2025-27 Agricultural Water Quality Support Grant Application Form

OREGON DEPARTMENT OF AGRICULTURE

Agricultural Water Quality Program
503.986.4700

Application submission requirements

- All application documents must be submitted to https://files.oda.state.or.us/?login=AGWQSupportGrant by 11:59 p.m. March 5, 2025.
- Submit a PDF of application and all supporting attachments.
- Supporting documents must be attached, or your application may be rejected. These items include: Racial and Ethnic Impact Statement, complete application, and budget form. Liability Insurance provider contact information and a Federal Employee Identification Number (FEIN) or current nonprofit tax ID status.
- Add additional pages as needed to complete the application.
- IMPORTANT NOTE: All files must be submitted with the following file naming convention or they risk getting lost in the secure file server:
  - 2025AgWQ_[SWCD or WC NAME]_[TYPE OF SUPPORTING DOCUMENT]
  - Example: 2025AgWQ_LincolnSWCD_BudgetForm

Please direct questions on the 2025-27 ODA Ag Water Quality Support Grant Application or proposal development to: Amanda Robinson
Email: amanda.robinson@oda.oregon.gov
Phone: 503.551.8448

******Other than monitoring, Funds cannot be used for implementation of on-the-ground projects******

2025-27 Agricultural Water Quality Support Grant Application Form

OREGON DEPARTMENT OF AGRICULTURE
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Proposal title

MST Data Collection and Monitoring Project

County/counties and Area Plan where proposal is located

Baker Valley County

Type of organization

A grant applicant must be one of these legal entities: State of Oregon Soil and Water Conservation District, recognized Watershed Council or their fiscal sponsor; and carry appropriate liability insurance and have a Federal Employee Identification Number (FEIN) or current non-profit tax ID status.

Tax Identification Number: 93-1173735

Contact Information for Liability Insurance: Whitney Rohner

ODA dollars requested: $ 148,977 **Total cost for proposal: $367,117**

Name of Organization: Baker Valley Soil and Water Conservation District

Name of Applicant:
Whitney Rohner

Email: swcdwhitney@gmail.com

Address: 3990 Midway City: Baker City

Phone: 541-519-8310 State: Or Zip: 97814

Project Manager Organization:

Baker Valley Soil and Water Conservation District

Name of Project Manager:
Whitney Rohner

Address: 17473 Wingville Lane City: Baker City State: Or Zip: 97814

Email: swcdwhitney@gmail.com

Fax:

Phone: 541-519-8310

Payee for Organization: Baker Valley Soil and Water Conservation District

Name of Payee: Whitney Rohner

Email: swcdwhitney@gmail.com

Address: 17473 Wingville Lane

City: Baker City, State: Or Zip: 97814

Phone: 541-519-8310

1. **Did you consult with regional ODA Agriculture Water Quality Staff to help develop your proposal?** If yes, who?

Shiloh Simrell

2. **Does your project meet one or more of the following?** Check all that apply.

☑ **A. Agricultural Land Condition Assessments.** Assess conditions on agricultural lands that contribute to water quality, such as presence/absence of riparian vegetation or groundcover, irrigation methods, fencing, livestock watering, manure management, etc. Eligible assessments track progress toward AgWQ Program goals or inform adaptive-management decisions, as outlined in your local Area Plan.

☑ **B. Monitoring.** Create plans for and conduct monitoring specifically to address needs identified in applicable Area Plans or TMDLs. Eligible projects may evaluate current conditions, mid-management conditions, or long- term conditions. Proposals may fund AgWQ monitoring equipment and/or testing results.

Monitoring projects should:

- Include stakeholder input
- Provide guidance to regional partners around AgWQ monitoring protocol or create a regional monitoring protocol

☐ **C. Outreach and Engagement.** Engage farmers, ranchers, rural landowners, and/or partners in workshops, tours, site visits, etc. related to reducing non-point source pollution from agricultural lands. Develop printed materials designed to inform and educate farmers, ranchers, rural landowners, and/or partners on non-point source pollution from agricultural lands.

