Restoring Upper Deschutes River Aquatic Habitat for the Oregon spotted frog and other Native Species

Proposal submitted by:
Deschutes River Conservancy
in partnership with:
Deschutes Basin Board of Control (DBBC)

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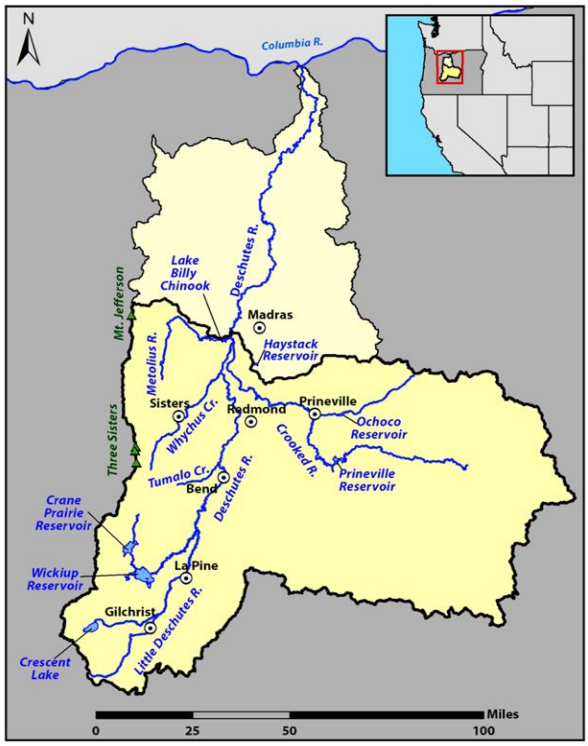
TECHNICAL PROPOSAL AND EVALUATION CRITERIA

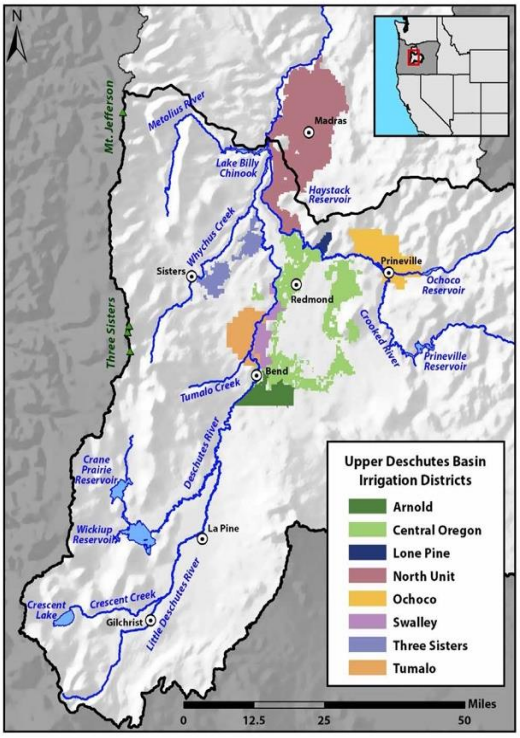
EXECUTIVE SUMMARY

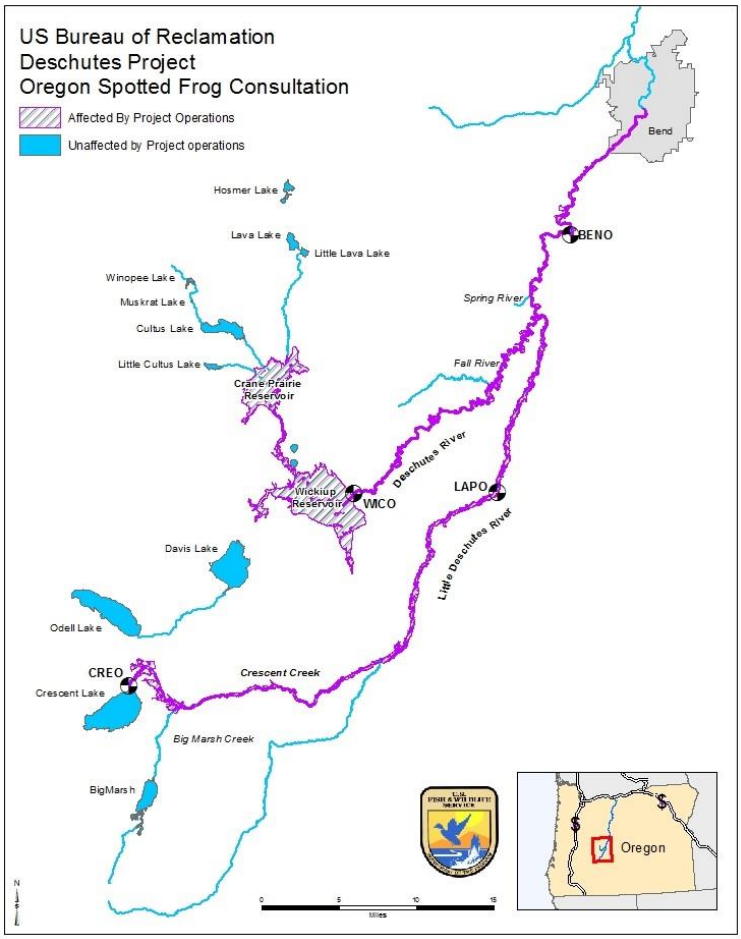
The Deschutes River Conservancy (DRC), a 501(c)(3) non-profit organization and Category B applicant, in partnership with the Deschutes Basin Board of Control (DBBC) submit this application for funding to complete the study and design efforts necessary for successful aquatic habitat improvements in the Upper Deschutes Basin. The DRC and DBBC have worked cooperatively on numerous projects in the past and most recently received funding to jointly develop a Water Bank for central Oregon. This proposal includes a funding request through the Task A: Study and Design category (NOFO #R23AS00106) from the Bureau of Reclamation. Aquatic habitat in the Upper Deschutes River between Wickiup Reservoir, a Reclamation storage facility, and the City of Bend has been severely degraded due to altered hydrology associated with the storage and release of water for irrigation. This degradation impacts native redband trout as well as the Oregon spotted frog (*Rana pretiosa*) (OSF), listed as threatened under the Endangered Species Act and a key driver for restoration in the basin. The funding requested through this proposal will be used to design projects that will create, restore, and protect critical habitat for the OSF, that will also benefit native fish and other aquatic species in the Upper Deschutes. The eight irrigation districts that comprise the DBBC prepared the Deschutes Basin Habitat Conservation Plan (HCP) to address incidental take of ESA-listed species likely to be caused by certain water management activities. The HCP was signed into effect in December of 2020, and lays out the required releases/increased flows into the Upper Deschutes during the winter months from Wickiup reservoir over the coming years. This action is required to provide the hydrology necessary for the OSF habitat to be accessible. What the HCP and the associated increased flows do not provide however, is the physical, functioning habitat that the OSF requires in the floodplain and riparian areas adjacent to the active channel. The US Fish and Wildlife Service (USFWS) has completed a draft three-part framework for recovery planning for the OSF. The framework includes the Draft Recovery Plan for OSF and two supplementary documents: the Species Biological Report and the Recovery Implementation Strategy (RIS). The RIS includes a detailed description of all the reaches affected by current water management, what the benefits of the HCP generated flow changes may be to each reach, proposed short- and long-term recovery actions, and what actions may be implemented within that reach to support connectivity between OSF populations and improve other aspects of the critical habitat. This information provides an optimal springboard for the requested funding to move previous efforts forward into the design phase. In conjunction with consideration for the OSF, the resulting aquatic restoration will be designed to also benefit not only OSF, but other fish (e.g. off-channel rearing habitat) and wildlife species, as ecological flows return and thus provide greater long-term regional benefit. The DRC and DBBC will work closely with all stakeholders to shepherd the prioritized projects into the design phase, ideally accessing Task B funding in the future for implementation. This prioritization and design work would initiate in January 2024 and carry through the life of the grant, ending in December 2025.

PROJECT LOCATION

The Project location is within the Deschutes Basin of Central Oregon (HUC 10 number: 1707030511). The maps below show the river basin within the region, the boundaries of the entire Deschutes River, as well as the Upper Deschutes River, and the eight Irrigation Districts within the Basin, which comprise the DBBC. The third image depicts the habitat areas of concern and focus for this proposal.







TECHNICAL PROJECT DESCRIPTION

In December of 2020, the eight central Oregon/Deschutes basin irrigation districts completed a HCP that commits to restoring flows in the river over the next 30 years to mitigate impacts to the Oregon spotted frog habitat. Irrigation districts are aggressively implementing conservation projects, such canal piping, to meet these commitments and are working with the Deschutes Basin Water Collaborative (DBWC) on a long-term water management plan that meets agricultural, instream and municipal needs into the future. More specifically, HCP flow requirements increase over the 30-year implementation timeline. For example, HCP recommended minimum winter flows (from Sept 16 –March 31) in the Deschutes River below Wickiup Dam are 100 cfs in implementation years 1-7, 300 cfs in years 8-12, and 400 cfs in years 13-30. A subsequent Biological Opinion (BiOp) issued by USFWS and National Marine Fisheries Service (NMFS) approved the conservation measures and flow objectives outlined by the HCP. Additionally, the Section 7 of the federal Wild and Scenic Rivers Act helps to protect against any water development or activities that could negatively affect the unique characteristics of a listed reach, of which there are eight in the Upper Deschutes River.

The on-going flow restoration is critical to restoring this ecosystem, but complementary physical habitat restoration is equally as necessary for the system to regain function. These needed

actions were determined and are outlined in a recently-released USFWS Restoration Implementation Strategy (RIS) associated with the Oregon spotted frog Recovery Plan. This proposal would move to develop designs for aquatic habitat restoration project sites on the Upper Deschutes River Basin.

The project area for this proposal includes Reclamation's Deschutes Project, ties directly to improving operations in Wickiup Reservoir and North Unit Irrigation District, Reclamation facilities, and will support goals associated with the HCP agreements and Section 7 consultations.

Various collaborative planning efforts have been undertaken within the Basin for many years, including the 2018 Reclamation-funded Upper Deschutes River Basin Study (Basin Study), the aforementioned HCP, signed in 2020, and the Deschutes Basin Water Collaborative (DBWC).

While the existing instream water rights, HCP/BiOpflow objectives, and Wild and Scenic Rivers protections referenced above provide useful information for understanding the flows needed to sustain key ecological functions, they do not represent a full accounting of instream needs or demands. Some demands, specifically water for OSF habitat, are not necessarily a direct function of increased instream flow. This is because OSF habitat does not exist instream but rather is located just out-of-stream in wetlands and wetted riparian areas adjacent to river channels. Restoration of the stream channel to allow certain flows to inundate these habitats during critical times of year is therefore more important to consider than instream flow objectives alone when the goal is to improve OSF habitat. This has been a point of emphasis for the DBWC Ecological Needs Technical Committee as it has worked to characterize all instream water needs in the Basin. The Basin Study points to a study conducted by the River Design Group in 2017 to assess the relationships between flow thresholds and key species habitat.

The recommendations of the DBWC Ecological Needs Technical Committee are to prioritize the integration of both habitat restoration and instream flow restoration efforts. For example, some critical habitats for the OSF are in a disconnected floodplain, which, under current geomorphological conditions, would only be inundated during extremely high flow rates. Attempting to inundate those habitats through flow restoration alone would be unrealistic to achieve. However, restoring the stream channel through regrading of the riverbanks and reconnecting the active channel to its floodplains would allow those habitats to be inundated by much lower and more frequently achievable flow rates. In this way, habitat restoration as equally important of a strategy as flow restoration for meeting existing ecological targets.

The support provided through this funding opportunity will facilitate moving several of the reaches identified in the draft Recovery Implementation Plan as high priority for aquatic and floodplain habitat restoration into the design phase – bringing these critical improvements closer to implementation. The long-term plan is to continue to implement and scale projects to reach system-wide benefit.

The planning and design products that will be developed with this funding, if awarded, include:

- Project site studies and selection – building off of previous completed efforts

- Site specific design and engineering to reach target 60% level of design for select sites
- Preparation of project cost estimates and development of up to 60% project construction plans
- Legal and institutional research (research on permits and environmental and cultural compliance

EVALUATION CRITERIA

Sub Criterion A.1. General Project Benefits

What are the critical issues of concern in the watershed? Provide documentation and support for how the critical issues were identified.

The critical issues of concern in the Upper Deschutes Basin are focused on water quantity (particularly seasonally), quality, habitat, and drought resilience. This proposal focuses on the critical need for aquatic habitat restoration in the Upper Deschutes and how this work correlates with flow restoration. To date, significant work has been done to determine the ecological flow rates in terms of cubic feet per second (cfs) for the Upper Deschutes River in the winter. Increased flows during this time of year have been identified as critical for the habitat for various aquatic species. Historically, runoff from precipitation and snowmelt has been stored during the winter in Wickiup Reservoir. Per the studies and agreements described in the Technical Approach, the Upper Deschutes River winter flows will be restored on a gradual, yet consistent basis over the coming decades. While the water being released from the reservoir in the winter is of utmost importance, equally as important is the physical habitat that these increased flows will make accessible to sensitive and threatened species. The USFWS and numerous other federal, state, and public/private entities have worked to carefully identify and assess potential aquatic and floodplain habitat projects in the Upper Deschutes River basin, which are necessary to meet the critical habitat requirements of the species of concern.

The Deschutes River Basin accounts for more than 50% of identified OSF critical habitat. This alone makes restoring habitat for this species a critical issue for this Basin and for the broader region.

