Feasibility Grant Applications

2020-2021 Cycle Evaluation Summaries and Review Team Funding Recommendations

Background

Feasibility Study Grants provide funding for qualifying costs of project planning studies that evaluate the feasibility of developing a water conservation, reuse, or storage project. A feasibility study is an evaluation of a proposed project or plan and can be used to determine *if* and *how* a project should proceed to the implementation phase. This funding opportunity will cover up to 50% of the study cost.

Document Description

The following are evaluations summaries for complete grant applications received by the October 15, 2020 deadline for the current Feasibility Study Grant funding cycle. The evaluation summaries include a project summary, feedback from the Application Review Team (ART), and the ART's funding recommendations.

Next Steps

Applications and the ART recommendations will be posted on the Department's website for a 30-day public comment period from March 16, 2021 to April 15, 2021. The Department will present funding recommendations and the comments received to the Water Resources Commission at its meeting tentatively scheduled for June 3-4, 2021. The funding recommendations will be based on the ART recommendations and public comments received. The Commission will make the final funding decisions.

More Information

Additional information about this funding opportunity is available at the Water Resources Development Program website. If you have questions please contact Grant Program Coordinator, Becky Williams, at 503.986.0869 or WRD_DL_feasibilitystudygrants@oregon.gov.

List of Applications Received

Study Name	Project Type	County	Funding Requested	Total Cost of Study[1]
Dry River Canyon Water Conservation Study	Conservation	Deschutes Crook	$27,760	$55,520
Fifteenmile Watershed Managed Underground Storage Facilities Feasibility Study Phase II	Below-Ground Storage	Wasco	$185,000	$370,000
Klamath Irrigation District C-G Drop Hydropower Feasibility Study	Conservation	Klamath	$80,000	$160,000
Silverton / Mt. Angel ASR Feasibility Study	Below-ground Storage	Marion	$15,000	$30,000
Smith Rock-King Way Water Conservation Feasibility Study	Conservation	Deschutes Crook	$171,072	$375,712
Upper Grande Ronde River Watershed Storage Feasibility Study	Above-ground Storage	Union	$114,000	$228,000
Upper John Day ASR Feasibility Study	Below-ground Storage	Grant	$293,895	$589,645
Upper Klamath Lake Water Storage	Above-Ground Storage	Klamath	$26,400	$58,600
Walla Walla River Irrigation District Water Conservation Study	Conservation	Umatilla	$75,000	$170,000
		Total	**$988,127**	**$2,037,477**

[1]Studies require at least a dollar-for-dollar cost match.

2020 Applications

Dry River Canyon Water Conservation Study

Recommended for Funding

Study Information (adapted from application)

Applicant Name: Deschutes River Conservancy and the Central Oregon Irrigation District

County: Deschutes and Crook

Funding Requested: $27,760

Total Project Cost: $55,520

Study Summary:

The proposed study seeks to assess primary irrigation water runoff points into Dry River Canyon, a drainage to the Crooked River that runs parallel to Central Oregon Irrigation District's (COID) Central Oregon Canal (COC), to determine the feasibility of reducing water waste through the construction of a re-regulation system, implementation of targeted on-farm efficiency projects, and other strategies as identified through the course of this study. Specifically, the proposed study would review and evaluate existing data to predict primary points of discharge along COID's COC, collect data on these assumptions via a field investigation, and then evaluate the feasibility and efficacy of reducing these discharge points through the implementation of various strategies.

Evaluation Summary

The application outlined a detailed approach to investigate discharge points and options to reduce water waste that currently contributes to impaired water quality. The ultimate goal of the study is to see if water could be conserved and provide benefits to both water supply and water quality. The tasks proposed are appropriate for achieving the study goal of assessing whether conservation is feasible and where there is potential to reduce runoff. The study application provides confidence that the proposed approach will achieve information and successfully answer the study questions.

The work identified in this study proposal will investigate the potential for water conservation and elimination of runoff, leaving exploration of what to do with the water conserved for future work. The review team noted that since the application justified the need for the study based on potential benefits to the spotted frog and other ecological factors, the proposal would be improved by including tasks to investigate the intended use of the conserved water. If the project proceeds to implementation, the applicant should be aware of a wetland mitigation project in the study area and avoid impacts on that project.