Outreach and Engagement projects should:

- Identify specific activities or deliverables to motivate engagement
- Be related to riparian health, soil health, non-point sources of pollution, Total Maximum Daily Loads (TMDLs), Focus Areas (FAs), or Strategic Implementation Areas (SIAs), etc.
- Be directly related to the specific strategies and activities in the Agricultural Water Quality Management
  Area Plan (Area Plan)
- Clearly connect to any agricultural land condition assessments, monitoring efforts, and/or technical assistance projects included in the AgWQ Support Grant application

☐ **D. Technical Assistance.** Provide technical assistance to farmers, ranchers, and rural landowners in order to reduce non-point source pollution from agricultural activities and/or improve water quality.

Technical assistance projects should:

- Be directly related to the specific strategies and activities state in the applicable Area Plan or the Area Rules
- Lead to agricultural water quality implementation projects within a defined timeframe

Proposal Information

3. Summary: Include a statement of the proposal and include the following information: 1) Identify the proposal location; 2) Briefly state the Area Plan problem; 3) Describe the proposed work addressing the problem; 4) Identify project partners, if any. (It is important to be concise and keep this to 1,800 characters or less.)

1) Located throughout the Powder/Burnt Watersheds in Baker County, Oregon.
2) Preventing *E.coli* contamination from exceeding the approved totally daily maximum load (TMDL) in waterbodies is constrained by detection methods that cannot accurately identify primary sources of contamination. Currently, visual inspection of the landscape, wildlife, livestock, and human inhabitation surrounding the Oregon Department of Environmental Quality (ODEQ) sampling sites has been used to determine the potential *E. coli* sources. Visual inspection can be a useful first step in identifying potential contamination sources; however the method is only presumptive, not conclusive. It cannot accurately identify sources of *E. coli* contamination, especially in complex agroecosystems where agricultural, wildland and human systems overlap and integrate and support diverse warm-blooded species, both resident and migratory, which contribute to contaminating water bodies with fecal material.
3) With diverse sources of *E.coli* contamination, the agricultural community recognized the necessity of employing the best available technology to accurately identify sources of *E. coli*. DNA-based microbial source tracking (MST) methods precisely and accurately identify sources of fecal bacteria contamination, which is vital in designing efficient, effective source-specific and adaptable measures and strategies to protect water quality in locations across the watershed. We propose a dual-project approach to developing a comprehensive understanding of the main sources of *E. coli* in the Powder/Burnt Watersheds, and how they may vary over time and with location. This first project entails: a) Collecting requisite water samples for analysis using a rapid MST technology to identify and quantify DNA of key sources of *E. coli* across the Powder/Burnt Watersheds to species or group levels (e.g., ruminants or elk/deer); and b) Developing a Quality Assurance Assessment Plan for the Powder/Burnt Watersheds for the second project (to be proposed later) where a library of DNA from fecal sources in the watersheds will be created to use with a different MST method, one capable of increasing DNA differentiation among species. The area-specific DNA library will be critical to differentiating between individual species and species within groups (e.g., total ruminants vs % cattle, % elk, % deer; or total waterfowl vs % geese, % ducks). The dual-project approach allows us to dovetail and advance both projects simultaneously. Greater precision and accuracy in species determination forms a vital knowledge base for on-farm conservation practices' approach to water and related resource management in the Powder/Burnt River agroecosystem.
4) Project partners include Eagle Valley Soil and Water Conservation District (SWCD), Keating SWCD, Burnt River SWCD, Baker Valley SWCD, OSU Extension and Baker County.

4. **Location:** (include at least one latitude/longitude location)

Latitude: 44.79458 Longitude: -117.84522

Name of Area Plan you're referencing:

Watershed HUC(s):

Baker County

5. Elaborate on the Area Plan Problem briefly stated in the Proposal Summary.

Preventing contamination of fecal bacteria in water bodies is constrained by bacterial detection methods that detect only presence but cannot identify the main sources of *E. coli* and other fecal bacteria contamination. Source attribution is assumed based on the land use and observations of warm-blooded species in the area. However, visual inspection can be highly unreliable in agroecosystems where agricultural, wildland and human systems often overlap and integrate and support diverse warm-blooded species, both resident and migratory, and all are potential sources of fecal bacteria contamination to water bodies. Adverse impacts to livelihoods, lives, and lifestyles, including economic impacts, in these systems are elevated since the communities and economies depend on the area's natural resources. Agriculture as well as the timber, hunting, fishing, skiing and hiking are examples of area industries that rely on ample clean water and other natural resources in the basin. Yet recurring contamination of water supplies for drinking (e.g., for humans, livestock, wildlife), irrigation, recreation and aquatic habitat, is facilitated by inaccurate fecal bacteria source attribution. When all primary sources of fecal bacteria contamination may go unidentified, the responsibility and expenses are not entirely justifiably and equitably determined, and outcomes of subsequent improvement measures are often limited and variable. The problem is not isolated, but rather is common across the United States and around the world, and is expected to worsen as human populations increase, and climate conditions continue to change. It is also important to consider that as water quality decreases, so does the amount of water available to support human and environmental systems and services. Thus, it is vital that best available and appropriate technologies are utilized to preserve ample clean water supplies.