Explain how your project will benefit aquatic ecosystems, including benefits to plant and animal species, fish and wildlife habitat, riparian areas, and ecosystems. For example, will your project create new habitat, improve water quality, improve stream or riparian conditions, restore fish passage and connectivity, or otherwise benefit aquatic ecosystems. Note: In your response to this criterion, A.1., please generally describe the expected benefits of your project to aquatic ecosystems; a quantitative explanation of project benefits is requested below in response to criterion A.2.

The proposed projects will benefit aquatic ecosystems (plant and animal species) by restoring the specific habitat required, so that as flows are restored through the HCP, the species of concern may access the necessary in-stream, riparian, and wetland areas. Restoring and enhancing complex wetland habitats of variable water depths with native vegetation structure

and diversity will provide quality habitat that is suitable for all life stages of Oregon spotted frogs. Reducing or eliminating invasive reed canary grass, or otherwise managing for short-stature vegetation, and controlling non-native predators such as American bullfrogs also is vital to maintaining high-quality Oregon spotted frog habitat. Active and ongoing management of these threats is critical to achieving and sustaining recovery of the species. (USFWS RIS, 2023)

Ancillary benefits of these ecosystem restoration projects, once implemented, include: a more resilient ecosystem that can withstand high and lower than average flows without instability and habitat loss; lower water temperatures as riparian vegetation is restored, and flows increase; and habitat improvements for species beyond those of concern and/or focus.

- Does the project affect water resources management in 2 or more river basins (defined as a minimum HUC-10 level)? Explain how and identify the area benefitted (provide a map).

No, the aquatic habitat restoration projects included in this proposal are all within the Upper Deschutes River basin. The areas included in the proposal are indicated in the maps provided in Project Location section.

- Does the project provide regional benefits, in addition to fish or habitat restoration, including:
    - Supporting water needs for multiple water uses (i.e., agricultural, municipal, Tribal, environmental, recreational)?

There are approximately 220,000 irrigated acres within the Upper Deschutes River Basin, and average annual irrigation diversions in the basin average 720,000 acre-feet. Water in the Upper Deschutes River is stored and delivered to lands across three counties in Crook, Deschutes, and Jefferson Counties, which supports an agricultural economy and lifestyle. Flow and habitat restoration needs for native and ESA-listed species create risk to continuing irrigation practices. Restoration projects like those described in this proposal are win-win projects that benefit fish and wildlife habitat while supporting existing uses of water and the important recreational economy that is based on a healthy river. Partners in the Deschutes Basin have worked collaboratively for decades to ensure that rivers are being restored, tribal water priorities are addressed, and municipal and irrigation needs are met. The Deschutes Basin Water Collaborative is currently finalizing an integrated water management plan that provides this roadmap into the future. A healthy and sustainable future for all these interests relies on scaling reach-wide aquatic habitat restoration alongside planned flow restoration. This project provides a springboard for the habitat work to accelerate.

    - Reducing water conflicts?

The primary focus in the Upper Deschutes River Basin right now is recovering the ESA-listed Oregon spotted frog. Ambitious water conservation efforts are underway to support this. Ensuring that the necessary and complementary aquatic habitat restoration occurs simultaneously will optimize habitat, benefit the species, and reduce likelihood of water conflict in the future.

    - Providing other regional benefits, such as job creation or public safety benefits?

Launching the design and subsequent implementation of aquatic restoration projects supports contractors in the local economy. This work will be scaled in the future, with cascading benefits. Successful species recovery also supports the recreation-based economy and reduces risk to the agricultural economy in the basin.

- Is this project a component of a broader strategy or plan to replace aging facilities with alternate facilities providing similar benefits? Describe how this project fits within the strategy or plan and how it will continue to provide benefit.

Aquatic habitat restoration is complementary to large-scale water conservation and management efforts in the basin targeted to recovering the Oregon spotted frog and improving habitat for native fish. Integrating these strategies is called out in the Oregon spotted frog Recovery Plan, the Upper Deschutes River Basin Study, the Integrated Water Management Plan being developed by the Deschutes Basin Water Collaborative, and the Upper Deschutes Flow-Habitat Strategic Action Plan being developed by the Upper Deschutes Watershed Council, the DRC, and the Deschutes Land Trust. The water conservation strategies underway entail modernizing antiquated open-earth canal delivery systems across Central Oregon with piped systems that reduce conveyance losses by up to 50%. These modernized systems provide reliable agricultural water while freeing up significant water for flow and ecosystem restoration. Because the river channel, however, has been so altered by extreme flow fluctuations resulting from the storage and diversion of irrigation water, flow restoration alone is not sufficient to reconnect wetlands and floodplains key to species recovery. The projects in this proposal are necessary to restore channel geomorphology and allow restored flows back on the floodplain to provide critical habitat.

- Describe the status of the species and/or habitat that will benefit from the project:

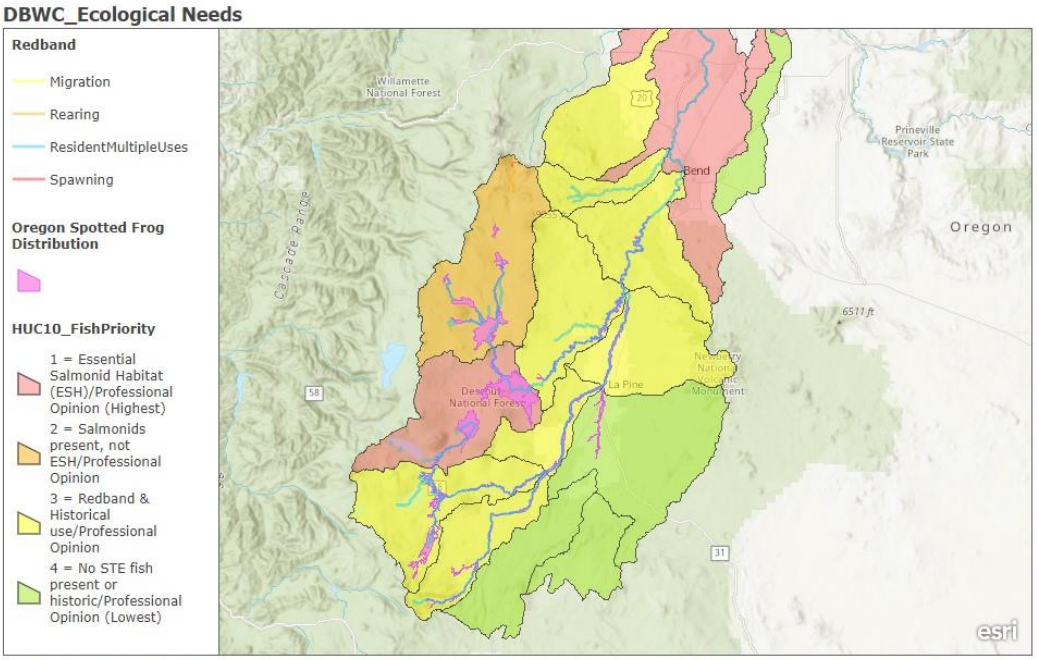
Aquatic habitat in the Upper Deschutes River between Wickiup Reservoir, a Reclamation storage facility, and the City of Bend has been severely degraded due to altered hydrology associated with the storage and release of water for irrigation. This degradation impacts native redband trout as well as the Oregon spotted frog (*Rana pretiosa*) (OSF), a key driver for restoration in the basin.

The OSF frog was listed as threatened under the Endangered Species Act in 2014 and critical habitat needs for the species were designated in 2016. In 2017, a USFWS Biological Opinion assessed all spotted frog populations and habitat within the Deschutes Basin that was affected by storage and release operations for irrigation management. Together these key documents describe the specific local factors contributing to the decline and threatening the continued existence of Oregon Spotted Frog in the Upper Deschutes Basin, including documenting specific habitat needs in specific locations. USFWS has developed a draft Recovery Plan for Oregon Spotted Frog.

Redband trout (*O. mykiss gairdneri*) are an Oregon Conservation Strategy species and are also designated as an Oregon Sensitive-Critical species. The Sensitive-Critical sub-designation identifies *O. mykiss gairdneri* as a species of particular conservation concern, subject to “current

or legacy threats significantly impacting their abundance, distribution, diversity, or habitat", and which "may decline to the point of qualifying for threatened or endangered status if conservation actions are not taken" (ODFW 2017).

The graphic below indicates the habitats of concern to be addressed through this proposal and their designation for certain ecological needs:



- Does the project contribute to the restoration of species listed under the Endangered Species Act (ESA) of 1973 (16 U.S.C. 1531 et seq.)?

Yes, the Oregon spotted frog (*Rana pretiosa*).

- Does the project contribute to the restoration of listed anadromous fish?

Mid-Columbia steelhead, listed as threatened under the Endangered Species Act, are present in the twelve miles of the Middle Deschutes River above Lake Billy Chinook, and in the Lower Deschutes River below Lake Billy Chinook. While streamflow is not a major limiting factor in this reach, flow and habitat restoration upstream improve the overall health of the basin. Reductions in temperature and turbidity related to the aquatic habitat restoration work proposed here would benefit these species found further downstream.

- Are the species subject to a recovery plan or conservation plan under the ESA?

Yes, the 2020 Habitat Conservation Plan (HCP), the 2023 draft Recovery Plan for OSF and two supplementary documents: the Species Biological Report and the Recovery Implementation Strategy (RIS), generated by the USFWS, as well as the on-going Plan development by the Deschutes Basin Water Collaborative (DBWC).

- Has there been a designation of critical habitat? If so, how does the proposed action benefit such critical habitat?

As per the draft RIS the OSF Recovery Action Priorities for the East Cascades/Deschutes Basin ecoregion state: "Oregon spotted frog habitat within the East Cascades-Deschutes Basin ecoregional area, located east of the Cascades Crest in Oregon, are influenced by cold, snowy winters and hot, dry summers. Precipitation is generally low (around 20 in.) annually, depending on location. Therefore, water availability for Oregon spotted frog is of high concern. Climate change that results in less precipitation in the form of snow may result in drying of OSF habitat in the late summer and fall seasons. Actions that ensure enough water is available to support the entire OSF life cycle are essential to recovery in this ecoregional area." (Draft RIP, 2023). The flow restoration being implemented through the HCP addresses the threat to habitat related to water availability.

The aquatic habitat restoration projects focused on through this proposal will benefit the critical habitat by directly restoring areas identified through previous and future assessment and planning efforts. These areas will be targeted for the positive impact their restoration will have on the OSF populations, as well as other vulnerable species.

o If the species are not listed under the ESA, please describe their status. For example, are they native species, game species, at-risk species, species of greatest conservation need, species of Tribal significance, or state listed?

Redband trout (*O. mykiss gairdneri*) are an Oregon Conservation Strategy species and are also designated as an Oregon Sensitive-Critical species. The Sensitive-Critical sub-designation identifies *O. mykiss gairdneri* as a species of conservation concern, subject to "current or legacy threats significantly impacting their abundance, distribution, diversity, or habitat", and which "may decline to the point of qualifying for threatened or endangered status if conservation actions are not taken" (ODFW 2017).

Sub Criterion A.2. Quantification of Specific Project Benefits
What are the types and quantities of aquatic ecosystem benefits provided?

The Deschutes River OSF populations below Wickiup Dam, including Dead Slough, small populations on private lands between Dead Slough and Sunriver (e.g., Island Loop), Slough Camp complex, and the Old Mill will be targeted through this proposal. Additional areas of critical habitat along the Little Deschutes River and Crescent Creek, also in the Upper Deschutes Basin, will be assessed for OSF habitat restoration potential as well. The overall strategy for recovery at the sub-basin scale includes:

- To improve population level resiliency by enhancing and restoring large areas of suitable habitat within each sub-watershed with hydroperiods that support the entire life cycle of OSF and allow for movement between populations. The largest populations will be maintained above and below Wickiup Dam, Crane Prairie and Sunriver, respectively.

- Habitat maintenance and restoration will treat threats and aim to retore aquatic connectivity between populations.
- Genomics analyses will inform overall strategy for maintaining genetic diversity to support representation of the species.

These goals listed above are measurable in the evaluation of OSF inhabiting the restored areas, evidence of breeding behaviors, control of threats, and assessment of genetic diversity.

A.2.1. Species and Habitat Health

o Provide information regarding the current status of species and habitat health in the planning area. Provide factual support for the status information, including citations to relevant studies, habitat or species health assessments, and statistical information to describe the critical species and habitat issues of concern in your planning area, including issues related to fish or wildlife health and habitat conditions.

In its current condition, the Deschutes River channel is wider by approximately 20 percent than it was historically, as a result of storage and release operations from Wickiup Dam (USFS 1996). The widened river channel affects the way water is distributed spatially onto the floodplain and into wetlands. Essentially, higher-than-historical flows are currently needed to reach and support the ecological function of floodplain wetland habitats where OSF occur. Wetland habitats have shifted in distribution, due to the high summer flows for irrigation, and the hydroperiod (i.e., seasonal timing and duration of water) within wetlands has also changed under the regulated water management regime. The vegetative characteristics of wetland and riparian areas are influenced by the duration that water is present and the volume of water. High irrigation season flows result in deep inundation of riverine slough habitats, inhibiting the growth of emergent wetland vegetation in many areas. During the irrigation storage season (winter) when flows in the Deschutes River are lowest, large unvegetated areas within the wetlands are without water. Although wetland habitat may extend further onto the Deschutes River floodplain due to high summer flows, the existing condition of wetlands is degraded due to water storage and release operations such that OSF may not successfully complete its lifecycle (USFWS 2017; USFWS 2019, USFWS 2020, USFWS Draft RIS 2023).

