Walla Walla Basin Water Management Decision Support Tool Project

SUBMITTED BY:

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WaterSMART Grants:

Drought Response Grant for Fiscal Year 2023

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EXECUTIVE SUMMARY

Washington Water Trust (WWT) is a non-profit 303(c) (Category B applicant) with over twenty years of experience in the Walla Walla Basin implementing instream flow projects and water right transactions for the benefit of critical fish species, landowners, and communities. The Walla Walla Basin is a bi-state watershed in southeast Washington (Walla Walla and Columbia Counties) and northeast Oregon (Umatilla County) comprised of the Walla Walla River and its key tributaries of Mill Creek and Touchet River and fed by headwaters in the Blue Mountains. In 2020, the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), Washington Department of Ecology (Ecology), Oregon Water Resources Department (OWRD), municipal and county representatives, other regional and federal agencies, landowner and conservation stakeholders came together to shape and improve water management in the Basin under the Walla Walla Water 2050 (WWW 2050) Initiative, in which WWT is an active member. To support these locally driven streamflow restoration goals, WWT is proposing to develop the Walla Walla Basin Water Management Decision Support Tool ("the Project"), a basin-wide flow restoration project database and decision support dashboard. The project will establish a comprehensive database of out-of-stream water diversions, and identify and prioritize water transactions and other streamflow restoration opportunities. The Project seeks to address critical low-flow periods and inform decision making around water management and drought response throughout the Walla Walla Basin. The tool will prioritize projects with the greatest ability to meet the needs of ESA-listed salmonids and other aquatic species while balancing demands of other water users. The project will also establish three new telemetry gages to better inform project prioritization, streamflow monitoring, and development of baseline data. The gage locations were selected by the WWW 2050 team to assess floodplain restoration effectiveness, water management, and critical flow-fish thresholds located on the lower Wolf Fork Touchet River at Mountain Home Pk, Yellowhawk Creek at Highway 125, and the Walla Walla River at McDonald Bridge, respectively. This project has been developed in close coordination with the Washington Department of Fish and Wildlife (WDFW), Ecology, CTUIR, and the WWW 2050 Basin Advisory Committee (BAC). The total project cost is $175,000, with $25,000 in match coming from a private funding source and $62,500 in match provided by Ecology. This project will begin in October 2022 and conclude in March 2025. The real-time stream flow gages will continue to be operated by Ecology well beyond 2025.

Key Project Data:	
Applicant	Washington Water Trust
Project Location	Walla Walla Basin, Walla Walla County and Columbia County, Washington; Umatilla County, Oregon Streamflow Monitoring Gage Locations: Walla Walla River, McDonald Rd (42°2'52" N, -118°33'17" W) Wolf Fork, Mountain Home Pk (46°14'12" N, -117°53'36" W) Yellowhawk Creek, Hwy 125 (46°1'21" N, -118°23'20" W)
Project Timeline	Planning and Data Collection: 2022-2023 Decision Support Tool Construction: 2023-2024 Project Prioritization Based using Decision Support Tool: 2023-2025 Targeted Gage Station Installation and Data Collection: July 2023 – March 2025
Relationship to Federal Facilities	Project is not on federal lands. The Army Corps of Engineers manages Bennington Lake and Mill Creek Flood Control District that runs through the City of Walla Walla, Walla Walla County, Washington.

PROJECT LOCATION

The proposed Walla Walla Basin Water Management Decision Support Tool Project will quantify and define out-of-stream surface water uses (volume, location, and timing) across the entire watershed (Figure 1). The watershed is located in Walla Walla and Columbia Counties in Washington and Umatilla County in Oregon. To support water use and streamflow monitoring, three new telemetry gages will be installed at lower Wolf Fork Touchet River at Mountain Home Pk (46°14'12" N, -117°53'36" W), Yellowhawk Creek at Highway 125 (46°1'21" N, -118°23'20" W), and the Walla Walla River at McDonald Bridge (42°2'52" N, -118°33'17" W). These three gages are strategically located to fill in missing data currently collected by the three existing Ecology gages in the Basin (Figure 2).

Figure 1. Project Location Map

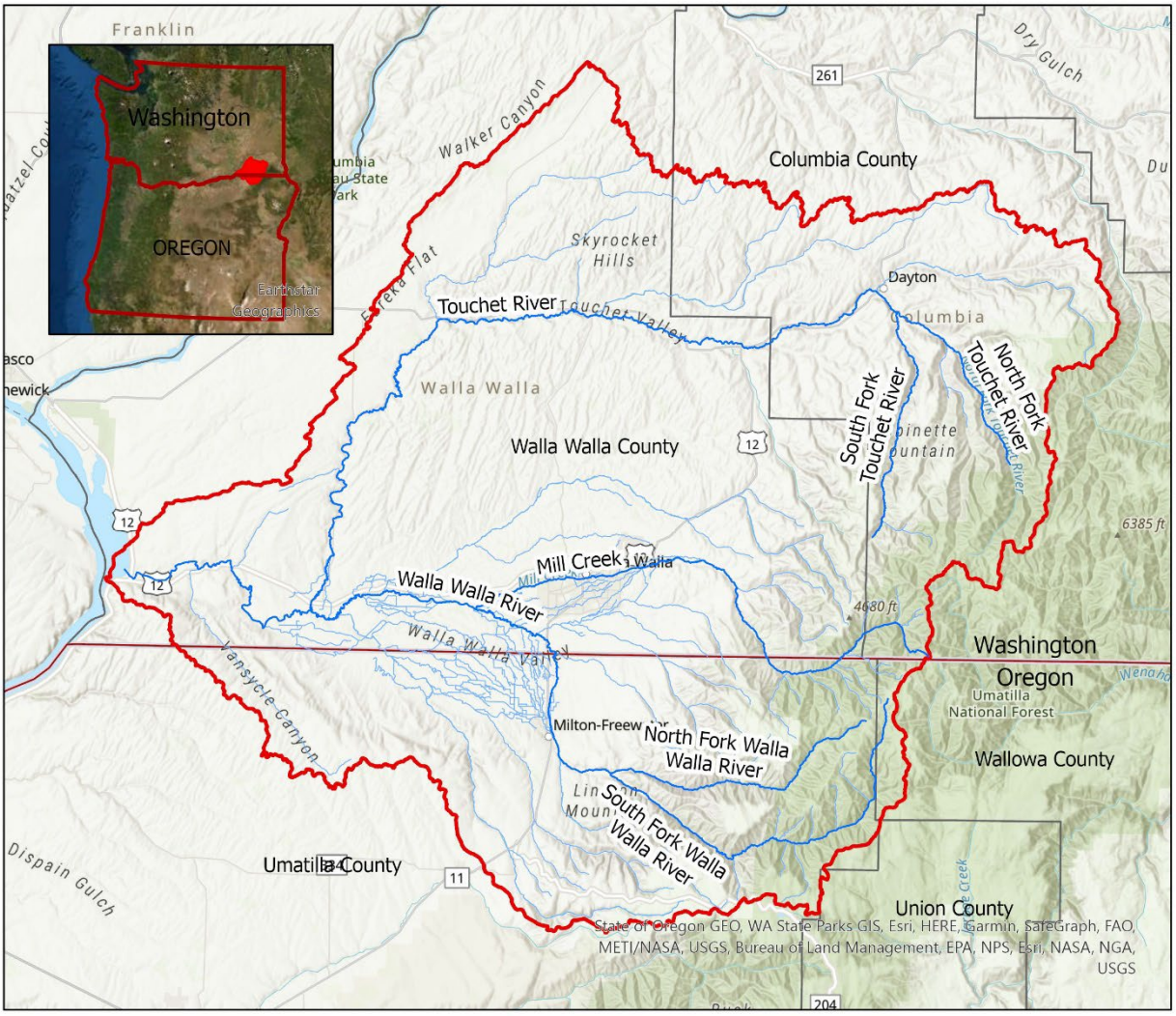

Figure 1.
Project Location Map
WaterSMART Grant Application
Walla Walla Basin Water Management Decision Support Tool Project