Fifteenmile Watershed Managed Underground Storage Study - Phase II

Recommended for Funding

Study Information (adapted from application)

Applicant Name: Wasco County Soil Water Conservation District and the Fifteenmile Watershed Council

County: Wasco

Funding Requested: $185,000

Total Project Cost: $370,000

Study Summary:

Low stream flow is identified as a primary limiting factor in the Fifteenmile watershed and, in portions of the watershed, temperatures exceed thresholds for salmon and trout rearing, migration, and spawning. This specific study would address two key uncertainties for determining the feasibility of a subsurface storage project. The study would include (1) the feasibility of treating target volumes of source water from Fifteenmile Creek for subsurface storage using soil and aquifer treatment system methods, and (2) examining models for governing and operating a subsurface storage system that would ensure long-term sustainability. The results of the study would be used to design a below-ground water storage project that would augment late season stream flows with cool water, and to provide a more stable and ecologically beneficial water supply.

Evaluation Summary

The study proposal seeks to determine the feasibility of a potential Artificial Recharge project. The application outlines an approach to investigate permitting requirements, construct and conduct a pilot scale treatment basin to examine the effectiveness of this approach to treat source water and meet water quality standards. Additionally, the application seeks to engage stakeholders and identify, evaluate, and select a governance framework for long-term project operation and maintenance of a full-scale system. The review team noted the community support for the potential project.

The application proposes to access a reservation of water for below-ground storage for multipurpose use in both the testing proposed in this study and future project implementation. While the Department does not have a record of previous conversations regarding the use of reservation water for the project, there is potential for this approach. The Department has not previously authorized a permit to accesss a reservation of water for this type of project and as such there may be unknown factors the applicant and Department will need to navigate in the permitting process. Based on the application describing work to engage in conversations with the Department about water rights permitting, the ART recommends this study for funding despite this uncertainty. Since the issue of water availability is critical to the ability of the applicant to complete the study, the Department strongly encourages early discussions and a pre-application meeting regarding the water right permitting process prior to construction of an infiltration basin.

Klamath Irrigation District C-G Drop Hydropower Feasibility Study

Not Recommended for Funding at this time

Study Information (adapted from application)

Applicant Name: Klamath Irrigation District

County: Klamath

Funding Requested: $80,000

Total Project Cost: $160,000

Study Summary:

The goal of the feasibility study is to produce a hydropower structure design for the C-G Drop in Klamath Irrigation District, which is located in Klamath County. This site was identified by the United States Bureau of Reclamation, Irrigation Training Research Center, and Farmers Conservation Alliance as having potential for hydropower development as part of a larger modernization effort. This study proposes to identify and evaluate opportunities to modernize the District's infrastructure. Included in the study are plans to examine and develop high-level engineering designs, cost estimates, projected water savings, and projected hydroelectric power generation and energy conservation potentials for integration with a System Improvement Plan (which includes a Supervisory Control and Data Acquisition component, being examined by Farmers Conservation Alliance in partnership with Energy Trust). The study would determine project feasibility by quantifying the effect of water conservation, operations and maintenance costs, and energy conservation and generation potential.

Evaluation Summary

The application describes a proposal to develop a hydropower facility design and evaluate the potential to improve the Klamath Irrigation District's infrastructure. The Feasibility Study Grant program is structured to assess the feasibility of water conservation, reuse and storage projects. The review team's evaluation determined that the application, as submitted, appears to focus primarily on an assessment of hydropower. While conservation of water was discussed, the proposed tasks were not sufficient to demonstrate that the study would investigate water conservation. The proposal to assess water conservation opportunities would be improved by including an investigation into losses due to seepage and evaporation. Other components of the application, such as attached letters of support, appeared to be submitted in support of a different grant proposal. The review team supports investigating energy conservation potential and recommends that the applicant seek funding from a source focused on energy savings or revise the study to include more water conservation work and reapply in a later grant funding cycle.

Silverton / Mt. Angel Aquifer Storage and Recovery Feasibility Study

Recommended for Funding

Study Information (adapted from application)

Applicant Name: City of Silverton

County: Marion

Funding Requested: $15,000

Total Project Cost: $30,000

Study Summary:

The City of Silverton proposes to conduct a feasibility analysis framed as an initial effort to potentially locate a regional aquifer recharge and/or aquifer storage and recovery (ASR) site near the Cities of Silverton and Mt. Angel. The project would provide a high-level analysis to identify possible location(s) of a viable aquifer for ASR. The feasibility study would also help to determine compatibility of ASR with the Cities' respective water systems.