As per the 2022 USFWS draft Recovery Plan for OSF: Historical habitat loss, fragmentation, and degradation due to altered hydrology, invasive vegetation, non-native predators, loss of disturbance processes that set back vegetational succession, and encroachment by tall shading vegetation (e.g., shrubs, tress) have led to population declines across the extant range of Oregon spotted frog. Ongoing habitat degradation threatens the viability of the species, whose remaining populations are increasingly becoming small, isolated, and vulnerable to a heightened risk of extirpation from known threats, stochastic events, loss of genetic diversity, and/or climate-related changes.

o Describe how your conceptual project will address these issues and how your study and design efforts will inform your approach. If you are able to quantify the expected species and habitat benefits of the project you are studying and designing, please do so.

Restoration of the functioning condition of the Upper Deschutes River and its tributaries is the key path to restoring OSF habitat and improving connectivity between OSF populations. Restoration along this approximately 60 miles of the Deschutes River is primarily dependent upon improvement of flows (increased winter flows and reduced summer flows), coupled with site-specific physical river channel habitat improvements that convey water into oxbows and wetland habitats where critical to OSF.

Within the regulated water management regime on the Deschutes River, two factors influence the ecological function of the river and wetlands inhabited by OSF: (1) the physical configuration of the river and (2) the variation in the timing and duration of flow volumes within the river's channel (described in terms of cubic feet per second [cfs]).

The plans and designs implemented with support of this funding will create projects, which once implemented, will address the current habitat degradation through including design aspects and approaches focused on improving resiliency, connectivity, complexity.

The documented recovery strategies for the aquatic habitats needed by the OSF and other species, including redband trout, aim to improve resiliency of populations within each sub-basin. This will be accomplished by restoring and improving aquatic habitats to support the species' life cycle and improving aquatic connectivity between populations to support dispersal and genetic exchange. Threats to these species and their habitat will be managed and eradicated to improve OSF resiliency and overall ecological function.

To maximize resiliency, these habitats should be large enough that they contain adequate structural complexity, with variable water depths and native vegetation to support breeding, rearing, overwintering, and movement within and between seasonal habitats.

Measurements of habitat improvements once the proposed projects are designed and implemented will include assessments described in the section above (A.2), including monitoring of the species abundance, breeding, resilience, and other water quality measurements associated with the ecosystem restoration.

Specific methodologies and data that will be collected by USFWS includes:

- Develop strategy for conducting surveys to determining trends in terms of resiliency.
- Conduct annual/periodic egg mass counts
- Conduct summer surveys to determine extent of distribution and habitat use
- Conduct capture-mark-recapture (CMR) estimates of key populations
- Gain approval to access private lands along Deschutes River downstream of Wickiup Dam to expand survey efforts
- Continue the vegetation and habitat monitoring that is currently conducted at a subset of OSF sites under the DBHCP.
- Survey and monitor OSF response to translocation and relocation efforts
- Use genomics to determine key conservation and connectivity areas for OSF

- Watershed Benefits
  - Provide information regarding the current status of water quality, ecological function, and ecological resiliency in the planning area. Provide factual support, citations to relevant studies, and statistical information to describe the critical issues in your planning area related to water quality, ecological function, ecosystem resiliency conditions.

Overall, water quality in the Upper Deschutes Basin is generally considered to range from "excellent" in upstream reaches to "poor" at sites lower in the basin. Oregon Department of Environmental Quality (DEQ) conducted water quality analyses of long-term monitoring sites in the basin (Deschutes Basin Water Quality Status and Action Plan Summary, 2011). These assessments were based on evaluating levels of temperature, dissolved oxygen, pH, biochemical oxygen demand, total solids, nitrogen, phosphorus, and bacteria at each site. DEQ and its stakeholders evaluated these concerns and others in the basin and summarized them based on the level of concern or perceived risk. In response to these concerns, DEQ proposed a Water Quality Action Plan to guide future research, protection, and restoration projects in the basin. Actions outlined by the plan include those which aim to reduce stream temperature, improve flow volumes, reduce inputs of sediments and nutrients, assess the effects of groundwater pumping on streamflow, and conduct ongoing monitoring and research.

Table 1. Levels of concern for water quality issues in the Upper Deschutes Basin (Oregon DEQ).

Status Summary for Surface and Groundwater Related Resources in the Deschutes Basin													
Surface Water	Bacteria	Harmful Algae Blooms	Temperature	Total Dissolved Gas	Nutrients, DO, pH Chlorophyll *a*	Altered Hydrology	Habitat Modification	Sediment / Turbidity	Toxics: -Emerging Contaminants -Pharmaceuticals -Personal Care Products	Toxics: Metals	Toxics: Arsenic	Toxics: Mercury	Toxics: Pesticides
Little Deschutes													
Upper Deschutes													

Generally poor condition, substantial concern for water quality

Deteriorating condition, moderate concern for water quality

Generally good condition, not an urgent concern for water quality

Unknown condition or lack of data

Reference Deschutes Basin Water Quality Status and Action Plan Summary, 2011

Regarding ecological functions in the proposed project areas, as well as ecosystem resiliency, these degradations have been described in the previous section (A.2.1). In summary, the functions of these habitats, or rather areas where habitats historically were located and utilized by critical species, are greatly diminished due to (but not limited to) flow manipulations, alterations in the channel geomorphology, and presence of non-native species. The resiliency of these ecosystems is greatly diminished and requires restoration to provide the areas for flood attenuation, native vegetation, biodiversity, and connectivity. The 2022 USFWS draft Recovery Plan cites specific ecological degradations to OSF habitat and are included in the above section.

- Describe how your conceptual project will address these issues and how your study and design efforts will inform your approach. If you are able to quantify the expected watershed benefits of the project you are studying and designing, please do so.

As per the draft RIS from USFWS, "The actions needed to alleviate threats to the species (OSF) and achieve recovery criteria, identified in the draft Recovery Plan, are organized below into six categories: 1) restore and enhance wetland, riverine, and other aquatic habitats to support all life stages of Oregon spotted frog; 2) ameliorate threats from predation and disease to improve resiliency; 3)increase population size and reduce isolation of Oregon spotted frog populations within sub-basins to improve resiliency and representation; 4) promote awareness and conservation partnerships within the Oregon spotted frog range; 5) utilize regulation and policy tools to support species recovery; and 6) conduct monitoring and scientific research to guide and support recovery." (USFWS Draft Recovery Implementation Strategy, 2023).

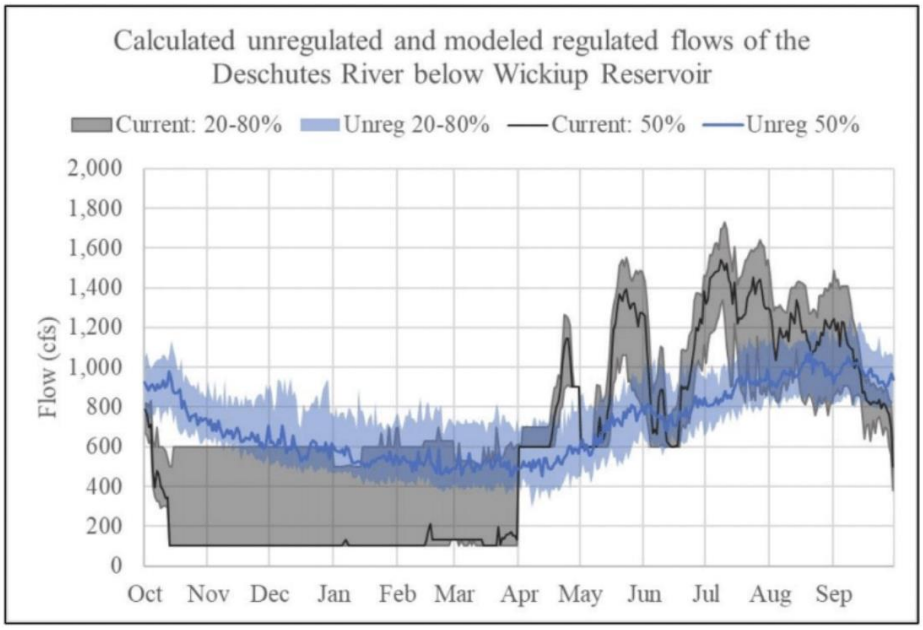
The work proposed through this application focuses primarily on the first category of required actions to alleviate threats and ensure viability of the ESA-listed species. The significant research, planning, and collaboration that has resulted in these recovery-focused documents ensures a well-thought-out approach to restoration, which will result in benefits to the watershed through improved water quality, more effective flood attenuation and resiliency to drought conditions through restored wetland complexes, habitat enhancement for multiple aquatic species, and over-all improved ecological condition. The USFWS has an on-going monitoring program that evaluates the OSF populations, breeding, and other metrics. Additionally, temperature monitoring in the restoration reaches and further downstream in the watershed will continue. Other water quality parameters will be part of the on-going evaluation pre and post restoration to determine the long term and downstream improvements to water quality.

- Water Supply Benefits

- Provide information regarding the current status of water availability for aquatic ecosystems. Are there issues with sufficient water availability for ecosystems seasonally or year-round? Provide factual support, including hydrographs, citations to relevant studies, and stream flow information to describe the critical issues in your planning area related to water availability for aquatic ecosystems.

According to the 2018 Basin Study and the draft DBWC Plan for water management, water quantity in the Upper Deschutes River Basin is influenced by groundwater contributions and altered hydrology due to surface water storage reservoirs and diversions for out-of-stream uses. Calculated unregulated summer flows range from approximately 200 to 900 cfs, depending on hydrologic conditions (Reclamation 2018b). However, under current regulated flow conditions, water stored in reservoirs during the winter for irrigation use during the summer has resulted in lower winter stream flows and higher summer stream flows compared to natural or unregulated conditions in the Upper Deschutes River between Wickiup Reservoir and the City of Bend. Below the City of Bend, summer irrigation diversions reduce flows in the Middle Deschutes River.

Groundwater inputs then add to flows as the river nears the downstream limit of the study area. The graphic below shows the range of seasonal flows currently:



According to the HCP, developed in 2020, the sloughs and wetlands along the Upper Deschutes River between Wickiup Dam and Bend are critical habitat for Oregon spotted frogs. This reach of river has been altered heavily by the last century of storage and release operations. In many areas, floodplain habitats are disconnected from the river and are no longer able to support spotted frogs year-round.

- Describe how your conceptual project will address these issues and how your study and design efforts will inform your approach. If you are able to quantify the expected water supply benefits of the project you are studying and designing, please do so.

Under the HCP, the timing and volume of flow releases from Wickiup Reservoir have begun adjustments (seasonal increases) to better support habitat conditions during key periods of the spotted frog life cycle. In general, streamflows in this reach will increase in the spring to support breeding by raising water levels to adjacent slough and wetland habitats. These increased flows are managed within specific parameters during juvenile rearing in the summer and are sustained instream later in the season to help spotted frogs move into overwintering habitats without getting stranded.

Continued enaction of the HCP will increase flows in the Upper Deschutes River in the winter. These increases were designed to be incremental to allow habitat and frogs time to adjust with the flow changes in gradual phases. The HCP implementation will further enhance and restore riverine habitats for OSF by establishing a conservation fund.

The implementation of these flow adjustments while still maintaining the water rights and needs of the irrigation districts is a complex challenge. The DBBC is committed to meeting the

requirements of the HCP and is steadily taking steps within their respective districts to ensure higher water efficiency and therefore less need to divert these critical flows in the future.

Implementation of aquatic habitat restoration efforts, such as those identified and designed through this funding opportunity, will provide the critical environment for the species of concern – accessible as flows are increased as described above. The hydrologic and ecologic (habitat) improvements must work in concert to be beneficial to the OSF and other aquatic species. The extensive work done to date by the USFWS on identifying and providing preliminary assessments of potential sites for restoration sets the stage for planning and design work to begin for these projects.

- Other Quantifiable Benefits
  - Provide information regarding the other critical issues of concern in your project planning area. Are there issues related to human safety (significant flood risk/ damaged infrastructure), significant long term management costs, limited economic opportunity or a lack of jobs, lack of recreational access including access to safe recreational spaces or fishing access? Provide factual support, including citations to relevant data or studies, and information to describe the other critical issues in your planning area.

Aquatic habitat restoration in the Upper Deschutes is expected to improve habitat for native redband trout. Before reservoir construction on the Upper Deschutes River, there was a thriving fishery, including several guides and outfitters that contributed to the economy. While statistics on the historic economic contribution are not available, the current economic contribution of the degraded fishery is close to zero. There should be quantifiable economic benefits for recreation as restoration scales up over time.

This project will contribute to Oregon spotted frog recovery, decreasing risk and increasing stability for irrigation districts including North Unit Irrigation District in Jefferson County. An economic study identified that Jefferson County contributed more than $260 million to the Central Oregon Economy in 2012 (Agriculture and Irrigation in Oregon's Deschutes and Jefferson Counties, Headwaters Economics, May 2017).

  - Describe how your conceptual project will address these issues and how your study and design efforts will inform your approach. If you are able to quantify other expected benefits of the project you are studying and designing, please do so.
    - The number of acres of habitat to be restored or reconnected,
    - New spawning habitat created,
    - The quality and permeance of additional habitat,
    - Or other metrics demonstrating improved habitat or fish passage.

Provide support for your response, including citations to relevant studies and statistics, or other support.

Acres included in the entire area considered for proposed aquatic habitat restoration activities within this proposal (not all areas will be presented as projects/designs):

- Include area of known populations where breeding, rearing and overwintering habitat will be improved.
- Habitats created are anticipated to be permanent improvements for OSF to sustain their annual lifecycle.
- Metrics used to demonstrate improvement to habitat to support populations of OSF include annual breeding surveys (i.e., egg mass counts) within each river reach.
- Additionally, the USGS is conducting a capture, mark, recapture study within populations along the Deschutes River to better understand OSF survival and to gain population estimates.