Walla Walla Basin | County Boundary
State Boundary

Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

WASHINGTON WATER TRUST

Figure 2. Proposed Gage Location Map

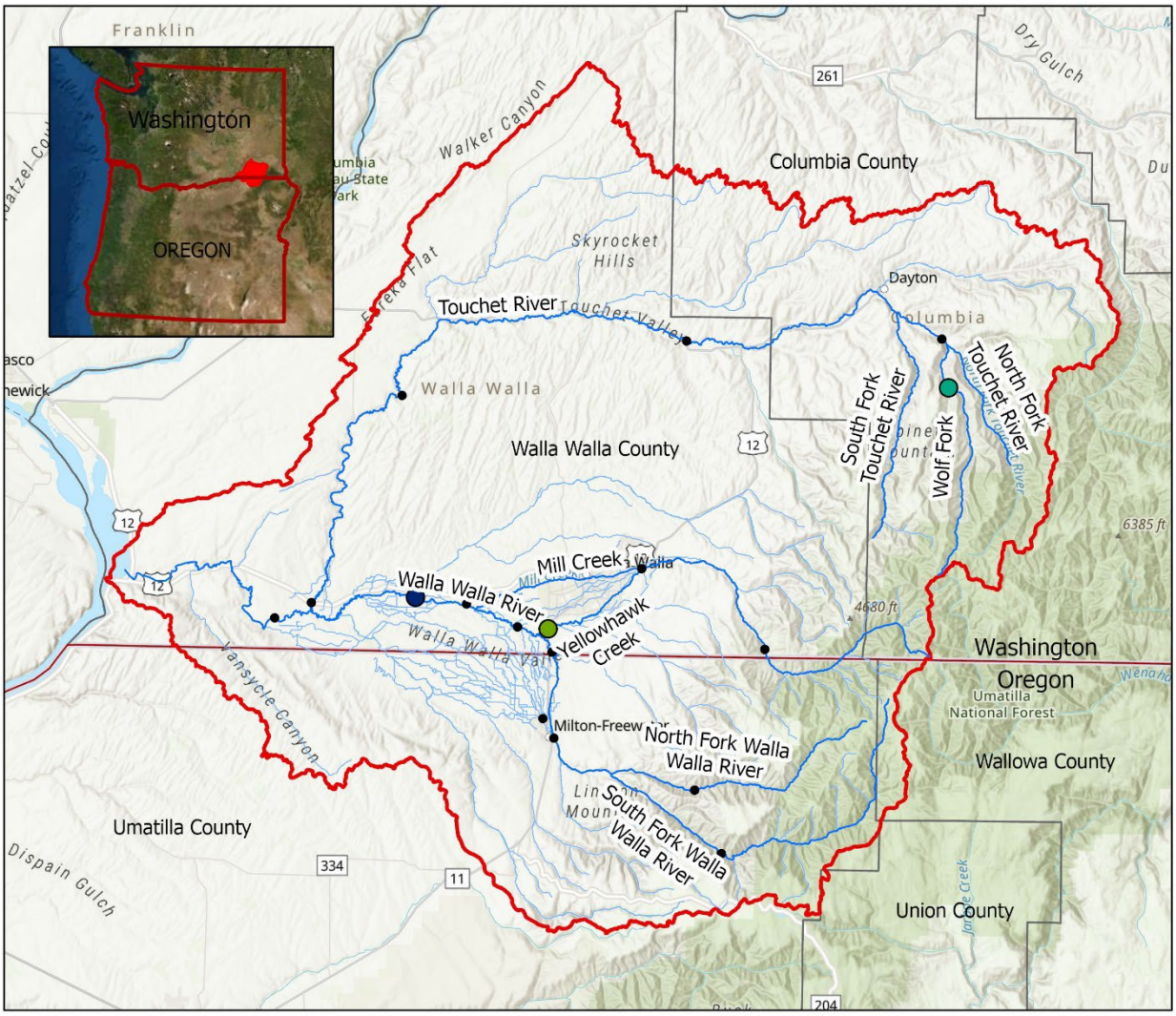

Figure 2.
Proposed Gage Location Map

WaterSMART Grant Application
Walla Walla Basin Water Management Decision Support Tool Project

0 2.5 5 10 15 20 Miles

N

Proposed Gage Location
- Walla Walla River at McDonald Rd
- Wolf Fork at Mountain Home Park
- Yellowhawk Creek at Hwy 125

- Walla Walla Basin
- State Boundary
- County Boundary
- Existing Gage Locations

Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
State of Oregon GEO, WA State Parks GIS, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, Earthstar Geographics, Esri, CGIAR, USGS

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TECHNICAL PROJECT DESCRIPTION

This proposal seeks funding to support the Walla Walla Basin Water Management Decision Support Tool Project, which includes the development of a watershed mapping tool and installation of three new streamflow gage stations on three surface waterbodies in the Basin (Figure 2).

Walla Walla Basin Decision Support Tool

This Decision Support Tool will be developed through ESRI's Geographic Information Systems (GIS) data mapping, analysis, and visualization software. Spatial and attribute data will be collected and stored in ArcGIS Online and ArcGIS Pro software. This data will be mapped, analyzed, and uploaded into an outward-facing basin dashboard where waterbodies, flow, habitat, land use and water use will be displayed to prioritize areas for restoration and water management projects.

A key first step of the Decision Support Tool is to collect high quality and current data on potential project metrics to build into the dashboard used for decision support. To ensure that our projects are maximizing benefits to streams, we will build a database with the most current information on water rights, water use, land ownership and ecological restoration recommendations by the scientific community. We can then assimilate and analyze this data, using modern geospatial (ArcGIS) tools and our knowledge of water rights, to identify and prioritize the most impactful and cost-effective instream flow projects throughout the Basin.

The Walla Walla Basin Decision Support Tool will be a WWT-designed dashboard to illustrate and quantify the collective impact of projects along reaches of river that align geospatially with flow and habitat restoration priorities identified by state, federal and tribal biologists. Emerging data visualization and dashboarding technology and a newly hired data analyst and storyteller has allowed WWT to develop a dashboarding prototype, which will be adapted to the Walla Walla Basin in this proposal. This dashboard is particularly well suited to support both WWT restoration strategies and inform the work of the WWW 2050 planning effort and associated regional water supply and flow restoration strategies. This tool will tell the story of how water management and instream flow projects can be built into strategies that restore ecological function to streams by adding flow when and where it is most needed. Interactive tools will enable viewing of projects at different scales, georeferenced on an aerial map including water rights, parcels, streams, and links to biological data. It will further support evaluation of restoration strategies amidst various funding, project feasibility and drought (climate change) scenarios.

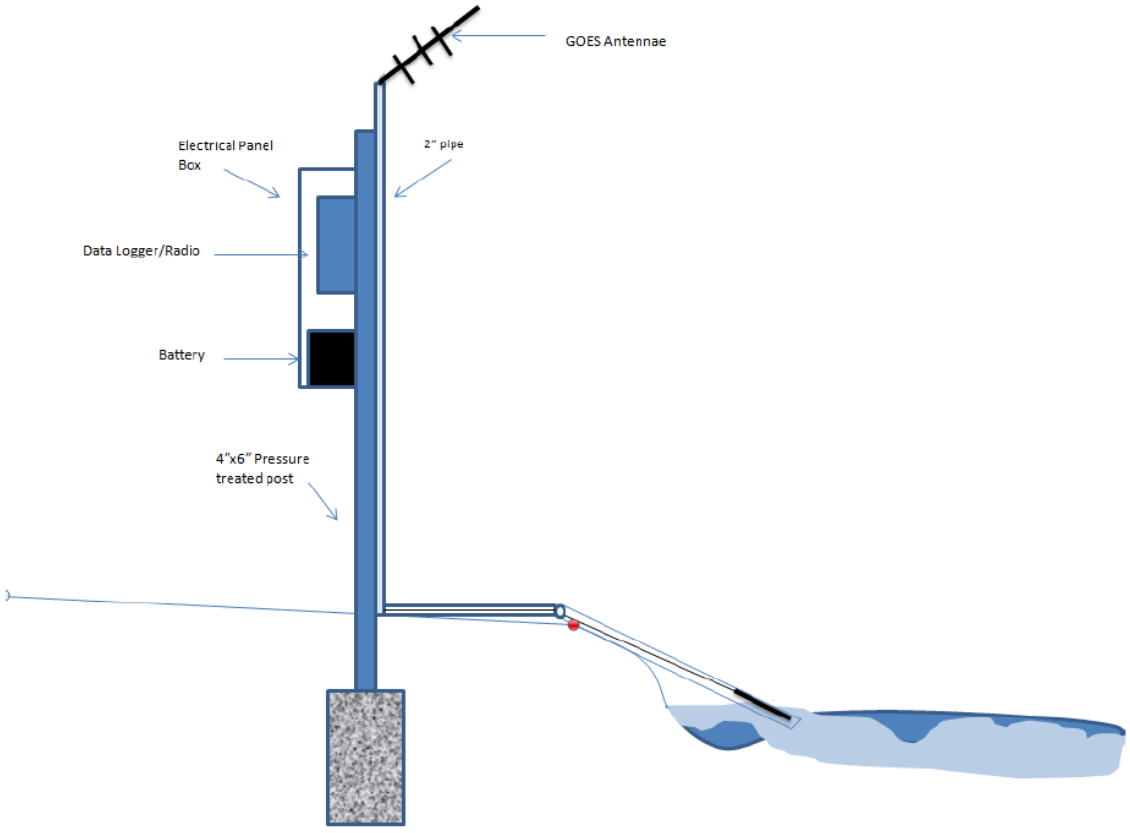
Gage Infrastructure

Each gage station be equipped with the same or similar infrastructure shows in Figure 3. This includes a data logger that records stage and temperature every 15 minutes and transmits this information to Ecology (e.g., Station Information (wa.gov)). Ecology hydrologists conduct site

visits to these streamflow-monitoring sites about once every six weeks to verify instrument accuracy and develop a rating curve that relates stage to streamflow rate in cubic feet per second (CFS). These instruments include an Acoustic Doppler Velocimeter, called an ADV or an Acoustic Doppler Current Profiler, known as an ADCP. Typically used in smaller streams, ADVs bounce pulses of sound against moving particles in the stream to measure velocity. The ADCP is moved across larger streams on a raft. The ADCP measures stream depth and water velocity and almost instantaneously calculates streamflow. After the rating curve is developed, it is applied to the stage record, and then the public can access streamflow information through Ecology's Freshwater DataStream page.

Ecology hydrologists will maintain calibration of the data logger using a physical index that may include a staff gage, usually one or more porcelain enameled steel plates mounted to a secure structure; a wire-weight gage attached to a bridge, or a laser level mounted at a fixed elevation. Most stations are equipped with secondary or backup gage indices. In addition, with the use of survey equipment, hydrologists periodically confirm the relative elevations of the physical stage indices (staff gages, wire weight gages, etc.) and determine if movement of these gages has occurred over time. Findings from each visit to a streamflow gaging site, including any changes in the rating curve, are reported in the technical notes for that site, published with the streamflow site data and available on Ecology's Freshwater DataStream page.

