

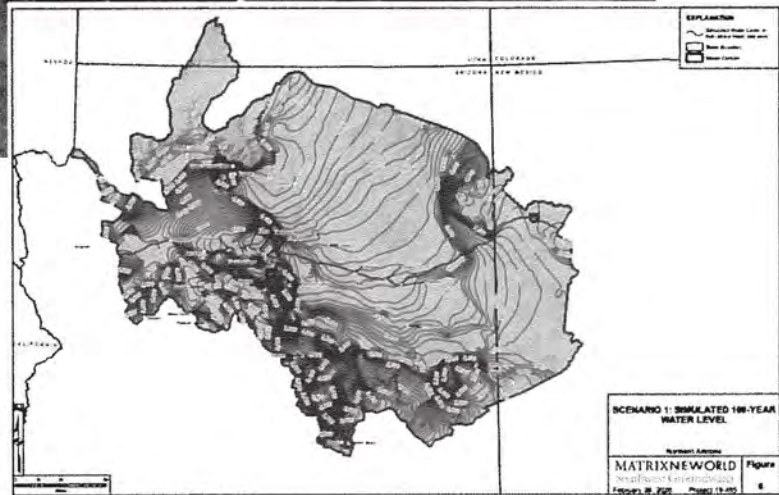
Completion of Projects that Support Sustainable Groundwater Use for the Coconino Plateau Watershed Partnership Stakeholders

Funding Opportunity No. R22AS00163
WaterSMART: Cooperative Watershed Management Program
Phase I Grants



Submitted on Behalf of:
**Coconino Plateau
Watershed Partnership**

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March 31, 2022

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Coconino Plateau Watershed Partnership Resolution No. 0106

Mandatory Federal Forms

- SF-424
- SF-424A
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- SF-LLL

TECHNICAL PROPOSAL

Executive Summary

Date: March 31, 2022

Applicant Name: Coconino Plateau Watershed Partnership
Flagstaff, Coconino County, Arizona

Project Summary: The Coconino Plateau Watershed Partnership in northern Arizona is an engaged group of diverse participants representing Coconino County, Grand Canyon and other national parks, ranchers, Navajo, Havasupai, water providers, landowners, Coconino Natural Resources Conservation District, Sierra Club, Coconino County and the city of Flagstaff, local, state, and federal agencies, neighboring watershed partnerships, and communities across the Coconino Plateau. In this area, access to the regional water supplies of the Coconino and Redwall-Muav Aquifers varies greatly among communities. Areas within the Coconino Plateau are popular recreation and tourist destinations. As groundwater levels decline, the Partnership remains concerned and focused on efforts to cooperatively manage and protect the aquifers from over-pumping by larger users or as a result of growth due to the popularity of the Flagstaff area. Overall, the objectives of the partnership's project work include sustainable water use to meet the needs of domestic uses in rural and tribal areas; thoughtful growth for larger communities acknowledging the cultural significance of water sources; and maintaining the environmental flow needs of streams and springs. The following projects and activities support these objectives: compilation of Coconino Plateau water demand data, completion of groundwater modeling simulations for sustainability, development of an ecosystem services data dashboard, conducting informative public outreach, and updating a water ethics program. Each project and activity will take into account the impacts of prolonged severe and extreme drought conditions on the Coconino Plateau.

Project Location

The boundary (Area of Interest) that encompasses the Coconino Plateau Watershed Partnership is in Northeast Arizona and includes portions of three USGS Hydrologic Unit Codes (HUCs): Lower Colorado – Lake Mead, Little Colorado Watershed, and Verde Watershed, and smaller portions of four of the Arizona Department of Water Resources (ADWR) *Strategic Vision* (2014) planning areas. The Area of Interest extends from the Hualapai Reservation on the west to the Hopi Reservation on the east, and from the City of Page on the north to the northern edge of the City of Sedona on the south. The ADWR planning areas include Navajo/Hopi, Central Plateau, Verde and Western Plateau. The region is home to numerous State and National Parks and Forests, the San Francisco Peaks, Native American communities and lands, significant cultural resources, and Northern Arizona University in Flagstaff.

Land owners and water suppliers within the boundary include the U.S. Forest Service, National Park Service, Navajo, Hopi, Hualapai, San Juan Southern Piute and Havasupai Indian reservations, cities of Flagstaff, Page, Sedona, Williams, and towns of Valle, Tusayan, Grand Canyon Village and Peach Springs (Figure 1).

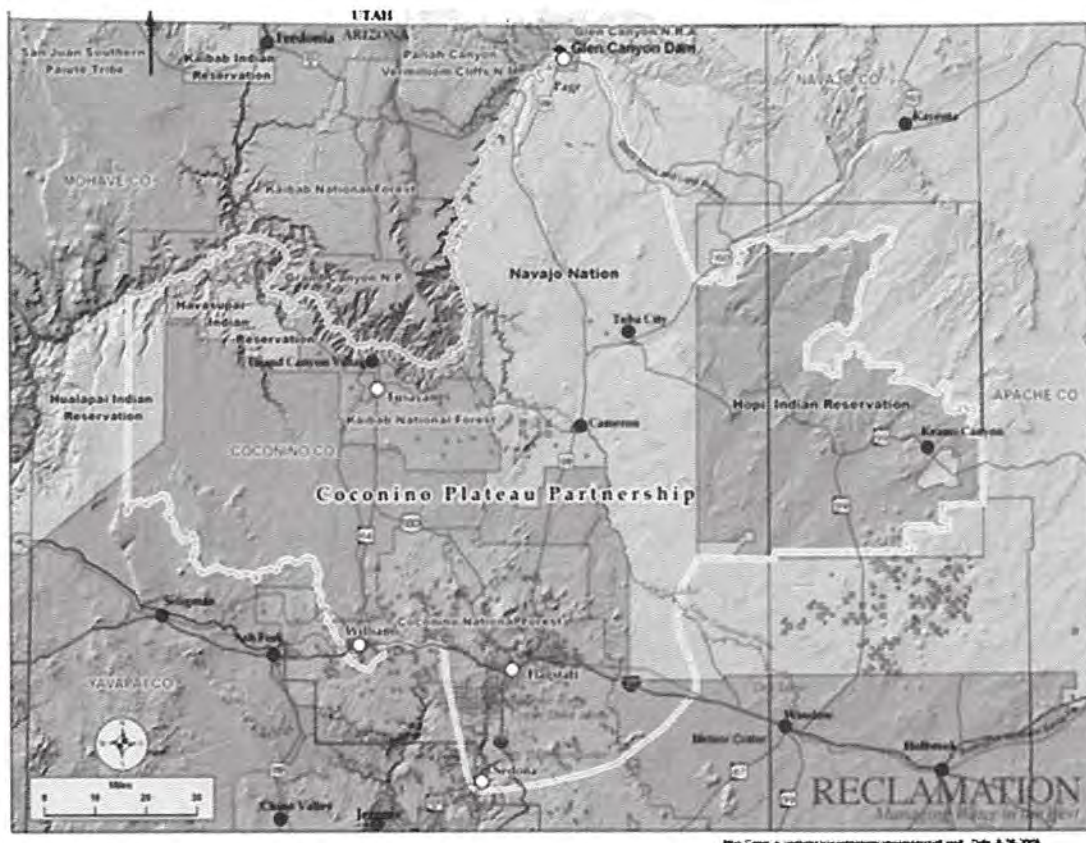


Figure 1. Map showing the Coconino Plateau Watershed Partnership Area of Interest in northern Arizona.

