



WATER PROJECT GRANTS AND LOANS

GRANT APPLICATION

I. Project Information

Project Name: Muddy Creek Water Use and Restoration Project

Project Type: Conservation Reuse Flow Restoration and Protection
 Above-Ground Storage Below-Ground Storage
 Water Infrastructure Other: Irrigation/Connectivity/Habitat

Grant Funding Requested (must be no more than 75% of Total Cost of Project): \$ 462,913

Match Funding (must be no less than 25% of Total Project Cost): \$ 353,241

Total Cost of Project: \$ 816,154

II. Applicant Information

Applicant Name: Lake County Umbrella Watershed Council – Brandi Neider	Co-Applicant Name:
Address: PO Box 848 Lakeview, Oregon 97630	Address:
Phone: 541-219-0493	Phone:
Fax:	Fax:
Email: bdneider23@gmail.com	Email:

Principle Contact: Brandi Neider	Fiscal Officer: Colleen Withers
Address: PO Box 848 Lakeview, OR 97630	Address: 38374 Withers Ranch Rd Paisley, OR 97636
Phone: 541-219-0493	Phone: 541-610-3134
Fax:	Fax:
Email: bdneider23@gmail.com	Email: slidemountainsolutions@gmail.com

Certification: I certify that this application is a true and accurate representation of the proposed work and that I am authorized to sign as the Applicant or Co-Applicant. By the following signature, the Applicant and Co-Applicant (if applicable) certify that they are aware of the requirements of an Oregon Water Resources Department funding award, have read and are aware of conditions within the [example grant agreement](#) on the Department’s website and are prepared to implement the project, if awarded.

Signature of Applicant/Authorized Person:  Date: May 28, 2020

Print Name: Brandi Neider Title: Project Manager

Signature of Co-Applicant/Authorized Person: _____ Date: _____

Print Name: _____ Title: _____

III. Eligibility

Select applicant entity type for both applicant and co-applicant (if applicable).

<input type="checkbox"/>	City	<input type="checkbox"/>	Oregon County
<input type="checkbox"/>	Port	<input type="checkbox"/>	Irrigation District
<input type="checkbox"/>	Drainage District	<input type="checkbox"/>	Water Improvement District
<input type="checkbox"/>	Water Control District	<input checked="" type="checkbox"/>	Non-Profit Organization
<input type="checkbox"/>	Soil and Water Conservation District	<input type="checkbox"/>	Corporation
<input type="checkbox"/>	Partnership	<input type="checkbox"/>	Sole Proprietorship
<input type="checkbox"/>	Cooperative	<input type="checkbox"/>	Indian tribe
<input type="checkbox"/>	State of Oregon Agency	<input type="checkbox"/>	Individual
<input type="checkbox"/>	Federal Agency	<input type="checkbox"/>	Other:

To be eligible for funding a project must address an instream and/or out-of-stream water supply need and result in project implementation. Does the project address an instream and/or out-of-stream water supply need and result in project implementation? Yes No

Provide a brief, one to two paragraph description of the water supply need that the project intends to address. Please reference (and attach) supporting data or reports that document the need.

Muddy Creek is a 12-mile system located in the Goose Lake Watershed, South-Central Oregon. The Goose Lake Watershed is a closed basin where agriculture producers within this basin are heavily dependent on the season's snowpack for irrigation. Seasonal flows can be extreme, from flooding in the spring to dry stream beds mid to late summer. Drought is not uncommon east of the Cascades; Goose Lake, lying at the center of the basin, has a surface area of 147 sq miles and a maximum depth of 26 feet. Although a large body of water, Goose Lake has completely dried up five times in the last century. Yet, those who live and work in this area have adapted in developing irrigation systems to ensure long term sustainability. Juniper Reservoir was built on Muddy Creek in 1965 to store water and manage irrigation on the 3000-acre Shine Brothers Ranch (previously known as the KV Bar Ranch). The reservoir allows water to be managed throughout the year providing irrigation and stock water to the lower meadow between April and September.

In 2014 the landowner received notice (*see Attachment #6*) from the state requiring an ODFW approved fish screen to be installed prior to water diversion for irrigation use. The landowner, who is a local agriculture cattle and hay producer, began working with several partners to pursue implementation of a fish screen through Oregon Watershed Enhancement Board (OWEB) grant funding. OWEB grant reviewers concluded the screening solution was not the right treatment for a much larger and complex watershed issue. Efforts to maintain water use on the property then evolved into a fish passage and habitat restoration project.

The ability to divert water for irrigation is the water supply need. This ability will be granted through the implementation of fish passage into the reservoir and habitat restoration along Muddy Creek. The Lake County Umbrella Watershed Council (LCUWC) has secured funding from OWEB, Ducks Unlimited, and US Fish and Wildlife Service to implement the *lower segment* (1.5 miles of stream below the reservoir) of this project in 2020. This grant opportunity through OWRD intends to address the *upper segment* (reservoir spillway) of the project. Once complete, the landowner will have met the requirements and will be able to execute the water right permit and continue irrigation below the reservoir.

Is either the Applicant or Co-Applicant required to have a Water Management and Conservation Plan?
Yes XNo

If yes, has the plan been submitted to the Water Resources Department and received approval?
Yes No

Note: Pursuant to ORS 541.659 if an applicant is required to have a water management and conservation plan, the plan must be submitted to the Water Resources Department and receive approval prior to department acceptance of an application for a loan or grant from the account.

IV. Project Summary

Provide a brief, 4-5 sentence summary of the proposed project. This summary should include a brief description of the goal and scope of the project as well as summarize project implementation (i.e., planned infrastructure or activity). Please refer to the Water Project Grants and Loans Application Instructions for additional information on what to include in your project summary.

The goal of the Muddy Creek Water Use and Restoration Project includes maintaining the ranch's water right permit for irrigation by addressing fish passage and habitat restoration for Goose Lake redband trout, a state listed species of concern. A 75 ft rock ramp/roughened channel fish passage will be constructed at the spillway of the reservoir and 1.5 miles of stream channel habitat will be restored. This planned improvement will expand fish spawning and rearing habitat by 6 miles, in-return the project will meet the ODFW requirements set forth to divert water for irrigation, therefore sustaining the working landscape on the cattle ranch for years to come.

V. Project Location

Instructions: Please answer the following questions about the location of the proposed project.