Figure 3. Typical Gage Infrastructure Design



PERFORMANCE MEASURES

The Walla Walla Basin Decision Support Tool will provide a comprehensive geospatial quantification of out-of-stream water use (instantaneous and annual quantities, location, and timing) in the Walla Walla Basin. This tool will integrate existing reports and evaluations to provide spatially explicit information on resident fish, salmon, and steelhead limiting factors, flow targets, and other stream reach level biological information. The tool will also serve as a data management tool for flow accounting and restoration opportunities in the Basin. Out-of-stream water uses will be quantified by purpose of use (agricultural, municipal, stockwater, etc.). Since each water use impacts different reaches of the river at variable quantities throughout the year, the dashboard will quantify these impacts both spatially by river mile and temporally by month of the year.

As part of this data management tool, it is necessary to have a sufficient network of streamflow gages across the Basin to inform water management decisions and to allow instream flows to be fully accounted for and tracked. The current inventory and location of stream gages is insufficient for the development of the Decision Support Tool and necessitates installation of three new gage sites. These new gages, when operational, will improve flow monitoring and inform restoration project effects, especially during critical low-flow periods and/or drought years. Funding from this application will support the physical gage infrastructure and installation. The operation and maintenance costs of the gages will be covered by other funding sources.

Finally, the Project will be used to develop and model a list of prioritized water transactions and restoration actions with the greatest potential to improve instream flows in the geographies and times of the year when the need is the most critical for the recovery of resident ESA-listed salmonids. Ranking potential projects on their cost-effectiveness, implementation feasibility and quantified reach-scale benefits will allow for the efficient allocation of time, resources, and funding to increase the drought resiliency of the Basin.

EVALUATION CRITERIA

E.1.1. EVALUATION CRITERIA A – PROJECT BENEFITS (30 POINTS)

Long-term Drought Resiliency

The Project will inform basin-wide flow restoration and water acquisition strategy and support scenario planning for the Walla Walla 2050 effort, a basin-wide strategic planning effort to manage water resources. This project will identify and prioritize basin-wide flow enhancement projects and other restoration tools with the greatest potential to increase instream flows during critical periods and balance the demands of other water users. In the Basin, watershed data is generated by multiple organizations and available in different forms, making water management and resiliency planning difficult. The Decision Support Tool will collect, store, and display this data geospatially in a centralized platform accessible online, increasing efficiency

and understanding for decision-makers in the Basin for both instream and out-of-stream water management.

The Decision Support Tool will evaluate resiliency of potential projects by considering the water use, availability, and potential reach-scale flow impacts of their underlying water rights under drought and climate change scenarios. Quantification of current out-of-stream water uses in both Washington and Oregon will increase understanding of minimum stream flow levels necessary to support both regional water needs and ESA-listed species, including steelhead, bull trout, and reintroduced spring Chinook. Since water uses with more junior priority dates can be curtailed during periods when less water is available, the tool will consider water rights seniority and availability in the ranking of potential projects. This will help planners determine which projects are most or least likely to provide flows during drought or climate change scenarios. The Decision Support Tool will also consider long-term resiliency by assigning lifespans to each potential instream flow and restoration project, including how long the flow benefits of the project will last and any costs of sustaining benefits over time (e.g., operation, maintenance, and lifespan considerations of irrigation efficiency projects). An ArcGIS-supported database and dashboard that will forecast project impacts by stream reach, georeferenced to basin-level strategic plan and biological priorities, and inform project needs and impacts to Basin stakeholders.

This database and dashboard will directly support the WWW 2050 planning and implementation efforts for at least seven years. It will serve as an interim decision-making and adaptive management tool in the Basin until a hydrologic model developed by the United States Geological Survey (USGS) is completed. The USGS is conducting a study of the groundwater in the Basin, which is currently in Phase 1, data gathering and hydrogeologic framework development. Phase 2, development of a hydrologic numerical simulation model, is anticipated to begin between 2025 and 2027. Once the USGS Basin model is complete, the Decision Support Tool will serve as a complementary resource, highlighting spatial and attribute data along with in-depth groundwater modeling.

Additional Water Supplies

The Decision Support Tool will inform opportunities for additional seasonal water supply in the Basin by quantifying existing water uses, modeling potential future water uses, and quantifying enhanced flows available from potential projects. This tool will be able to estimate seasonal and reach-scale benefits of flow enhancement projects under various scenarios of climate change, drought, and future water use. The three additional stream flow gage stations will provide baseflow data in locations currently lacking monitoring. This data, along with information collected at the other gage locations throughout the Basin, will serve a dual purpose understanding the baseline of current water supplies and monitoring increased water supplies created as projects are implemented. In combination with quantified out-of-stream water uses, this project can better estimate future water quantities necessary to meet demands.

While the Decision Support Tool will analyze out of stream water uses on all surface water sources in the Basin, some localized baseline information has already been generated by the 2017 Walla Walla Bi-State Flow Study. The study has identified and evaluated strategies to meet streamflow targets in the mainstem Walla Walla River from April through November to support and restore harvestable populations of native fish species. The study seeks to accomplish this primary goal in a manner that ensures no net loss for water right holders.

The Bi-State flow study is focused on the reach of the mainstem Walla Walla River from Cemetery Bridge near Milton-Freewater, Oregon to the mouth of the river near Wallula Junction. The lower reach of Mill Creek and potentially other surface waterways may also be improved depending on preferred alternative details. The Tool and activities identified in the current proposal will integrate existing data from this and other localized studies into a centralized online platform for data and planning resources for the Basin as a whole.

Water Supply Management Improvement

While the historic 2015 Pacific Northwest drought had significant impacts on the region's streams and water users, it also provided empirical data on the types of drought conditions a resilient watershed needs to withstand. While all droughts are a different "flavor" in terms of timing and speed of onset, the Decision Support Tool will provide decision makers in the Walla Walla Basin tools to plan for multiple drought scenarios. The tool will model water demand, water right curtailment, and available flow under drought conditions using data recorded during previous drought years. By displaying key indicators to past drought years such as spring snowpack levels, hydrographs, and temperature, decision makers can implement drought or emergency response plans in the Walla Walla Basin earlier in the year. Water conservation organizations can use the Decision Support Tool to target specific stream reaches and water users that may participate in drought year water transaction programs and/or water conservation actions earlier in the season.

In order to respond in a timely and effective manner to drought conditions it is imperative to have a sufficient stream gauging network across the Basin to understand instream flows, to allow for enforcement and regulation in favor of instream flow rights, and to trigger drought year instream flow transactions, pulse flows, and other emergency actions. Without sufficient stream gauges, regulation, and in-season management of instream flows may not occur.

E.1.2. EVALUATION CRITERIA B – DROUGHT PLANNING AND PREPAREDNESS (20 POINTS)

Washington State Drought Contingency Plan

The Washington State Drought Contingency Plan (DCP) was completed in 2018 by the members of the Drought Contingency Planning Task Force with support of a WaterSMART Drought Response Program Grant through the Bureau of Reclamation and HDR, Inc. The plan outlines a Two-Stage Drought Framework: Advisory and Emergency, each stage triggered by different indicators. The Advisory Stage uses water supply information such as below-normal snowpack,

river flows, groundwater levels, precipitation, and high temperatures, along with likelihood of potential hardship to water users, to determine drought response. This Stage outlines response and communication to local water managers, governments, and water users. Stage 2, Emergency, uses water supply and hardship triggers to determine a high probability that drought conditions will occur, causing a declaration to be issued.

The DCP outlines drought planning and response actions, focusing on state mitigation directly related to water supply. Resiliency and response actions for different high-risk sectors are outlined for Advisory, Emergency, and Outside Drought stages. It also includes climate change impacts to temperature, seasonal precipitation, snowpack and streamflow timing, and soil moisture.

This project supports key recommendations of Washington State's Existing DCP by improving the timeliness of drought response, providing relief to water users experiencing hardship, and monitoring water supply indicators. The tool can compare real-time data to past drought indicators, allowing decision makers to respond and initiate water conservation programs to provide funding in low-flow years sooner. The tool will prioritize water acquisition projects and other restoration tools that directly relate to resiliency and response actions to protect fish in natural areas, terrestrial wildlife, and public water supplies. The Decision Support Tool will identify water transactions and agreements that increase instream flow for fish in critical areas through mapping water right and diversions, habitat and ecological constraints for fish, temperature, and streamflow data.

Link to plan: https://apps.ecology.wa.gov/publications/documents/1811005.pdf

E.1.3. EVALUATION CRITERIA C – SUSTAINABILITY AND SUPPLEMENTAL BENEFITS (15 POINTS)

Climate Change (E.O. 14008)

The Project will increase water conservation and management in the Walla Walla Basin, as well as increase streamflow resiliency through added instream flow and other restoration initiatives. Not all projects will provide water under increasing drought predicted by climate change, especially if the water uses they are built from are junior and subject to curtailment during low flows. The Decision Support Tool will consider sustainability of projects amidst climate change by incorporating considerations of reliability of water via potential projects according to data from previous droughts and the modeled International Panel on Climate Change (IPCC) scenarios described below.

The climate change impacts for the Basin's water resources have been modeled according to the IPCC's A1B and B1 scenarios. The A1B scenario assumes rapid future economic growth, a global population peaking mid-century, and the rapid introduction of new and more efficient technologies with an energy production emphasis across all sectors. The B1 scenario assumes greater cultural homogeneity, an increasing global population that peaks mid-century, and a

technological shift toward a service and information economy that emphasizes environmental sustainability. While the overall quantity of precipitation is not expected to change significantly in the Basin, both scenarios are predicted to delay the timing of snowmelt and runoff considerably. Given this, projects that capture and store available water that is then released as water scarcity intensifies is critical to sustaining stream flows and community water demands.