Project Description

Applicant Category

The CPWP is seeking funding as an existing Watershed Group that has previously initiated projects through the WaterSMART Cooperative Watershed Management Phase 1 Grant Program. The Partnership is a cooperative watershed group that emerged from a local Water Advisory Council (WAC). The Partnership legally incorporated as a domestic nonprofit corporation in the State of Arizona in 2013. It received approval of tax-exempt status as a 501 (c) (3) organization from the Internal Revenue Service in 2014.

Previous watershed planning activities include the appraisal level North Central Arizona Water Supply Study (2006) completed by Reclamation under the WAC, and the North Central Arizona Water Supply Feasibility Study Interim Report (2017) completed by Reclamation and the Partnership. Those studies were designed to identify unmet water demands and to look at alternative water supply sources to meet those demands under the Federal Rural Water Act. These studies were focused on the ultimate construction of a pipeline and importation of water from the Colorado River. The Partnership agreed in 2017 that Colorado River water supplies would likely not be a dependable source of supply along with a prohibitive expense that would require funding from local stakeholders to move forward due to the end of funding from Reclamation's Rural Water Supply Act.

After completion of the interim report, the Partnership recognized the need to regroup and refocus efforts to work with, protect and manage the available resources within the area of interest of the CPWP. Since then, the CPWP has completed a Water-related Ecosystem Services Assessment, and has undertaken a regional groundwater modeling analysis of the Coconino and Redwall-Muav Aquifers that supply the water needs of much of northern Arizona with funding from Reclamation's WaterSMART CWMP Phase I.

Eligibility of Applicant

The Partnership is tax-exempt under Internal Revenue Code section 501 (c) (3) and operates as a grassroots Watershed Group. The Partnership coordinates activities that align with the priorities identified in the January 2022 WaterSMART NOFO program information:

- ✓ *promoting the sustainable use of water resources in the watershed,*
- ✓ *makes decisions on a consensus basis,*
- ✓ *represents a diverse group of stakeholders, including hydroelectric producers, livestock grazing, land development, recreation or tourism, the environment, municipal water supplies, private property owners, Federal, state and local governments, and tribes.*

Goals

The CPWP members are dedicated to activities that promote responsible water use and management and the identification of water supply concerns in the area of interest. The

partnership promotes positive conservation examples and inclusive management goals for the participants and university students that are engaged with the Partnership. Together, the participants have developed a **Mission, Vision, Water Ethic, and Purpose** that reflect the values and diversity of the Partnership as a whole, with the overall goal to become a more effective partnership that will provide results consistent with the framework of the WaterSMART program by achieving sustainable groundwater use and protecting surface water resources within the Area of Interest.

CPWP Mission:

The Partnership coordinates and cooperates in the identification, prioritization and implementation of comprehensive policies, projects and programs to assist in meeting the water needs of the Coconino Plateau.

CPWP Vision:

The Vision of the Partnership is to ensure an adequate, long-term, sustainable supply of water is available to meet the current and future reasonable needs while preserving the health of the environment on the Coconino Plateau.

The Ethic:

Water is life. As individuals and as a community, we take responsibility for our region's water. We value water for its social, cultural, and environmental roles. We have an ethical obligation to manage water and use it in a purposeful manner, recognizing our choices and their consequences. To quote Aldo Leopold, "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise."

and Purpose:

The Coconino Plateau Watershed Partnership promotes water planning, policy, and practices to coordinate our efforts on a regional scale, incorporating varied interests and needs in northern Arizona. We take responsibility for future generations by using this ethic to guide our management and use of water today. This ethic will aid the Northern Arizona community in developing law, policy, and practices to deal with issues pertaining to water use, sustainability, and development.

CPWP Objectives

Faced with prolonged drought and projected increasing water demands, the Partnership shares concerns that the scarcity of surface waters combined with the added impacts of increased groundwater pumping will increase the stress to natural resources throughout the Coconino Plateau.

With the impacts of drought resulting in diminishing runoff and stream base-flows, and decreasing groundwater levels to meet municipal, agricultural and industrial water demands, the sustainability of domestic and ecosystem water supplies is becoming more uncertain. Resource evaluations by the CPWP along with continued engagement in rural water management discussions will improve our understanding and reduce the uncertainties.

Water resource concerns identified in water resource studies and through stakeholder surveys in the Water Related Ecosystems Services Assessment (WRESA) Phase 1 include:

- Continued growth throughout entire plateau region
- Limited and deep groundwater supplies
- Drought sensitive shallow aquifers
- Drought sensitive surface water supplies for many communities including Williams and Flagstaff
- Groundwater salinity issues in central and northeastern part of plateau
- Endangered or threatened species concerns with groundwater usage and impacts on perennial streams
- Potential impacts on springs in Grand Canyon National Park and on supplies and cultural values of the Havasupai and Hualapai Tribal Nations
- Limited groundwater and surface water data for entire region
- Limited funding resources for planning, projects, infrastructure and studies
- Expensive and politically and environmentally challenging water augmentation projects
- Modifications to the current Arizona Department of Water Resources' criteria for determining adequacy of water supplies for domestic use

Approach

While many of these concerns are the result of naturally occurring conditions including geography and geology, they are further exacerbated by drought and lack of science-based water resource policies, and funding priorities. The goals for the technical projects pursued by the Partnership are:

1. To increase the understanding of aquifer conditions, assess the effects of groundwater pumping, and mitigate the impacts to streams and springs.
2. To inform stakeholders and demonstrate consensus to the Arizona Department of Water Resources for amending rules used in determining adequate water supplies for new developments and improve groundwater sustainability from the aquifers in northern Arizona.
3. To make relevant, up-to-date information and tools available to all stakeholders within the area of interest.
4. To include more locations within the area of interest for outreach in partnership activities.

Project 1 – Coconino and Redwall-Muav Aquifer (CARAMP) Groundwater Withdrawal Simulations, Phase 2

Eligibility of this project falls within Task B: Watershed Restoration Planning. Task B activities include obtaining data, performing modeling or developing goals and benchmarks for the restoration plan.

The CARAMP model was constructed with a Cooperative Watershed Management Program Phase 1 grant (R18AP00101). The results identified modifications and additional scenarios that

would improve the modeling results for any of the scenarios being considered. This Phase 2 effort does not duplicate the previous CARAMP modeling effort. Instead, it builds on the CARAMP based on the recommendations that were made in the final report that may be accessed at <http://www.cpwac.org/generalfiles/C%20R%20Aquifer%20Modeling%20Final%20Report.pdf> and are described below in the scope of work.

Contract Services will be utilized to complete the CARAMP Groundwater Withdrawal Simulations Phase 2.

Background

One of the primary sources of water supply for the Coconino Plateau is groundwater from the regional C and R aquifers (Coconino-Supai and Redwall-Muav aquifer system) that are accessed by the major water users in the area. The Northern Arizona Regional Groundwater Flow Model (NARGFM) was originally developed by the USGS and used to estimate hydrologic changes resulting from scenarios including groundwater withdrawal based on projected growth, and the construction of a pipeline that would deliver Colorado River water. Colorado River water availability and the construction of the pipeline is not in the near future for the stakeholders and water demands will continue to be supplied from existing, limited water sources, the future availability of which is undetermined.

Although regional water supplies are currently physically available, water levels are declining and the impact of future groundwater withdrawals has not been sufficiently evaluated with respect to specific levels of aquifer saturated thickness, the sustainability of springs and streams, and climate change impacts. Groundwater was cited as the No. 1 concern by CPWP stakeholders (WRESA Phase 1, Task 1, p.2, 2018).