Background

Escherichia coli, or *E. coli*, are adaptable bacteria, and some strains are found in the digestive tract, or gut, of warm-blooded animals. They are able to reside harmlessly in the gut because they adapt to the unique intestinal conditions of each warm-blooded host species. In fact, in humans, they support good digestion and function in protection from other harmful microbes. Intestinal *E. coli* and other micro-organisms, including pathogens, are shed in the feces to the open environment where they typically survive for limited periods of time. The known characteristics of *E. coli* seem to suggest that the bacteria were well-suited to serve as an indicator of fecal contamination and potential presence of pathogens in water.

E. coli were established as an indicator of fecal contamination and potential presence of pathogens when the first edition of Standard Methods for the Examination of Water and Wastewater (Wolfe, 1972) published results of coliform tests demonstrating that *E. coli* was: (a) A reliable estimator of other pathogens in sewage (Kerr and Butterfield 1943); and (b) Resistant to disinfection and exposure to environmental conditions outside of warmblooded organisms (Wattie and Butterfield 1944). The USEPA recommends in 40 CFR 136, along with

other scientists (e.g., Dufour et al. 1981), promote using methods that detect and enumerate, but do not positively identify the sources of *E. coli* in water samples. Nonetheless, the *E. coli* based methods are relatively simple and inexpensive, and thus are commonly used.

Instead of a positive identification, a "reasonable assumption" is made about the source of fecal bacteria contamination in water. To create a "reasonable assumption," maps or visual inspection are used to assess the primary land use near a water quality sampling site, and the most commonly observed warm-blooded animal associated with the landscape is presumed to be the main source of any *E. coli* or other fecal contamination. For example, if the primary land use next to the sampling site is pasture, and the most commonly observed warm-blooded animal is a cow, then cattle are typically presumed to be the source of *E. coli* and other fecal bacteria contamination in the waterway next to the pasture.

Over time, even properly designed, located and executed Best Management Practices (BMPs), or conservation measures and strategies, proved to be consistent in protecting or improving water quality as anticipated, call into question the validity and sufficiency of the "reasonable assumption" and "presumed source" in preventing *E. coli* and other fecal contamination. Clearly, a method to positively identify the sources of *E. coli* was needed. Ineffective methods and strategies that target the wrong sources of *E. coli* prolong contamination, thereby increasing risk to water quality and food safety as well as human, livestock and wildlife health (Edge and Hill 2007, Somarelli et al 2007, Ishii et al. 2007, Ishii et al. 2009, Sadowsky and Matteson 2010, Bélanger et al. 2011).

DNA testing and identification methods, which could be employed to identify the main sources of fecal contamination, were discovered in 1984 (Saad R. 2005). However the DNA identification process was slow, labor-intensive, and expensive. The invention of the polymerase chain reaction, or PCR, technique (Mullis 1990), together with discovery of key process ingredients, and development of appropriate equipment in the mid- to late 1980s led to process automation and revolutionizing the DNA testing and identification process. The technology was available for broader application in the late 1990's, and by the early 2000s, use of DNA testing methods expanded into and radically transformed fields, such as water quality and identification of fecal bacteria contamination.

Professional practice and research in water quality remediation and protection show that in order to efficiently, effectively and equitably protect water quality and human health, it is necessary to differentiate sources of *E. coli* and fecal contamination (e.g. human sewage, septic, or stool; livestock, wildlife), and to understand factors driving variability over time and with location in a watershed in order to target the main sources with properly designed,located, implemented and maintained species-specific measures and strategies (Booth et al. 2003, Meays 2006, Edge and Hill 2007, Somarelli et al. 2007, Hansen et al. 2009, Sadowsky and Matteson 2010, Bélanger et al. 2011, Moriarty et al. 2019, Lagerstrom and Hadley 2021). MST has also been successfully used to accurately resolve sources of unusually high instream concentrations of *E. coli*. with no apparent warm-blooded source of contamination in the area. Results from MST identified the cause as from unexpected sources from other locations (Ishii et al. 2009, Sadowsky and Matteson, 2010, Salam et al. 2021).