Disadvantaged or Underserved Communities (E.O. 14008)

WWT's work under this grant occurs primarily in Walla Walla and Columbia Counties in Washington, and Umatilla County in Oregon. Eastern Washington and Eastern Oregon geographies are generally rural, less diverse, and socioeconomically disadvantaged compared to both States as a whole (Table 4). WWT is highly sensitive to the importance of the agricultural sector, and its economic and cultural significance within these geographies. Given the diversity and competition of water-related interests, WWT works with project partners to bring a suite of transaction tools that honor agricultural values and provide financial benefits to the landowners while simultaneously improving instream flows. WWT engages in collaborative watershed planning efforts, such as the WWW 2050 initiative, to find large scale solutions to balancing the needs of agriculture and the environment, and WWT engages directly with water rights holders through workshops, direct engagements, and partner outreach to prioritize transaction tools.

Table 4. 2020 Census Data

Fact	WA State	Walla Walla County, WA	Columbia County, WA	Umatilla County, OR
Population				
Population Estimates, July 1 2021, (V2021)	7,738,692	62,682	4,042	79,988
Population estimates base, April 1, 2020, (V2021)	7,705,281	62,584	3,952	80,075
Population, percent change - April 1, 2020 (estimates base) to July 1, 2021	0.40%	0.20%	2.30%	-0.10%
Population, Census, April 1, 2020	7,705,281	62,584	3,952	80,075
Population, Census, April 1, 2010	6,724,540	58,781	4,078	75,889
Age and Sex				
Persons under 5 years, percent	6.00%	5.30%	4.70%	6.40%
Persons under 18 years, percent	21.80%	20.70%	18.00%	25.10%
Persons 65 years and over, percent	15.90%	18.70%	28.50%	16.00%
Female persons, percent	49.90%	49.10%	51.20%	47.70%
White alone, percent	78.50%	91.40%	91.10%	90.40%
Race and Hispanic Origin				
Black or African American alone, percent	4.40%	2.20%	0.70%	1.20%
American Indian and Alaska Native alone, percent	1.90%	1.40%	1.80%	4.30%
Asian alone, percent	9.60%	1.70%	1.40%	1.10%
Native Hawaiian and Other Pacific Islander alone, percent	0.80%	0.40%	2.00%	0.30%
Two or More Races, percent	4.90%	2.80%	3.00%	2.70%
Hispanic or Latino, percent	13.00%	21.70%	7.90%	27.60%
White alone, not Hispanic or Latino, percent	67.50%	71.30%	84.40%	65.10%
Income and Poverty				
Median household income (in 2020 dollars), 2016-2020	$77,006	$60,615	$61,779	$57,973
Per capita income in past 12 months (in 2020 dollars), 2016-2020	$40,837	$30,306	$38,606	$25,452
Persons in poverty, percent	9.50%	12.90%	12.60%	11.70%

Tribal Benefits

The Project supports ongoing water conservation and riparian restoration efforts of the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), as well as the mission to protect First Foods. In the Walla Walla Basin, spring Chinook, bull trout, and steelhead are the three priority fish species that serve as proxies for other aquatic First Foods[1]. This Decision Support Tool will incorporate minimum instream flow requirements for these species determined by Stillwater Sciences for the CTUIR, prioritizing water acquisitions for instream flow and other restoration projects that are the most beneficial to these fish species at critical times of the year. Those flow prescriptions "will support the vision outlined by the Tribe's River Vision by supporting the restoration and long-term maintenance of the CTUIR's fishery in the Walla Walla River Basin."[2]

Environmental Benefits

The Decision Support Tool will prioritize projects that impact late-summer flows and temperatures for 1) juvenile rearing, and 2) adult passage and spawning life stages of ESA-listed steelhead, bull trout, and reintroduced Spring Chinook. It will target the development of projects that add resiliency to streams in the face of climate change, including emerging tools such as floodplain optimization and upland forest management. As reported in the Snake River Salmon Recovery Plan[3] and the Walla Walla Subbasin Plan[4], the three highest priority factors limiting salmonids (abundance, distribution, and productivity) in the Walla Walla watershed are directly related to instream flow because the quantity of water affects temperature, passage, habitat quality and quantity, and distribution.

In the Walla Walla River and its tributaries, increase in summer flows can lead to increased survival and distribution of steelhead and spring Chinook.[5] In the lower reaches of Mill Creek,

[1] Stillwater Sciences, Walla Walla River Ecological Flows – Recommended Stream Flows to Support Fisheries Habitat and Floodplain Function. Prepared for Confederated Tribes of the Umatilla Indian Reservation, September, 2013, p. 5.
[2] Stillwater Sciences, Walla Walla River Ecological Flows – Recommended Stream Flows to Support Fisheries Habitat and Floodplain Function. Prepared for Confederated Tribes of the Umatilla Indian Reservation, September, 2013, p. 4.
[3] Snake River Salmon Recovery Board, Snake River Salmon Recovery Plan for SE Washington. Prepared for Washington Governor's Salmon Recovery Office, 2011, p. 159: "In the Touchet River Mainstem, the major current limiting factors for steelhead are believed to be sedimentation, habitat diversity, flow, channel stability, and temperature"
[4] Walla Walla Watershed Planning Unit and Walla Walla Basin Watershed Council, Walla Walla Subbasin Plan. Prepared for Northwest Power and Conservation Council, May, 2004, p. 151: "every effort should be made to return water to areas that are de-watered due to (anthropogenic) causes ... Projects could include water leases or purchases. In addition, larger projects that restore the riparian areas or otherwise encourage the raising of the water table and water retention of the affected areas should be encouraged.
[5] Walla Walla Watershed Planning Unit and Walla Walla Basin Watershed Council, Walla Walla Subbasin Plan. Prepared for Northwest Power and Conservation Council, May, 2004, Table 7-1.

warm summer temperatures can limit spawning and increase mortality in adults.[6] Low flow in Mill Creek represents a significant passage barrier to upstream migrating adults and juveniles seeking nearly 60-miles of high-quality habitat upstream. Priority species in the Touchet River also suffer from high temperatures and low flows in critical months, impacting the survival during rearing and migration.[7] Increasing instream flow allows fish to access (fish passage) higher quality upstream habitat and increases the distribution of fish downstream. The proposed Decision Support Tool will map, and display limiting factors and reach level data in one location in order to provide comprehensive and efficient water management.

Prioritization and impact mapping supported by this Project will address the main limiting factors to priority fish species survival in the Walla Walla Basin. Those factors are flows, passage, habitat, water temperature, water quality, and channel condition.[8] The Walla Walla Subbasin Plan (2004) supports improving streamflow to support the recovery of Walla Walla resident and anadromous fish. Recommended strategies outlined within the Subbasin Plan are:

> Strategy #2: Protect, enhance, or restore water quality to improve the survival, abundance and distribution of indigenous resident and anadromous fish.
>
> Strategy #4: Protect, enhance, and restore instream flows to improve passage conditions and increase rearing habitat for anadromous and resident fish.
>
> Action #4.4: Increase instream flows by lease and/or purchase of water rights.
>
> Action #4.5: Increase stream flows by improving the efficiency of irrigation systems and use of conserved water for instream use.

The development of this Project will identify and prioritize water transactions and restoration opportunities that work towards achieving these strategies.

Other Benefits

This project will increase understanding of bi-state flow in the Basin and may assist in the creation of a more formal agreement between Washington and Oregon to recognize protectable instream flows. This project will also benefit multiple sectors and users (agricultural, municipal, industrial, environmental) as it quantifies out-of-stream water use for all sectors and identifies project opportunities for each sector to better conserve and manage water in the Basin. The Project will support strategies and initiatives for water management

[6] Walla Walla Watershed Planning Unit and Walla Walla Basin Watershed Council, Walla Walla Subbasin Plan. Prepared for Northwest Power and Conservation Council, May, 2004, p. 51.
[7] Walla Walla Watershed Planning Unit and Walla Walla Basin Watershed Council, Walla Walla Subbasin Plan. Prepared for Northwest Power and Conservation Council, May, 2004, p. 50.
[8] Stillwater Sciences, Walla Walla River Ecological Flows – Recommended Stream Flows to Support Fisheries Habitat and Floodplain Function. Prepared for Confederated Tribes of the Umatilla Indian Reservation, September, 2013, p. B-2.

outlined in the WWW 2050 Strategic Plan and inform decision making of the Walla Walla Basin Advisory Committee (BAC).

E.1.4. EVALUATION CRITERIA D – SEVERITY OF ACTUAL OR POTENTIAL DROUGHT IMPACTS TO BE ADDRESSED BY THE PROJECT (15 POINTS)

Ongoing and Potential Drought Impacts

During normal to dry years, overallocation of available supply and corresponding diversions from the Walla Walla River across both states inhibit the fulfillment of administrative Instream Flow (ISF) Rules between the end of April and June, and remaining low through September.[9] The establishment of ISF Rules is based on criteria specific to the protection of aquatic habitat utilized by resident fish species (e.g. tow-width and instream flow incremental methodology). Similarly, the lower Touchet River and Mill Creek are severely impacted by irrigation and municipal diversions in August and September (Figures 5 and 6). Drought has significant impacts on fish populations, resulting in stress and increased mortality to fish during times of rearing, spawning, and migration.[10] Low flows and rising temperatures impact their ability to ascend the Walla Walla River and its tributaries to access high quality habitat upstream. Low flow and rising temperatures favor predatory fish in mid to lower elevations in the mainstem Walla Walla and Touchet rivers. The Walla Walla Subbasin plan identified reduced low flows, increasing summer water temperatures, fish passage, riparian habitat, and instream habitat diversity as key limiting factors for both ESA-listed steelhead and reintroduced spring Chinook in the Basin.[11]

With regard to ESA-listed aquatic species, the Walla Walla Basin has been subject to former enforcement actions. Following the listing of resident bull trout and steelhead in the late 90's, the U.S. Fish and Wildlife Service filed a civil penalty for take in the Walla Walla mainstem in 2000. Following the subsequent settlement agreement, three irrigation districts within the Basin chose to 'voluntarily' bypass water in an effort to restore/maintain aquatic habitat and promote fish passage. With the recent expiration of the settlement agreement, there is no guarantee that water will be bypassed in the future. Further, in the absence of robust streamflow improvements, litigation may return as a tool to achieve desired habitat conditions. If so, the financial ripple-effects befalling agricultural water users could severely impact multiple sectors of the local economy.