Evaluation Summary

The application describes an approach for the first phase of investigating potential locations for an ASR project. The study proposal appears to be at an appropriate level as a preliminary step and acknowledges future study would be required to pursue a project. The review team noted that should an ASR project be deemed feasible, it would have the potential to relieve pressure on the groundwater system and have benefits to the aquifer.

The application lacked detail and would be improved by providing an additional explanation of the work included in each task. The review team, however, determined that the information seemed sufficient to accomplish this initial effort. The review team advises the applicant to investigate applicable permitting requirements of the Oregon Health Authority if they proceed with additional project assessments.

Smith Rock-King Way Water Conservation Feasibility Study

Recommended for Funding

Study Information (adapted from application)

Applicant Name: Deschutes River Conservancy and the Central Oregon Irrigation District

County: Deschutes

Funding Requested: $171,072

Total Project Cost: $375,712

Study Summary:

Previous results from the Upper Deschutes River Basin Study identified the potential for various on-farm water conservation opportunities. This study would build a toolbox to assist with prioritization and implementation of on-farm water conservation projects in the Smith Rock-King Way Project Area which is currently being piped. The analysis would assist in understanding system-wide interactions between reduced demand on-farm, operational issues in private and district laterals, and potential water savings generated from combinations of actions. The toolbox would provide information about what projects and packages of projects are the most feasible to target with scarce resources in order to provide the greatest water conservation benefit. The feasibility study would add value to the Bureau of Reclamation WaterSmart Water Marketing Strategy Development underway and would prioritize projects for future implementation.

Evaluation Summary

The proposal seeks to build on previous assessments and investigate project feasibility by developing a toolbox to prioritize water conservation projects and target those most feasible for implementation. The application provided clear details of the study tasks to provide confidence that the proposed study would achieve the study goal. The application leverages federal funding and study outcomes may assist with future funding decisions.

While the proposed application contained information regarding the Oregon spotted frog's listing under the Endangered Species Act and the Habitat Conservation Plan, the connection to the proposed study was not clear. The review team noted that the presence of jurisdictional wetlands should be assessed prior to project implementation.

Upper Grande Ronde River Watershed Storage Feasibility Study

Recommended for Funding

Study Information (adapted from application)

Applicant Name: Union County

County: Union

Funding Requested: $114,000

Total Project Cost: $228,000

Study Summary:

The Upper Grande Ronde River Watershed (UGRRW) Partnership proposes to conduct a UGRRW-wide assessment of above-ground storage options. The feasibility study would include two components; (1) A review of the entire watershed to determine suitable locations for above-ground storage of winter runoff, and (2) an evaluation of the in-stream flow needs in the reaches most likely to be impacted by a storage project. The goal of the study would be to identify storage locations and assess site suitability by examining a variety of social, legal, environmental, economic, and technical factors, while simultaneously conducting large-scale In-stream Flow Incremental Methodology/Physical Habitat Simulation System studies to determine in-stream flow needs for fisheries. The study work would also inform how stored water could best be used to benefit both in-stream and out-of-stream needs as the basin prepares to implement any storage projects identified as a result of this feasibility study.

Evaluation Summary

The study proposal was exceptionally well-prepared both in detail and scope. The review team commented that the application provided comprehensive information on all study aspects. The application describes an approach which meets the criteria of the Storage Specific Study Requirements triggered by the study. The proposal was identified through a local integrated place-based water resource planning process. The Confederated Tribes of the Umatilla Indian Reservation participate in the place-based planning collaborative and support the proposal to investigate off-channel options to store winter water in a manner that does not further compromise aquatic environments.

The Oregon Department of Fish and Wildlife clarified that agency participation in flow studies is not intended to examine the feasibility of the storage project or determine peak, ecological and flushing flows. The review team advises that the Department of State Lands be contacted prior to conducting scientific measurements and survey work to determine if a permit would be required.