The USGS NARGFM model was subsequently used to complete the Red Gap Ranch-Leupp Groundwater Flow Model (RGRLGFM). That model was modified to develop the (phase 1) CARAMP model under Reclamation Assistance Agreement R18AP00101 to determine the amount of saturated thickness necessary for maintaining environmental flows.

Scope of Work

The CARAMP was completed in February of 2020 by Matrix New World Engineering and identified numerous recommendations to make the model more accurate. The following scope of work addresses these recommendations and outlines the 2nd phase of the project:

- Update pumping, ET, stream and spring flow data in the Red Gap Ranch-Leupp Groundwater Flow Model (RGRLGFM) to include any new data available since 2015.
 - Pumping data will be provided by the CPWP TAC from the recent water demand update completed in 2020.
 - The TAC and consultant will determine any previously identified springs to be addressed for flow updating and be represented in the model.
- Recalibrate the CARAMP Phase I model by converting “river package” inputs to “stream package” and focus improvements on selected stream discharges.

- The TAC will analyze the wellfield pumping rates to determine a likely maximum groundwater pumping demand for each. The model scenarios will be run to evaluate the results with more realistic projected demand limits in place to accurately estimate impacts, particularly on stream and spring flows.
- Consultant and the TAC shall identify springs in the model that require more detailed analysis of their hydrogeology. The TAC will compare the data to information available from the USGS National Water Information System (NWIS) database for determination of the spring source aquifer. Consultant shall modify the CARAMP model as needed. The TAC will consult with the Springs Stewardship Institute (SSI) in northern Arizona.
- Consultant will include climate multipliers (reduction of inflows as a result of climate change provided by the TAC), and will provide two new scenarios to the original modeling project:
 - 100-year 10% reduction in aquifer saturated thickness
 - 100-year 10% reduction in aquifer saturated thickness with climate change.
- Consultant shall run an additional model scenario that simulates pumping resulting in a 5 ft/year decline in water level over 100 years for determination of impacts to adjacent wellfields and surface water flows including springs (two new scenarios, with and without climate change).
 - The TAC will work with consultant to determine adjacent wellfield(s) (existing or proposed) to be impacted.
 - The impact will be determined one wellfield at a time with one well per wellfield used as the point to simulate water level change.
- Consultant shall run all scenarios (nine) on each wellfield (approximately 20) individually to determine individual impacts. The maximum simulated pumping per wellfield will be limited to rates provided by the TAC.
- The Partnership will make the model files available from its website for the benefit of other users in the Little Colorado River Basin. Weaknesses of the model shall be identified that should be considered by the model user along with pertinent instructions for the use of the model.
- Consultant will be available for up to three outside meetings to assist in the public outreach process. Consultant will also be available for up to two meetings with ADWR as they pertain to the rule change. All five meetings will include presentation materials prepared by consultant.

Project 2 – Water Related Ecosystems Services Assessment Dashboard

Eligibility of this project was determined from Task B: Watershed Restoration Planning. Task B includes obtaining software technology required to formulate the watershed restoration plan.

Phase 2 of the Water related Ecosystems Services Assessment (WRESA) was completed for the Area of Interest under Cooperative Watershed Management Program Phase 1 grant

(R18AP00101). A recommendation upon completion of the WRESA was to create a dashboard that may be used by stakeholders to access and/or further focus the assessment results for use in developing more localized restoration efforts or proactive measures dependent on local conditions.

Background

The focus of the Phase 2 effort was to identify indicators and metrics that could be assessed using existing available data (rather than those that would require additional data collection) and that would be accessible and replicable by CPWP members and stakeholders. Another objective in selecting indicators and metrics was to identify, where possible, those that would both (a) allow identification of any evident historic trends in ecosystem function; and (b) allow for ongoing monitoring of trends in ecosystem service function in the future. The focus, therefore, was on finding indicators that convey meaningful information based on available and regularly collected data.

From the large list of potential indicators, a recommended list of indicators was created with a focus on selecting those that: a) strongly related to key stakeholder concerns; and b) could likely be measured using publicly available data that is collected and updated at regular intervals, and in a way that is easily accessible and replicable.

CPWP STAKEHOLDER CONCERNS & RELATED ECOSYSTEM SERVICES

Category	Ecosystem Service	Stakeholder Concerns
Provisioning	Drinking Water	Groundwater, Wildfire Protection, Infrastructure, Climate Change, Water Reuse, Tourism/Rec, Springs
	Water for Non-Drinking Purposes	Groundwater, Infrastructure, Climate Change, Water Reuse, Tourism/Rec, Springs
	Water for Env. Flow	Groundwater, Infrastructure, Climate Change, Water Reuse, Tourism/Rec, Springs
Regulating	Flood Protection	Wildfire Protection, Climate Change
	Water Purification	Wildfire Protection, Infrastructure, Climate Change, Water Reuse
	Erosion Prevention	Wildfire Protection, Climate Change
	Maintaining Wildlife Populations & Habitats	Climate Change, Springs
Cultural	Recreation/Tourism	Climate Change, Water Reuse, Tourism/Rec
	Spiritual	Climate Change, Springs

Based on the goals of the Phase 2 effort, twenty-eight indicators were selected—covering a broad cross section of the water-related ecosystem services of the Coconino Plateau and key stakeholder concerns:

Provisioning		Regulating		Cultural
General	Climate Variability	General	Landcover change	Rec/tourism visitors
	Reservoir levels		Wildfire frequency	Direct spending by non-resident rec/tourism
	Well levels		Forest restoration	
	Human population	Water Purification	Drinking water quality	
	Total water demand		Impaired waters	
	Water source dependance		Monitoring for uranium mining	
	Groundwater demand		Reclaimed water quality	
	Groundwater wells	Wildlife & Habitat	Endangered species	
	Surface water demand		Stream habitat	
	Reclaimed Water		Spring habitat	
Drinking water	Residential Water Use			
	Population served by water type			
	Households' w/o access to plumbing			
	Non-residential water uses by sector			
Enviro. Flow	Stream flow			
	Spring flow			

These indicators and associated measures/metrics were used to create a baseline assessment to describe the current status of water-related ecosystem services and any identifiable trends in their function. A few of the notable trends identified through the assessment include:

- declining water levels in Lake Powell;
- recent decreases in total water use in Coconino and Navajo Counties even as populations have increased;
- increases in the number of wells in the study area;
- apparent declines in select index wells' groundwater levels and in summer (June) flow at certain stream gages and index springs;
- increases in wildfire frequency, but also sustained forest restoration efforts; and
- steady increases in visitation and visitor spending in Coconino County

Scope of Work

The following information describes the development scope and characteristics of the proposed dashboard:

Task 01. Dashboard Development

ArcGIS Dashboards from ESRI enable users to convey information by presenting location-based analytics using intuitive and interactive data visualizations on a single screen. The dashboard presents data for community outreach and can be customized to use charts, gauges, maps, and other visual elements. The dashboard will allow for the interactive and dynamic display of the data collected and compiled in the WRESA, but will not change the structure of the WRESA completed under Reclamation Assistance Agreement R18AP00101.

The dashboard will be created utilizing data included in the WRESA Phase II Final Report. The consultant will incorporate all the assessment data into a GIS database format to create the dashboard base map. The database will then be used to create the tables, charts, and other tools to augment the base map within the dashboard. The consultant will work with the CPWP to develop the data query tools or widgets based on the CPWP's needs.

The end product will be a user-friendly, web-based interactive data dashboard that allows users the ability to assess their specific geographic location and view existing information about the metrics in the WRESA that are of interest to their area and needs.