[9] Walla Walla Watershed Management Partnership, Walla Walla Water 2050 Strategic Plan. Prepared for the Washington State Department of Ecology, June, 2021, p. 48.
[10] Drought Contingency Planning Task Force, Washington State Drought Contingency Plan. September, 2018, p. B-6.
[11] Walla Walla Watershed Planning Unit and Walla Walla Basin Watershed Council, Walla Walla Subbasin Plan. Prepared for Northwest Power and Conservation Council, May, 2004, p.58.

Figure 5. Touchet at Cummins Road dry, normal, and wet year streamflows (July- September)[12]

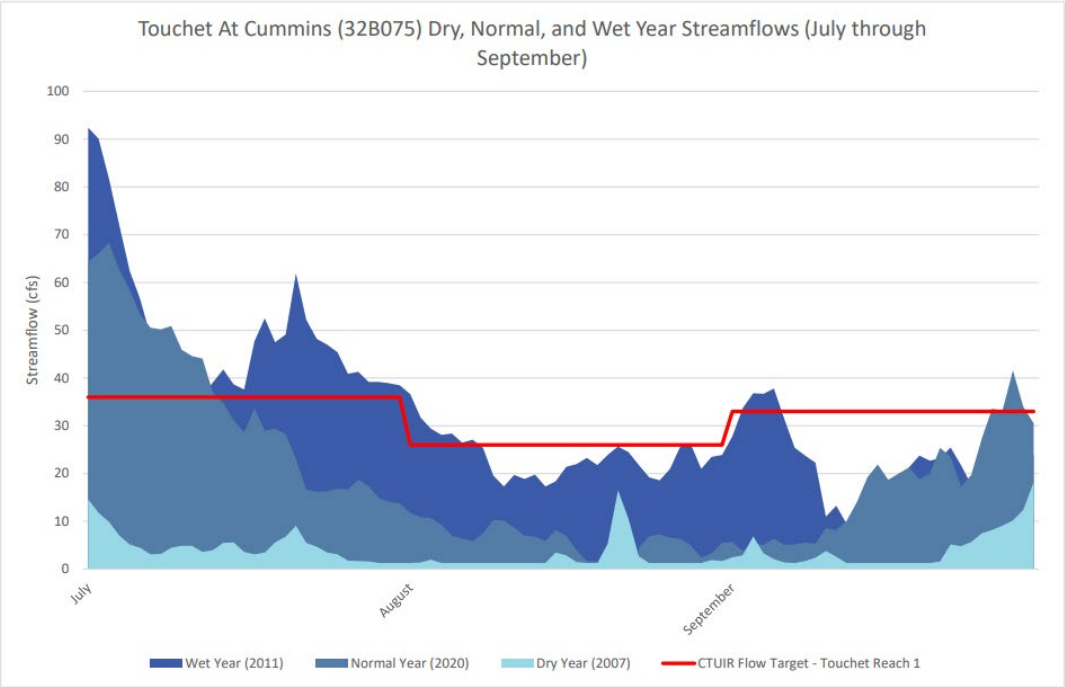
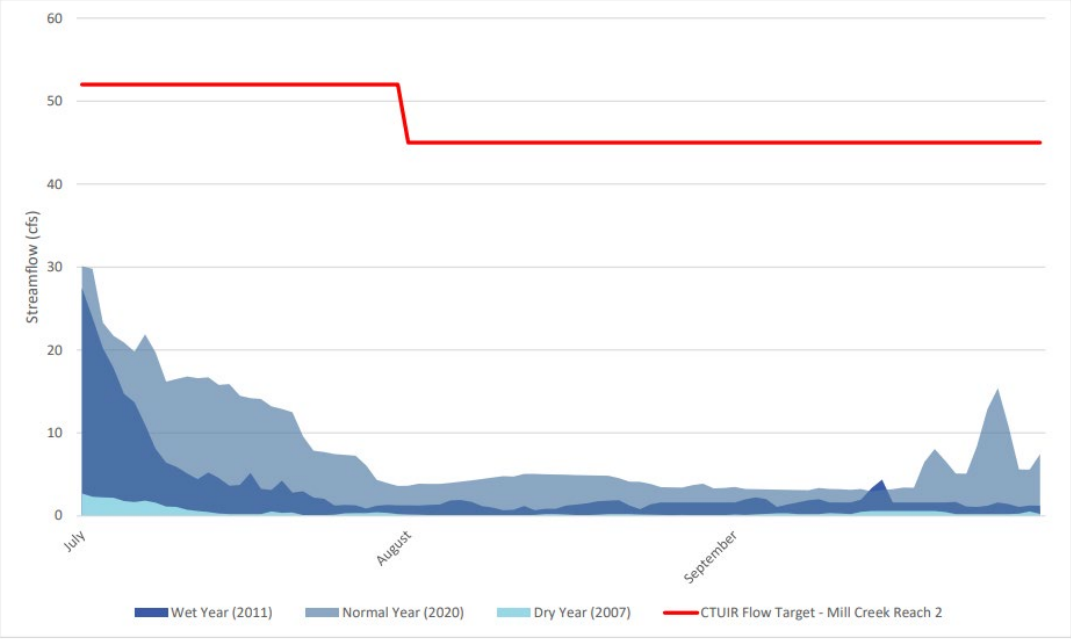


Figure 6. Mill Creek at Walla Walla dry, normal, and wet year streamflows (July- September).[13]

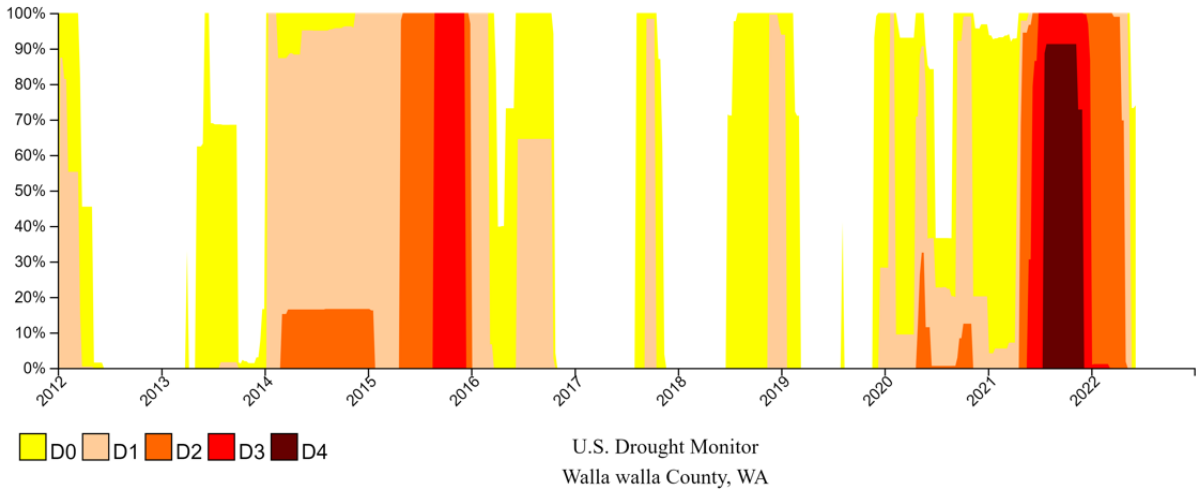


[12] Walla Walla Watershed Management Partnership, Walla Walla Water 2050 Strategic Plan. Prepared for the Washington State Department of Ecology, June, 2021, p. 53.
[13] Walla Walla Watershed Management Partnership, Walla Walla Water 2050 Strategic Plan. Prepared for the Washington State Department of Ecology, June, 2021, p. 55.

Current Drought Conditions

In the last ten years, Washington has experienced consistent drought conditions, ranging in intensity from D0, abnormally dry, to D4, exceptional (Figure 7). During the 2021 water year, the Walla Walla Basin experienced periods of extreme (D3 Intensity) and exceptional (D4 Intensity) drought, with Oregon and Washington having the hottest and second hottest summers, respectively, ever recorded (Figure 8).[14] In 2015, Washington experienced even worse drought conditions, experiencing exceptional levels (D4). During a drought at this intensity levels, crop yields are poor, tourism declines, water ecosystems change, fish have difficulty reaching high quality spawning areas and conditions may be fatal, and groundwater levels decline affecting domestic and municipal water supplies.[15] As climate change impacts worsen, the Walla Walla Basin will shift from a snow and rain dominant watershed to reliant largely on rain for its water supply. With summer precipitation expected to decrease, drought frequency and intensity will likely rise,[16] making water management and decision support tools such as this one even more important in the Walla Walla Basin. Currently, Walla Walla County and Columbia County in Washington are under a Drought Advisory.