Agroecosystems are often underestimated in terms of complexity. They involve overlapping and integrated agricultural, wildland and human systems that support diverse warm-blooded species, both resident and migratory, that constitute potential sources of fecal bacteria contamination to water bodies. Beginning in the early 21st Century, applications of MST escalated across the U.S. in states with different agroecosystem conditions, and the results were often unexpected (Ridem 2003, Booth et al. 2003, Meays et al. 2006, Somarelli et al. 2007, Lagerstrom and Hadley 2021). In Western New York, for example, pasture is the primary land use and dairy cattle were the most common warm-blooded animals observed. However, the MST results identified the largest source of *E. coli* as Canadian geese (44.7-73.7%); followed by cattle (10.5-21.1%); and deer at a close third place (10.5-18.4%; Somarelli et al. 2007). In this case, mitigation responsibility would be shared among several responsible parties, including wildlife managers, agricultural landowners, and perhaps forest or land managers, to target the main sources of *E. coli* with integrated precise measures and strategies. New York State continued pilot study monitoring of coincident water quality and MST for five years. The longer-term dataset demonstrated improvements with species-specific measurements and strategies for reducing *E. coli* and fecal material in the stream (Somarelli et al. 2007).

Evidence from experience and research demonstrates effective, economic and equitable benefits from using MST results in design of source-specific measures and strategies to precisely target key sources of *E. coli* contamination (Ridem 2003, Ishii et al. 2006, Ishii et al. 2007, Hansen et al. 2009, Sadowsky and Matteson 2010, Salam et al. 2021, Travis et al. 2023). PCR methods accurately identify contamination sources, however relative quantification of the number of *E. coli* for each species detected in a sample entails determining the percent of bacterial DNA associated with each source species relative to total DNA in the sample. Advances in different PCR technologies, qPCR, however, enabled quantification as well as identification of DNA from source species within hours, compared to 24-hours for PCR.

Powder/Burnt Watershed landowners and the Baker Valley SWCD initiated a drive to utilize available appropriate MST technology (e.g., qPCR and PCR) to substantively improve efficacy in protecting water supplies from *E. coli* and other fecal bacteria contamination on a sustained basis by sharing responsibilities among parties in charge of the sources of contamination. For instance, if *E. coli* or other fecal bacteria were found in significant quantities in water samples from a nearby river, and are determined through MST to be mainly from cattle, elk, geese and humans (sewage), then the appropriate landowners, wildlife managers, and the municipality operating the wastewater treatment plant would be responsible for developing integrated measures and strategies to reduce *E. coli* loads to be in compliance with regulations.

MST technology continues to be an active area for research, development and practice, yet there are valuable examples of successful use, and available methods and guidance from USEPA, ODEQ, practitioners and researchers that provide sound rationale and basis for developing a robust MST study that we can build upon as the technology continues to advance.

<u>Reasons for Performing the Study at the Baker Valley SWCD</u>

The rationale for selecting the Baker Valley Soil and Water Conservation District (SWCD) as the entity for managing and administering the project work includes:

- Experienced personnel in project and contract management, related field work and sample collection/monitoring
- Long-term presence in the community
- Well-established working relationships with landowners
- Sound reputation and track record for accomplishing meaningful work
- Recognized as a valuable, reliable, enterprising resource in the region

Ongoing and Recently Completed Activities, and Other Pertinent Information

The SWCD coordinated with Oregon Department of Agriculture (ODA) to implement the Agricultural Water Quality Management Act (1993) to ensure that farmers and ranchers help achieve water quality standards and meet the agricultural pollutant load allocations assigned by the Oregon Department of Environmental Quality (ODEQ) in its Total Maximum Daily Loads (TMDL).