1. Please provide the following information about the project location.
 - a. Latitude/Longitude (in decimal degrees): 42.191388 / -120.513982
 - b. County: Lake
 - c. Watershed/Basin: Goose Lake

2. Please attach and label, Attachment #1, a site plan map showing the following:
 - a. Project area boundaries
 - b. True north arrow
 - c. Map title and legend
 - d. Latitude and longitude of project location
 - e. Property boundaries
 - f. Tax Map and Lot numbers of each property in project area boundary and listed in Question #3. Use the same Tax Lot No. on the map as is used in Question #3.
 - g. Surface water bodies

- h. Location of involved structures (existing or proposed)
- i. Point of Diversion and Place of Use associated with the project (if applicable)
- j. Proposed measurement locations (if applicable)

3. In the table below, identify any properties on which the project would occur and/or that would be impacted or accessed by project implementation. *Add rows as needed.*

Tax Map No. (e.g. 12S06W-12714)	Tax Lot No. (e.g. 100)	Ownership Type (✓ One)	Property Owner of Record	Will ground disturbing activity occur on this land? (✓ One)	Identify the type and extent of ground disturbing activity (e.g. borings, test pits, excavation, new road construction etc.)
39S19E000002400	2400	<input type="checkbox"/> Public <input checked="" type="checkbox"/> Private	Shine Brothers Ranches LLC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Excavation of the existing spillway and constructions of a rock ramp fish passage.
		<input type="checkbox"/> Public <input type="checkbox"/> Private		<input type="checkbox"/> Yes <input type="checkbox"/> No	
		<input type="checkbox"/> Public <input type="checkbox"/> Private		<input type="checkbox"/> Yes <input type="checkbox"/> No	
		<input type="checkbox"/> Public <input type="checkbox"/> Private		<input type="checkbox"/> Yes <input type="checkbox"/> No	

4. For **each** property listed in Question #3, attach a [Landowner Agreement Form](#). Attach Landowner Agreement form(s) and label Attachment #2.
- a. Where a single landowner entity is the owner of record for multiple properties, one form may list the multiple properties owned by that entity.
 - b. For *public* lands attach the landowner form or other documented authorization from the federal or state government property owner allowing project implementation or documentation that demonstrates such authorization is being pursued.

VI. Project Specifics

Instructions: Please answer the following questions.

Project Description, Needs, and Goals

5. Provide additional information (building on the project summary) to further describe the proposed project and the project goal.

The implementation of fish passage and habitat restoration along Muddy Creek is a required action in order to maintain the water right S-54800 for irrigation purposes. The action to improve this system is tied to Oregon Department of Fish and Wildlife (ODFW) interim assessment of redband trout that evaluates the health of fish populations defined in Oregon’s Native Fish Conservation Policy. The Goose Lake redband trout is one of the primary fish species in Muddy Creek and is considered “at risk.” An at-risk designation is applied when three or fewer criteria are met for the populations in the basin. Muddy Creek redband populations fail in distribution, abundance, and productivity.

While Muddy Creek is a tributary for native fish, the creek and reservoir supply water to 300-acres of meadow below the reservoir which has an established irrigation system. Irrigation improvements have been ongoing throughout the ranch for improved water efficiency where the ditch system has been updated with slide gates that have been properly placed to distribute water evenly across the pastures. Flood water that does not infiltrate into the ground flows into a pond and is then pumped and recirculated to the upper pivot for re-use. Implementation that takes place on the *lower segment* of this project will also distribute water more evenly as the stream channel will be re-activated.

These grassy meadows feed approximately 450 cow/calf pairs each year. Stocking and rotation of livestock on the ranch have been improved for long-term sustainability. The meadow has three separate pastures where cattle are regularly moved from one allotment into another. This movement allows grasses to grow and seed, along with a decrease probability of overgrazing.

To address the water supply need and required action to restore redband trout populations - The Lake County Umbrella Watershed Council has worked closely with partners to implement instream habitat work below the reservoir with completion of the *lower segment* in December 2020. *Lower segment* project objectives include stabilizing streambanks, wood placement, willow plants, hardened water crossings. The project will continue into 2021 with the riparian fencing and *upper segment* objective – construction of a 75 ft rock ramp fish passage at the reservoir spillway to provide connectivity between upper and lower Muddy Creek.

The completed project will meet the ODFW requirement in improving fish passage and instream habitat which will allow the water right permit to resume for agriculture production. This project truly is expressed in the saying “What is good for the fish is also good for the farmer.”

6. Provide a summary of evidence to demonstrate project feasibility. This summary may include the results of a feasibility study. Attach the results of the study or other evidence, as necessary to support the summary.

Ducks Unlimited was awarded a Technical Assistance Grant through OWEB in 2015 and LCUWC was awarded a Restoration Grant through OWEB in 2018. Through both grant funding opportunities, the following tasks have been completed by Cascade Stream Solutions, an engineering company out of Ashland, OR:

- Site Survey (topographic survey, discharge measurement)
- Data Processing and Surface Model Development (data processing, surface model)
- Passage Alternative Analysis (Existing Conditions Hydraulic Model and Site Conditions Review, hydrologic analysis, existing condition 1D model, existing condition review)
- Final Fish Passage and Habitat Restoration Design Plan
- Calculation on fill and removal quantities and final cost estimates.

The next step is to submit the designs to ODFW Fish Passage and Screening Program for evaluation and approval. (*See Attachment 5 Design Plans*)

7. Describe partnerships and collaborative efforts associated with the planning or implementation of this project. Include a description of how parties of diverse interests worked, or will work together to achieve a common goal.

Partners involved with this project include John Shine (Landowner), Lake County Umbrella Watershed Council (Project Coordinator), US Fish and Wildlife Service (Technical Assistance, Funder), Oregon Department of Fish and Wildlife (Technical Assistance) Ducks Unlimited

(Funder), OWEB (Funder) and Cascade Stream Solutions (Project Engineer). Collaborative efforts between private, state, and federal organizations have allowed this project to grow from a fish screening requirement to a broader restoration and enhancement project that will ultimately provide for greater benefit to the Goose Lake watershed and long-lasting results for the cattle ranch.

8. List letters of support (name and/or affiliation of sender is sufficient). Attach copies of the letters to your application.

Marci Schreder – Consultant and Previous Project Manager – Natural Resources Innovation (*Attachment 4: Letter of Support*)
Cassie Roeder – Partners Biologist – US Fish and Wildlife Service (*Attachment 3: Match Letter*)
Chris Cholson – Ducks Unlimited (*Attachment 3: Match Letter*)

Project Tasks

9. Identify tasks necessary for the proposed project using the following format and including as many tasks as necessary to implement the project. In the event that your proposed project receives grant funding, the tasks identified will be incorporated into your grant agreement as the “Project Description.”