Figure 7. Drought Conditions in Walla Walla County from 2012-2021.[17]



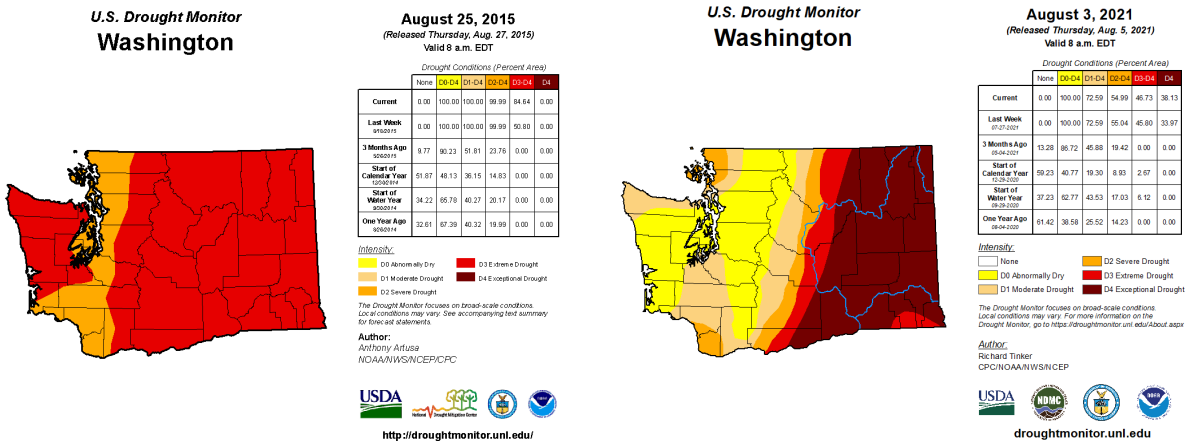
[14] Bumbaco, K.A., M.H. Rogers, L.W. O'Neill, D.J. Hoekema, C.L. Raymond. 2021 Pacific Northwest Water Year Impacts Assessment. A collaboration between the Office of the Washington State Climatologist, Climate Impacts Group, Oregon State Climatologist, Idaho Department of Water Resources, and NOAA National Integrated Drought Information System, 2022, p. 10, 19.

[15] National Drought Mitigation Center, Washington. June 7, 2022. https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?WA

[16] Walla Walla Watershed Management Partnership, Walla Walla Water 2050 Strategic Plan. Prepared for the Washington State Department of Ecology, June, 2021, p. 109.

[17] National Integrated Drought Information System, Drought Conditions for Walla Walla County. 2022, https://www.drought.gov/states/washington/county/walla%20walla

Figure 8. Drought Intensity in Washington, August 2015 and 2021.[18]



E.1.5. EVALUATION CRITERIA E – PROJECT IMPLEMENTATION (10 POINTS)

Implementation Plan and Schedule

Project implementation will begin in 2022 with watershed data and information gathering from partners and organizations in the Basin. This information, as well as the basin-wide water right analysis and review to be conducted by WWT, will be the basis for the Decision Support Tool. The next phase of the project will be compiling the data in an ESRI outward facing mapping dashboard. WWT will organize and display the data that supports project prioritization and answers key water resource management and drought response questions for the WWW 2050 BAC. The Decision Support Tool will be completed and reviewed by the BAC mid-2023 and finalized by the beginning of 2024. Prior to completion, WWT and the BAC can use the Decision Support Tool to prioritize water acquisition projects to add instream flow before the 2024 irrigation season and other strategies outlined in the Strategic Plan.

Implementation for the three new gage sites will begin in July 2023. Installation is expected to be completed before the 2024 summer low-flow period. Streamflow data collection and gage calibration will continue through March 2025 under this grant, and beyond through other funding sources.

Key Project Milestone/Activity	Begin Date	End Date
Existing Data Collection from Partners and Public Sources	October 2022	February 2023
Basin-wide Water Right Analysis and Review	October 2022	January 2023
Decision Support Tool Design and Development	March 2023	August 2023
• Import Spatial Layers and Attribute Data	June 2023	July 2023

[18] National Drought Mitigation Center, Map Archive. 2022. https://droughtmonitor.unl.edu/Maps/MapArchive.aspx

• Test Tool Function	July 2023	September 2023
• Complete	July 2023	September 2023
Present Decision Support Tool to WWW 2050 BAC	September 2023	November 2023
Additional Decision Support Tool Improvements Based on BAC Comments	September 2023	January 2024
Finalize Decision Support Tool	September 2023	February 2024
Prioritize Projects using Decision Support Tool	September 2023	March 2025
• Inform Water Acquisitions	September 2023	April 2024
• Inform WWW 2050 Strategic Plan Strategies	September 2023	March 2025
Streamflow Gage Installation	July 2023	March 2025
• Complete and file county permits for three streamflow monitoring gage stations	July 2023	December 2023
• Fabrication and Installation of three streamflow monitoring gage stations	August 2023	June 2024
• Labor and Industries inspection and permit after completion of three streamflow monitoring gage stations	August 2023	June 2024
• Streamflow data collection review and site visits	August 2023	March 2025

Required Permits for Gage Installation

Any prospective permitting needs are limited to the installation/refurbishment of three streamflow gages. Landowner permission is needed to begin implementation and installation. Project proponents will coordinate with county, state, and federal agencies to determine the extent of permitting scope. For example, most disturbances within the shoreline will require a Joint Aquatic Resources Permit Application (JARPA) permit and Shoreline Exemption to be filed with the County. Disturbance within the riparian buffer and below the ordinary-high watermark will require a Habitat Project Approval (HPA) permit to be filed with WDFW. WDFW typically articulates implementation criteria when issuing HPA's, such as has restriction for summer in-water work windows. Further, project proponents will inventory the locationally-specific cultural resource inventory and reports to determine the scope of any additional resource assessments conducted in partnership with the Department of Archaeology and Historic Preservation. Installation typically takes 2 days per station. After gage installation, an Electrical Permit will be filed through the Washington Department of Labor and Industries for the use of the solar panel.

E.1.6. EVALUATION CRITERIA F – NEXUS TO RECLAMATION (10 POINTS)

Ecology Office of the Columbia River (OCR), in coordination with OWRD and CTUIR, is currently in the process of applying for a Bureau of Reclamation WaterSMART Basin Study FY23 Grant. This proposal will review work completed to date in the Basin including the WWW 2050

Strategic Plan, Bi-State Flow Anchor Project Study, the ongoing USGS Groundwater Study, water supply challenges and opportunities, alternatives to water delivery and reliability, and regional or institutional frameworks.

The applicant does not receive Reclamation water through a Reclamation contractor.

PROJECT BUDGET

FUNDING PLAN AND LETTERS OF COMMITMENT

Non-Federal cost share contributions for the project are anticipated from a Private Funder and Ecology. Funding details related to each contribution and Letters of Commitment are outlined below.

Private Funder Cost Share Contribution

A private funder will contribute $25,000 from July 2023 - 2025 to the Project to support the development and construction of the Decision Support Tool. A Letter of Commitment for these funds is expected to be received by July 8, 2022.

Washington Department of Ecology Cost Share Contribution

Ecology will contribute $62,500 to the Project to support the installation of three streamflow monitoring gages. Funds will be available July 2023 through the 2023-2025 biennium budget allocated to Ecology OCR.

Washington Department of Ecology Letter of Commitment

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Office of Columbia River
1250 West Alder St., Union Gap, WA 98903-0009 • 509-575-2490

June 14, 2022

Sarah Dymecki, Project Manager
Washington Water Trust
103 East 4th Avenue, Suite 203
Ellensburg, WA 98926

RE: R23AS00005 WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Year 2023 – Walla Walla Basin Water Management Decision Support Tool Project

Dear Sarah Dymecki:

I am writing to document Washington State Department of Ecology Office of Columbia River's (OCR) support of the Washington Water Trust (WWT) proposal to the Bureau of Reclamation WaterSMART grant program, titled "Walla Walla Basin Water Management Decision Support Tool Project." OCR is familiar with the proposal, understands the general expectations, and supports the efforts to develop a tool to improve the understanding of out-of-stream water uses and diversion data, identify and prioritize water transactions and other restoration tools that could increase instream flows during critical low-flow periods, and inform decision-making around water management and drought response throughout the Walla Walla Basin. OCR is acting in partnership with the WWT, satisfying the Category A applicant requirement, and OCR agrees to the submittal and content of this WaterSMART grant proposal.

OCR is working with tribes and stakeholders to implement the Walla Walla Water 2050 Strategic Plan. The strategic planning effort is a collaboration of state, federal, tribal, local, business, and community organizations committed to addressing water, fishery, habitat and climate variability challenges to ensure a robust Walla Walla River Basin. All components of this WaterSMART grant proposal within the Walla Walla Basin support and further implementation of the strategic plan.

If this WaterSMART grant proposal is selected for funding, OCR will provide financial contributions equal to the total amount of $62,500 over two years to this project, beginning in July 2023. This funding amount will include $37,500 to support the installation of three new

streamflow gages and $25,000 to support the development and construction of the decision support tool.

Ecology's OCR is extremely interested in making this project a success. We look forward to working with the WWT on this project. If you have any questions, please contact Ecology staff, Scott Tarbutton, at (509) 867-6534 or by email at scta461@ecy.wa.gov.