Deschutes River Reaches Below Wickiup Dam	Wetland acreages affected by dam operations	River location affected by River Mile (RM)	River channel acres affected by dam operations	Current acreage of OSF population breeding, rearing and overwintering habitat	Estimated acreages of habitat improvement (includes OSF habitat, river channel and floodplain wetlands)
1: Wickiup Dam to Fall River	325	RM 224 to RM 204.5	321	30	120
2: Fall River to Little Deschutes	308	RM 192.5 to RM 188	226	2	50
3: Little Deschutes to Benham Falls (includes Sunriver)	286*	RM 188 to RM 181	200	115	115
4: Benham to Dillon Falls	198	RM 181 to RM 178	61	130	150
7: COID Diversion to Colorado Street Bridge	8**	RM 171 to RM 167.5	64	10	20
TOTAL					455

• Watershed Benefits

Quantify and provide metrics for the extent to which the project will provide watershed benefits, and provide support for your response:

- To what extent will the project improve water quality? Quantify the benefits, including: Any anticipated improvement of water quality (e.g., dissolved oxygen, nutrient pollution, improvement of temperature variations, eliminating violations to water quality standards, etc.).

Provide support for your response, including citations to relevant studies or statistics, and other metrics.

Through restoring aquatic and riparian wetland habitats through re-establishment of native vegetation, grading of areas to accommodate appropriate flows and water depths, stabilizing of eroding riverbanks, increased shade and organic matter, and other measures, the water quality I the Upper Deschutes River, its tributaries, and downstream will improve in the following ways:

- Higher dissolved oxygen due to lower water temperatures and structural complexity within the river channel
- Decrease in pollution through excessive nutrient and sediment via longer periods of attenuation of floodwaters in the wetland and slough areas, as well as uptake of nutrients by vegetation
- Lower average water temperatures due to more flow, cover, and narrower/deeper areas within the river

To what extent will the project benefit ecological function? Quantify the benefits, including:

- Information about reconnection of floodplains,
- Improvement of sediment transport,
- Wetland recovery or wetland/ marsh creation.

Provide support for your response, including citations to relevant studies or statistics, and other metrics.

From the USFWS Draft Recovery Implementation Strategy, 2023:

Benefits to ecological function within the project area, as habitat restoration projects are implemented, include, but are limited to the following:

- Reconnect floodplain and abandoned meander bends/sloughs to the river hydrologically
- Enhance wetland function through ensuring adequate hydrology and native vegetation
- Sediment transport within the river will be improved through restoration of a stable channel dimension

These benefits will be measured through specific monitoring criteria by the USFWS described in the sections above, and ultimately will be deemed successful if the restored areas provide appropriate and functioning habitat for the species of concern.

To what extent will the project build ecosystem resiliency? Quantify the benefits, including:

- The reduction of impacts of climate change,
- The reduction of impacts of development,
- Removing invasive species, protection against invasive species, and restoration of native species,
- Improvement of habitat fragmentation, or assistance in helping aquatic ecosystems recover from disturbances such as floods, wildfire, or drought.

Provide support for your response, including citations to relevant studies or statistics, and other metrics.

In working with subject matter experts and appropriate regulatory entities such as the USFWS, the stakeholders have determined the following: The projects that will be identified and designed through this funding will enhance drought resiliency for the species of concern and for the Upper Deschutes Basin as a whole. Considered a Nature-based solution in the engineering and ecological restoration professional communities, river, wetland, and floodplain restoration projects allow for the system to function in such a way that enables them to handle extreme flow events, droughts, temporary impacts to water quality, and wildfire without suffering long-term degradation or instability. Allowing for flood attenuation in the wetland and sloughs provides storage for high waters, these same areas offer treatment of waters entering as runoff from development. Riparian and floodplain restorations enhance connectivity between micro-habitats, reducing fragmentation. Removal of invasive species allows for native vegetation to thrive. All of these factors improve resiliency for the Basin as a whole.

Water Supply Benefits

Quantify and provide metrics for the extent to which the project will increase water supply to an aquatic ecosystem, and provide support for your response:

- To what extent will the project make more water available, or make water available at a more advantageous time or location? Quantify the benefits, including:
  - The estimated amount of water conserved (in acre-feet per year),
  - The total amount of new water made available for instream flow,
  - The relocation of water to optimize timing and quantity of water supplies for ecosystem health,

- The extent of benefits to fish and wildlife, habitat, or other ecological benefits resulting from the improved water availability.

Provide support for your response, including references to past stream flow reports, relevant hydrographs, fish population data, fish health indicators, and other metrics. Please include a specific quantifiable estimate; do not include a range. Describe the support/documentation for this estimate, including a detailed explanation of how the estimate was determined, including all supporting calculations.

As a result of the implementation of the HCP, discussed in sections above, flows are being/will continue to be restored to the Upper Deschutes River. These increased flows directly support the aquatic habitat work proposed through this application. Specific information on this flow restoration includes the following description from the USFWS draft RIS (2023):

In this regulated system (Upper Deschutes River), hydrograph modification with the purpose of restoring physical and ecological function to the Deschutes River and wetlands should trend toward a more natural flow regime. The DB HCP will increase winter flows in the Deschutes River up to 300 cfs by year 8 (i.e., Sept 2028) and 400 to 500 cfs by year 13 (i.e., Sept 2033) of the permit term, respectively. The effect of increases in winter flows results in lower summer flows, and OSF are expected to respond to the adjustments in flow by shifting habitat utilization to align with patterns of inundation. Lower summer flows are also expected to result in some level of passive restoration in terms of vegetation regrowth within the sloughs. However, the change in hydrograph alone is not sufficient to independently improve hydrological conditions of OSF habitat along the river given the over-sized river channel.

Even at full implementation of the HCP (i.e., when winter flows increase to 400–500 cfs), active restoration of the river channel in key areas adjacent to sloughs with OSF will be necessary to sustain a hydroperiod that supports the OSF life cycle and movements between seasonal habitats. It is likely that a narrowing of the river channel through restoration will move water into the sloughs at lower than current volumes in the river. As the winter hydrograph approaches 300 cfs, there are opportunities along the mainstem Deschutes River to enhance the riverbed channel such that lower volumes of water will inundate adjacent sloughs that provide habitat for OSF. Concepts for determining where, along the mainstem river channel, this will occur must be evaluated using LiDAR and bathymetry survey techniques prior to design development. Scientific evaluation of the river geomorphology and bathymetry can identify areas to deploy “sediment harvesting techniques” within the channel that can facilitate aggradation of the river bed.

Winter flows of 400 to 500 cfs will result in lower summer flows in the Deschutes River (approximately 1,200 cfs at WICO), and passive restoration of the river channel and adjacent sloughs is likely to occur. Much of the passive restoration anticipated will occur due to a reduction in summer flows that have essentially prevented establishment of sedges and rushes along the riverine corridor and within the sloughs along the river. As summer flows are lowered, areas currently inhabited by OSF on the floodplain may no longer be inundated with water. Therefore, habitat monitoring, and site-specific enhancements will be necessary to ensure that habitat remains suitable for OSF during the summer season. Restoration activities to

improve habitat and channel function and mitigate risk to existing OSF populations will be localized and site-specific as winter flows increase. In general, higher winter flows in the range of 400 to 500 cfs are likely to improve connectivity between seasonal habitats (i.e., overwintering and breeding) for OSF. Based on observations of flows and corresponding floodplain inundation in past studies (USFS 1996; USFWS 2017), winter flows of at least 500 cfs in the Deschutes River downstream of Wickiup Dam will support riparian vegetation. Inundation of the root systems of riparian plants through winter along the river corridor will facilitate bank stabilization and lessen the impact of erosion and sedimentation to the river as flow releases from Wickiup Dam increase during spring and summer. Therefore, winter flows of 500 cfs are likely to maximize the potential for passive and active physical habitat restoration of the Deschutes River channel that influence the ecological function of the river and adjacent wetlands for OSF. Improved base flow in the winter increases the opportunity to intercept groundwater within floodplain wetlands. Winter flows of 400 cfs will provide similar opportunities for restoration but channel restoration activities may be more limited and spatially explicit at these winter flows. The types of restoration and conservation actions that provide benefits to OSF and its habitat at winter flows of 400 and 500 cfs, with summer flows reaching a high of 1,200 cfs, from Wickiup Dam include but are not limited to those described above and the following:

- Site-specific riparian planting within sloughs and along the river channel to enhance passive restoration.
- In proximity to OSF populations along the Deschutes River, wood placement within the river channel with the purpose of increasing depositional aggradation will facilitate a reduction in the cross-sectional area of the channel and improve floodplain and wetland connectivity to the river channel.
- Beaver dam analogs in oxbows, side channels, and wetlands to moderate the effects of flow fluctuations.
- Excavation of existing wetlands within the river channel to intercept base flows to provide new habitats for OSF and enhance connectivity for the species.
- Excavation of floodplains or oxbows on floodplains to intercept groundwater.
- Physical habitat modifications at site scale to benefit specific life stages of OSF as habitat suitability changes over time (e.g., lower summer flows within the Deschutes River reduce the amount of OSF habitat on the floodplain)

Other Quantifiable Benefits

Are there other quantifiable project benefits not addressed in the preceding questions? If so, what are these benefits? Provide support for your response, including citations to relevant studies or statistics, and other metrics. For example, will your project benefit:

- Improvements in public safety (reduce/eliminate flood risk, dam breach, road damage)
- Reductions in long term management costs (culvert and dam maintenance)

- Job creation or economic opportunity (design or construction jobs, development of new recreation jobs, commercial fishing opportunities)
- Improvements in safe access to nature or recreational opportunities

The project will identify the sites where restoration will have the greatest benefit to the Oregon spotted frog and redband trout, optimizing associated benefits of species recovery for both recreation and agriculture. These benefits will increase over time as both individual projects and system-wide restoration increases.

E.1.1.1. Evaluation Criterion B- Prior Restoration Planning and Stakeholder Involvement and Support (30 or 40 points)

Sub-Criterion B1: Task A: Study and Design Stakeholder Involvement and Support and Restoration Planning (40 points)

- Describe any prior planning efforts related to your proposed project, i.e., planning that took place before you submitted your proposal.
  - Describe the specific planning, strategy, study, and any design document(s) (plan(s)) that support your project. Explain when the plan was prepared and for what purpose.
  - What was the scope of the planning effort that supports your project? Describe the geographic extent and types of issues (e.g., water quantity, water quality, and/or issues related to ecosystem health or the health of species and habitat within the watershed).
  - Was the plan developed collaboratively? If the referenced plan was not developed collaboratively, please explain why, for e.g., the planning effort is focused on a very small area or concerns internal to the applicant.
  - Explain how any prior planning effort relates to your current proposal and how your current proposal adds value and builds on any prior planning efforts.

There are numerous study, strategy, planning, and prioritization efforts underway and/or completed in reference to managing, restoring and improving streamflow and aquatic habitat in the Upper Deschutes River Basin for various species, including the OSF. These partnerships and their efforts are described below.

The purpose of the Upper Deschutes River Basin Study, completed in 2018, was to collaboratively develop options for responding to imbalances in water supply and demands. The Basin Study extended, refined and added additional information to the previously established baseline in order to identify specific options for resolving water supply and demand imbalances. Previous studies in the Deschutes Basin recognize the need for water conservation and improved management to meet current and future water needs. The Basin Study resulted in coordinated and collaborative projects that could move water between users and uses, as well as other management options. The stakeholders involved in this process included irrigation districts, local and state government, (municipal) water providers, the federal government, interested parties and the Confederated Tribes of Warm Springs.

The development of the final Habitat Conservation Plan in 2020 was a 12-year collaboration among a large group of diverse stakeholders including irrigators, municipalities, recreationists, federal and state agencies, and Tribes in the Deschutes River Basin. As per the HCP summary found at https://www.fws.gov/story/2021-06/sharing-river, the HCP exemplifies how the agricultural industry, conservation groups, and government successfully worked together towards a shared conservation goal. The plan provides predictability to water users, durable conservation to aquatic species, and long-term ESA coverage to irrigators. The HCP has been referenced throughout this proposal, as the flow restoration required by this Plan is critical to the success of the aquatic habitat restoration projects that have been proposed.

The Deschutes Land Trust (DLT), the Deschutes River Conservancy (DRC) and the Upper Deschutes Watershed Council (UDWC) have been working as the Deschutes Partnership in the Deschutes basin for many years, with strong support from the Oregon Watershed Enhancement Board (OWEB). A strategic action plan is in development by this partnership, allowing for restoration of habitat for the Oregon spotted frog and native fish species in locations that are complementary to flow restoration. Technical advisors for this work include staff from the U.S. Fish and Wildlife Service (USFWS), the U.S. Forest Service (USFS), Oregon Department of Fish and Wildlife (ODFW) and the Confederated Tribes of Warm Springs (CTWS).

The Deschutes Basin Water Collaborative (DBWC) is a conglomeration of 47 diverse stakeholders with primary goals to:

- Restore stream flows and improve water quality to support instream beneficial uses including fish and wildlife and recreation.
- Secure and maintain a reliable and affordable supply of water to sustain agriculture.
- Secure and maintain a safe, affordable, and high-quality water supply for urban communities.

The DBWC serves the Upper Deschutes Sub-Basin in Central Oregon. The DBWC is building on previous planning efforts, and the extensive information generated through the Deschutes Water Planning Initiative and the Basin Study, to develop
a Comprehensive Water Management Plan (the Plan) to guide the implementation of water projects to meet needs for rivers, agriculture, and growing communities. It identifies habitat restoration in the Upper Deschutes as a necessary ingredient for success.