Note: Project management and administration are common functions within specified project tasks and not a separate project task. All cost match and grant budget funds must apply to the tasks identified below. See the Budget Procedures and Allowable Costs document for more.

For each Task address the following:

Task number. Key Task Title

- Task schedule: The approximate dates during which the key task will be completed.
- Description of key task activities: Include specific details of the task such as task purpose, planned approach, and proposed methods.
- Permits/Regulatory Approvals Required: List any permits or regulatory approvals required to conduct the task. All permits/regulatory approvals identified must also be listed in question 15 of this application.

Task 1. LCUWC Project Management and Coordination

- Task schedule: October 2018 - December 2021
- Description of key task activities: Ensure compliance with grant agreement requirements and reporting, ensure permitting is complete, obtain competitive project bids and hire contractors based on qualifications and cost/benefit, create and manage project budget, communicate and coordinate with all project partners and contractors, review and approve invoices and ensure contractors are paid. See the project through from start to finish.
- Permits/Regulatory Approvals Required: None

Task 2. Technical Consultation and Project Oversight

- Task schedule: October 2018 – December 2021
- Description of key task activities: Project engineer will oversee construction elements to ensure implementation of project is aligned with design specifications.
- Permits/Regulatory Approvals Required: None

Task 3. Replace upper dam with Rock Ramp Fishway and Hardened Water Crossing (lower segment)

- Task schedule: July – December 2020
- Description of key task activities: Contractor will remove upstream dam and provide a rock ramp/roughened channel fishway along with a hardened water crossing at site.
- Permits/Regulatory Approvals Required: Culture Resources, Fill/Removal Permit (DSL, Army Corp), NEPA (USFWS)

Task 4. Re-establish 950 ft of Stream Channel (lower segment)

- Task schedule: July – December 2020
- Description of key task activities: Contractor will excavate to re-establish and reconstruct stream channel - work includes placement of gravel, rock, and woody material.
- Permits/Regulatory Approvals Required: Culture Resources, Fill/Removal Permit (DSL, Army Corp) , NEPA (USFWS)

Task 5: Install Six Hardened Water Crossings (lower segment)

- Task schedule: July – December 2020
- Description of key task activities: Contractor will remove an undersized culvert and construct six hardened crossings along the 1.5-mile stream corridor for farm equipment and livestock to access each side of creek in each pasture allotment.
- Permits/Regulatory Approvals Required: Culture Resources, Fill/Removal Permit (DSL, Army Corp) , NEPA (USFWS)

Task 6: Reconstruct Downstream Dam and Install By-Pass Channel (lower segment)

- Task schedule: July – December 2020
- Description of key task activities: Contractor will reconstruct and improve downstream dam, create a roughened bypass channel (fish passage) around dam while sealing sand and gravel matric.
- Permits/Regulatory Approvals Required: Culture Resources, Fill/Removal Permit (DSL, Army Corp), NEPA (USFWS)

Task 7: Grade Control Structures

- Task schedule: July – December 2020 (lower segment)
- Description of key task activities: Contractor will place large wood, rock and willow at priority areas along the 1.5 mile stretch of creek to stabilize banks.
- Permits/Regulatory Approvals Required: Culture Resources, Fill/Removal Permit (DSL, Army Corp), NEPA (USFWS)

Task 8: Riparian Fencing (lower segment)

- Task schedule: June – September 2021
- Description of key task activities: Contractor will install approximately 5800 ft of riparian fencing along both sides of the creek with six water gaps to allow livestock to drink and cross the creek.
- Permits/Regulatory Approvals Required: Culture Resources, Fill/Removal Permit (DSL, Army Corp), NEPA (USFWS)

Task 9: Bonding and Mobilization (upper segment)

- Task schedule: July – December 2021
- Description of key task activities: Contractor will be required to be bonded due to the work on the dam.
- Permits/Regulatory Approvals Required: Culture Resources, Fill/Removal Permit (DSL, Army Corp), NEPA (USFWS)

Task 10: Excavation-Site Preparation and Cleanup (upper segment)

- Task schedule: July – December 2021
- Description of key task activities: Contractor will perform demolition of current spillway, removal and disposal of material, establish staging and stockpile areas.
- Permits/Regulatory Approvals Required: Culture Resources, Fill/Removal Permit (DSL, Army Corp), NEPA (USFWS)

Task 11. Construct Spillway Fish Passage (upper segment)

- Task schedule: July – December 2021
- Description of key task activities: Work consists of material procurement and delivery, excavation, rock boulder and engineered streambed placement and material compaction, washing sand and fine gravels into engineered streambed matrix.
- Permits/Regulatory Approvals Required: Culture Resources, Fill/Removal Permit (DSL, Army Corp), Fish Passage Plan Permit (ODFW), NEPA (USFWS)

Task 12. Construct Inverted Syphon and Roughened Channel at Creek and Ditch Intersection (upper segment)

- Task schedule: July – December 2021
- Description of key task activities: Work consists of water control and temporary rerouting of irrigation flows, excavation, form work, reinforced bar placement, and concrete installation. Roughened channel work consists of material procurement and delivery, excavation, rock boulder and engineered streambed placement and compaction.
- Permits/Regulatory Approvals Required: Culture Resources, Fill/Removal Permit (DSL, Army Corp), Fish Passage Plan Permit (ODFW), NEPA (USFWS)

Task 13. Install Flow Measuring Device

- Task schedule: July – December 2021
- Description of key task activities: Once the project is complete the LCUWC will work with the local watermaster to ensure a flow measuring device is installed as necessary.
- Permits/Regulatory Approvals Required: OWRD requirements

Copy and paste additional tasks as needed.

10. Project Task Scheduling – Estimated total project duration: 4 (months/years)

Place an “X” in the appropriate column to indicate when each Project Task would take place. Note that successful projects generally do not receive their first reimbursement until late Q1 or early Q2 of the year after application submission. Project tasks listed must match the tasks identified in Question 9.

Key Tasks (Add additional rows as needed)	Grant year				Grant year				Grant year			
	2020				2021				2022			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Project Management/Coordination	X	X	X	X	X	X	X	X	X	X	X	X
Technical Consultation/Oversight	X	X	X	X	X	X	X	X				
Site Preparation and Cleanup			X	X			X	X				
Re-establish 950 ft of Stream Channel			X	X								
Install Hardened Water Crossings			X	X								
Reconstruct Downstream Dam and Install By-Pass Channel			X	X								
Grade Control Structures			X	X								
Riparian Fencing						X	X					
Bonding and Mobilization							X	X				
Construct Spillway Roughened Channel Fish Passage							X	X				
Construct Inverted Syphon and Roughened Channel at Creek and Ditch Intersection							X	X				
Install Flow Measuring Device								X				

11. Describe how you propose to measure and report the water diverted and used from the proposed project. Include a proposed method, timing, frequency, and location of measurement in your proposal. If you have questions please contact the Department for more information. Consider that many forms of measurement will incur additional costs.