Sincerely,

G. Thomas Tebb, L.Hg., L.E.G.
Director
Office of Columbia River

GTT:jc (220411)

BUDGET PROPOSAL

Table 1. Total Project Cost Summary

SOURCE	AMOUNT
Costs to be reimbursed with the requested Federal funding	$87,500
Costs to be paid by Applicant	$87,500
TOTAL PROJECT COST	$175,000

Table 2. Non-Federal and Federal Funding Sources Summary

FUNDING SOURCES	AMOUNT
Non-Federal Entities	
1. Private Funder	$25,000
2. Washington Department of Ecology	$62,500
Non-Federal Subtotal	$87,500
REQUESTED RECLAMATION FUNDING	$87,500

Table 3. Budget Proposal Format

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	TOTAL COST
	$/Unit	Quantity		
Salaries and Wages				
WWT Project Manager	$ 52.24	400	Hours	$ 20,896.00
WWT Project Associate	$ 42.45	300	Hours	$ 12,735.00
WWT Data Analyst	$ 52.24	250	Hours	$ 13,060.00
WWT Program Director	$ 71.83	80	Hours	$ 5,746.40
WWT Administrative Manager	$ 58.14	110	Hours	$ 6,395.40
WWT Executive Director	$ 78.36	20	Hours	$ 1,567.20
Total				$ 60,400.00
Fringe Benefits				
WWT Project Manager	$ 15.67	400	Hours	$ 6,268.80
WWT Project Associate	$ 12.74	300	Hours	$ 3,820.50
WWT Data Analyst	$ 15.67	250	Hours	$ 3,918.00
WWT Program Director	$ 21.55	80	Hours	$ 1,723.92
WWT Administrative Manager	$ 17.44	110	Hours	$ 1,918.62
WWT Executive Director	$ 23.51	20	Hours	$ 470.16
Total				$ 18,120.00
Travel				
Mileage	$ 0.59	2200	Miles	$ 1,287.00

Per diem Meals full day	$ 59.00	20	Daily	$ 1,180.00
Per diem Meals part day	$ 44.25	20	First/last day	$ 885.00
Per diem Lodging	$ 96.00	30	Nights	$ 2,880.00
Car rental	$ 65.00	20	Day	$ 1,300.00
Gas for Car rental	$ 4.99	384	Gallon	$ 1,916.16
Total				$ 9,448.16
Equipment (installed cost)				
Stream Gage Sensors and Instruments	$ 8,300.00	3	Items	$ 24,900.00
Stream Gage Station Infrastructure	$ 1,650.00	3		$ 4,950.00
Total				$ 29,850.00
Supplies and Materials				
ArcGIS online digital credits	$ 0.10	4500		$ 450.00
Meeting supplies	$ 40.00	10		$ 400.00
Total				$ 850.00
Contractual/Construction				
ArcGIS technical Consultant	$ 115.00	20	Hours	$ 2,300.00
Stream Gage Installation	$ 900.00	3	Items	$ 2,700.00
Ecology HG2	$ 65.87	644.5	Hours	$ 42,450.00
Total				$ 47,450.00
Other				
Total				
TOTAL DIRECT COSTS				$ 166,118.16
Indirect costs				
De Minimus	10%	88.818.16		$ 8,881.82
TOTAL ESTIMATED PROJECT COSTS				$ 175,000.00

BUDGET NARRATIVE

The budget includes all costs associated with the Walla Walla Basin Water Management Support Tool, including $87,500 in cost-share and an $87,500 request from this WaterSMART Program. $75,000 in costs will cover equipment, construction, and staffing for the installation of three gaging stations described in the proposal, $37,500 of which is being cost-shared by Ecology. An additional $100,000 will cover staffing, travel, and supply, data, and contracting expenses for WWT for the implementation of the Decision Support Tool, $50,000 of which is being cost-shared by Ecology and a private funder.

Salaries and Wages

Salaries and wages are covered in billing rates for WWT staff time to build the support tool, including research collected on active water use and land ownership and technical and legal assessment of water rights by our project staff, and data analysis and dashboarding work to build the tool by our data analyst. Additional time is allocated for regional collaboration to inform the tool development and ensure it is connected to the latest local science and planning needs. Additional time is allocated to the overall management of the grant, invoicing, and grant reporting.

Fringe Benefits

Fringe benefits are calculated from the base billing rates, and include WWT cost of benefits for employees, including paid time off, retirement, and health care.

Travel

The travel budget includes lodging, car rentals, reimbursed mileage of personal vehicles, and meals associated with travel to the project area from WWT's Ellensburg field office, with some travel by staff from Seattle. It assumes 10-15 trips totaling 2-4 days over the life of the project.

Equipment

Equipment is the entire installed cost of the three stream gages being installed as part of this project. It is divided into gage components for the current budget, but the installed cost of each gage is $9,950.

Materials and Supplies

This includes data storage costs associated with the ArcGIS online dashboarding tool to be shared with the public during the project period, as well as a modest budget for refreshments and other supplies for community meetings with the general public as part of the data collection on water use.

Contractual/Construction

WWT has the capacity to complete most of the technical work in house, but will retain the services of a third-party ArcGIS specialist as needed to complete the more complex aspects of the dashboard.

Construction costs include fabrication and installation, as well as Labor and Inspection permit costs for installation of solar panels for three new gage locations. Services of Ecology HG2 level staff will be needed to install three new gage locations, including data management and reporting, permit processing, and calibration of each gage station.

Third-Party In-Kind Contributions

Letters of Commitment will be provided documenting $87,500 in third-party contributions, all non-federal sources. Current commitments are anticipated from the [redacted] (Private Funder) and Ecology.

Environmental and Regulatory Compliance Costs

Costs associated with writing permit applications and permit costs will be included in the time billed for the staff and the salary portion of the budget. We anticipate state level permits for installation of the stream gages will be required.

Other Expenses

No other expenses are expected.

Indirect Costs

WWT does not have a federally negotiated NICRA rate at this time and will therefore use the de minimis quantity of 10% for the purposes of this grant proposal.

ENVIRONMENTAL AND CULTURAL RESOURCES COMPLIANCE

H.1 ENVIRONMENTAL AND CULTURAL RESOURCE CONSIDERATION

Will the proposed project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)? Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.

The project involves the installation of three streamflow monitoring gages and will require little to no ground disturbance. The proposed work If it is determined that any work under this project will impact the surrounding environment, WWT will work with Ecology, WDFW, and other partners to ensure that impacts will be minimal.

Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?

ESA-listed steelhead and bull trout are present in tributaries within the Walla Walla Basin, however the proposed work under this Project will not affect them or designated critical habitat.

Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as "Waters of the United States?" If so, please describe and estimate any impacts the proposed project may have.

Yes, there are surface waters within the project boundaries that potentially fall under CWA jurisdiction as "Waters of the United States." The proposed project will not have any impacts on those surface waters.

When was the water delivery system constructed?

N/A

Will the proposed project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously.

N/A

Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question.

N/A

Are there any known archeological sites in the proposed project area?

There are no known archeological sites in the proposed gage locations, however project proponents need to clear the gage locations with the Department of Archaeology and Historic Preservation and undergo Section 6 consultation.

Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?

No, this project will not have a disproportionately high and adverse effect on low income or minority populations.

Will the proposed project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?

No, this project will not limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands.

Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?

No, this project will not contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area.

REQUIRED PERMITS OR APPROVALS

Table 4 outlines the anticipated or required permits, approval timeline, and approving Agencies needed for this Project. Refer to E.1.5. Evaluation Criteria E – Project Implementation for additional details.

Table 4. Required Permits and Approvals

Permit/Approval	Apply	Approval	Approving Agency
Landowner Permission	7/23	9/23	Landowner
County – Shoreline Exemption	7/23	12/23	Walla Walla County – Shoreline Program, Columbia County – Shorelines Master Program
Joint Aquatic Resources Permit Application	7/23	12/23	Walla Walla County, Columbia County
Habitat Project Approval	7/23	12/23	WDFW
Federal Section 106 – Cultural Resources	7/23	12/23	WA DAHP, Tribes
Electrical Permit	1/24	7/24	WA Dept. of Labor and Industries

RELEVANT SECTIONS OF EXISTING DROUGHT CONTINGENCY PLAN

Following the 2015 drought, the most significant drought occurrence in decades, the WDOE developed a state-wide Drought Contingency Plan (Plan). This plan reviews events prior, during, and following the drought declaration in effort to assess the utility of existing administrative infrastructure and lessons to be applied in the future. Within this document there are several sections pertinent to this proposal's effort:

Multi-Sector Response Actions (pg. 45)

Historically, the Washington State legislature appropriates and distributes funds during a declared drought emergency to ameliorate impacts to private citizens and those charged with implementing habitat protection measures. One such protection measure is found in emergency water right transactions such as temporary water right transfers. To implement such actions, one must have a robust understanding of both instream and out-of-stream demands along with identifying opportunities for synergy amongst these municipal, industrial, agricultural, and environmental uses. To that end, the DST's purpose does well to inform water right holders, aquatic biologists, and decisionmakers of the resources at their disposal with regard to the array of transactions and transfers legally available, and develop these options ahead of future drought emergencies.

Resiliency Actions (pg. 52)

Resiliency actions identified within the Plan identify a host of activities that would rely on the DST for execution. For example, the Plan compels water managers to develop written agreements intended to equitably distribute water during shortages. Further, the Plan acknowledges the importance of negotiating 'pulse flows' with out-of-stream users. Such actions have proven to be crucial for in-and-out migration of ESA-listed species, some of which may be stranded depending upon the stream conditions. Lastly, the DST's inventory of critical habitat reaches and passage impediments will help identify areas most on need of flow augmentation, especially during crucial life-stage periods.

Link to Plan: https://apps.ecology.wa.gov/publications/documents/1811005.pdf

ADDITIONAL REQUIRED MATERIALS

LETTER OF PROJECT PARTNERSHIP AND SUPPORT

Letter of Project Partnership is submitted by Ecology (Category A Applicant). Letters of Support for this Project are submitted by CTUIR and the WWW 2050 Basin Advisory Committee. See Appendix A.

OFFICIAL RESOLUTION

The timing of a WWT Board Meeting did not align with the deadline of this application. An Official Resolution will be submitted by July 1, 2022, within the 30-day maximum allowable grace period after the June 15 application deadline.

OVERLAP OR DUPLICATION OF EFFORTS STATEMENT

There is no overlap between the proposed Project and any other active or anticipated proposals or projects. This proposal submitted for consideration under this program is not in any way duplicative of any proposal or project that has been or will be submitted for funding consideration to any other potential funding source.

CONFLICT OF INTEREST DISCLOSURE

No WWT staff, Executive Director, or active Board Member has actual or potential conflict of interest at the time of submission.

All WWT staff, Executive Director, and active Board Members will take appropriate steps to avoid conflicts of interest under or with respect to Federal financial assistance agreements and will follow the conflict of interest provisions in 2 CFR 200.318.