The SWCD monitors water quality for TMDL compliance on agricultural land, and landowners participated in the process led by ODEQ to establish the Powder River Basin TMDL for Bacteria. The SWCD's District Manager was a member of the Rules Advisory Committee that wrote the legislative rules for the finalized Powder River Basin TMDL-Bacteria. Landowners were quite certain that, given the complex mix of the agroecosystems in the watershed, there were likely other significant sources, in addition to livestock, that were contributing *E. coli* and other fecal bacteria to watershed streams and lakes. It was reasonable to suggest employing DNA- or Microbial Source Tracking (MST) to identify the main sources of fecal bacteria contamination would provide species or other source-specific information to tailor measures and strategies to target each source, and thereby improve effectiveness in protecting and remediating water supplies, and more equitably distribute responsibility among responsible parties. The recognition of the connected and integrated nature of watershed systems, and the type of collaboration and coordination required to effectively address TMDLs specifically, suggested employing an integrated watershed approach to water and related resource management to address natural resource and other challenges in the watershed.

Other SWCDs (the districts) in Oregon are or will be embarking on similar bacteria TMDL processes, and they are interested in the Baker Valley SWCDs' proposal for conducting MST and using the data, information, and tools developed as a foundation for developing and implementing an integrated watershed approach to water and related resource management in the districts. Several districts have even requested copies of the comment letter with a literature review and bibliography that was developed for landowners in the Powder River Valley to submit to ODEQ during a comment period on the draft TMDL.

The USEPA, which conducts MST analyses, has also taken interest in the proposed project, and arranged a meeting with several of the EPA scientists, the District Manager of Baker Valley SWCD and their technical support contractor to discuss the proposed project in greater detail.

6. **Proposed Work.** Explain the proposals goals, objectives, and measurable results. Describe how the proposed work will address the Area Plan problem. Include a timeline that shows when project work will occur and the completion date.

The agricultural community agrees that livestock likely contribute to *E. coli* and other fecal bacteria contamination in area rivers and lakes, however they disagree with the presumption that livestock are the sole source of contamination 100% of the time and everywhere. Landowners are also in the position to exhibit exemplary stewardship and leadership in problem solving and managing natural resources in the watershed. In fact, the agricultural community was the first to suggest using DNA- or Microbial Source Tracking (MST) technology to accurately identify sources of fecal bacteria contamination in the Powder/Burnt Watersheds, and apply the source-specific information in decision support for developing realistic TMDL limits and innovating targeted measures and strategies to reduce fecal bacteria contamination in rivers and streams in the watershed.

In acknowledging inequities stemming from inaccurate fecal bacteria source attribution, the agricultural community and the SWCDs drive to utilize MST technology, and the need to approach water and related natural resources in an integrated watershed systems manner; we intend to collect requisite water samples for analysis using MST technologies to accurately identify key sources of *E. coli* and other fecal bacteria, and to characterize spatio-temporal variability across the Powder/Burnt Watershed agroecosystem.

Coincident water quality monitoring will be conducted in accordance with established methods and procedures for water quality. The samples will be collected, preserved, stored, and sent to the analytic lab within holding times and according to ODEQ protocols and standard operating procedures. The SWCD already has quality assurance protocols in place for current monitoring and will work with ODEQ and the USEPA on additional sampling protocols for this project if required.

Water quality samples will be analyzed for parameters including: Total Phosphorus, Total Suspended Solids, and Nitrite/Nitrate, dissolved oxygen, pH, temperature; flow rate will be measured and recorded in the field. Meteorological data that will be measured and recorded in the field include: sunlight intensity, temperature, and relative humidity. Wildlife tracking will be conducted in coordination with area wildlife managers and researchers, using equipment available with the cooperating/collaborating entities, and supplementing equipment to improve matching the tracking network with sample sites.

(a) We will create the infrastructure for data storage/management, analysis, visualization and simulation modules, which will underpin decision support capabilities for use in planning, decision-making, communication, education and other applications. All data will be stored on the SWCD's system, and will include a project website on the SWCD's system. Both quantitative and qualitative methods will be used in data analysis. Descriptive statistics will be conducted on data, where appropriate, using commonly available tools, such as Microsoft Excel. We will also test additional methods for the best suited methods and software to analyze relationships among =/> three parameters; examples include Multivariate Analysis, Cluster Analysis, and Principal Component Analysis. A project dashboard for data visualization will be created using dashboard visualization software selected after review of candidate tools for the best fit. Candidates may include: Tableau, Microsoft Power-BI, Google Data Studio. We will also use GIS for some analysis.