Stakeholder Involvement and Support for Task A: Study and Design Projects
Identify stakeholders in the project area who have *committed to be involved* in the study and design process.

- Describe what sector(s) the participating stakeholders represent and how they will engage in this effort, e.g., will they contribute funding or in-kind services, or otherwise engage in the study and design process?
  - Provide documentation of the commitment by stakeholders to participate in the study

- and design process. This could include letters from stakeholders committing to be involved in the study and design process; such letters should explain what their specific interest is and how they plan to participate.
- Are any stakeholders contributing to the cost-share?

The main stakeholders that will be involved with the study and design process include the Upper Deschutes Watershed Council, Deschutes Land Trust, DRC, and natural resources agencies- US Fish and Wildlife Service, US Forest Service, and Oregon Department of Fish and Wildlife. The Deschutes Basin Board of Control, representing irrigation districts, contributes funds annually to the Upper Deschutes conservation fund that will be leveraged as match for this project.

- Describe stakeholders in the project area who have *expressed their support* for the study and design process, whether or not they have committed to participate.
  - Supporting documentation for this sub-criterion could include letters of support from stakeholders or a description of feedback from interested stakeholders.

Letters of support (14) have been received from numerous diverse stakeholders and included in Appendix A.

- What will the applicant do during the study and design process to ensure participation by a diverse array of stakeholders?

A diverse array of stakeholders is already involved in the work within the Upper Deschutes River Basin, and it is our goal to build upon these successful collaborations and include any additional entities that will be affected and benefit the habitat restoration efforts.

If some sectors are not yet represented, explain how this will be accomplished. Support could include a description of stakeholder interests in the project area, and what you will do to engage them (e.g., workshops, public meetings, or outreach tools such as using local media, outreach to known stakeholder groups, web-based outreach, social media, or other kinds of announcements, etc.).

The collaborative entities that have been historically and are currently engaged in the planning and prioritization efforts in the Basin are considerably diverse and represent known interests. In an effort to engage any additional stakeholders with interest in the aquatic habitat restoration work, the partners presenting this application, DRC and DBBC, will employ their outreach efforts as described here: DRC engages not only the Conservancy's supporters and partners, but the community as a whole through outreach efforts including: offering a regular public seminar series on relevant water and habitat issues; providing interviews and material for local media to publicize the work being done to support the HCP, the River, the agricultural community and the municipalities; significant web-based information such as access to planning reports and graphics; and capitalizes on social media to share the actions of the DRC, DBBC, and other engaged stakeholders in the Basin. The DBWC's forty-seven stakeholders and their respective committees hold regular meetings and are in the process of developing an inclusive water management plan for the Basin. Regular reports will be given to the DBWC and input sought.

o Is there opposition to the proposed project effort? If so, describe the opposition and explain how it will be addressed. Opposition will not necessarily result in fewer points.

There is no opposition to the proposed project.

E.1.2. Evaluation Criterion – Project Implementation and Readiness to Proceed (15 points)

Sub-Criterion C1: Task A: Study and Design Project Implementation

Describe the implementation plan for the proposed study and design project. Please include an estimated project schedule that shows the stages and duration of the proposed study and design work, including major tasks, milestones, and dates.

- Describe the plan to conduct project specific outreach during your award period. What regional stakeholders will you target and how will you connect and engage with them and incorporate their feedback?

Project specific outreach for the work outlined in this proposal will include engaging the regional stakeholders, specifically the members of the Deschutes Partnership (DRC, DLT, UDWC, and technical advisors such as USFWS, ODFW, and USFS). As work progress from site prioritization and identification, additional outreach will include property owners and/or managers at the locations where potential projects have been identified.

- Describe the plan to carry out any relevant studies (e.g., Project-Specific Study and Analysis, Restoration Project Opportunities and Alternatives Analysis, Benefits Analysis, or Legal and Institutional Requirements Research).

Upon award, the stakeholders described above will convene to begin the process of working through existing reports and assessments, and well as collecting any additional information required to prioritize and select project locations. This process will include the Project specific Site Study and Analysis. Moving forward from site identification, the collaborative will engage private engineering and restoration design professionals to move into a conceptual design stage and possible alternatives/benefits analyses. While engaging in the design process the legal and institutional requirements will be determined and all necessary permits, easements, and other agreements will be acquired. This proposal endeavors to bring these projects to a 60% design stage of completion.

- Describe the current design status of the project and describe the design activities will need to be completed to advance the project to 60% design?

The potential sites to be designed for restoration have not been identified at this time, therefore no design efforts have been made to date. Once funding is received, sites will be identified, access is secured, and data will be collected so the restoration design work may begin.

- Proposals with a budget and budget narrative that provide a reasonable explanation of study and design project costs will be prioritized.

This proposal includes a budget and budget narrative as an attachment and included in the body of this document below. The budget/narrative will explain the use of proposed funds, including stakeholder time and management, contractors for design work, and data collection such as LiDAR and bathymetry to ensure the designs are appropriate and successful.

- If the applicant intends to do any on-site investigation or monitoring work, please provide documentation of permission and detail any permits or easements that may be required for access.

The specific sites to be assessed/restored have not been identified at this time, therefore permission, easements, and/or permits have not been acquired. It is important to note, however, that several potential sites are located on properties managed by the US Forest Service or other public entity, and excellent relationships are in place with the major private landowners (Sunriver Resort, for example). Once sites have been determined, the appropriate permissions will be obtained.

E.1.3. Evaluation Criterion D Presidential and Department of the Interior Priorities (15 points)

• Climate Change: E.O. 14008 emphasizes the need to prioritize and take robust actions to reduce climate pollution; increase resilience to the impacts of climate change; protect public health; and conserve our lands, waters, oceans, and biodiversity.

- If applicable, describe how the project addresses climate change and increases resiliency. For example, does the project help communities respond to or recover from drought or reduce flood risk?
- How will the project build long-term resilience to drought? How many years will the project continue to provide benefits? Please estimate the extent to which the project will build resilience to drought and provide support for your estimate.

The proposed aquatic habitat project designs described in this application and their (future) implementation will directly speak to two of the Biden-Harris Administrations Priorities: increase resilience to the impacts of climate change and conserve our lands, waters, oceans, and biodiversity.

As set forth in the draft DBWC water management plan that is currently in development, given the potential impact of climate change, one of the goals of the Basin Study, as defined by the Plan of Study, was to develop relevant and detailed climate change projections that will help stakeholders further refine water supply projections (DBBC & Reclamation, 2015). To accompany the Basin Study, a range of available climate change models were used to evaluate climate conditions approximately 10 to 50 years in the future. Those models indicate that future annual precipitation in the basin is projected to increase by approximately 5 percent for median projections, with a potential range from a 3 percent decrease to an 11 percent increase. Future average temperatures may increase by 2.8° C (4.9° F) based on climate change models for median projections. Climate models also indicate that the timing patterns for precipitation may change in the future. The changes in timing of precipitation may result in

increased precipitation in the winter, and, coupled with higher temperatures, could shift runoff to earlier in the year on average (Compilation and Analysis of Climate Change Information in the Deschutes Basin, Reclamation 2018). The potential impacts on temperature, precipitation, and runoff timing can be used to qualitatively describe the following potential impacts on the current system:

- Increased winter and spring runoff volumes could increase the possibility of higher peak flows.
- Increased winter and spring runoff volumes could increase the likelihood that reservoirs would fill in the spring; however, demands on stored water could increase as noted below.
- Lower natural flows in the summer could increase reliance on stored water for those irrigation districts that use stored water.

(Reference Upper Deschutes River Basin Study, October 2019, section 2.5, page 20-21-Reference Projected Future Conditions and Sector Background Information for the Deschutes River Basin of Central Oregon, March 2011-Reference Columbia River Basin Impacts Assessment, 2015-Reference Plan of Study for the Upper Deschutes Basin Study, DBBC and Reclamation, April 2015-Reference Compilation and Analysis of Climate Change Information in the Deschutes Basin, December 2018-Reference Integrating Climate Resilience into Washington State Water System Planning, 2022)

Once the proposed habitat improvement projects are designed and implemented, the benefits of this ecological restoration will not only enhance the ability of the protected species to better accommodate the increased flows due to water management adjustments (ie HCP), but will also provide a significant lift in the resilience of the Upper Deschutes River and floodplain with regards to the climate influenced flow changes and higher temperatures.

Implementation of the restoration work (once designed through this funding opportunity) will help to restore and protect the lands, waters, and biodiversity in the Upper Deschutes Basin and beyond.

o Will the proposed project reduce greenhouse gas emissions by sequestering carbon in soils, grasses, trees, and other vegetation? Does the proposed project seek to reduce or mitigate climate pollutions such as air or water pollution? Does the proposed project contribute to climate change resiliency in other ways not described above?

As the restoration projects proposed for design efforts through this funding include wetlands and other hydrologically connected floodplain and riverine environments, there is a significant potential for increased carbon sequestration. Stabilizing the riverbanks, providing opportunities for water temperatures to decrease and removing exotic/non-native vegetation all lead to reductions in pollutants such as sediment, high temperature, low dissolved oxygen, and threats to native vegetation. Climate resiliency in the form of flood attenuation and drought resiliency are potential results of this work, as the wetlands and slough being restored will protect the riverine environment during extreme weather and low events.

Disadvantaged or Underserved Communities: E.O. 14008 and E.O. 13985 affirm the advancement of environmental justice and equity for all through the development and funding of programs to invest in disadvantaged or underserved communities.

- o If applicable, describe how the project benefits those disadvantaged or underserved communities identified using the tool. For example, does the project improve water quality, provide economic growth opportunities, improve or expand public access to nature, or provide other benefits in a disadvantaged or underserved community?

Yes. The proposed aquatic habitat improvement designs will result in implementation of projects that will improve water quality, protect threatened species for the benefit of all, and work in concert with the flow restoration efforts of the HCP. This flow restoration and improved habitat will increase resiliency of the Upper Deschutes River Basin, benefitting all who rely on the waters of the Deschutes. Improvements to water supplies for the predominantly agricultural communities, such as those within Jefferson County, will benefit the residents, laborers, and businesses that rely on the agricultural economy. Jefferson County has a significantly higher percentage of the Hispanic and native American population than the rest of Central Oregon or than the state at large. Specifically, Jefferson County is 19.9% Hispanic/Latino and 18.3% Native American. This compared to 8.3% and 1.1% respectively for Deschutes County, or 13.4% and 1.8% respectively for the state.
Source:https://www.census.gov/quickfacts/fact/table/deschutescountyoregon,jeffersoncountyoregon,OR/PST045219

Jefferson county meets applicable state criteria or meets the definition in Section 1015 of the Cooperative Watershed Act (defined as a community with an annual median household income that is less than 100 percent of the statewide annual median household income for the state) with $53,277 in median family income vs. $62,818 statewide.
Source:https://www.census.gov/quickfacts/fact/table/deschutescountyoregon,jeffersoncountyoregon,OR/PST045219

Tribal Benefits: The Department of the Interior is committed to strengthening tribal sovereignty and the fulfillment of Federal Tribal trust responsibilities. The President's memorandum, *Tribal Consultation and Strengthening Nation-to Nation Relationships*, asserts the importance of honoring the Federal government's commitments to Tribal Nations.

- o If applicable, describe how the project directly serves and/or benefits a Tribe, supports Tribally led conservation and restoration priorities, and/or if the project incorporates or benefits Indigenous Traditional Knowledge and practices.

- o Does the proposed project support Reclamation's Tribal trust responsibilities or a Reclamation activity with a Tribe?

Yes. The Confederated Tribes of Warm Springs' ceded lands extend into the project geography; therefore the federal agencies have a Trust responsibility to the Tribes. This work is in the direct interest of the tribe's priorities for clean and sufficient water and quality salmon habitat, through the improvements to water quality resulting from the restoration projects. They are a partner in this work, and chair of the Deschutes Basin Water Collaborative and DRC board.

Proposed Schedule

Below is a Gantt diagram of the proposed project schedule(s), based on project initiation in the second quarter of Fiscal Year 2024. Dates will be adjusted accordingly if the start date is to occur later. DRC has communicated with the local BOR office regarding the applicable compliance timeline.

Project Component	2024			2025				2026
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
Grant Awarded								
Initiate Project Site Assessment								
Prioritize Aquatic Habitat Restoration Projects								
Acquire Permission/Agreements for Access								
Collect Data for Restoration Design(s)								
Conceptual Design(s)								
60% Plan Development for Restoration Projects								

PROJECT BUDGET

FUNDING PLAN AND LETTERS OF COMMITMENT

Letters of Commitment for the required match will be provided before award of federal funds.

BUDGET PROPOSAL

Table 1. – Summary of Non-Federal and Federal Funding Sources

FUNDING SOURCES	AMOUNT
Non-Federal Entities	
1. Deschutes Basin Board of Control (DBBC) – HCP Upper Deschutes Conservation Fund	$ 200,000
2. Oregon Watershed Enhancement Board	$ 100,000
3. Central Oregon Irrigation District (COID) – Mitigation and Enhancement Fund	$ 50,834
Non-Federal Subtotal	$ 350,834
REQUESTED RECLAMATION FUNDING	**$ 651,542**

BUDGET NARRATIVE

The attached budget provides the breakdown of costs by type and organization for this proposed project. The funding term requested is two (2) years. Additional budget information is included in the required and additional budget documents via the web application portal.

Salaries & Wages:

Employees, including the Executive Director for DRC and others, are listed in the Proposed Budget. All Staff of the DRC listed in this proposal will be actively working on the project for the duration, and in a variety of capacities from Project Management, Coordination of Partners, Boards, and Stakeholders, Public Outreach, Data Collection and Analyses, Program Oversight, and Reporting to Reclamation as per provided direction on reporting requirements, including final project and evaluation reports.