Note: Funded projects are required by statute to “regularly measure and report the water diverted and used from the project” [ORS 541.692(3)]. Common approaches for measuring water diverted and used include totalizing flow meters, stream gages, reservoir staff plates and water level sensors paired with volume-depth curves, and flumes. The Department makes the final determination on the method, timing, frequency, and location of measurement. This requirement applies if there is any diversion of water. Grant/loan funds can be used to pay for measurement and reporting expenses during the life of the grant.

The LCUWC will connect and work with the local Watermaster (Brian Mayer) to determine the type of flow measuring device best suited for this project. LCUWC will budget for the device and

ensure it is properly installed once the project is implemented. Coordination between LCUWC and Watermaster will continue as the proposed method, time, frequency, and location of measurement is determined.

12. Provide suggestions for interim and long-term project performance benchmarks and how those benchmarks would be measured.

In relation to the water supply need this grant addresses – suggested interim and long-term project performance benchmarks may include the following domains: Management Process, Agriculture Production, and Environmental Outcome.

1. Management Process would include the adequacy with which the landowner manages the operation of the irrigation delivery system to satisfy water use for agriculture and water needed for fish passage. Tracking and recording flow velocities during irrigation season with an installed flow measuring device is a suggested strategy in which this benchmark could be measured.
2. Agriculture Production would include data collection over a three-year time period to compare livestock stocking levels. Irrigation delivery improvements at site 4,5, and 7 are intended to help distribute irrigation water more efficiently while improving in-stream environment. It would be expected with a more efficiency system the production level will increase. Annual reporting on production of crop or livestock is a suggested strategy in which this benchmark could be measured.
3. Environmental Outcome may include ODFW's Native Fish Status Report (<https://www.dfw.state.or.us/fish/ONFSR/report.asp>). Species management unit assessment is provided for Redband trout in the Goose Lake Basin. Assessment data has been provided for Muddy Creek and will be gathered in the future. Pre and Post project performance data can be evaluated through these reports. It is likely this report may have stemmed the requirements for the fish screen and initiation of the project. Photo point monitoring can also be used over the course of time to track change in riparian conditions.

13. Describe any issues, unknowns, or conditions that may affect the completion of the key tasks or project. If applicable, describe any measures planned to mitigate them.

Unknowns that may affect the completion of the key tasks include grant funding. Funding for the *lower segment* of the project is secure and implementation is set to take place between July – December 2020. The *upper segment* and riparian fencing of the project is not yet funded which is an unknown factor that may affect the completion of task 8– 13.

Another unknown that may affect the timeframe in which the LCUWC would like to adhere to would be contractor availability. Contractors work to schedule work a year out to sustain capacity. Granting and permitting followed by implementation would be ideal, yet implementation may wait until contractor has availability. To mitigate this unknown the LCUWC asks contractors to submit a project schedule at time of bid proposal. While the LCUWC evaluates contractor's bid proposal on several components to ensure a quality contractor is hired, a project schedule will allow for a better timeframe on completion.

Permits and Regulatory Approvals

14. Identify any water rights needed to implement the proposed project below. Check all of the following that apply and provide the information requested:

- a. The proposed project requires a new water right or other water right transactions. If checked, list transaction(s) required (e.g., new right, transfer, etc.): _____
- b. The applicants holds the water right(s) required for the project. If checked, list all such water rights required for the project in the table below, adding rows as needed. See the Application Instructions for further instruction, including how to find water right information.
- c. The applicant has legal access to a water right that will required for the project and has been given permission to utilize the water right(s). If checked, list all such water rights required for the project in the table below, adding rows as needed. See the Application Instructions for further guidance, including how to find water right information.

Water Right Number (Include prefixes, if applicable, e.g., G 00010)	Is this an application, permit, certificate, limited license, special or final order, transfer, decree, lease, or claim?	Water Right Amount			Tax Map/Lot IDs within the Place of Use where water will be used to implement the proposed project
		Max Volume (ac-ft)	Max Rate (cfs)	Duty (ac-ft/ac)	
S-54800	PERMIT	303.2		2.5	T39 S, R19 E, Sec. 7 &18 / 2400

15. In the table below, provide a list of any permits and regulatory approvals needed to implement the project and indicate the status of each in the table below. Please submit copies of any secured permits/approvals or describe efforts in securing necessary permits/approvals, including current status. If no permits or regulatory approvals are required, please provide an explanation. *Add rows as needed.*

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Permit/ Regulatory Approval	Status and Efforts To Date
Removal/Fill Permit – Dept. of State Lands	In progress
Removal/Fill Nationwide Permit 27 – Army Corp of Engineers	In progress
ODFW Fish Passage – ODFW	Design Engineer will send Final Designs to ODFW Passage and Screen Program for evaluation and approval
Water Rights Permit – Water Resource Dept.	On Record
NEPA – USFWS	Approved
Cultural Resources – USFWS	Cleared

VII. Public Benefits

Instructions: Describe how the project would provide public benefits in each of the three public benefit categories identified below. In your responses, describe current conditions and anticipated project outcomes and benefits and provide evidence to support your claims. Describe how the project outcomes will contribute to each anticipated public benefit. Descriptions should be quantitative when possible. Applications will be scored and ranked solely based on the descriptions of the economic, environmental, and social/cultural public benefits and the likelihood of the project achieving the claimed benefits. More specifically, the evaluation will be based on the change in conditions expected to result from the project as demonstrated in the application.

Please see the Scoring Criteria document available on the [Applications, Forms and Guidance webpage](#), for definitions of each public benefit and a description of how the public benefits will be evaluated. Applications that do not demonstrate public benefit in each of the three categories (economic, environmental, social/cultural) will be deemed incomplete.

Leave blank any public benefits that are not applicable to the proposed project.

16. Economic Benefits – ORS 541.673(2)

- a. Does the project create or retain jobs? If so, explain.

