implementation of the first phase in 2022):

**Table 7. Phase 2 and 3 Planting**

<b>PHASE 2</b>				
<b>ITEM</b>	<b>UNIT</b>	<b>QUANTITY</b>	<b>PRICE</b>	<b>TOTAL</b>
Wet Meadow Forbs	EA	15,000	\$3.50	\$52,500
Trees	EA	6,000	\$3.50	\$21,000
Shrubs	EA	15,000	\$3.50	\$52,500
Wetland/Riparian Plants	EA	72,000	\$1.75	\$126,000
Upland Grasses	EA	70,000	\$1.75	\$122,500
Seed	LB	1,200	\$25.50	\$30,600
<b>Plant Delivery</b>				<b>\$1,500</b>
<b>Plant Installation</b>				<b>\$179,400</b>
<b>TOTAL</b>				<b>\$586,000</b>
<b>PHASE 3</b>				
<b>ITEM</b>	<b>UNIT</b>	<b>QUANTITY</b>	<b>PRICE</b>	<b>TOTAL</b>
Wet Meadow Forbs	EA	5,500	\$3.50	\$19,250
Trees	EA	2,500	\$3.50	\$8,750
Shrubs	EA	5,500	\$3.50	\$19,250
Wetland/Riparian Plants	EA	35,000	\$1.75	\$61,250
Upland Grasses	EA	15,000	\$1.75	\$26,250
Seed	LB	400	\$25.50	\$10,200
<b>Plant Delivery</b>				<b>\$1,000</b>
<b>Plant Installation</b>				<b>\$79,050</b>
<b>TOTAL</b>				<b>\$225,000</b>

## Environmental and Cultural Resources Compliance

All environmental and cultural resource compliance requirements have been completed. Copies of all permits or documents are included as attachments. The U.S. Fish and Wildlife Service acted as the lead federal agency and completed all ESA and NEPA requirements. Any permits that have an expiration date prior to the project completion date (the end of 2025) will be renewed.

## Official Resolution

According to Land Trust Bylaws, one-third of the directors in office shall constitute a quorum for business transactions of the board of directors. An official resolution is attached to this application.

## References

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Confederated Tribes of Warm Springs, Oregon  
Natural Resources Branch  
PO Box C  
Warm Springs, OR 97761  
Phone: 541-553-2002  
Fax: 541-553-2303

DATE: March 9, 2023

Jason Grant  
Restoration Specialist  
Deschutes Land Trust  
210 NW Irving Avenue, #102  
Bend, OR 97703

Dear Jason:

The Confederated Tribes of Warm Springs Branch of Natural Resources (BNR) supports the Deschutes Land Trust efforts to restore fish and wildlife habitat at Ochoco Preserve (Preserve). The BNR is partnering with the Deschutes Land Trust to improve aquatic and terrestrial habitats on the Preserve that incorporates the confluences of both Ochoco and McKay Creek with the Crooked River. The restoration of the Preserve further supports the BNR's continued efforts toward the successful reintroduction of spring Chinook salmon and summer steelhead trout to the Crooked River basin.

The BNR recognizes that funding for the second and third phases of restoration on the Preserve is included in this application. The BNR supports the submission and content of this application, which includes over 124 acres of stream, floodplain, wetland, and upland restoration of the Preserve. This community-based project presents an exciting opportunity to reestablish beneficial ecological conditions that address water-related issues, such as poor water quality and water availability for fish and wildlife. Moreover, following the completion of the restoration, the Preserve will provide community connections and recreational opportunities via hiking trails and footbridges that connect to adjacent properties.

The BNR continues to participate by providing input and feedback on proposed project implementation activities and implementing our co-management authority by assisting with the salvage of fish from existing channels during implementation. The BNR, in 2021, provided partial funding for restoration design and is currently exploring additional funding opportunities to support this important project further. I want to express our continued support for this collaborative project as we continue our partnership with the Deschutes Land Trust.