Task 02. Dashboard Customization

Under this task, the consultant will provide as-needed customization and support to CPWP after initial dashboard rollout. Support will include training for CPWP partners and the development of additional widgets for accessing data.

Project 3 – CPWP Water Source and Demand Map Update

Eligibility of this project is determined by Task A: Watershed Group Development and Task B: Watershed Restoration Planning. Task A includes conducting outreach activities by creating informative materials to be used at stakeholder meetings. Task B includes conducting mapping and obtaining data for the restoration plan.

This project provides an update to work that was performed under a previous Cooperative Watershed Management Program Phase 1 grant (R18AP00101).

The CPWP developed a water source and demand map which depicts water sources and estimated water use data for water users within the Area of Interest identified in the Project Location. The map is available publicly from the cpwac.org website and, along with the Water Source Menu Maps series, are used in public outreach efforts including stakeholder meetings, Earth Day and science festivals.

Water source and demand data is constantly changing and requires updating to be useful. The last update was with 2019 data taken from Community Water System Reports (ADWR) and Arizona Corporation Commission Water Company Annual Reports. Reports are normally available each summer but resources to compile the data and update the map are not available. Data, also needed for the model, will be compiled by the CPWP Coordinator and

provided to a GIS technician for modifying the map. The updated map will be available in late 2024 using 2023 data. The goal of the CPWP is to update the maps at least every five years.

Project 4 – 4th Grade Water Ethics Expansion

Task A: Watershed Group Development of Section C.4. is addressed by this project. Hiring a facilitator to assist in public outreach activities and conducting outreach activities are being addressed by the 4th Grade Water Ethics Expansion Project.

Background

The Public Outreach Committee (POC) of the CPWP annually visited 4th grade classrooms in nearby school districts of CPWP stakeholders in the Flagstaff area to make presentations on water ethics, water conservation, watershed restoration and sources of water supply. Students were invited to express themselves by writing a brief essay and creating a poster that addresses the subject matter. Posters and essays were evaluated by Partnership stakeholders and teachers. Selected entries representing an understanding and interpretation of water ethics were acknowledged and the classrooms provided water conservation tool kits and tee shirts. The students were recognized at County Board of Supervisor and city/town council meetings and in local news articles.

The POC is staffed by a volunteer chair and volunteer members who have less time available to devote to the project. Recently the POC teamed with the Willow Bend Environmental Education Center in Flagstaff for the assistance of a part-time intern to help with the project. Limited funds have been provided for this project by the CPWP for award items and an intern. In the past, the source of funding for the CPWP has been from the funding partners that participate in the CPWP, but not all CPWP participants are funding partners, and funding levels have decreased as most are faced with annual budgeting priorities that limit support. The program has been a success over the years (with the exception of 2020 and 2021 due to COVID) but is in danger of being discontinued or cut back due to limited resources after 2022.

Scope of Work

This project proposes an additional 530 hours of staff time over two years dedicated to the Water Ethics Project and funding for travel expenses for outreach to Page, Tusayan, Sedona, Havasupai, Navajo and Hopi as well as Flagstaff. The program concept will be updated and adaptable to address community and cultural needs. Staffing will be provided by a successful community-based organization submitting a proposal for the project, based on professional qualifications, experience and cost. Travel expenses are based on the project being conducted from Flagstaff and will include mileage reimbursement and lodging as needed to include more students and stakeholders in the water ethics program, and provide appropriate educational materials and participation in regional events.

Geographically, the Area of Interest is large. Not all schools and facilities are equipped technologically for virtual presentations. Live classroom visits by staff are a necessity and additional staff resources are required to continue this value-added program to stakeholders.

Outreach includes development of appropriate outreach materials and strategy dependent on schools, location, and needs, and collaborations with teachers. Delivery will include a module of three programs to be offered to teachers for their preference. Teachers will be provided

support and submission assistance. It is anticipated five local Flagstaff schools and five schools from out of the Flagstaff area but inside the CPWP Area of interest will participate annually.

Evaluation Criteria

Evaluation Criterion A - Watershed Group Diversity and Geographic Scope

➤ Watershed Group Diversity

A strength of the CPWP that has supported its existence since 1999 (prior to it becoming a legal entity) is representation for numerous sectors of the community. Regular *participants* include stakeholders that represent the following groups and organizations:

Communities

City of Flagstaff
City of Page
City of Sedona
Tusayan

Coconino County

Tribes

Havasupai Tribe
Hopi Tribe
Hualapai Tribe
Navajo Nation

Water Providers

Doney Park Water Co
Tusayan Sanitary District
Arizona Water Co.
Kachina Village DWID

Natural Resource

Conservation and Environmental Groups

Coconino NRCO
The Nature Conservancy
The Sierra Club
Grand Canyon Trust
Coconino County Farm Bureau

Schools

Northern Arizona University
Watershed Groups
Little Colorado River Plateau RC&D
Friends of the Verde River
Oak Creek Watershed Council

State

AZ Department of Environmental Quality
AZ Department of Water Resources
AZ Game and Fish
AZ State Land Department
AZ State Parks

Federal

Bureau of Land Management
Bureau of Reclamation
Grand Canyon National Park
Flagstaff area National Park
Coconino National Forest
Kaibab National Forest
US Fish and Wildlife
USGS

Participants are defined in CPWP bylaws as: **agencies, tribes, and organizations** that, or represent those who:

- (1) own land, and /or (2) control land or water, and/or (3) conduct projects, and/or (4) make policy with regard to land or water use within the Partnership general area of interest, and will provide significant resources to help the Partnership accomplish its purpose; or
- will provide significant technical or financial resources to help the Partnership accomplish its purpose.

Monthly CPWP meetings and agendas are available to everyone. A typical meeting brings together approximately 30 – 40 stakeholders. Controversial items focusing on issues affecting water supplies often bring greater participation. With the advent of virtual or hybrid meetings attendance has increased given that some participants would otherwise travel long distances.

It should be noted that the partnership is successful with attendance and participation by providing a forum for information about projects, activities, water related issues, and proposed water management legislation. However, most participants are not funding partners. Others provide technical or administrative support. Local businesses often provide donations to sponsor students on CPWP field trips.

An important activity of the Partnership is an annual field trip to visit places of interest to stakeholders including water treatment facilities, local hydrogeology, and areas with environmental concerns such as springs, headwaters, and mining areas. Field trips have included the Hopi and Navajo Reservations, municipal providers reuse facilities, ranches in the Area of Interest, springs, and Glen Canyon.

Stakeholder group participants affected by water supply concerns include municipal water providers, water improvement districts, national parks, tribes, Friends of the Verde River, power utilities, and ranchers; and are CPWP participants and water from the C & R Aquifers.

➤ **Geographic Scope**

Figure 2 identifies the geographic boundaries of the Area of Interest of the CPWP. It also identifies some of the locations represented by several stakeholder groups.