The project involves approximately thirteen jobs that will be retained and/or created. The breakdown of these jobs are listed in the table below:		
Number Employed	Job Title	Organization
2	Project Manager and Fiscal Administrator	Lake County Umbrella Watershed Council
1	Project Engineer (Design and Oversight)	Cascade Stream Solution
1	Consultant (Permitting)	River Design Group
2 – 3	Construction Contractor and Crew (lower segment)	Thomas Creek Construction
1	Rock Quarry Contractor	(Pardue Construction)
2	Fencing Contractor	(not yet in contract)
2- 3	Construction Contractor and Crew (upper segment)	(not yet contract)

- b. Does the project increase economic activity? If so, explain.

Like many other small rural communities in Eastern Oregon, Lake County is heavily reliant on natural resources and the relationships between the ranching industry, government and state agencies, non-governmental partners, and private businesses for economic stability. The community of Lakeview, OR has approximately 2300 residents. Thirteen jobs in a population of this size is a substantial economic increase, while the ripple effect is just as great throughout the area where currency is distributed to a variety of businesses. Employment opportunities lead to a higher rate of consumer spending which benefits other businesses who depend on consumer sales. Activities such as the Muddy Creek Water Use and Restoration Project with a total project

cost of \$816,154 will have a tremendous benefit to the local economy. This increase in money circulating in the marketplace will surely assist in a healthy economy and allow business to thrive, especially in the wake of our nationwide economic status.

- c. Does the project result in increases in efficiency or innovation? If so, explain.

Fish passage at dams has been a major problem for nearly as long as dams have been built. In 1931 the Oregon Fish Commission adopted a policy to protest applications for new dams or irrigation projects filed with the state if they did not include migration provisions. The cost of dam projects with a fishway bypass was recognized to be much more expensive than a dam itself. Many dams were still put in place anyway - such as the Juniper Reservoir dam in 1965.

A rock ramp/roughened channel spillway design at the dam is an innovative approach to meet the needs for fish passage and the needs of agriculture producers. The term innovation is a new idea or a method with better solutions. While fish passage at dams is not a new idea this design method is a better solution than removal of the dam or a fish screening requirement with minimal benefit.

- d. Does the project result in enhancement of infrastructure, farmland, public resource lands, industrial lands, commercial lands or lands having other key uses? If so, explain.

The project will enhance and improve the agriculture farmland, not only by retaining the use of water for irrigation but through the implementation of task 4 where the stream channel is re-established and new head gates are installed. This will distribute water more evenly throughout the pasture, in-return the soil will be properly aerated reducing nutrient loss and maximizing crop growth rates.

The project will also enhance and improve the infrastructure of the reservoir spillway. Built in 1965, the impacts of dams on aquatic species was not understood. Today we know that fish need connectivity throughout the watershed to sustain species population. By improving the spillway to the reservoir and allowing fish passage, the original infrastructure will maintain its integrity while providing connectivity from the headwaters to the basin.

- e. Does the project enhance economic value associated with tourism or recreational or commercial fishing, with fisheries involving native fish of cultural significance to Indian tribes, or with other economic values resulting from restoring or protecting water instream? If so, explain.

The property has an RV Resort located directly west of the Juniper Reservoir with 40 RV sites provided for travelers: <https://www.junipersrv.com/>. The RV Resort offers their guests opportunity to fish the creek and the reservoir. Juniper RV Resort is a destination for many people each year bringing folks into the area from all over the country. The RV Resort is also a hot spot for local events including weddings, parties, and family reunions. This bit of tourism and recreational fishing on the property is a considerable boost to the local community and economy. Managing for agriculture production and tourism on this property creates an important balance where water instream is just as valuable as water out of stream.

- f. Does the project result in increases in irrigated land for agriculture? (which may include increasing irrigated acres, agricultural economic value, or productivity of irrigated land) If so, explain.

The project will sustain the agriculture economic value through utilizing the water right permit associated with this tax lot. In reference to land value alone and the USDA 2019 Land Value Summary, the average value of an irrigated acre in Oregon is \$5290 while the average value of an un-irrigation acre is \$2200. Maintaining water use by implementing this project will sustain the land value of this property.

Currently the landowner is issued an annual waiver to continue irrigation until the project is complete. This specific area of irrigated pastureland carries a maximum of 450 cow/calf pairs throughout growing season and generates a profit of \$63,000 dollars annually (this is based on 1.5 cattle/irrigated acre at \$35/pair per month). While improved water distribution will most likely produce a more productive crop – carrying capacity on 300 acres is met and an increase in profit is not foreseen. Yet, failure to complete the project as planned will certainly decrease the productivity and overall agriculture economic value both in land value and production value.

17. Environmental Benefits – ORS 541.673(3)

- a. Describe any measurable improvements in protected streamflows that are likely to result from the project. Indicate the legal means by which the water will be permanently dedicated instream and protected by the Oregon Water Resources Department and list the water rights to be protected in the table below.

Note: The legal protection of water instream MUST be included to receive a score for this public benefit. Projects which permanently dedicate water instream will receive a scoring bump in the environmental public benefit category.

Legal means of Protection (e.g., Instream Transfer, Allocation of Conserved Water)	Identifying number of water right to be legally protected instream (e.g., S-###, new right)	Rate(s) (cfs) of the water right	Estimated rate (cfs) of water to be legally protected instream	Percent (%) of right to be legally protected instream**

****Attention: If awarded funding, the legal protection of water instream, described in the table above, will be a condition of funding. The grant agreement will specifically cite the percent identified above, not the estimated rate.****

Describe how the protected streamflows accomplish one or more of the following:

- (A) Supports the natural hydrograph;
- (B) Improves floodplain function;
- (C) Supports state- or federally-listed sensitive, threatened or endangered fish species;
- (D) Supports native fish species of cultural importance to Indian tribes; or
- (E) Supports riparian habitat important for wildlife:

The project strives to support the natural hydrograph, floodplain function, native fish species, and riparian habitat - and will be able to accomplish these efforts without additional means of protecting streamflow.