Sincerely,

Austin L. Smith Jr.  
General Manager  
CTWS Branch of Natural Resources





# Oregon

Tina Kotek, Governor

Oregon Department of Fish and Wildlife

Deschutes Watershed District Office

61374 Parrell Rd

Bend, OR 97702

541.388.6363



**March 10, 2023**

**Jason Grant  
Restoration Specialist  
Deschutes Land Trust  
210 NW Irving Avenue, #102  
Bend, OR 97703**

**Re: Oregon Department of Fish and Wildlife Partnership with Deschutes Land Trust at Ochoco Preserve**

The Deschutes District of the Oregon Department of Fish and Wildlife (ODFW) strongly supports the Deschutes Land Trust in your effort to restore fish and wildlife habitat at Ochoco Preserve (Preserve). ODFW is acting in partnership with the Deschutes Land Trust to improve aquatic and terrestrial habitats on the Preserve. The Ochoco Preserve property is situated at the confluence of Ochoco and McKay Creeks with the Crooked River. As such, the location affords the opportunity to provide great benefits to fish and wildlife populations in the Crooked River Watershed. This is of particular importance to the ongoing effort to reintroduce Mid-Columbia summer steelhead and spring-run Chinook Salmon into historic habitats in the upper Deschutes Watershed, including the Crooked River subbasin. The mainstem and tributary habitats within the Ochoco Preserve property are uniquely positioned to significantly contribute to reintroduction success and the preservation of resident fish species by restoring spawning and rearing habitat and improving water quality conditions.

Furthermore, we recognize that funding for the second and third phases of restoration on the Preserve are included in this WaterSMART grant application. We agree with the submission and content of this application, which includes instream, floodplain, wetland, and upland restoration across a total of over 124 acres of the Preserve. This community-based project presents an exciting opportunity to reestablish beneficial ecological conditions that address water related issues and limiting factors for salmon and steelhead, such as, but not limited to, water availability for fish and wildlife and poor water quality. Furthermore, following all restoration phases, the Preserve will provide community connections and recreational opportunities via hiking trails and footbridges that connect to adjacent properties.

When the Deschutes Land Trust purchased the Preserve, they graciously accepted ODFW's request to provide a salmon and steelhead smolt acclimation site in the restoration designs for the property. In 2022, ODFW provided partial funding for the implementation of the first phase of restoration through a Restoration and Enhancement Program grant and participated in design reviews and fish salvage efforts. We intend to continue our partnership with the Deschutes Land Trust by providing input and feedback on proposed project implementation activities and assisting with fish and invertebrate salvage and relocation from existing channels during project implementation.

I wanted to express ODFW's continued support for this collaborative project and look forward to continuing our partnership with the Deschutes Land Trust at the Preserve.

Sincerely,

Jerry George  
District Fish Biologist  
Deschutes Watershed District Office  
61374 Parrell Rd, Bend, OR 97702  
541.388.6009



# City of Prineville

387 NE THIRD STREET • PRINEVILLE, OREGON 97754

## COMMUNITY DEVELOPMENT

Phone: (541)447-2367

EMAIL: [jsmith@cityofprineville.com](mailto:jsmith@cityofprineville.com)

Web Site: [www.cityofprineville.com](http://www.cityofprineville.com)

3/8/2023

Jason Grant  
Restoration Specialist  
Deschutes Land Trust  
210 NW Irving Avenue, #102  
Bend, OR 97703

Dear Jason:

The City of Prineville continues to support the Deschutes Land Trust in your effort to restore fish and wildlife habitat at Ochoco Preserve (Preserve). As you know the City of Prineville's "Crooked River Wetland Complex" is adjacent to and directly impacted by this project. We have been working with you for several years on how our projects can complement each other. We understand that the property contains the confluences of Ochoco and McKay Creeks with the Crooked River, which highlights the importance of restoring the property, particularly with regards to the reintroduction of spring Chinook salmon and summer steelhead to the Crooked River basin. Furthermore, we look forward to the completion of the second and third phases of restoration on the Preserve, which includes stream, floodplain, wetland, and upland restoration across a total of over 124 acres of the Preserve. This community-based project presents an exciting opportunity to reestablish beneficial ecological conditions that address water related issues, such as, but not limited to, water availability for fish and wildlife and poor water quality. Furthermore, following all restoration phases, the Preserve will provide recreational opportunities via hiking trails and footbridges and potential community connections via planned off-street paths and bridges that connect to the Crooked River Complex.

I wanted to express our continued support for this collaborative project and look forward to continuing our partnership with the Deschutes Land Trust.