Fringe Benefits:

Regarding the listed salaries and associated fringe benefits, each employee has a different fringe rate, due to longevity, rate of pay, and other factors. The rate also changes from year to year, with adjustments in rate of pay and which benefits are being utilized. For the budget, we took a weighted average to fit the proposed budget format. We weighted the rates based on proposed hours to get to the 50% of the hourly rate included in the budget. Fringe benefits include medical and dental insurance, retirement contributions, FICA/Medicare, unemployment insurance, and workers' compensation insurance. DRC Fringe benefits are expressed as a percentage of personnel hourly rate. The DRC's fringe benefits costs are described and itemized as follows:

Personnel	Fringe Rate		Paid Time Off	Health Ins.	Payroll Taxes	Worker's Comp Ins.	OR Unemployment	403(b)
Exec. Dir	**51%**		**19.64%**	**8.79%**	**9.09%**	**0.40%**	**3.57%**	**9.50%**
Prog. Dir.	**48%**		**17.08%**	**12.21%**	**8.94%**	**0.41%**	**3.50%**	**5.84%**
Proj. Assoc.	**58%**		**16.99%**	**22.36%**	**8.89%**	**0.41%**	**3.47%**	**5.83%**

Travel:

The budget includes estimated travel costs for DRC project team to travel to coordination meetings and site visits with stakeholders and landownership partners. Travel is estimated based on the currently published government mileage rate of $0.655/mi, with the following general assumptions: approximately 3200 miles over two years associated with project site visits related to restoration site selection and field-visits during design development. Selection of up to 4 project sites are anticipated for design development, with average round trip distance from Bend to project sites of 80 miles. In addition, up to 4 stakeholder/project coordination meetings to locations outside of Bend per year (such as La Pine, OR –roundtrip distance 60 miles)

Equipment:

No equipment needs are anticipated by DRC for this project.

Supplies:

No supply needs are anticipated by DRC for this project.

Contractual:

Subaward:

DRC intends to include the Upper Deschutes Watershed Council (UDWC) with a subaward to provide primary technical oversight, contractor solicitation and selection, contractor management of design development, and pre-project monitoring for all sites identified for this project. For over 25 years, the UDWC has been a leading force in on-the-ground restoration for ecosystem recovery throughout the Upper Deschutes basin. They have led design, implementation, and monitoring of over 50 ecological restoration projects that include channel restoration and habitat improvement, floodplain reconnection, riparian planting, and other projects to benefit fish, amphibians, and other central Oregon aquatic species. During that time, they have established strong working relationships with numerous federal, state, and local agencies, private contractors and consultants, and other partners and volunteers, and are well-suited to both convene key stakeholders and execute strategic ecosystem restoration design and implementation projects. The subaward to UDWC will support two years of activity, with direct involvement from UDWC's Executive Director, Habitat Restoration Program Manager, Stream Restoration Project Manager, and Monitoring Program Manager.

Contracted Services

DRC will utilize UDWC's expertise regarding project management and project design considerations. UDWC will be the primary point of contact for all contractor solicitation, selection, and oversight, with input from DRC and other partnering agencies/organizations. DRC and UDWC have identified various potential consultants for the specific needs of the project and will follow the stated Procurement process for selection and hiring of consultants (2CFR §200.320 –Methods of procurement to be followed). The participation of consultants is woven throughout the project tasks and schedule, and includes the following activities(as described in more detail in the Project Description section)

Engineering/Design

UDWC will solicit and award contracts for design and engineering services from qualified restoration/engineering consultants for up to four (4) separate priority restoration project locations. Services to include site evaluation, surveying, and engineered designs to 60% design completion specifications. Average estimate of engineering and design services per project is $135,000, based on recent project development and management experiences by the UDWC on similar Deschutes Basin restoration projects.

LiDAR Remote Sensing Data & Mapping Services

Pending conversations with key natural resource management agency personnel and others during the initial stages of stakeholder engagement and site prioritization, the integration of LiDAR (Light Detection and Ranging) remote sensing services may be necessary to provide accurate, detailed depictions of landscape elevations and vegetation composition to assist potential project evaluations and subsequent design needs/options.

Indirect Costs

DRC has an approved Federal NICRA of 27.54% for Indirect expenses and includes the following in this designation: administrative salaries and fringe benefits associated with overall financial and organizational administration, operation and maintenance costs for facilities and equipment, and payroll and procurement services.

ENVIRONMENTAL AND CULTURAL RESOURCES COMPLIANCE

With no identified project sites at the time of proposal submission, environmental and resource compliance needs are not known.

REQUIRED PERMITS AND/OR APPROVALS

With no identified project sites at the time of proposal submission, required permits and/or approvals needs are not known.

LETTERS OF SUPPORT AND LETTERS OF PARTNERSHIP

Please see attached letters of partnership and support from partners and various stakeholders within the Deschutes River Basin in Appendix A.

OFFICIAL RESOLUTION

An Official Resolution is being presented to the DRC Board at the June 2023 meeting and will be forwarded to BOR following submittal of this proposal.

CONFLICT OF INTEREST DISCLOSURE

There is no known active or potential conflict of interest related to this proposal and/or projects described herein.

UNIFORM AUDIT REPORTING STATEMENT

The DRC was not required to complete a federal audit during our most recently closed fiscal year.

CERTIFICATION REGARDING LOBBYING

The DRC does not utilize any grant funds for the purposes of Lobbying.

APPENDIX A – LETTERS OF SUPPORT AND PARTNERSHIP

Deschutes Basin Board of Control

May 31, 2023

To Bureau of Reclamation Grant Review Team:

The Deschutes Basin Board of Control (DBBC) provides this Letter of Partnership with the Deschutes River Conservancy (DRC), in support of the DRC's application for the 2023 Bureau of Reclamation WaterSMART: Aquatic Ecosystem Restoration Project. The proposal would secure funding to design aquatic ecosystem restoration projects at up to four sites in the Upper Deschutes River of Central Oregon, as part of collaborative ongoing efforts to improve habitat for the Oregon spotted frog and other aquatic species and improve water management balance in the region.

The Deschutes Basin Board of Control (DBBC) is comprised of eight irrigation districts in rural Central Oregon that are critical to conveying water supplies throughout the Deschutes Basin to over 7,600 farm and ranch families, schools, and local parks and recreation districts. The DBBC recently completed a Habitat Conservation Plan (HCP) with the US Fish and Wildlife Service and National Marine Fisheries Service that commits to conservation measures to mitigate impacts on ESA-listed species in exchange for an Incidental Take Permit. Conservation commitments include increasing winter flows in the Upper Deschutes River between Wickiup Reservoir and the City of Bend, as well as contributing to an annual Conservation Fund to implement complementary habitat restoration projects. Physical habitat restoration projects are necessary alongside the planned flow restoration to recover the species. This proposal supports design of those critical restoration projects. The DBBC is a Category A partner for DRC's Category B application, as it manages the extensive infrastructure that drives water management in the Upper Deschutes River. The DBBC is committed to partnering on the integration of habitat and flow activities and expects the HCP conservation fund to be leveraged to support this work.

Aquatic habitat in the Upper Deschutes River between Wickiup Reservoir, a Reclamation storage facility, and the City of Bend has been severely degraded due to altered hydrology associated with the storage and release of water for irrigation. Dramatic seasonal fluctuations in flows have severely eroded the river banks, widening the channel approximately 25% and disconnecting the river from its floodplains. These impacts have compromised wetland habitat, impacting native redband trout, as well as the Oregon spotted frog, listed as threatened under the Endangered Species Act, and a major driver for restoration in the basin.

PO Box 919 - Madras, OR 97741

DBBC Member Districts
Arnold Irrigation District • Central Oregon Irrigation District • Lone Pine Irrigation District • North Unit Irrigation District
Ochoco Irrigation District • Swalley Irrigation District • Three Sisters Irrigation District • Tumalo Irrigation District
DBBC President -Craig Horrell, 541-548-6047; chorrell@cod.org

This proposal, guided by actions outlined in a recently-released USFWS Restoration Implementation Strategy associated with the Oregon spotted frog Recovery Plan, would develop designs for aquatic restoration projects to provide the most benefit for fish and wildlife as flows come back, providing regional benefit and building on long-term collaborative work.

Please support the ongoing efforts in the Deschutes to restore ecosystem function at a regional scale.

Sincerely,

Craig Horrell

President

THE CONFEDERATED TRIBES OF THE WARM SPRINGS RESERVATION OF OREGON

Warm Springs, Oregon 97761 / 541-553-1161

May 23, 2023

To Bureau of Reclamation grant review team:

CTWS provides this letter in support of the Deschutes River Conservancy's application for the 2023 Bureau of Reclamation WaterSMART: Aquatic Ecosystem Restoration Project. *Describe your organizational mission or interest in this work.*

The proposal would secure funding to design aquatic ecosystem restoration projects at up to four sites in the Upper Deschutes River of Central Oregon, as part of collaborative ongoing efforts to improve habitat for the Oregon spotted frog and other aquatic species, and improve water management balance in the region.

Aquatic habitat in the Upper Deschutes River between Wickiup Reservoir, a Reclamation storage facility, and the City of Bend has been severely degraded due to altered hydrology associated with the storage and release of water for irrigation. Dramatic seasonal fluctuations in flowshave severely eroded the river banks, widening the channel approximately 25%and disconnecting the river from its floodplains.. These impacts have compromised wetland habitat, impactingnative redband trout, as well as the Oregon spotted frog, listed as threatened under the Endangered Species Act, and a major driver for restoration in the basin.

In 2021, Deschutes irrigation districts completed a Habitat Conservation Plan that commits to restore flows in the river over the next 30 years to mitigate impacts to the Oregon spotted frog. Currently, Districts are aggressively implementing conservation projects to meet these commitments and are working with the Deschutes Basin Water Collaborative on a long-term water management plan that meets instream, agricultural, and municipal needs into the future. While ongoing flow restoration is critical to restoring this ecosystem, complementary physical habitat restoration is equally as necessary for the system to regain ecological function. This proposal, guided by actions outlined in a recently-released USFWS Restoration Implementation Strategy associated with the Oregon spotted frog Recovery Plan, would develop designs for aquatic restoration projects at up to four sites on the river to provide the most benefit for fish and wildlife as flows come back, providing regional benefit and building on long-term collaborative work.

Please support the ongoing efforts in the Deschutes to restore ecosystem function at a regional scale.

Sincerely,

Robert A. Brunoe

Robert A. Brunoe
Secretary Treasurer/CEO/THPO

Oregon

Tina Kotek, Governor

Department of Environmental Quality
Eastern Region Bend Office
475 NE Bellevue Drive, Suite 110
Bend, OR 97701
(541) 388-6146
FAX (541) 388-8283
TTY 711

May 30, 2023

To Bureau of Reclamation grant review team:

The Oregon Department of Environmental Quality supports the Deschutes River Conservancy's application for the 2023 Bureau of Reclamation WaterSMART: Aquatic Ecosystem Restoration Project. ODEQ's mission is to be a leader in restoring, maintaining, and enhancing the quality of Oregon's air, land and water.

The proposal would secure funding to design aquatic ecosystem restoration projects at up to four sites in the Upper Deschutes River of Central Oregon, as part of collaborative ongoing efforts to improve habitat for the Oregon spotted frog and other aquatic species, and improve water management balance in the region.

The storage of irrigation water in Wickiup Reservoir in the winter creates low flow conditions in the Upper Deschutes River and causes exposed banks to freeze. During irrigation season, water release from Wickiup Reservoir creates high flow conditions that scour the loosened sediment from the streambanks and sends it downstream. This scouring contributes to the river's 303(d) listings for the impairments of turbidity and sedimentation. Turbidity and sedimentation are harmful to the designated beneficial uses of fish and aquatic life.

The proposed project would improve turbidity and sedimentation in the Upper Deschutes by designing restoration projects that would trap sediment in locations that would be beneficial to aquatic life and help restore water quality downstream of the restoration sites.

Please support the ongoing efforts in the Deschutes to restore ecosystem function at a regional scale.

Sincerely,

Smita Mehta

Deschutes Basin TMDL Coordinator

CENTRAL OREGON LANDWATCH

2843 NW Lolo Drive, Ste. 200 | Bend, OR 97703
Phone (541) 647-2930
www.colw.org

May 26, 2023

To Bureau of Reclamation grant review team:

Central Oregon LandWatch provides this letter in support of the Deschutes River Conservancy's application for the 2023 Bureau of Reclamation WaterSMART: Aquatic Ecosystem Restoration Project.

Central Oregon LandWatch ("LandWatch") is an Oregon non-profit, public interest organization of about 700 members. Its offices are located in Bend, Oregon. LandWatch's mission is to defend and plan for Central Oregon's livable future, and it has advocated for the preservation of natural resources in Central Oregon for over 30 years.

The proposal would secure funding to design aquatic ecosystem restoration projects at up to four sites in the Upper Deschutes River of Central Oregon, as part of collaborative ongoing efforts to improve habitat for the Oregon spotted frog and other aquatic species and improve water management balance in the region.

Aquatic habitat in the Upper Deschutes River between Wickiup Reservoir, a Reclamation storage facility, and the City of Bend has been severely degraded due to altered hydrology associated with the storage and release of water for irrigation. Dramatic seasonal fluctuations in flows have severely eroded the river banks, widening the channel approximately 25% and disconnecting the river from its floodplains. These impacts have compromised wetland and riparian habitat, negatively impacting redband trout, as well as the ESA listed Oregon spotted frog, a major driver for restoration in the basin.