(A) Supports the Natural Hydrograph - Over time the natural meander of Muddy Creek has been re-routed, straightened, filled with sediment in some locations, channel incising in other locations, and has lost its flood plain connection. Task 4 project objective will help to address some of the issues by re-establishing 950 ft of stream channel where high spring flows lose connection with the stream and wash out in several directions across the meadows. These high spring flows are typical of the area during spring runoff. *(See Attachment 7 Figure 6 Video Link and Site Photos)*

(B) Improves the Floodplain Function – As stated above the natural stream flow has been altered and straightening of the channel has caused channel erosion where connection with the flood plain is lost along 1 mile on the *lower segment* of the project. To help improve the function of the floodplain Task 7 Grade- control structures will be installed. Grade control structures will slow water velocities during high flows while slowing the rate of erosion and head cuts. By slowing the velocities, sediment will be able to build the channel back up overtime connecting back to floodplain. *(See Attachment 7 Figure 12 Video Link and Site Photos)*

(C) Supports State Sensitive Fish Species - The project will support the Goose Lake nine native fish species, four of which are listed as “species of concern” by the US Fish and Wildlife Service (USFWS) due to vulnerability within this challenging system. These four species of concern (Goose Lake red band trout, Goose Lake lamprey, Goose Lake sucker, and the California Pit Roach) are adapted to the alkaline lake waters, the ever-fluctuating seasonal flows, and periods of drought. The Goose Lake redband trout is also listed as “sensitive” by the state of Oregon. Historically the lake has been subject to severe drought – going dry five times in the last century. Goose Lake native fish species have been able to survive through drought by seeking refuge in the upstream tributaries, a critical component to survival. The Muddy Creek Water Use and Restoration project will help accomplish an important component of a healthy watershed and that is connectivity along tributary streams providing access for native species to seek cold water refuge in the upper system and complete their life history while sustaining populations. Tasks 3, 6, and 11 include fish passage objectives.

(E) Supports Riparian Habitat - The current state of the riparian is in very poor condition. As a working cattle ranch, livestock can cross the creek at many different locations while loitering on the banks throughout the growing season. The streambanks have very little vegetation where erosion during high flows has stripped away the chance for vegetation to become established. The project will support riparian habitat through implementing Task 7 - grade control structures, Task 5 - hardened water crossings, and Task 8 - riparian fencing. The combination of each of

these key task objectives will exclude the creek from livestock, allowing added willow and grasses to stabilize the banks providing clean and cooling temperatures for aquatic species and provide cover and protection for the local mule deer and bird species. The hardened water crossings will allow livestock to cross and drink at particular locations without impacting the stream. (See Attachment 7 Figure 12 Video Link and Site Photos)

- b. Does the project result in water conservation? If so, explain.

There is a particular location within this project area where there is an apparent water waste issue and project implementation will conserve water instream. The location is at site 4 and site 5. (See Attachment 7 Figure 1 and 6) Here the water flows directly out of the shallow channel and saturates a 15 – 20-acre area to the point it is inaccessible. To address this issue and conserve water to the creek; the channel will be re-established to proper depth, while a berm will be constructed to ensure water control. An irrigation head gate will be installed to assist with managing the amount of water onto the meadow. On a high-water year, it would be relevant to predict a 40% or more reduction in water waste.

- c. Describe the anticipated measurable improvement in groundwater levels that enhances environmental conditions in groundwater restricted areas or other areas.

With the onset of climate change and demand for water management practices to be more efficient than ever before – several studies have produced findings that support flood irrigation as a beneficial way to recharge groundwater levels. One such article describes their findings <https://www.wga.com/blog/farmer-floods-fields-recharge-groundwater-basin>. In 2011 a Californian farmer participated in a pilot project in partnership with Sustainable Conservation. The farmer opened irrigation ditches to flood hundreds of acres of farmland. The results of the study showed an increase in groundwater levels. Another study conducted by Oregon State University's Department of Animal and Rangeland Sciences demonstrated similar response as aquifers in New Mexico were recharged through irrigation percolation <https://ecohydrology.oregonstate.edu/pubs/shallow-aquifer-recharge-irrigation-semiarid-agricultural-valley-new-mexico>.

The goal of the Muddy Creek Water Use and Restoration Project is to maintain the ability to exercise the water right permit to flood irrigate agriculture land. Through implementation of the project the landowner will be in compliance with ODFW requirements to divert water and therefore flood irrigation will continue to re-charge ground water levels.

- d. Describe if and how the project would create a measurable improvement in the quality of surface water or groundwater.

Measurable improvement in the quality of instream water will likely be created through restoring the riparian. Ecological benefits of the riparian areas are numerous. By acting as buffers between upland areas and open water, they help filter pollutants such as nutrients and sediment. Healthy riparian vegetation helps to reduce stream bank erosion and maintain stable stream channel geomorphology. Vegetation also provides shade, which works to lower water temperatures. Lower water temperatures support higher dissolved oxygen levels which are

important to maintain fisheries. The combination of task objective 5 – hardened crossings, 7 – wood and willow grade control structures, and 8 – riparian fence targets the improvement of the riparian zone and quality of surface water.

- e. Does the project increase ecosystem resiliency to climate change impacts? If so, explain.

According to scientist the predicted impacts of climate change will result in longer and severe periods of drought in some places while other locations will experience larger precipitation events and more severe storms. A resilient ecosystem is able to continue functioning and to recover from disturbance- even as change occur.

This project already contains a critical component to ecosystem resiliency and that is the reservoir built in 1965. Due to the occurrence of drought in the Goose Lake Basin, agriculture producers realized water storage is a necessary component in maintaining pasture and crops during late season dry years. This project will maintain the integrity of the reservoir by allowing flood irrigation to continue downstream as it has for the last four decades.

Implementation of this project provide connectivity to the upper watershed where fish species will seek refuge during periods of drought and uncertainty. A connected watershed will enhance population and biodiversity of species which in turn creates a more adaptable and resilient ecosystem to withstand the impact of climate change.

- f. Does the project result in improvements that address one or more limiting ecological factors in the project watershed? If so, explain.

Limiting ecological factors in the Goose Lake Watershed include: Fish Passage Barriers, Diminished Connectivity, Altered Habitat, and Fish Entrapment. Aquatic habitats are affected by altered channel and flow conditions, obstructions, and poor riparian condition. Many of the streams have been diked, channelized, and drained for agricultural purposes. In some location's fish populations are only connected during consecutive high-water years, severely limiting the opportunities for the expression of a migratory life history and inter-population mixing. Lack of a migratory life history and degraded habitat impacts the potential productivity.

The "Goose Lake Tributaries Reconnaissance and Fish Passage Plan" was completed in 2017 in order to prioritized efforts. Based on the plan, project action items have been driven by fish species and habitat potential. The Muddy Creek Water Use and Restoration Project aligns with the efforts and work already in motion within the Goose Lake Watershed. Project task objectives address fish passage at three locations and habitat improvement along 1.5 miles of stream channel. The project will extend the scope of work and address passage barriers, diminished connectivity, and altered habitat - three of the four limiting factors in the Goose Lake Watershed.

18. Social/Cultural Benefits – ORS 541.673(4)

- a. Does the project promote public health and safety and of local food systems? If so, explain.