(b) We use results of MST *E. coli* and fecal bacteria source identification in contaminated samples, and interrogate and mine MST data along with water quality characteristics and weather data to characterize and identify relations between and among the various physical, chemical, and biological/ environmental parameters. We will design and develop a MST Project StoryMap based on the four SWCD's in Baker County, which will facilitate communications, learning, and understanding about the issues, data and the project history, and is envisioned to support decision making. Our goal is to use the MST project data and analysis results and develop a predictive model for the Powder/Burnt Watersheds to predict potential contamination events (location, timing) based on forecasted rain events and other weather conditions,

wildlife movements and environmental conditions. Stakeholders will be involved, as interest dictates, in method and software evaluation and selection, and tool design and development.

(c) In cooperation with resource managers and other partners, use the new knowledge to support design, development and deployment of tailored source-specific, adaptable, farm-level measures and strategies to prevent *E. coli* and other fecal bacteria contamination in water sources.

(d) Our aim is to establish the new data and information as a sound scientific foundation for promoting realistic TMDL limits, and collaboratively developing the watershed approach to manage water and related resources in the Powder/Burnt Watersheds.

(e) Develop, using guidance from the qPCR MST analysis methods results and other relevant data, the Quality Assurance Assessment Plan required for more in-depth MST investigations during the second phase project (to be proposed later) that will include building a watershed-specific library of DNA collected from fecal sources throughout the Powder/Burnt Watersheds, to apply with library-dependent PCR methods that differentiates among DNA in water samples, and accurately identifies individual source species (e.g., cow, elk, deer, geese) contributing fecal bacteria to water bodies.

The Quality Assurance Assessment Plan for the Powder/Burnt Watershed is necessary to assure scientifically sound data to tailor species-specific measures and strategies that are equitable and adaptable to suit location and temporal needs to effectively and efficiently protect water quality. In addition, the DNA library can be used with other newer MST/DNA sequencing technologies, such as Next Generation Sequencing, with faster analysis turn-around time and more accurate results. NGS libraries are comprehensive, drawing from national and international DNA as well as RNA libraries, and are continuously expanding with additions of new regional DNA libraries, such as from the Powder/Burnt Watershed.

Our two-year project is intended to address TMDL priorities through collecting and analyzing requisite baseline MST and related water quality and other data and information, and building tools for analysis, simulation and communication that will support characterizing watershed conditions relative to the main sources of *E. coli* and other fecal bacteria contamination, and how conditions vary over time and with location. Also, the new data and knowledge will help advise tailoring of source-specific measures and strategies for protecting area streams and lakes from fecal bacteria contamination in the mixed agricultural, wildlands and municipal areas of the Powder/Burnt Watershed. Project objectives with associated activities and outcomes are summarized in Table 1, and in the accompanying timeline in Table 2 (both tables are attached).

See attached summary and timeline tables

7. **To accomplish goals identified in this proposal, will other grant programs be utilized?** If yes, briefly describe the other proposal(s). **Which elements of the proposal will ODA funds be used for?** Be specific to activity and specific timing of the activity.

   N/A

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8. **If you have an existing SIA, describe how these grant funds will be used differently than, or in addition to, what you are already committed to doing with existing SIA grant funds?** How will these funds augment or enhance your SIA efforts? (This question only applies to where there is an existing SIA.)

There are two existing SIA's in Baker County; one in Keating/Lower Powder River, and one in Upper Burnt River. The proposed grant will complement the monitoring efforts already under way in the current SIA by tracking DNA in order to more effectively identify the *E.coli* contamination source.

9. Are there additional partners? **x Yes** **No** ☐

Who are the additional partners and what are their roles and responsibilities supporting this proposal? Please note any collaborations with Tribal nations and minority groups (including, but not limited to women, people with disabilities, people of color, LGBTQIA+ individuals).

Oregon State Extension-Education and Outreach
Baker County-Support Role
Lower Powder River Irrigation District
Baker Valley Irrigation District
Powder/Brownlee Local Advisory Committee
Burnt River Local Advisory Committee

10. Will the proposal be addressing an agricultural water quality issue in a Groundwater Management Area?

If yes, which one?