In 2021, Deschutes irrigation districts completed a Habitat Conservation Plan that commits to restore flows in the river over the next 30 years to mitigate impacts to the Oregon spotted frog. While ongoing flow restoration is critical to restoring this ecosystem, complementary physical habitat restoration is also necessary for the system to regain ecological function. This proposal, guided by actions outlined in a recently-released USFWS Restoration Implementation Strategy associated with the Oregon spotted frog Recovery Plan, would develop designs for aquatic restoration projects at up to four sites on the river to provide the most benefit for fish and wildlife as flows come back, providing regional benefit and building on long-term collaborative work.

Please support the ongoing efforts in the Deschutes to restore ecosystem function at a regional scale.

Sincerely,

CENTRAL OREGON LANDWATCH

2843 NW Lolo Drive, Ste. 200 | Bend, OR 97703
Phone (541) 647-2930
www.colw.org

Jeremy Austin
Wild Lands & Water Program Manager
Central Oregon LandWatch
2843 NW Lolo Dr St. 200
Bend, OR 97703
jeremy@colw.org

CENTRAL OREGON CITIES ORGANIZATION

Bend, Culver, La Pine, Madras, Maupin
Metolius, Prineville, Redmond, Sisters

May 25, 2023

To Bureau of Reclamation grant review team:

Central Oregon Cities Organization (COCO) provides this letter in support of the Deschutes River Conservancy's application for the 2023 Bureau of Reclamation WaterSMART: Aquatic Ecosystem Restoration Project. COCO was formally established in 2002 and has grown to include the cities of Bend, Culver, La Pine, Madras, Maupin, Metolius, Prineville, Redmond, and Sisters. COCO's purpose is to promote common interests of the cities in Central Oregon. COCO has specifically established a water subcommittee that meets each regularly to engage in basin-wide water issues and is an active participant in the Deschutes Basin Water Collaborative.

The proposal would secure funding to design aquatic ecosystem restoration projects at up to four sites in the Upper Deschutes River of Central Oregon, as part of collaborative ongoing efforts to improve habitat for the Oregon spotted frog and other aquatic species and improve water management balance in the region.

Aquatic habitat in the Upper Deschutes River between Wickiup Reservoir, a Reclamation storage facility, and the City of Bend has been degraded due to altered hydrology associated with the storage and release of water for irrigation. Seasonal fluctuations in flows have eroded the riverbanks, widening the channel approximately 25 percent and disconnecting the river from its floodplains. These impacts have compromised wetland habitat, impacting native redband trout, as well as the Oregon spotted frog, listed as threatened under the Endangered Species Act, and a major driver for restoration in the basin.

In 2021, Deschutes irrigation districts completed a Habitat Conservation Plan that commits to restore flows in the river over the next 30 years to mitigate impacts to the Oregon spotted frog. Currently, Districts are aggressively implementing conservation projects to meet these commitments and are working with the Deschutes Basin Water Collaborative on a long-term water management plan that meets instream, agricultural, and municipal needs into the future. While ongoing flow restoration is critical to restoring this ecosystem, complementary physical habitat restoration is also necessary for the system to regain ecological function. This proposal, guided by actions outlined in a recently released USFWS Restoration Implementation Strategy associated with the Oregon spotted frog Recovery Plan, would develop designs for aquatic restoration projects at up to four sites on the river to provide the most benefit for fish and wildlife as flows come back, providing regional benefit, and building on long-term collaborative work.

Please support the ongoing efforts in the Deschutes to restore ecosystem function at a regional scale.

Sincerely,

Michael Preedin, Chair, Central Oregon Cities Organization

UPPER DESCHUTES
WATERSHED COUNCIL

May 25, 2023

To Bureau of Reclamation grant review team:

The Upper Deschutes Watershed Council provides this letter in support of the Deschutes River Conservancy's application for the 2023 Bureau of Reclamation WaterSMART: Aquatic Ecosystem Restoration Project. The mission of the Upper Deschutes Watershed Council (UDWWC) is to restore and protect the Upper Deschutes watershed through collaborative projects in habitat restoration, watershed education and long-term monitoring and recently celebrated our twenty-fifth year as a nonprofit conservation organization in Central Oregon. The UDWC is supportive of this proposal to kickstart new restoration projects in the Upper Deschutes to benefit the Oregon spotted frog, native fish and a resilient and healthy watershed. Funding for these efforts will complement efforts by UDWC, the Deschutes River Conservancy and partners to create a strategic action plan that will support implementation of needed restoration of the Upper Deschutes aquatic ecosystem. UDWC looks forward to helping implement the work described in this proposal and offering matching funding to support these efforts.

The proposal would secure funding to design aquatic ecosystem restoration projects at up to four sites in the Upper Deschutes River of Central Oregon, as part of collaborative ongoing efforts to improve habitat for the Oregon spotted frog and other aquatic species, and improve water management balance in the region.

Aquatic habitat in the Upper Deschutes River between Wickiup Reservoir, a Reclamation storage facility, and the City of Bend has been severely degraded due to altered hydrology associated with the storage and release of water for irrigation. Dramatic seasonal fluctuations in flows have severely eroded the river banks, widening the channel approximately 25% and disconnecting the river from its floodplains. These impacts have compromised wetland habitat, impacting native redband trout, as well as the Oregon spotted frog, listed as threatened under the Endangered Species Act, and a major driver for restoration in the basin.

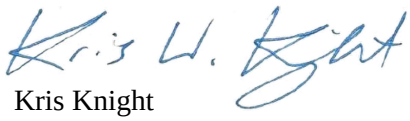
In 2021, Deschutes irrigation districts completed a Habitat Conservation Plan that commits to restore flows in the river over the next 30 years to mitigate impacts to the Oregon spotted frog. Currently, Districts are aggressively implementing conservation projects to meet these commitments and are working with the Deschutes Basin Water Collaborative on a long-term water management plan that meets instream, agricultural, and municipal needs into the future. While ongoing flow restoration is critical to restoring this ecosystem, complementary physical habitat restoration is equally necessary for the

system to regain ecological function. This proposal, guided by actions outlined in a recently released USFWS Restoration Implementation Strategy associated with the Oregon spotted frog Recovery Plan, would develop designs for aquatic restoration projects at up to four sites on the river to provide the most benefit for fish and wildlife as flows come back, providing regional benefit and building on long-term collaborative work.

Please support the ongoing efforts in the Deschutes to restore ecosystem function at a regional scale.

Thank you for your consideration.

Sincerely,



Kris Knight
Executive Director
Upper Deschutes Watershed Council

NORTH UNIT IRRIGATION DISTRICT

2024 NW Beech Street
Madras, Oregon 97741

(541) 475-3625
(541) 475-3652
Fax (541) 475-3905
nuid@northunitid.com

May 24, 2023

To Bureau of Reclamation grant review team:

North Unit Irrigation District (NUID) provides this letter in support of the Deschutes River Conservancy's application for the 2023 Bureau of Reclamation WaterSMART: Aquatic Ecosystem Restoration Project. NUID is a member of the Deschutes Basin Board of Control (DBBC) that has signed onto the 2020 Deschutes Basin Habitat Conservation Plan. NUID is committed to improving Upper Deschutes River conditions while providing consistent water to Farmers who help feed the world.

The proposal would secure funding to design aquatic ecosystem restoration projects at up to four sites in the Upper Deschutes River of Central Oregon, as part of collaborative ongoing efforts to improve habitat for the Oregon spotted frog and other aquatic species, and improve water management balance in the region.

Aquatic habitat in the Upper Deschutes River between Wickiup Reservoir, a Reclamation storage facility, and the City of Bend has been severely degraded due to altered hydrology associated with the storage and release of water for irrigation. Dramatic seasonal fluctuations in flows have severely eroded the river banks, widening the channel by approximately 25% and disconnecting the river from its floodplains. These impacts have compromised wetland habitat, impacting native redband trout, as well as the Oregon spotted frog, listed as threatened under the Endangered Species Act, and a major driver for restoration in the basin.

In 2020, Deschutes irrigation districts completed a Habitat Conservation Plan that commits to restoring flows in the river over the next 30 years to mitigate impacts to the Oregon spotted frog. Currently, Districts are aggressively implementing conservation projects to meet these commitments and are working with the Deschutes Basin Water Collaborative on a long-term water management plan that meets instream, agricultural, and municipal needs into the future. While ongoing flow restoration is critical to restoring this ecosystem, complementary physical habitat restoration is necessary for the system to regain ecological function. This proposal, guided by actions outlined in a recently-released USFWS Restoration Implementation Strategy associated with the Oregon spotted frog Recovery Plan, would develop designs for aquatic restoration projects at up to four sites on the river to provide the most benefit for fish and wildlife as flows come back, providing regional benefit and building on long-term collaborative work.

Please support the ongoing efforts in the Deschutes to restore ecosystem function at a regional scale.

Sincerely,

Josh Bailey

Josh Bailey
General Manager

United States Department of Agriculture
Forest Service
Deschutes National Forest
63095 Deschutes Market Road
Bend, OR 97701
541-383-5300

File Code: 1560; 2500
Date: May 26, 2023

Dear Bureau of Reclamation Grant Review Team:

The US Forest Service (USFS) provides this letter in support of the Deschutes River Conservancy's application for the 2023 Bureau of Reclamation WaterSMART: Aquatic Ecosystem Restoration Project.

The physical restoration of the Upper Deschutes River and its tributaries is critical to supporting the recovery of native species, supporting water quality objectives, and restoring the functioning condition of physical and ecological processes of the river on both public and private lands. This work supports the USFS's mission toward whole watershed restoration, the stewardship of these important resources, and is an essential continuation of the ongoing conservation work the USFS has been engaged in with partners for many years in this riverscape.

Aquatic habitat in the Upper Deschutes River between Wickiup Reservoir, a Reclamation storage facility, and the City of Bend has been severely degraded due to altered hydrology associated with the storage and release of water for irrigation. Dramatic seasonal fluctuations in flows have severely eroded the riverbanks, widening the channel by approximately 25% and disconnecting the river from its floodplains during the winter storage season. These impacts have compromised riverine wetland habitat, not only greatly impacting Oregon spotted frog, which was listed in 2014 as threatened under the Endangered Species Act and is a major driver for restoration in the basin, but also native redband trout (a Forest listed sensitive species), as well as a number of other native aquatic and terrestrial species that rely on this habitat.

Thank you for your consideration.

Sincerely,

HOLLY JEWKES
Forest Supervisor

Bureau of Reclamation
Grant Application Review Team
WaterSMART

May 25, 2023

Dear Review Team:

The Deschutes Redbands Chapter (Chapter) of Trout Unlimited represents 750 members most of whom reside in the Deschutes Basin of Central Oregon. Our Chapter is submitting this letter in support of the Deschutes River Conservancy's (DRC) application to the 2023 Bureau of Reclamation's WaterSMART Program - Aquatic Ecosystem Restoration Project. Our Chapter's mission is the preservation and enhancement of the cold-water fisheries in our Basin with particular emphasis on the Deschutes River. We have an extensive history of working with the DRC and have every confidence that it will, through this grant, produce project designs that restore critical habitat in the Upper Deschutes (Upper D).

Aquatic habitat in the Upper D between Wickiup Reservoir, a Bureau of Reclamation storage facility, and the City of Bend has been severely degraded due to altered hydrology associated with the storage and release of irrigation water. Over the decades, dramatic seasonal fluctuations in flow to meet irrigation demands have severely eroded and undercut banks resulting in channel widening by as much as 25%. This has also disconnected significant portions of the Upper D from its natural floodplain. These conditions directly impact and degrade critical habitat for native Redband trout, as well as the Oregon spotted frog. Both are listed as threatened under the Endangered Species Act and have been a major driver for restoration in the Basin.

In 2021, Deschutes Basin irrigation districts completed a Habitat Conservation Plan that commits them to 30-year program for flow restoration in the Upper D. While ongoing flow restoration is critical to restoring this ecosystem and spotted frog habitat, complementary physical habitat restoration projects are essential toward enabling the Upper D to regain ecological function. This grant application, guided by the USFWS Restoration Implementation Strategy associated with the Oregon Spotted Frog Recovery Plan, would develop designs for aquatic restoration projects at up to four sites on the Upper D. These projects will anticipate the mandated restoration of flows with corresponding designs that can maximize benefit to the Upper D, its fish and wildlife.

Our Chapter urges your support of this grant application by the DRC toward restoration of the Upper D.

Sincerely,

Shaun Pigott, President
Deschutes Redbands Chapter of Trout Unlimited
16 NW Kansas Ave
Bend, OR 97703

Tommy Cianciolo
Water Quality Project Coordinator

May 24th, 2023

To Bureau of Reclamation grant review team:

Trout Unlimited provides this letter in support of the Deschutes River Conservancy's (DRC) application for the 2023 Bureau of Reclamation WaterSMART: Aquatic Ecosystem Restoration Project. Trout Unlimited (TU) is a non-profit organization with a mission to conserve, protect and restore North America's coldwater fish and their watersheds.

The DRC's proposal would secure funding to design aquatic ecosystem restoration projects at up to four sites in the Upper Deschutes River of Central Oregon, as part of collaborative ongoing efforts to improve habitat for the Oregon spotted frog and other aquatic species and improve water management in the region.

Aquatic habitat in the Upper Deschutes River between Wickiup Reservoir, a Reclamation storage facility, and the City of Bend has been severely degraded due to altered hydrology associated with the storage and release of water for irrigation. Dramatic seasonal fluctuations in flows have severely eroded the riverbanks, widening the channel approximately 25% and disconnecting the river from its floodplain. These impacts have compromised wetland habitat, impacting native redband trout, as well as the Oregon spotted frog which is listed as threatened under the Endangered Species Act and a major driver for restoration in the basin.