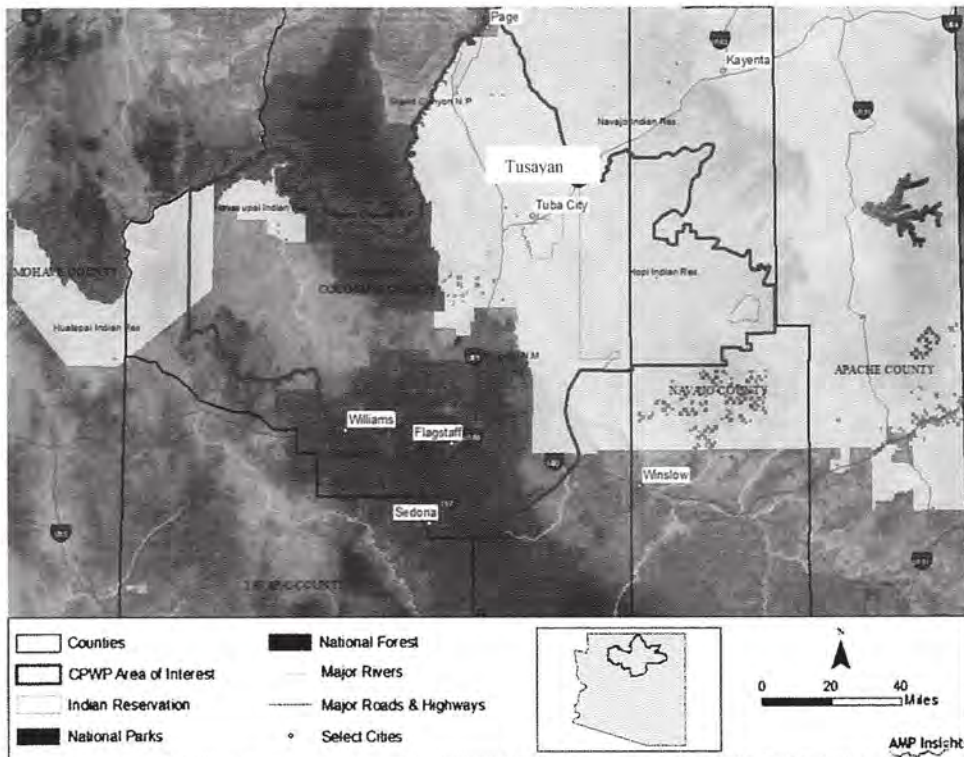


Figure 2 Geographic Boundaries

The watershed group participants fully represent the geographic scope of the area.

The boundary of the Area of Interest is not based on a groundwater basin but was established by the Bureau of Reclamation for the North Central Water Supply Study completed in 2006.

Although widespread, Reclamation designated the area of interest based on possible users of water from a pipeline to be constructed from Lake Powell, identified as a single solution to meet projected water needs.

The projects and goals identified in this application propose management tools as an alternative to sustain water resources and can be adopted for local areas dispersed within the greater project boundary. Most of the major water providers use water from the C & R Aquifers and participants and stakeholders are concerned about the environmental impacts from pumping.

In that respect, the CARAMP model can assist with determining future sustainable groundwater pumping levels. The WRESA Dashboard in this application will provide visual access to environmental water-related data to inform local decision making and further project planning. The expansion of the Water Ethics Project will reach out to areas not previously included in the 4th Grand Water Ethics Program.

Evaluation Criterion B - Addressing Critical Watershed Needs

➤ Critical Watershed Needs or Issues

The Critical watershed needs were identified as the top seven stakeholder concerns in the Water Related Ecosystem Services Assessment - Phase 1 (http://www.cpwac.org/SWBreports/wresa_ph1_task1.pdf) and are provided below along with additional description of the significance to the project work:

1) The groundwater system

CPWP stakeholders expressed a desire for continued assessment of groundwater flow. Respondents stated that it would be helpful to have a better understanding of groundwater flow through predictive models based on the Northern Arizona Regional Groundwater Flow Model (NARGFM). These assessments include monitoring of specific locations and the use of metrics for evaluating the health of at-risk springs and seeps. Additionally, this modeling will evaluate recharge rates, especially for the C and R-M Aquifers.

Question 33 of the Water Related Ecosystem Services Assessment asks the following question: "What are the most at-risk supplies of water in your area, and what is most vulnerable"? Approximately 92% (22 of the 24 respondents who answered this question) addressed groundwater supply as vulnerable. Since the completion of the Water Related Ecosystem Services Assessment (WRESA), the CARAMP Phase 1 model has been developed with funding from the previous Reclamation CWMP Grant. This is the model we are requesting be calibrated, modified and have additional scenarios run.

2) Wildfire protection

Stakeholders stated concern about the potential impacts of catastrophic fire and consequent flooding. They expressed interest in both quantity and quality of water after a high intensity fire. One stakeholder addressed the effect of fire on soil productivity. Both economic and ecological assessments would be useful.

The July, 2019 Museum Fire of approximately 2,000 acres left a scar that caused approximately \$7.8 million in flood damage during 2021.

(<https://storymaps.arcgis.com/stories/44d0611ff906462890798b87b69c017e>).

3) Identification of infrastructure needs

Stakeholders were overwhelmingly concerned with funding in regard to infrastructure for water delivery and for water quality. Several respondents specifically acknowledged areas with no running water in the Coconino Plateau Watershed Partnership area of interest. One stakeholder suggested water centers for extremely remote areas.

Every single stakeholder (100%) mentioned concerns about funding at some point in the interview process. 30% of the people on the Navajo Reservation haul water.

(<https://www.sltrib.com/news/2020/07/25/many-navajo-nation/>). In addition to the struggles of hauling water, in many areas the water may be of unacceptable quality, including contamination from uranium mining.

4) The effects of climate change

Stakeholders addressed shortened snow seasons (e.g., later snow, earlier snowmelt) due to climate change and consequent declines in surface water and groundwater. One respondent mentioned the importance of measuring changes in evapotranspiration with increasing temperatures. Some of this information might become available through climate adaptation plans made available by the partners.

The CARAMP Phase 2 model includes modifications to model scenarios for improved climate change consideration by providing climate multipliers to apply to model scenarios that vary over time.

5) Further assessment of water reuse on the Coconino Plateau

Water reuse was of importance to stakeholders. They expressed caution in dealing with Contaminants of Emerging Concern (CECs) and were concerned about consistent funding to test for quality in a comprehensive way. One respondent suggested that the standard for reuse should be that it is "biologically safe." Two other respondents recommended behavior and perception studies to better understand community willingness and limitations about reuse.

6) Assessment of tourism and recreation benefits and impacts

Stakeholders expressed interest in a better understanding of how many tourists travel through the area and how they affect water demand.

7) Protection of springs and seeps

Stakeholders expressed concern about the health of springs and seeps. One stakeholder identified springs as "windows into aquifers." In general, respondents saw springs as vulnerable and hope for a better understanding of how to assess and monitor spring health.

A primary goal of the CARAMP model is to evaluate the effect of groundwater pumping scenarios on springs and surface water flows. In Phase 2 of the WRESA, "reduced streamflow" resulting from over-pumping of groundwater from the C Aquifer causing diminished baseflow

was selected as an environmental flow indicator. The northern leopard frog has been identified by AZ Game and Fish Department as Tier 1 Species of Greatest Conservation Need, and the Little Colorado spinedace is listed by USFWS as Threatened. Both exist in the Chevelon and Clear Creek Watersheds which are within the simulation areas of the CARAMP model described under Project 1. Stream baseflow originating from the C Aquifer is also being monitored in the C–Aquifer Monitoring Program administered by the USGS (<http://www.cpwac.org/presentationfiles/2019%20C%20Aquifer.pdf>), and will further support a better understanding of the effects of groundwater pumping from the C Aquifer.

➤ Developing Strategies to Address Critical Watershed Needs or Issues

TASK A: Water Group Development

The existing watershed group will address critical watershed needs identified in the WRESA by building on previous partnership efforts that were made possible by the Phase I Grant. Each project, with the exception of the 4th Grade Water Ethics Outreach Expansion, builds on previous work to improve the results or accomplish the purpose for which the project was initiated. The previous 4th Grade Water Ethics project is being expanded and revamped but was not previously funded with a Phase I Grant.