Upper John Day Aquifer Storage and Recovery Feasibility Study

Recommended for Funding

Study Information (adapted from application)

Applicant Name: Grant Soil and Water Conservation District

County: Grant

Funding Requested: $293,895

Total Project Cost: $589,645

Study Summary:

The purpose of this feasibility study is to assess, prioritize, and locate groundwater aquifer storage and recovery projects within the Upper Mainstem John Day River Basin to benefit summer stream flows. The study proposes to undertake the specific application of an Airborne Electromagnetic Method (AEM) survey to create a 3D hydrogeologic framework for the project area to supplement and correlate existing hydrogeologic and borehole data resources to forecast aquifer characteristics, groundwater flow paths, potential recharge areas, and calculate water storage capacity. The AEM findings would be incorporated into a weighted suitability analysis with existing applicable data sets and appraised for localized limiting factors to identify the most desirable groundwater recharge and recovery projects. Landowners of the sites with the best attributes would be contacted to assess their interest for project reconnaissance and development of conceptual design proposals. Once identified, potential projects would be ranked by feasibility for future action.

Evaluation Summary

The application proposes an innovative approach to use an Airborne Electromagnetic Method survey to identify potential locations for Artificial Recharge and/or Aquifer Storage and Recovery. Supporting information was provided to document the appropriateness of the method and its suitability for this study area. The proposal was detailed and tasks clearly described how the study would proceed. The application lays out a comprehensive technical approach to identify potential locations along with a landowner engagement process which would assist in selecting those locations which merit further study.

The review team commented that due to the Division 33 rules there are limitations to water availability not discussed in the application. A future water right application would require a Division 33 review and a pre-application conference with the Oregon Department of Fish and Wildlife is available.

The Confederated Tribes of the Umatilla Indian Reservation commented that if project(s) were to be implemented, it is unclear how instream flows would be protected and restored in a basin where many junior water right holders do not receive their full amount of water each year.

Upper Klamath Lake Water Storage Study

Recommended for Funding

Study Information (adapted from application)

Applicant Name: Modoc Irrigation District

County: Klamath

Funding Requested: $26,400

Total Project Cost: $58,600

Study Summary:

The proposed study would evaluate the feasibility of building one or more above-ground water storage reservoirs to store off-season runoff water from the Upper Klamath Lake Basin in order to augment the irrigation supply for Modoc Point Irrigation District irrigators, and provide supplemental water in the case of a call by the primary water right holder. The result of the study would be identification of potential sites and optimum sizes for the reservoir(s) in each potential location, as well as, costs, environmental impacts, regulatory compliance, and funding sources for constructing and implementing these potential reservoir sites. This study proposes to consider how to site and design the reservoir(s) to improve water quality for endangered fish by reducing phosphorus deposition in Klamath Lake, and whether the reservoir(s) can be designed to provide habitat for waterfowl.

Evaluation Summary

The feasibility study would evaluate the potential for above-ground storage of off season runoff water to supplement water for irrigation. A hydrologic analysis, reservoir siting assessment, and preliminary cost estimates are included in the proposed tasks. The application was detailed and tasks thoroughly prepared. The study proposal includes a provision to conduct the Storage Specific Study Requirements, if in the course of conducting the investigation, the findings determine that these requirements apply. The review team noted the complexities of determining water availability and the potential water rights needed should the project be implemented, and appreciated that the study tasks included both an assessment of current water rights and an investigation into the future water rights permitting.

In the study area, there is a potential concern of converting wetland to open water which may be considered a wetland impact by Department of State Lands (DSL). The review team advises against reliance on the National Wetland Inventory and future investigation in the study area should include a wetlands delineation by a wetland professional and the wetland delineation report submitted to the DSL for review and approval.

Walla Walla River Irrigation District Water Conservation Study

Recommended for Funding

Study Information (adapted from application)

Applicant Name: Farmers Conservation Alliance

County: Umatilla

Funding Requested: $75,000

Total Project Cost: $170,000

Study Summary:

The goal of the proposed feasibility study is to produce a System Improvement Plan for Walla Walla River Irrigation District in Umatilla County. The study will identify and evaluate opportunities to modernize the District's infrastructure in a manner that benefits agriculture, the environment, and the community. The result of the study will be an evaluation of improving the District's infrastructure with associated high-level engineering designs, cost estimates, GIS mapping, projected water savings, fish screening and passage evaluations, and projected hydroelectric power generation and energy conservation potential.

Evaluation Summary

The application clearly described the study goal to develop a system improvement plan and investigate the potential for modernization to benefit agriculture, the environment, and the community. The description and detail of the study tasks provided in the application demonstrated that the study was well prepared and could successfully reach its goal.

The Confederated Tribes of the Umatilla Indian Reservation appreciated that the study was intended to identify opportunities to benefit the environment and offered a reminder that the water conserved can only provide instream benefits if the water is formally protected instream through the Allocation of Conserved Water Program.