Sincerely,

Joshua Smith  
Planning Director



March 16, 2023

Jason Grant  
Restoration Specialist  
Deschutes Land Trust  
210 NW Irving Avenue, #102  
Bend, OR 97703

Dear Jason:

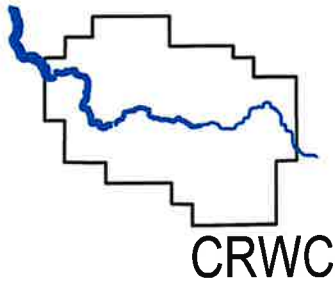
The Ochocho Irrigation District supports the Deschutes Land Trust in your effort to restore fish and wildlife habitat at Ochoco Preserve (Preserve). We understand that the property contains the confluences of Ochoco and McKay Creeks with the Crooked River, which highlights the importance of restoring the property, particularly with regards to the reintroduction of spring Chinook salmon and summer steelhead to the Crooked River basin. Furthermore, we look forward to the completion of the second and third phases of restoration on the Preserve, which includes stream, floodplain, wetland, and upland restoration across a total of over 124 acres of the Preserve. This community-based project presents an exciting opportunity to reestablish beneficial ecological conditions that address water related issues, such as, but not limited to, water availability for fish and wildlife and elevated summer stream temperatures. Furthermore, following all restoration phases, the Preserve will provide community connections and recreational opportunities via hiking trails and footbridges that connect to adjacent properties.

I wanted to express our continued support for this collaborative project and look forward to continuing our partnership with the Deschutes Land Trust.

Sincerely,

Bruce Scanlon  
Manager





CROOKED RIVER WATERSHED COUNCIL

498 SE Lynn Blvd.  
Prineville, Oregon 97754

Phone: (541) 447-8567 Fax: (541) 416-2115

contact@crwc.info  
www.crookedriver.deschutesriver.org

March 16, 2023

Jason Grant  
Restoration Specialist  
Deschutes Land Trust  
210 NW Irving Avenue, #102  
Bend, OR 97703

Dear Jason:

The Crooked River Watershed Council supports the Deschutes Land Trust in your effort to restore fish and wildlife habitat at Ochoco Preserve (Preserve).

We understand that the property contains the confluence zones of Ochoco and McKay Creeks with the Crooked River, highlighting the importance of restoring the property to meet the biological and life history needs of spring Chinook salmon and summer steelhead in the Crooked River basin.

We are excited about the prospects of completing the second and third phases of restoration on the Preserve, including restoration actions to improve stream, floodplain, wetland, and upland habitat on 124+ acres on the Preserve. This community-based project presents an exciting opportunity to reestablish beneficial ecological conditions that address water related issues, such as stream margin habitat for fish and wildlife and elevated summer stream temperatures. We support the commitment of the Trust to provide community connections and recreational opportunities on the Preserve via hiking trails and footbridges that connect to adjacent properties and existing paths.

I want to express our support for this collaborative project and look forward to continuing our partnership with the Deschutes Land Trust.

Sincerely,

Chris M. Gannon  
Director



# United States Department of the Interior



FISH AND WILDLIFE SERVICE

Oregon Fish and Wildlife Office

2600 SE 98<sup>th</sup> Avenue, Suite 100

Portland, Oregon 97266

Phone: (503) 231-6179 FAX: (503) 231-6195

Reply To: Ochoco Preserve DLT  
File Number: 6428.2100  
TS: #23-159

Jason Grant  
Restoration Specialist  
Deschutes Land Trust  
210 NW Irving Avenue, #102  
Bend, OR 97703

March 15, 2023

Re: Ochoco Preserve Restoration Project Letter of Support

Dear Mr. Grant:

The U.S. Fish and Wildlife Service (USFWS) Partners for Fish and Wildlife Program supports the Deschutes Land Trust (DLT) in their efforts to restore fish and wildlife habitat at the Ochoco Preserve through the Ochoco Preserve Restoration Project. This project addresses a critical area as it encompasses the confluences of both McKay Creek and Ochoco Creek with the Crooked River. These confluence areas when healthy are areas of ground water exchange that improves water quality and refugia habitat for young steelhead and Chinook salmon that are recolonizing the watershed above the Pelton Round Butte Facilities. These areas provide rearing habitat for out-migrating smolts to grow and improve their fitness before attempting the arduous journey downstream through the dams on the Deschutes and Columbia Rivers and improved fitness has correlated with higher percentages of returning adults. These confluence areas are also important for wildlife including migratory birds, as both migratory resting and foraging areas as well as nesting and rearing habitats.

It is for these reasons that the USFWS has provided funding to this effort, and we look forward to our continued collaboration for the implementation and success of this project. We appreciate the opportunity to voice our support for this important project. Please contact Dirk Renner (541-969-0162) if you have any questions or need additional information.