The **Coconino and Redwall-Mauv Aquifer (CARAMP) Groundwater Withdrawal Simulations, Phase 2** project follows up on recommendations made from Phase 1. The model will ultimately be used as a tool to determine the amount of groundwater pumping that can be pumped to meet future water demands without a significant impact on surface water flows and springs. Essentially, at what point will growth and associated water demands become unsustainable and how much growth can be supported without impacting the sustainability of baseflow to streams and springs.

With a better understanding of the impacts of groundwater withdrawals, the TAC can propose recommendations for determination of criteria for evaluating the adequacy of groundwater supplies for future growth, sustainable water management planning, and restoration of areas impacted by historic groundwater pumping.

The results of this effort will also be used in public outreach as part of the rule making process for modification of adequate water supply rules to include criteria specific to the C & R Aquifers. These rules are used to determine the availability and adequacy of water supplies for new developments. ADWR requires that applicants (or their consultants) submit groundwater models for demonstrating water availability. The model files will be available for public use to anyone having the necessary modeling software. The CPWP has already received a request for access to the CARAMP files.

Gathering information about issues and needs related to water quality and quantity within the watershed were addressed by the WRESA. Making the data available and accessible will be addressed developing the **WRESA Dashboard**. The WRESA will take on a dynamic state as an online dashboard with interactive capabilities. Like the CARAMP model files, data accessed through the dashboard can be updated as needed and users can generate specific WRESA information for a more local or broader area within the WRESA defined area. Datasets will

include precipitation, reservoir levels, well levels, population, water demands, water demands by sector, number of wells, housing without plumbing and non-residential water uses by sector to name a few.

The user will be able to explore and learn about specific water-related ecosystem services identified in the WRESA, along with the option to readily access other metric data sources through links provided on the platform.

The dashboard will offer data which can be used for community outreach and can be customized to display charts, gauges, maps, and other visual representations of selected data. The dashboard enables the monitoring of activities and/or performance indicators that are important to an organization's objectives and provides relevant information, all in one place.

Gathering information about issues and needs relating to water source, supply and demand are addressed by the **CPWP Water Source and Demand Map Update**. The CPWP Water Source and Demand Map Update builds on previous Phase I work. The Water Source and Demand maps are available to the public from the CPWP website www.cpwac.org and are frequently used in public outreach efforts. Maintaining the data is a strategy the CPWP uses to keep participants current on information relevant to groundwater and reclaimed water uses. The last update was under the previous CWMP Phase I grant.

Employing a public outreach assistant for outreach to stakeholders and conducting outreach activities are vital to expanding the 4th Grade Water Ethics Program. The **Water Ethics Project** participants share their experiences and the cities/towns, districts where the schools or other targeted stakeholders are located receive this added value from their participation in the water ethics activities. E.g., artwork and essays are mounted and displayed on the interior walls of public buildings.

This program builds on previous partnerships with elementary schools and teachers that have participated in the past. The program has been in existence for several years but was idle during the pandemic. Changes in key personnel and the reboot of the program indicate additional staffing resources and travel are needed to wholistically integrate the program throughout the local stakeholder areas, seeking input and strengthening the impact of the program by reaching beyond local schools to all stakeholders and to improve the knowledge of important and critical watershed needs.

Task B: Watershed Restoration Planning

The **WRESA Dashboard** meets Task B Watershed Restoration Planning activities by utilizing web-based technology to facilitate planning in local watershed areas and understanding critical needs and metrics. Data available through the dashboard can be used by entities to assist with prioritization of watershed management projects or planning by providing and displaying information to Partnership members, landowners, Federal agencies, and state, and local governments when strategizing on how watershed issues can be improved.

Conducting technical analyses, including obtaining data, performing modeling and developing benchmarks are intricately linked to restoration planning through the **Coconino and Redwall-Mauv Aquifer (CARAMP) Groundwater Withdrawal Simulations, Phase 2**. By modeling to what limit groundwater can be sustainably withdrawn by all users and avoid diminishing surface

waters, the CARAMP model results will provide information that can be used to prevent further impacts to groundwater availability and worsening of stakeholder concerns identified in the Water Related Ecosystem Services Assessments.

The “obtaining data” activity of Task B is addressed by the **CPWP Water Source and Demand Map Update** work along with the CARAMP Phase 2 project. The most recent annual water use data available from ADWR and the Arizona Corporation Commission will be used to update the maps that are used to demonstrate demands and sources of water supplies (groundwater, surface water, reclaimed water) to watershed group members, landowners, Federal agencies, and state and local governments.

Task C: Watershed Management Project Design

The proposed projects do not involve design activities other than Information Technology work for developing the WRESA dashboard. The dashboard will assist participants in viewing their own select criteria to prioritize watershed management projects and identify needed project locations. The analyses will be performed by the individual participant using the newly created dashboard.

Timelines and milestones are compiled based on cashflow requirements of the grant and time estimates provided by contractors. There are no anticipated environmental and cultural resource efforts required for the proposed projects. The watershed group will build on previous efforts by expanding them through the proposed work.

The CARAMP model was built using a Phase I Grant and will be refined by this proposal. The WRESA and CPWP Water Source and Demand Map Update were also completed using a Phase I Grant. The WRESA is being expanded upon with the development of the dashboard for the use of the stakeholders, and water demand data will be updated for use in the Water Source and Demand Maps and model. Likewise, the 4th Grade Water Ethics Program, currently in place, is administered by the Public Outreach Committee and will be expanded to reach additional stakeholders.

Evaluation Criterion C - Implementation and Results

➤ **Project Implementation**

The following table is the estimated schedule of major tasks and milestones, including start and end dates and costs.

Coconino and Redwall-Mauv Aquifer Groundwater Withdrawal Simulations, Phase 2			
Milestone	Start Date	End Date	Cost
Procurement and Award of Contract	January 2023	March 2023	\$360
Complete Modeling Effort	April 2023	January 2024	\$95,228
Model Results Public Outreach Activities	February 2024	April 2024	\$20,432

CPWP Water Source and Demand Map Update			
Milestone	Start Date	End Date	Cost
Collect and Update Data	April 2024	October 2024	\$1,080
Update GIS Maps	November 2024	December 2024	\$2,000

Water Related Ecosystems Services Assessment Dashboard			
Milestone	Start Date	End Date	Cost
Procurement and Award of Contract	May 2023	July 2023	\$360
Develop Dashboard	August 2023	March 2024	\$23,368
Rollout, customization and Training	July 2024	September 2024	\$9,432

4th Grade Water Ethics Outreach Expansion			
Milestone	Start Date	End Date	Cost
Procurement and award of Contract	January 2023	February 2023	\$360
Water Ethics Outreach	March 2023	December 2024	\$43,605

➤ **Building on Relevant Federal, State, or Regional Planning Efforts**

The proposed project work is being planned and completed at a point in time in Arizona when the Governor has initiated a Governor’s Water Augmentation, Innovation and Conservation Council (GWAICC) to advance water management policies and programs in the State. The CPWP Coordinator serves on the GWAICC as well as the Non-AMA Groundwater Committee.

The ADWR recognizes that existing criteria in official state rules and regulations for determining physical availability of groundwater supplies are insufficient for use in the deep C & R Aquifer systems of northern Arizona. The results of the CARAMP model will be used to support amending the rules to add an alternative criterion.

Coconino County, Arizona is a participant of the CPWP for the purpose of being informed about proposed water management alternatives and issues within the County and adjacent areas. State legislation has been proposed that may provide greater authority for counties to establish water management areas that may utilize tools provided in this proposal such as the CARAMP model, WRESA dashboard and Water Source and Demand Maps.