N/A

11. Will the proposal be addressing an agricultural water quality Total Maximum Daily Load (TMDL)?

If yes, which one? Powder River Basin TMDL and WQMP for E.coli bacteria

12. Describe any aspects of the proposed work that may relate to climate change mitigation or adaptation. Please describe briefly (1,000 character limit)Example of climate-related benefits: creating complex habitats and shade for aquatic species seeking refuge from hotter summer temperatures and slowing and spreading water in the floodplain, helping to minimize flood risk in downstream communities. In addition to providing stream shade, the restored riparian area will sequester carbon, as we are providing for 5 years of plant establishment activities to ensure good vegetation survival.

The proposed work focuses on foundational data collection, which is crucial for establishing a long-term monitoring system that aligns with an integrated watershed management approach. This initiative is essential for climate change mitigation and adaptation by enabling the identification of key issues and variability within the watershed over time. By analyzing data related to water quality and watershed dynamics, the project aims to inform the development of on-farm conservation practices tailored to specific site challenges. These practices, including riparian fencing, grazing management, and habitat conservation, are designed to mitigate the impacts of altered watershed physiography, stemming from changes in climate, land use, and hydrology. In doing so, the project not only addresses immediate resource management needs but also fosters resilience against the long-term effects of climate change.

12. Insurance information.

If applicable, select all the activities that are part of your proposal. Below activities will require additional insurance.

☐ Applicant, staff or volunteers are working with kids related to this project

☑ Applicant staff or contractors transporting volunteers on water

☐ Applicant, staff or contractor will be using Drone/Unmanned Aircraft Systems for survey

Racial and Ethnic Impact Statement

This form is used for informational purposes only and must be included with the grant application. Chapter 600 of the 2013 Oregon Laws require applicants to include with each grant application a racial and ethnic impact statement. The statement provides information as to the disproportionate or unique impact the proposed policies or programs may have on minority persons in the State of Oregon if the grant is awarded to a corporation or other legal entity other than natural persons, "Minority persons" are defined in SB 463 (2013 Regular Session) as women, persons with disabilities (as defined in ORS 174.107), African-Americans, Hispanics, Asians or Pacific Islanders, American Indians and Alaskan Natives.

☐ 1. The proposed grant project policies or programs could have a disproportionate or unique positive impact on the following minority persons (indicate all that apply):

☐ Women ☐ Asians or Pacific Islanders ☐ Persons with Disabilities
☐ Alaskan Natives ☐ African Americans ☐ American Indians
☐ Hispanics

☐ 2. The proposed grant project policies or programs could have a disproportionate or unique negative impact on the following minority persons (indicate all that apply):

☐ Women ☐ Asians or Pacific Islanders ☐ Persons with Disabilities
☐ Alaskan Natives ☐ African Americans ☐ American Indians
☐ Hispanics

☑ 3. The proposed grant project policies or programs will **have no** disproportionate or unique impact on minority persons.

If you checked numbers 1 or 2 above, on a separate sheet of paper, provide the rationale for the existence of policies or programs having a disproportionate or unique impact on minority persons in this state. Further provide evidence of consultation with representative(s) of the affected minority persons.

I HEREBY CERTIFY on this _____ day of _____, 20_ , the information contained on this form and any attachment is complete and accurate to the best of my knowledge.

Signature: _____

Printed Name: _____

Title: _____

Grant Conditions

If this proposal is funded, you will be required to:

- Sign a Grant Agreement containing the terms and conditions for implementation, and release of funds.
- Carry required insurance during the duration of the work performed per the ODA Guidance and Instructions.
- Agree that reporting and monitoring information from proposals are public domain.

Before ODA releases any payments, you will be required to:

- Payments will be made only for work started after the award date of the grant agreement.
- Certify in the Grant Agreement that prior to starting work on private land, you have or will obtain signed cooperative agreements with the private landowner(s). (If placing monitoring equipment or collection devices on private property.)

Upon completing the work, you will be required to:

- Take part in an interim check-in by August 12, 2026.
- Submit a DRAFT Project Completion Report by June 15, 2027, as required in the Grant Agreement before final payment will be made.
- Submit FINAL completion report by August 12, 2027.

Certification

I certify that this application is a true and accurate representation of the proposal and that I am authorized to sign as the Applicant. By the following signature, the Applicant certifies that they are aware of the requirements (see Application Instructions) of an ODA grant and are prepared to implement the project if awarded.

Applicant Signature: _____ Date: _____

Print Name: _____

Title: _____