The ranch is one of the 381 agricultural producers in the county. Livestock raised on the Shine Brothers Ranch, specifically beef, is part of the food system. Like many operations in the valley, the ranch raises beef cattle that require irrigated pastureland to grow and raise a calf crop. The calves are sold to market at 18 -24 months of age. At market weight this crop of livestock raised on the ranch will be butchered – providing beef to the local and national food system. Like many ranchers who are working to sustain and protect their investment, John Shine works to promote quality livestock for market which means he provides choice feed, clean stock water, and animal care to control sickness and disease. These measures within a ranching operation promote public health and safety within the local and national food system. Project implementation will assist in continuing this business model.

- b. Does the project result in measurable improvements in conditions for members of minority or low-income communities, economically distressed rural communities, tribal communities or other communities traditionally underrepresented in public processes? If so, explain.

Lake County covers 8,275 square miles with a population of 8,130 people – demonstrating a rural area with low population density. According to the County Data and Statistics from 2011, 51 % of the population had a household income less than \$40K/year which would be categorized as low-income. While the scope of the project is narrow, the ripple effect of a \$800,000 project would more than likely produce measurable improvements among an economically distressed community and especially following the COVID-19 pandemic.

- c. Does the project promote recreation and scenic values? If so, explain.

As stated in question 16 Section e, the property has an RV Resort located directly west of the Juniper Reservoir with 40 RV sites provided for travelers <https://www.junipersrv.com/>. The RV Resort offers their guests opportunity to fish the creek and the reservoir. Juniper RV Resort is a destination for many people each year bringing folks into the area from all over the country. Hiking, Biking, wildflowers and bird watching is also advertised as a recreational activity while guests stay. The RV Resort is also a hot spot for locals and travelers.

The landowner works with Oregon Department of Forestry to host an outdoor school for the elementary classes each spring. Youth come to the property to learn about the local ecosystem and native species to the area. The landowner also works with Oregon Hunters Association where they host field training for youth enrolled in the Hunter Safety course. These activities promote recreation and scenic value and project implementation will compliment the draw to the area through restoration within the watershed.

- d. Does this project contribute to the body of scientific data publicly available in this state? If so, explain.

The Oregon Department of Fish and Wildlife compile Status and Distribution Reports specifically on Native Fishes in the Goose Lake Basin. This document is made public online at: <https://nrimp.dfw.state.or.us/CRL/reports/Info/2008-02.pdf>

According to this document, Goose Lake red band trout showed zero presence below the reservoir, but did demonstrate populations existing above the reservoir – clearly identifying a disconnect in the watershed. The report also shows data gathered on the other native fish species in the Goose Lake Basin:

Goose Lake sucker - no presence in Muddy Creek
Goose Lake Tui Chub – no presence in Muddy Creek
Pit Roach – Presence below the reservoir only
Speckled dace – Presence below the reservoir
Pit Sculpin – no presence in Muddy Creek
Lamprey – Presence above the reservoir only

ODFW will continue to monitor and report on the population presence of natives in Muddy Creek even after implementation of the project. This work will contribute to a body of scientific data available in the state and even demonstrate project effectiveness.

- e. Does this project promote state or local priorities, including but not limited to the restoration and protection of native fish species of cultural significance to Indian tribes? If so, explain.

At the state level this project promotes “The Oregon Plan for Salmon and Watersheds.” The Plan’s mission is to restore native fish populations and aquatic systems that support productive and sustainable levels that will provide substantial environmental, cultural, and economic benefits. Three of the 4 elements of the plan are incorporated in this project which include: voluntary restoration actions by private landowners, coordination with state and federal agencies, and monitoring watershed health.

At the local level this project addresses “The Goose Lake Fishes Conservation Strategy Plan” drafted in 1995 and “The Goose Lake Tributaries Reconnaissance and Fish Passage Plan” drafted in 2017. “The Goose Lake Fishes Conservation Strategy Plan” calls for recovery of all native fish in response to severe drought and habitat degradation. The strategy outlined desired future conditions for the Goose Lake Watershed (GLFWG 1995) which were defined as:

1. Dynamic and resilient aquatic habitat
2. Habitat that is characterized by excellent water quality and characteristics similar to those in a healthy, unimpacted watershed ecosystems
3. Native fish that are naturally produced and exist at levels near the potential productive capability

The “Goose Lake Tributaries Reconnaissance and Fish Passage Plan” states that Goose Lake redband trout is currently considered “vulnerable” with an interim assessment of “at risk” (ODFW’s 2005 Oregon Native Fish Status Report Volume II). The populations found in Muddy

Creek meet less than 50% of the criteria used to determine population health. The proposed treatment plan for Muddy Creek suggests fish passage solution to be evaluated to provide passage past the dam.

- f. Does this project promote collaborative basin planning efforts, including but not limited to efforts under Oregon’s Integrated Water Resources Strategy? If so, explain.

Collaborative planning efforts are aligned with Oregon’s Integrated Water Resource Strategy to better meet water needs instream - for aquatic species, and out of stream - for irrigation purposes. The partnership that has formed includes Shine Brothers Ranch LLC, Lake County Umbrella Watershed Council, US Fish and Wildlife Service, Oregon Department of Fish and Wildlife, Ducks Unlimited, and Cascade Stream Solutions. Each entity has a vested interest in this project that has grown from a fish screening compliance letter in 2015 to a full-scale fish passage and habitat enhancement project.

While this project takes place on private property, the public has the opportunity to learn about the scope of work and project objectives through the Watershed Council’s annual report posted online at <http://lakecountywsc.com>, article submissions to the local newspaper, the county fair booth presentation, and the annual gathering held each December.

VIII. Project Budget

Instructions: Please answer the following questions about the proposed project budget using the tables provided. All Loan and Other Funds must be allowable costs as described in the Department’s Grant Budget Procedures and Allowable Costs document.

19. Please provide an estimated line item budget for the proposed project. Examples include: direct project specific costs, such as in-house staff salary, contractual services, travel and administrative costs. See the Budget Procedures and Allowable Costs on the OWRD [Applications, Forms, and Guidance webpage](#) for further guidance.