Evaluation Criterion D - Presidential and Department of Interior Priorities

➤ **Climate Change**

The modifications to the CARAMP model will eliminate using a constant multiplier for the climate change model scenarios and utilize multipliers that vary over time based on work

completed at Northern Arizona University (Wyatt 2015) and recommended by Dr. Abe Springer. The project will provide scenario results with greater accuracy for a determination of impacts from groundwater pumping. To the degree that the information is used for determinations of adequate water supplies and/or for planning by larger groundwater users the results will enable more sustainable groundwater pumping and preservation of baseflow to streams that are also impacted by drought and have reduced inflow from runoff.

➤ **Disadvantaged or Underserved Communities**

Distressed areas as determined by the Economic Innovation Group, that are within the CPWP Area of Interest are as follows:

Mid-tier Distress Level

- City of Page, poverty rate 16.1%
- City of Williams, poverty rate 18.8%
- The majority of the Navajo Nation and Hopi Reservation are identified as Distressed or At-Risk Distress Levels with poverty rates ranging from 20% to 50%

➤ **Tribal Benefits**

Tribal and rural communities were involved in the process of completing the WRESA and will be able to utilize the WRESA Dashboard. It is intended to be a valuable tool in water and land use decision making processes for all communities within the geographic area.

Although tribal communities are not subject to State rules for demonstrating water adequacy, groundwater available to tribes within the area of interest is impacted by the pumping of groundwater users on non-tribal land as both share the C&R Aquifers within the Partnership area. The Navajo Department of Water Resources is a regular attendee of the CPTAC and Partnership meetings. The results of the groundwater flow model simulations are applicable to tribal lands in the area of interest. Model files will be available and useful for further water use analysis to simulate other potential impacts on resources without the need to develop another model. Use of the CARAMP model will provide tribes the ability to foresee climate change and drought impacts and as well as analyze groundwater supplies available for economic growth opportunities.

Environmental and Cultural Resources Compliance

None of the project activities included in this application require monitoring, measurement, or other field work. There are no environmental or cultural resources compliance required.

Required Permits or Approvals

No permits or other approval are required for the execution of the scope included in this proposal.

Project Budget

Budget Proposal

A portion of the cost for coordination, administration, project management and review of the C & R Aquifer Groundwater Withdrawal Simulations Phase II project, Water Related Ecosystems Services Assessment Dashboard project and Water Source and Demand Map Update will be provided by in-kind services from members of the CPWP TAC.

Table 1 – Summary of Non-Federal and Federal Funding Sources

Funding Sources	Amount
CPWP Technical Advisory Committee Review*	\$6,240
CPWP Water Ethics Support	\$12,900
Non-Federal Subtotal	\$19,140
REQUESTED RECLAMATION FUNDING	\$198,529

*In-kind services

Table 2 – Total Project Cost Table

SOURCE	AMOUNT
Costs to be reimbursed with the requested Federal funding	\$198,529
Costs to be paid by the applicant	\$12,900
Value of third-party contributions	\$6,240
TOTAL PROJECT COST	\$217,669

Table 3 – Budget Proposal

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	TOTAL COST
	\$/Unit	Quantity		
Salaries and Wages				
CPWP Coordinator (C&R Aquifer Modeling)	\$72	35	Hourly Rate	\$2,520
CPWP Coordinator (WRESA Dashboard)	\$72	30	Hourly Rate	\$2,160
CPWP Coordinator (Water map updates)	\$72	15	Hourly Rate	\$1,080
CPWP Coordinator (4 th Grade water Ethics)	\$72	5	Hourly Rate	\$360
CPWP Coordinator Grant Administration	\$72	32	Hourly Rate	\$2,304
Fringe Benefits				
Full-Time Employees				N/A
Part Time Employees				N/A

Equipment				
Printer, Laminator, Laptop (4 th Grade Water Ethics)	N/A	N/A	Various	\$2,000
Travel				
Gas (4 th Grade Water Ethics)	\$.058/Mile	37,931	\$Gas/Mile	\$2,200
Supplies and Materials				
Posters, Paper, Printing (4 th Grade Water Ethics)	N/A	N/A	Various	\$7,500
Contractual/Construction				
Consultant C&R Aquifer Modeling Simulation Phase 2	N/A	N/A	Lump Sum	\$111,000
Consultant WRESA Dashboard	N/A	N/A	Lump Sum	\$31,000
Contract GIS Specialist	\$50	40	Hourly Rate	\$2,000
Contract 4th Grade Water Ethics	\$35	832	Hourly Rate	\$29,105
Third-Party In-Kind Contributions				
CPWP Technical Advisory Committee Review*				\$6,240
Other				
Springs Institute Fee	N/A	N/A	Lump Sum	\$2,500
Zoom Subscription, Printing Costs (4 th Grade Water Ethics)	N/A	N/A	Various	\$2,800
Awards for Water Ethics	N/A	N/A	Various	\$9,300
Intern for Water Ethics	N/A	N/A	Lump Sum	\$3,600
TOTAL DIRECT COSTS				
Indirect Costs				
Type of rate	Percentage	\$base		
				N/A
TOTAL ESTIMATED PROJECT COSTS				\$217,669

Budget Narrative

Salaries and Wages

The current Project Manager has served as the Coconino Plateau Watershed Partnership Coordinator on contract since 2012. The current hourly wage rate for Coordinator services applicable to this project is \$72/hr. which includes all overhead - office space, computer, other office equipment and expenses.

In-kind contributions from Technical Advisory Committee are estimated based on an accounting of donated time at an assigned volunteer rate of \$65/hour.

The hours shown in the budget Table 3 for Salaries and Wages are broken down into components of the project as follows:

- ✓ Administrative work efforts for the technical analysis/scenario planning of the C and R Aquifer Groundwater Withdrawal Simulations Phase II project and. (35 hours)
 1. Craft RFP/review with TAC
 2. Advertise RFP
 3. Submittal review with TAC and develop short list of applicants
 4. Consultant interviews
 5. Negotiate contract and award through CPWP Board
 6. Manage consultant contract
- ✓ Administrative efforts for the Water Related Ecosystems Services Assessment Dashboard Project. Tasks are similar to those for the technical analysis/scenario planning of the C and R Aquifer Groundwater Withdrawal Simulations Phase II Project and will not be repeated here. (30 hours)
- ✓ Data research for updating the water source and demand maps. (15 hours)
- ✓ Procurement of contract for 4th Grade Water Ethics Project. (5 hours)
- ✓ Required Reporting to include quarterly financial reports, quarterly performance reports, 270-day sufficiency report, and final performance report. (32 hours)

Fringe Benefits

Fringe benefits are not applicable to this grant application as all salaries are those of independent contractors that include their insurance, overhead, etc. They are not broken out separately for billing purposes.

Equipment

Equipment in this grant application includes a high-speed printer, laminator and laptop for use by the 4th Grade Water Ethics contractor to develop promotional materials and scan and laminate artwork.

Travel

Travel is based on gas to drive to local and non-local schools for outreach and program delivery.

Materials and Supplies

Materials and supplies include posterboard, paper, and printing services for the 4th Grade Water Ethics Program.