WWT will establish internal controls and procedures to identify, disclose, and mitigate or eliminate identified conflicts of interest by any WWT staff, Executive Director, or active Board Members. WWT understands that it is responsible for notifying the Financial Assistance Officer in writing of any conflicts of interest that may arise during the life of the award.

WWT certifies to the statement in 43 CFR Part 18 through the Authorized Official's signature on the appropriate SF-424, Application for Federal Assistance form, submitted with this application.

UNIFORM AUDIT REPORTING STATEMENT

The applicant has never been required to complete a Single Audit. WWT uses Sage Intacct as a financial management system, and each grant award, including Federal awards, is tracked under distinct and separately accounted codes in that system. WWT's accountant uses Generally Accepted Accounting Practices (GAAP) and includes provisions for meeting all guidelines in 2 CFR 200.302. This includes full accounting for all allowable direct and indirect costs, supporting documentation protocols, and accounting for procured property valued at over $5,000.

CERTIFICATION REGARDING LOBBYING

Please see Authorized Official's signature on the SF-424, Application for Federal Assistance, form submitted with this application.

APPENDIX A.

Letter of Partnership – Washington Department of Ecology

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Office of Columbia River
1250 West Alder St., Union Gap, WA 98903-0009 • 509-575-2490

June 14, 2022

Sarah Dymecki, Project Manager
Washington Water Trust
103 East 4th Avenue, Suite 203
Ellensburg, WA 98926

RE: R23AS00005 WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Year 2023 – Walla Walla Basin Water Management Decision Support Tool Project

Dear Sarah Dymecki:

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Ecology's OCR is extremely interested in making this project a success. We look forward to working with the WWT on this project. If you have any questions, please contact Ecology staff, Scott Tarbutton, at (509) 867-6534 or by email at scta461@ecy.wa.gov.

Sincerely,

G. Thomas Tebb, L.Hg., L.E.G.
Director
Office of Columbia River

GTT:jc (220411)

Letter of Support – Confederated Tribes of the Umatilla Indian Reservation

Confederated Tribes *of the*
Umatilla Indian Reservation
Water Resources Program
Department of Natural Resources

46411 Timine Way
Pendleton, OR 97801

www.ctuir.org email: davidhaire@ctuir.org
Phone: (541) 429-7288

United States Bureau of Reclamation
Water Resources and Planning Office
P.O. Box 25007
Denver, CO 80225

June 14, 2022

Re: Washington Water Trust Application for WaterSMART Funding Opportunity R23AS00005

Dear Application Review Team,

As the Water Resources Program Manager for the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), I am pleased to submit this letter in support of the Washington Water Trust's application to the WaterSMART Drought Response Program under funding opportunity R23AS00005.

The wise use of our precious water resources is critical, especially in times of increasing water scarcity. As climate change alters the seasonal hydrograph, high-quality, reliable data on water supply will be essential to informing management decisions. Equally as important will be a clear understanding of the demands placed upon water resources by human and natural communities alike.

Washington Water Trust's proposal would ensure that the Walla Walla basin is equipped with the data and tools necessary to make wise water management decisions. By helping establish stream gaging stations at key locations, this work will provide essential data on water supply and allow for the better quantification and management of the basin's water resources. These gages will be paired with the development of a comprehensive geospatial database that will include the location, quantity, timing, and priority date of all water demands in the Walla Walla.

Together, the supply data provided by these gages and the demand data contained within the geospatial tool will allow water managers to better understand water needs in real time. This will help highlight the location, timing, and duration of water supply deficits and better inform how best to address them. These tools will be particularly important for restoring instream flows, which are critical to the recovery of the native aquatic species central to CTUIR's culture and traditions.

Washington Water Trust has been an active participant in the various water planning processes ongoing in the basin, and this proposal directly responds to data and management needs articulated in these collaborative planning efforts. We commend the initiative demonstrated by this proposal, and are pleased to submit this letter in support.

Respectfully,

David Haire

Water Resources Program Manager
Department of Natural Resources
Confederated Tribes of the Umatilla Indian Reservation

Letter of Support – Walla Walla Water 2050 Basin Advisory Committee

June 15, 2022

NOFO R23AS00005
WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Year 2023
Bureau of Reclamation
Attn: NOFO Team (MS 84-27133)

Re: Letter of Support for Walla Walla Basin Water Management Decision Support Tool Project

To Whom it May Concern,

The Walla Walla Basin Advisory Committee (BAC) is writing to you in support of the Walla Walla Basin Water Management Decision Support Tool Project proposed by Washington Water Trust for funding through the WaterSMART Drought Response Program.

This project seeks to develop a Basin-wide decision support tool that will deepen understanding and improve management of water in the Basin, particularly during low-flow periods. Specifically, this project will:

- Improve understanding of out-of-stream water uses and diversion data.
- Identify and prioritize water transactions and other restoration tools that could increase instream flows during critical low-flow periods.
- Inform decision making around water management and drought response throughout the Walla Walla Basin.

The tool will prioritize projects with the greatest ability to meet the needs of ESA-listed salmonids, steelhead, and other aquatic species while balancing demands of other water users. The project will also establish three new telemetry gages to increase stream flow monitoring and supply baseline data for the decision support tool. The gage locations were selected to help address floodplain restoration effectiveness, water management, and low flow fish response in the basin, and will be located on the lower Wolf Fork Touchet River at Mountain Home Pk, Yellowhawk Creek at Highway 125, and the Walla Walla River at McDonald Bridge respectively.

The BAC continues to work to identify and prioritize projects based on decades of watershed planning and current Basin needs which are then vetted through a technical and stakeholder process within the Walla Walla Basin. The BAC and its partners in the Basin seek to leverage and secure funding for high priority projects to accomplish the multiple goals of the Walla Walla Water 2050 Strategic Plan.

The proposed project impact is in direct alignment with the Walla Walla Water 2050 planning effort, led by Washington State Department of Ecology, Oregon Water Resources Department, and the Confederated Tribes of the Umatilla Reservation. Within that plan, this project supports the implementation of multiple high priority strategies, including:

- 1.04: Water rights acquisitions to restore streamflows.
- 1.10: Develop an overarching monitoring strategy and adaptive management plan for fish, habitat, and water to inform actions and evaluate effectiveness.
- 1.11: Address legal implications of Bi-State surface water management and protection of instream flow across the state border and protection of instream flow within States.

- 1.14: Improve coordination and response to drought management Basin-wide.
- 1.15: Expand and fund streamflow gauges throughout the Basin.

Specifically, this proposed project seeks to enhance instream flows to meet instream flow targets for critical species and increase monitoring to support better water resource management and adaptive management.

By funding these proposals, you will be investing in an important piece of a Basin-wide strategy for improved water management – you will also be investing in a proven project sponsor in Washington Water Trust.

Thank you for your consideration of the Walla Walla Basin Water Management Decision Support Tool Project proposal. If you have any questions or concerns, please contact Amanda Cronin, Walla Walla Basin Project Manager, amanda@ampinsights.com.

Sincerely,

Walla Walla Basin Advisory Committee

PROJECT BUDGET

FUNDING PLAN AND LETTERS OF COMMITMENT

Non-Federal cost share contributions for the project are anticipated from a Private Funder and Ecology. Funding details related to each contribution and Letters of Commitment are outlined below.

Private Funder Cost Share Contribution

A private funder will contribute $25,000 from July 2023 - 2025 to the Project to support the development and construction of the Decision Support Tool. A Letter of Commitment for these funds is expected to be received by July 8, 2022.

Washington Department of Ecology Cost Share Contribution

Ecology will contribute $62,500 to the Project to support the installation of three streamflow monitoring gages. Funds will be available July 2023 through the 2023-2025 biennium budget allocated to Ecology OCR.

Washington Department of Ecology Letter of Commitment

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Office of Columbia River
1250 West Alder St., Union Gap, WA 98903-0009 • 509-575-2490

June 14, 2022

Sarah Dymecki, Project Manager
Washington Water Trust
103 East 4th Avenue, Suite 203
Ellensburg, WA 98926

RE: R23AS00005 WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Year 2023 – Walla Walla Basin Water Management Decision Support Tool Project

Dear Sarah Dymecki:

I am writing to document Washington State Department of Ecology Office of Columbia River's (OCR) support of the Washington Water Trust (WWT) proposal to the Bureau of Reclamation WaterSMART grant program, titled "Walla Walla Basin Water Management Decision Support Tool Project." OCR is familiar with the proposal, understands the general expectations, and supports the efforts to develop a tool to improve the understanding of out-of-stream water uses and diversion data, identify and prioritize water transactions and other restoration tools that could increase instream flows during critical low-flow periods, and inform decision-making around water management and drought response throughout the Walla Walla Basin. OCR is acting in partnership with the WWT, satisfying the Category A applicant requirement, and OCR agrees to the submittal and content of this WaterSMART grant proposal.

OCR is working with tribes and stakeholders to implement the Walla Walla Water 2050 Strategic Plan. The strategic planning effort is a collaboration of state, federal, tribal, local, business, and community organizations committed to addressing water, fishery, habitat and climate variability challenges to ensure a robust Walla Walla River Basin. All components of this WaterSMART grant proposal within the Walla Walla Basin support and further implementation of the strategic plan.

If this WaterSMART grant proposal is selected for funding, OCR will provide financial contributions equal to the total amount of $62,500 over two years to this project, beginning in July 2023. This funding amount will include $37,500 to support the installation of three new

streamflow gages and $25,000 to support the development and construction of the decision support tool.

Ecology's OCR is extremely interested in making this project a success. We look forward to working with the WWT on this project. If you have any questions, please contact Ecology staff, Scott Tarbutton, at (509) 867-6534 or by email at scta461@ecy.wa.gov.

Sincerely,

G. Thomas Tebb, L.Hg., L.E.G.
Director
Office of Columbia River

GTT:jc (220411)