OVERALL PROJECT BUDGET Line Items	Number of Units* (e.g. # of Hours)	Unit Cost (e.g. hourly rate)	In-Kind Match	Cash Match Funds	OWRD Grant Funds	Total Cost
Materials						
• Engineered Streambed Material	1676 Tons	55		42,590	49,610	92,200
• Roughness Element	865.4 tons	65		34,800	21,450	56,250
• Boulders	913 Tons	75		10,925	57,575	68,500
• Concrete	15 CY	1500			22,500	22,500
• Fill Material	380 CY	50		19,000		19,000
• Slide ditch gate	2 ea	50		100		100
• 8' Pipe	40 ft	5		200		200
• Sand and Gravel	80 tons	25		2000		2,000
• Briggs 4x 4 rice box	2 ea	5000		10,000		10,000
• Rock armor/scour protection	40 tons	55		2,200		2,200
• Inverted syphon	1 each	18,165			18,165	18,165
• Fence Material	11,600 ft	2			23,200	23,200
• Juniper Logs & Rootwads	40 ea	55		1000	1200	2,200
• Willows	50 CY	50		1700	800	2,500
• Flow Measuring Device	1 each	1500			1500	1,500
Contractual/Consulting						
• LCUWC Project Management	444 hrs	60		23,168	3,480	26,648
• Technical Consultation and Oversight (Engineer)	432 hrs	125		46,302	7,750	54,052
• Construction Contractor Bonding and Mobilization	1 ea	28,000			28,000	28,000
• Construction Contractor Equipment	968 hrs	200		89,603	104,000	193,603
• Construction Contractor Laborer	1995 hrs	70		69,653	70,000	139,653
• Fencing Contractor Labor	11,600 ft	1			11,600	11,600
Staff Salary/Benefits						
Equipment (must be approved)						
Supplies						
Other						
Sub-Total				353,241	420,830	774,071
Administrative Costs**	10%				42,083	42,083
Total				353,241	462,913	816,154

* The "Unit" should be per "hour" or "day" – not per "project" or "contract." $Units \times Unit\ Costs = Total\ Cost$

** Administrative Costs may not exceed 10% of the total funding requested from the Department

20. Identify the budget for each key task below. Key tasks identified below should be the same as the key tasks identified in Questions 9 and 10.

Key Tasks	In-Kind Match	Cash Match Funds	OWRD Grant Funds	Total Cost
LCUWC Project Management and Administration		23,168	45,563	68,731
Technical Consultation and Oversight (Engineer)		46,302	7,750	54,052
Construction Contractor: Rock ramp fishway and hardened crossing		63,696		63,696
Construction Contractor: Reestablish stream channel		19,600		19,600
Construction Contractor: Install six hardened water crossings		75,465		75,465
Construction Contractor: Reconstruct Downstream Dam and Bypass Channel		82,957		82,957
Construction Contractor: Grade Control Structures		25,240		25,240
Construction Contractor: Riparian Fencing			34,800	34,800
Bonding and Mobilization			28,000	28,000
Construction Contractor Excavation and Site Prep/Cleanup		16,813	56,000	72,813
Construction Contractor Roughened Channel Spillway Fish Passage			198,700	198,700
Construction Contractor Install Inverted Syphon and Roughened Channel			90,600	90,600
Install Flow Measuring Device			1500	1500
Total	0	353,241	462,913	816,154

IX. Match Funding

Instructions: Fill out the table below and attach the appropriate documentation for both secured and pending match (add rows as needed). Label the documentation as Attachment #3. Applications requesting grant funds must demonstrate match that at a minimum equals 25% of total project cost.

For secured funding, you must attach a letter of support from the match funding source that:

- Specifies the dollar amount identified for this project,
- Equals the dollar amount shown in the “Amount/Dollar Value” column in the table below, and
- Describes the work to be accomplished through the match.

For pending resources, you must attach other written documentation showing a request for the matching funds. Documentation must:

- Include the project name,
- Note the date on which a future funding application will be submitted,
- Identify the funding program from which funds are pending, and
- Provide evidence that the project is eligible for the funding program identified.

Match Funding Source (if in-kind, briefly describe the nature of the contribution)	Type (✓ only One)	Status (✓ only One)	Amount/ Dollar Value	Date Match Funds Available (Month/Year)
Oregon Watershed Enhancement Board	Xcash <input type="checkbox"/> in-kind	X secured pending	238,341	Oct. 2018
Ducks Unlimited	Xcash <input type="checkbox"/> in-kind	X secured <input type="checkbox"/> pending	65,000	Oct. 2018
USFWS	Xcash <input type="checkbox"/> in-kind	X secured <input type="checkbox"/> pending	49,900	Oct. 2018
	<input type="checkbox"/> cash <input type="checkbox"/> in-kind	<input type="checkbox"/> secured <input type="checkbox"/> pending		
Total of Match Funds			= \$353,241	

X. Storage-Specific Project Requirements (if not a storage project skip this section)

Instructions: If your proposal is for a storage project that will divert water under an existing or new storage water right or limited license, answer questions 21 through 23 in this section. If your proposal is for above-ground storage, also answer question 24 through 26. All other projects can skip this section.

21. Identify Storage Project Type: Above-Ground Below-Ground
22. Indicate the capacity of the storage project and any new-developed water below:
- What will be the *total* capacity of the storage project in acre-feet after completion? _____
 - What will be the volume of the *newly-developed* water in acre-feet? _____
23. Answer the following “Yes/No” questions about the storage project.
- Will the project divert more than 500 acre-feet of surface water annually? Yes No
 - Will the project impound surface water on a perennial stream? Yes No
 - Will the project divert water from a stream that supports sensitive, threatened or endangered species? Yes No

If you answered “yes” to **any** of the questions above, (a), (b), or (c), the project will need a *Seasonally Varying Flow (SVF) Prescription*, determining the duration, timing, frequency and volume of flows (including ecological base flow), necessary for protection and maintenance of biological, ecological, and physical functions outside of the irrigation season. The Department will establish the SVF prescription after funding is awarded, for more information about this requirement, please contact Technical Coordinator, Rachel LovellFord at 503-986-0941.

24. **Above-Ground Storage Only:** If you answered “yes” to Question 23 (a), (b), or (c) above, your proposed project is above-ground storage, **and** you are requesting **grant** funding then a **minimum of 25%** of the newly developed water must be dedicated to instream use. This is separate from the SVF Prescription. ***If awarded funding, the percentage identified below will be a condition of funding.***

Note: Any storage project which permanently dedicates water instream will receive a scoring bump in the environmental public benefit category.

Please identify the percentage of stored water to be dedicated to instream use. _____%

25. **Above-Ground Storage Only:** Into which stream(s) will the project release water?

26. **Above-Ground Storage Only:** How does the project control the outflow from the reservoir?

Describe:

- a. What infrastructure governs changes to reservoir outflow rates?
- b. Whether changes to the outflow rate are made automatically or by hand.
- c. If water is released into more than one stream, what controls the rate of release and how much water goes to which stream?
- d. What are minimum and maximum release rates to each water source?
- e. Any other factors that limit the rate at which water is released from the reservoir.

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