In 2021, Deschutes irrigation districts completed a Habitat Conservation Plan that commits to restore flows in the river over the next 30 years to mitigate impacts to the Oregon spotted frog. Currently, the irrigation districts are aggressively implementing conservation projects to meet these commitments and are working with the Deschutes Basin Water Collaborative on a long-term water management plan that meets instream, agricultural, and municipal needs into the future. While ongoing flow restoration is critical to restoring this ecosystem, complementary physical habitat restoration is equally as necessary for the system to regain ecological function. This proposal, guided by actions outlined in a recently released USFWS Restoration Implementation Strategy associated with the Oregon spotted frog Recovery Plan, would develop designs for aquatic restoration projects at up to four sites on the Upper Deschutes River to provide the most benefit for fish and wildlife as flows come back, providing regional benefit, and building on long-term collaborative work.

Please support the ongoing efforts in the Deschutes to restore ecosystem function at a regional scale.

Sincerely,

Tommy Cianciolo
Water Quality Project Coordinator
Tommy.cianciolo@tu.org
1453 Esplanade Ave
Klamath Falls, OR, 97601

AVION WATER CO INC

60813 Parrell Rd • Bend, OR 97702•
Ph: 541-382-5342 • fax: 541-382-5390 • Email: avion@avionwater.com

May 24, 2023

To Bureau of Reclamation grant review team:

Avion Water Company, Inc. provides this letter in support of the Deschutes River Conservancy's application for the 2023 Bureau of Reclamation WaterSMART: Aquatic Ecosystem Restoration Project. *Describe your organizational mission or interest in this work.*

The proposal would secure funding to design aquatic ecosystem restoration projects at up to four sites in the Upper Deschutes River of Central Oregon, as part of collaborative ongoing efforts to improve habitat for the Oregon spotted frog and other aquatic species, and improve water management balance in the region.

Aquatic habitat in the Upper Deschutes River between Wickiup Reservoir, a Reclamation storage facility, and the City of Bend has been severely degraded due to altered hydrology associated with the storage and release of water for irrigation. Dramatic seasonal fluctuations in flowshave severely eroded the river banks, widening the channel approximately 25%and disconnecting the river from its floodplains.. These impacts have compromised wetland habitat, impactingnative redband trout, as well as the Oregon spotted frog, listed as threatened under the Endangered Species Act, and a major driver for restoration in the basin.

In 2021, Deschutes irrigation districts completed a Habitat Conservation Plan that commits to restore flows in the river over the next 30 years to mitigate impacts to the Oregon spotted frog. Currently, Districts are aggressively implementing conservation projects to meet these commitments and are working with the Deschutes Basin Water Collaborative on a long-term water management plan that meets instream, agricultural, and municipal needs into the future. While ongoing flow restoration is critical to restoring this ecosystem, complementary physical habitat restoration is equally as necessary for the system to regain ecological function. This proposal, guided by actions outlined in a recently-released USFWS Restoration Implementation Strategy associated with the Oregon spotted frog Recovery Plan, would develop designs for aquatic restoration projects at up to four sites on the river to provide the most benefit for fish and wildlife as flows come back, providing regional benefit and building on long-term collaborative work.

Please support the ongoing efforts in the Deschutes to restore ecosystem function at a regional scale.

Sincerely,

Jason Wick, PE
President
Avion Water Company, Inc.

Oregon Environmental Council

May 23, 2023

To Bureau of Reclamation grant review team:

Oregon Environmental Council (OEC) provides this letter in support of the Deschutes River Conservancy's (DRC) application for the 2023 Bureau of Reclamation WaterSMART: Aquatic Ecosystem Restoration Project.

Founded in 1968, OEC is a nonprofit, nonpartisan, membership-based organization. We advance innovative, collaborative and equitable solutions to Oregon's environmental challenges for today and future generations. Water has been a priority program area for OEC since the beginning. We have collaborated with DRC and other Deschutes Basin organizations as the basin works to find solutions for its water challenges that will support wildlife and ecosystems as well as people. We are impressed with the commitment, expertise and collaborative approach DRC brings to their work in the basin, and strongly encourage you to support this effort.

Aquatic habitat in the Upper Deschutes River between Wickiup Reservoir, a Reclamation storage facility, and the City of Bend has been severely degraded due to altered hydrology associated with the storage and release of water for irrigation. Dramatic seasonal fluctuations in flows have severely eroded the river banks, widening the channel approximately 25% and disconnecting the river from its floodplains. These impacts have compromised wetland habitat, impacting native redband trout, as well as the Oregon spotted frog, listed as threatened under the Endangered Species Act, and a major driver for restoration in the basin.

This project will contribute to collaborative ongoing efforts to improve habitat for the Oregon spotted frog and other aquatic species, and improve water management balance in the region. The requested funding will be used to develop designs for aquatic restoration projects at up to four sites on the river to provide the most benefit for fish and wildlife as flows come back, providing regional benefit and building on long-term collaborative work

In 2021, Deschutes irrigation districts completed a Habitat Conservation Plan. The plan commits to restoring flows in the river over the next 30 years to mitigate negative impacts to the Oregon spotted frog. Districts are aggressively implementing conservation projects to meet these commitments. At the same time, they are working with the Deschutes Basin Water Collaborative on a long-term water management plan that will meet instream, agricultural, and municipal needs into the future.

While ongoing flow restoration is critical to restoring this ecosystem, complementary physical habitat restoration is equally as necessary for the system to regain ecological function. This proposal, guided by actions outlined in a recently-released USFWS Restoration Implementation Strategy associated with the Oregon spotted frog Recovery Plan, is an essential component in the ongoing efforts in the Deschutes to restore ecosystem function at a regional scale.

OEC encourages you to provide funding for this important work.

Sincerely,

Karen Lewotsky, PhD, JD
Water Program Director & Rural Partnerships Lead, Oregon Environmental Council

PO Box 14822, Portland, OR 97239
503.222.1963
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SIERRA CLUB

May 24, 2023

Bureau of Reclamation
775 Summer St NE
Salem, OR 97301

To the Bureau of Reclamation Grant Review Team,

The Juniper Group of the Sierra Club is providing this letter in support of the Deschutes River Conservancy's application for the 2023 Bureau of Reclamation WaterSMART: Aquatic Ecosystem Restoration Project.

The Juniper Group functions both independently and in concert with the Oregon Chapter and the National Sierra Club. The Juniper Group is dedicated to preserving Central and Eastern Oregon's environment, natural resources, and quality of life. The Sierra Club champions future-focused, science-based solutions to address the health of our environment for all, including advocating for responsible ecological management of our surface and groundwaters.

The Juniper Group has supported ongoing collaborative efforts in the Deschutes Basin that focus on meeting water needs for rivers, communities, and agriculture. The restoration of native fish and healthy rivers and streams, and protection of Endangered and Threatened species is of particular importance to our organization.

The Deschutes's River Conservancy's proposal would secure funding to design aquatic ecosystem restoration projects at up to four sites in the Upper Deschutes River in Central Oregon. Stakeholders in the Deschutes Basin have a long history of collaborating to implement projects to improve habitat for aquatic species and to improve water management in the basin.

Aquatic habitat in the Upper Deschutes River between Wickiup Reservoir, a Reclamation storage facility, and the City of Bend has been severely degraded due to altered hydrology associated with the storage and release of water for irrigation. Dramatic seasonal fluctuations in flows have severely eroded the riverbanks, widening the channel approximately 25% and disconnecting the river from its floodplain. These impacts have adversely affected riverine habitat, adjacent wetlands, and native aquatic species including redband trout and the Oregon spotted frog. The Oregon spotted frog is Federally listed as Threatened under the Endangered Species Act.

In 2021, Deschutes irrigation districts completed a Habitat Conservation Plan (HCP) as part of an application for an Endangered Species Act (ESA) incidental take permit. The HCP commits to restore flows in the river over the next 30 years to minimize and mitigate impacts to the Oregon spotted frog. Currently, Districts are implementing conservation projects to meet these commitments and are working with the Deschutes Basin Water Collaborative on a long-term water management plan that meets instream, agricultural, and municipal needs into the future.

Ongoing flow restoration is a critical first step to restore this ecosystem. Physical habitat restoration is equally necessary for the river system to regain ecological function. This proposal, guided by actions outlined in a recently released USFWS Restoration Implementation Strategy associated with the Oregon spotted frog Recovery Plan, would develop designs for aquatic restoration projects at up to four sites on the river to provide the most benefit for fish and wildlife as flows come back, providing regional benefit, and building on long-term collaborative work.

We believe that the ongoing collaborative efforts to restore ecosystem function in the Deschutes River at a regional scale and to help recover endangered species is achievable and essential. We urge you to support this important river restoration effort.

Sincerely,
Nancy Gilbert,
Water Chair

Juniper Group Sierra Club
16 NW Kansas
Bend, OR 97703

CRWC
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

May 22, 2023

Bureau of Reclamation - Grant Reviewer,

We are pleased to offer our support to this proposed project. The application by the Deschutes River Conservancy for funding from the 2023 Bureau of Reclamation WaterSMART: Aquatic Ecosystem Restoration Project to design habitat improvement projects in the upper Deschutes River. The council appreciates and values the results that will come from the work described in the proposal. The design plans will focus on important emerging issues in Central Oregon as population growth pressures continue to overtax resources.

The Deschutes River Conservancy, as a key leader and convener of a regional collaborative seeking to improve habitat for the Oregon spotted frog and other aquatic species, and improve water management balance in the region, is well-positioned to execute the proposed plan to achieve project designs.

Aquatic habitat in the Upper Deschutes River between Wickiup Reservoir, a Reclamation storage facility, and the City of Bend has been severely impacted by altered hydrology associated with the storage and release of water for irrigation. Fluctuations in flow are counter to the natural hydrograph for this area of the river system and cause bank erosion, channel expansion, and effectively disconnect the river from its floodplains. These impacts have reduced wetland habitat acres, impacted native redband trout and Oregon spotted frog life histories.

This proposal is influenced by and is consistent with the actions outlined in a recently released USFWS Restoration Implementation Strategy associated with the Oregon Spotted Frog Recovery Plan. It will develop designs for aquatic restoration projects at up to four sites on the river to provide the most benefit for fish and wildlife, providing regional benefit and building on long-term collaborative work. We ask for your assistance in supporting the ongoing efforts in the Deschutes to restore ecosystem function at a regional scale.

Sincerely,

Chris M. Gannon
Director

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Bend Field Office
63095 Deschutes Market Road
Bend, Oregon 97701
Phone: (541) 383-7146 FAX: (541) 383-7638

File Name: LOS_AquaticEcosystemRestorationProgram_DRC.doxs

Bureau of Reclamation
Financial Assistance Operations Section
Attn: NOFO Team
P.O. Box 25007, MS 84-27133
Denver, CO 80225

Subject: Letter of Support for Deschutes River Conservancy Aquatic Ecosystem Restoration Design Project

To Bureau of Reclamation Grant Review Team:

The U.S. Fish and Wildlife Service is writing in support of Deschutes River Conservancy's application for the 2023 Bureau of Reclamation WaterSMART: Aquatic Ecosystem Restoration Program.

The Oregon Fish and Wildlife, Bend Field Office is part of the U.S. Fish and Wildlife Service's Ecological Services program. We work closely with partners to conserve fish, wildlife, plants, and their habitats throughout Oregon for future generations. We work closely with the Deschutes River Conservancy to enhance fish and wildlife habitat along the Upper Deschutes River.

We ask that you please support funding to design aquatic ecosystem restoration projects in the Upper Deschutes river of Central Oregon. The proposal would secure funding to design aquatic ecosystem restoration projects at up to four sites in the Upper Deschutes River of Central Oregon, as part of collaborative ongoing efforts to improve habitat for the Oregon spotted frog and other aquatic species; it will also improve water management balance in the region. This project will reinforce ongoing efforts in the Deschutes to restore ecosystem function at a basin-wide scale.

Aquatic habitat in the Upper Deschutes River between Wickiup Reservoir, a Reclamation storage facility, and the City of Bend has been severely degraded due to altered hydrology associated with the storage and release of water for irrigation. Dramatic seasonal fluctuations in flows have severely eroded the river banks, widening the channel approximately 25%and disconnecting the river from its floodplains.. These impacts have compromised wetland habitat, impacting native redband trout, as well as the Oregon spotted frog, listed as threatened under the Endangered Species Act, and a major driver for restoration in the basin.

In 2021, Deschutes irrigation districts completed a Habitat Conservation Plan that commits to restore flows in the river over the next 30 years to mitigate impacts to the Oregon spotted frog. Currently, irrigation districts are aggressively implementing conservation projects to meet these commitments and are working with the Deschutes Basin Water Collaborative on a long-term water management plan that meets instream, agricultural, and municipal needs into the future. While ongoing flow restoration is critical to restoring this ecosystem, complementary physical habitat restoration is equally as necessary for the system to regain ecological function. This proposal, guided by actions outlined in a recently-released USFWS Restoration Implementation Strategy associated with the Oregon spotted frog Recovery Plan, would develop designs for aquatic restoration projects at up to four sites on the river to provide the most benefit for fish and wildlife as flows come back, providing regional benefit and building on long-term collaborative work.

This design project is one of many restoration projects in the Deschutes Basin and is an important component of ongoing regional collaborative efforts to restore habitat for aquatic species in the region. This effort, in concert with flow restoration initiatives, is essential to the success of our aquatic ecosystems in Central Oregon.

Please support the ongoing efforts in the Deschutes to restore ecosystem function at a regional scale.

Sincerely,

Bridget Moran
Field Supervisor

ec:
Kate Fitzpatrick, Executive Director, Deschutes River Conservancy (kate@deschutesriver.org)