

## Open Solicitation-2020 Spring Offering Mid Columbia (Region 6)

**Application Number:** 221-6018-18957

**Project Type:** Technical Assistance

**Project Name:** South Fork Walla Walla River Base  
Flow Assessment

**Applicant:** Walla Walla Basin Watershed  
Foundation

**Region:** Mid Columbia

**County:** Umatilla

**OWEB Request:** \$24,982

**Total Cost:** \$115,880

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**Application Description** The South Fork Walla Walla River Baseflow Assessment will occur in the Middle and Upper HUC-6 subwatersheds in the Umatilla National Forest in the Blue Mountains.

The Walla Walla River is a groundwater-dependent system with summer base flows supplied, in large part, by springs emerging from basalt aquifers in the South Fork drainage. Climate science predicts changing precipitation and infiltration patterns in the Blue Mountains will reduce spring performance. Reduced summertime base flows will accentuate downstream low flow and high water temperature conditions documented as primary limiting factors for native fish species.

In order to protect and enhance upper watershed groundwater discharges to the Walla Walla River, we must first understand the status of the resource and the processes that govern spring production. Our goal is to sustain this ecosystem function throughout the predicted shifts in precipitation patterns rather than face the challenge of restoring it in 50 years when spring production has declined and the downstream conditions have been further degraded.

The proposed base flow assessment will include 1) LiDAR acquisition, 2) a field inventory to locate and characterize the springs in order to document baseline conditions, 3) creation of a hydrologic map of the project area. and 4) public outreach to promote water conservation efforts that support sustainable municipal supplies. Isotope results from a concurrent USGS study will furnish information about the timing of groundwater infiltration and relative time to discharge. Results from this assessment will guide strategies for enhancing infiltration, protecting recharge zones, and other efforts to mitigate the anticipated reductions in spring performance due to climate change.

Project partners include the City of Milton-Freewater, USFS, OWRD, USGS, ODEQ, and BLM.

### Review Team Evaluation

#### Strengths

- Previous project evaluation concerns are addressed.

- There is a clear need to better understand baseline flow conditions on over 55 square miles of high quality habitat in the South Fork Walla Walla River supported by groundwater and spring inputs. Baseflow trends will be established by utilizing historical reports on spring conditions dating back to the 1970's, and supplementing this information with data collection to better understand current conditions.
- The technical assistance approach is appropriate given the landscape, scope and scale of the project. The resulting data will contribute to other assessments under development in the Walla Walla Basin, such as the CTUIR watershed assessment and action plan, the Bi-state 2050 plan, and the collaborative groundwater study by OWRD and USGS.
- Water quality data will help to better understand the value of water inputs from these headwater springs.
- Climate change is a driving force behind gathering flow assessment information. With the potential for springs to experience reduced flow or even going dry, having baseline data generated from this project is timely for monitoring potential impacts of climate change on important downstream habitats and fisheries. Increased or sustained cool water in the upper reaches of the Walla Walla River is critical to ESA-listed aquatic species; as well as contributing to flow lower in the watershed where elevated stream temperature is a limiting factor.
- Data will be made available to other stakeholders in the basin to inform restoration priorities and actions.
- Appropriate partners with relevant technical expertise are engaged to participate in the project, including representation from cities, counties, tribes, and state and federal agencies. For example, utilizing USGS for the isotope analysis ensures that professionally accepted methods will be used.
- The applicant has a proven track record for completing monitoring, assessments, community engagement, and restoration projects.

## **Concerns**

- Next steps for the project leading to restoration actions in the upper basin are not clearly articulated in the application, and it is unclear if the continuous flow monitoring will be pursued in the future.
- The methodology for interpreting the LiDAR data is unclear from the application.
- It is unclear from the application whether the proposed technical assistance will also provide comprehensive information on tributary stream flow and the impact of springs on those tributaries. Also, collecting information to characterize existing or future aquifers could help to better understand water resources for the whole Walla Walla basin.

## **Concluding Analysis**

The Walla Walla River has both water quality and quantity limiting factors impacting stream health. Data resulting from the proposed technical assistance project will provide important baseline information for critical headwater inputs that will be useful to stakeholders in the basin working on restoration or water conservation measures.

## **Review Team Recommendation to Staff**

Fund

## **Review Team Priority**

2 of 3

**Review Team Recommended Amount**

\$24,982

**Review Team Conditions**

**Staff Recommendation**

**Staff Follow-Up to Review Team**

**Staff Recommendation**

Fund

**Staff Recommended Amount**

\$24,982

**Staff Conditions**