Sincerely,

For Kessina Lee  
Oregon Fish and Wildlife Office  
State Supervisor

Printed on 100 percent chlorine free/60 percent post-consumer content paper.





March 15, 2023

Jason Grant  
Restoration Specialist  
Deschutes Land Trust  
210 NW Irving Avenue, #102  
Bend, OR 97703

Dear Jason:

The Deschutes River Conservancy supports the Deschutes Land Trust in your effort to restore fish and wildlife habitat at Ochoco Preserve (Preserve). We understand that the property contains the confluences of Ochoco and McKay Creeks with the Crooked River, which highlights the importance of restoring the property, particularly with regards to the reintroduction of spring Chinook salmon and summer steelhead to the Crooked River basin. Furthermore, we look forward to the completion of the second and third phases of restoration on the Preserve, which includes stream, floodplain, wetland, and upland restoration on over 124 acres of the Preserve. This community-based project presents an exciting opportunity to reestablish beneficial ecological conditions that address water related issues, such as, but not limited to, water availability for fish and wildlife and elevated summer stream temperatures. Furthermore, following all restoration phases, the Preserve will provide community connections and recreational opportunities via hiking trails and footbridges that connect to adjacent properties.

I wanted to express our continued support for this collaborative project and look forward to continuing our partnership with the Deschutes Land Trust.

Sincerely,

A handwritten signature in cursive script that reads "Kate Fitzpatrick". The signature is written in black ink and is positioned above the printed name and title.

Kate Fitzpatrick  
Executive Director



**Confederated Tribes of the Warm Springs**  
*P.O. Box 960, Warm Springs, OR 97761*



**Portland General Electric**  
*1121 SW Salmon St. Portland, OR 97204*

Jason Grant  
Restoration Specialist  
Deschutes Land Trust  
210 NW Irving Avenue, #102  
Bend, OR 97703

March 8, 2023

Dear Jason,

Portland General Electric (PGE) and the Confederated Tribes of the Warm Springs (CTWS), as co-licensees of the Pelton Round Butte Hydroelectric Project, support the Deschutes Land Trust in your effort to restore fish and wildlife habitat at Ochoco Preserve (Preserve). PGE and CTWS are working to reintroduce self-sustaining and harvestable runs of spring Chinook and steelhead trout to the Crooked River Basin. The Preserve is a priority area for this reintroduction effort as it contains the confluence of Ochoco and McKay Creeks with the Crooked River. In addition to the fish and wildlife habitat potential of the Preserve, through partnership with the Deschutes Land Trust and Oregon Department of Fish and Wildlife, the Preserve is a key location for ongoing smolt acclimation and fish monitoring programs.

We look forward to the completion of the second and third phases of restoration on the Preserve, which includes stream, floodplain, wetland, and upland restoration across a total of over 124 acres of the Preserve. This community-based project presents an exciting opportunity to reestablish beneficial ecological conditions that address water related issues, such as, but not limited to, water availability for fish and wildlife and poor water quality. Furthermore, following all restoration phases, the Preserve will provide community connections and recreational opportunities via hiking trails and footbridges that connect to adjacent properties.

I wanted to express our continued support for this collaborative project and look forward to continuing our partnership with the Deschutes Land Trust.

Sincerely,

Megan Hill  
Natural Resources Manager  
Portland General Electric

cc. Cathy Ehli, Warm Springs Power Enterprises

**Deschutes Land Trust**

210 NW IRVING AVENUE, SUITE 102  
BEND, OREGON 97703  
OFFICE: (541) 330-0017  
DESCHUTESLANDTRUST.ORG



CONSERVATION. COMMUNITY. CARING FOR THE LAND.

**March 22, 2023**

**Subject: Recommended Statements Regarding Ochoco Preserve Restoration – Phases 2 and 3**

**Re: BOR NOFO RA23AS00089**

**Conflict of Interest Statement:** The Deschutes Land Trust has no current or potential conflicts of interest with regards to the proposed project.

**Single Audit Reporting Statement:** The Deschutes Land Trust was not required to submit a Single Audit report for the most recently closed fiscal year (2022).

**Overlap/Duplication Statement:** There is no overlap between the proposed project and any other active or anticipated projects in terms of activities, costs or time commitment of key personnel. Further, the proposal submitted for consideration under this program is not in any way duplicative of any proposal that was/will be submitted for funding consideration to any other potential funding source (Federal or non-Federal).

Sincerely,

A handwritten signature in black ink that reads "Rika Ayotte".

**Rika Ayotte**  
Executive Director