Contractual

Consultants have not been selected for the C and R Aquifer Groundwater Withdrawal Simulations Phase II, the Water Related Ecosystems Services Assessment Dashboard, the GIS work to complete the update of the water source and demand maps or the 4th Grade Water Ethics Expansion. Requests for proposals (RFP) will be developed that include a detailed scope

of work for various tasks. Cost included in the budget are estimates. The procurement process for consulting services used by the CPWP includes advertisement of an RFP, review of submittals by the TAC and a recommendation for a contract approval by the CPWP Board of Directors. It is recognized that a recommendation for approval of a contract will require a request for approval from the grantor prior to any contract award should this grant application be successful. The request for approval will have a breakdown of all tasks and detailed budget estimate as well as how the costs for the contractor has been considered fair and reasonable.

Third-Party In-Kind Contributions

The CPWP Technical Advisory Committee will be reviewing work progress on a monthly basis for all the proposed projects. These are in-kind services based on average hourly rates for four participants. Federal employees have been excluded.

Other Expenses

Other expenses included in this application include Zoom subscriptions to provide virtual outreach and program delivery to 4th Grade Water Program classes should teachers require it to be done virtually and final printing of artwork and essays developed by students in the Water Ethics Program. Also included under this category is funding for services from the Springs Stewardship Institute for collaboration on the CARAMP Groundwater Withdrawal Simulations, Phase 2. Awards and the cost of the intern for the 4th Grade Water Ethics Project are budgeted for by the CPWP and will be paid as costs paid by the applicant.

Indirect Costs

There are no indirect costs included in this grant proposal.

Unique Entity Identifier and System for Award Management

The Coconino Plateau Watershed Partnership is an active registrant in the System for Award Management. Registration was initially activated December 10, 2017 and remains valid until March 3, 2023 at which time it will renew its registration. The DUNS Unique Entity ID for the CPWP in its application is 079258928, The SAM Unique Entity ID for the CPWP is ELP1Z6GJGKJ1.

➤ Overlap or Duplication of Effort

There is no overlap between the proposed project and any other active or anticipated proposals or projects in terms of activities, costs, or commitment of key personnel. The proposal submitted for consideration under this program is not in any way duplicative of any proposal or project that has been submitted for funding consideration to any other potential funding source, Federal or non-Federal.

➤ Conflict of Interest Disclosure

The Coconino Plateau Watershed Partnership has no actual or potential conflict of interest in accordance with Financial Assistance Interior Regulation (FAIR), 2 CFR §1402.112.

➤ **Single Audit Reporting Statement**

The Coconino Plateau Watershed Partnership was not required to submit a Single Audit Report for the most recently closed fiscal year.

➤ **Certification Regarding Lobbying**

The Coconino Plateau Watershed Partnership certifies to the statements in 43 CFR Part 18, Appendix A-Certification Regarding Lobbying.

ATTACHMENTS



Douglas A. Ducey
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY



Misael Cabrera
Director

March 24, 2022

Bureau of Reclamation
Financial Assistance Operations
Attn: NOFO Team
P.O. Box 25007, MS 84-27133
Denver, CO 80225

RE: Letter of Support – WaterSMART: Cooperative Watershed Management Program Phase I Grants for FY 2022 (Notice of Funding Opportunity No. R22AS00163)

Dear Grant Committee Members,

The Arizona Department of Environmental Quality is a participant in the Coconino Plateau Watershed Partnership (Partnership) and supports its goal “to ensure an adequate long-term supply of water is available to meet the current and future reasonable needs while preserving the health of the environment on the Coconino Plateau.” The Partnership provides an important forum for diverse stakeholder participation. Our purpose is to develop consensus for water studies, programs, and projects that will enhance the sustainability of the area’s water supplies.

Arizona Department of Environmental Quality supports the efforts of the Partnership in developing sustainable regional solutions to water supply issues, including efforts to obtain necessary funding to achieve its goals. The projects included in the current grant application will further the modeling efforts for the Coconino and Redwall-Mauv Aquifers to be used in helping determine adequate water supplies. They will also follow up on recommendations from the Water Related Ecosystems Services Assessment to create a web-based dashboard for stakeholders to use in applying the Water Related Ecosystem Services assessment for their individual use. The Water Demand Map for the Coconino Plateau Watershed Partnership Area of Interest also needs regular updating to make it relevant for users. All three of these projects were completed using Reclamation funding assistance agreement number R18AP00101 and will be expanded upon with the award of this grant. In addition to the previous projects, funding from this grant will be used to strengthen the annual 4th Grade Water Ethics Contest by allowing for greater public outreach to rural schools in communities that make up our Partnership’s stakeholders.

Phoenix Office
1110 W. Washington St. • Phoenix, AZ 85007
602-771-2300

Southern Regional Office
400 W. Congress St. • Suite 433 • Tucson, AZ 85701
520-628-6733

azdeq.gov

Page 2 of 2
Bureau of Reclamation
Financial Assistance Operations

If you have questions or need additional information regarding Arizona Department of Environmental Quality please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'T. Baggione', with a long horizontal flourish extending to the right.

Trevor Baggione
Water Quality Division Director
Arizona Department of Environmental Quality



DOUGLAS A. DUCEY
Governor

THOMAS BUSCHATZKE
Director

ARIZONA DEPARTMENT of WATER RESOURCES
1110 West Washington Street, Suite 310
Phoenix, Arizona 85007
602.771.8500
azwater.gov

March 22, 2022

Bureau of Reclamation
Financial Assistance Operations
Attn: NOFO Team
P.O. Box 25007, MS 84-27133
Denver, CO 80225

RE: Letter of Support – WaterSMART: Cooperative Watershed Management Program Phase I Grants for FY 2022 (Notice of Funding Opportunity No. R22AS00163)

Dear Grant Committee Members,

The Department of Water Resources (Department) is a participant in the Coconino Plateau Watershed Partnership (Partnership) and supports its goal “to ensure an adequate long-term supply of water is available to meet the current and future reasonable needs while preserving the health of the environment on the Coconino Plateau.” The Partnership provides an important forum for diverse stakeholder participation with the purpose of educating and developing consensus for programs and projects that will enhance the sustainability of the area’s water supplies.

The Department supports the efforts of the Partnership in developing sustainable regional solutions to water supply issues, including efforts to obtain necessary funding to achieve its goals.

If you have questions or need additional information regarding the Department, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "T. Buschatzke", written over a white background.

Thomas Buschatzke
Director



March 25, 2022

Bureau of Reclamation
Financial Assistance Operations
Attn: NOFO Team
P.O. Box 25007, MS 84-27133
Denver, CO 80225

RE: Letter of Support – WaterSMART: Cooperative Watershed Management Program Phase I Grants for FY 2022 (Notice of Funding Opportunity No. R22AS00163)

Dear Grant Committee Members,

Region 2 of the Arizona Game and Fish Department (AGFD) is a participant in the Coconino Plateau Watershed Partnership (Partnership) and supports its goal “to ensure an adequate long-term supply of water is available to meet the current and future reasonable needs while preserving the health of the environment on the Coconino Plateau.” The Partnership provides an important forum for diverse stakeholder participation. Our purpose is to develop consensus for water studies, programs, and projects that will enhance the sustainability of the area’s water supplies.

AGFD supports the efforts of the Partnership in developing sustainable regional solutions to water supply issues, including efforts to obtain necessary funding to achieve its goals. The projects included in the current grant application will further the modeling efforts for the Coconino and Redwall-Mauv Aquifers to be used in helping determine adequate water supplies across users and ecosystems into the future. These aquifers supply vital surface water, which supports wildlife, fish and recreation in northern Arizona. These are “uses” of water that are of primary concern to AGFD, as water provision is planned for in the future. The proposed projects will also follow up on recommendations from the Water Related Ecosystems Services Assessment to create a web-based dashboard for stakeholders to use in applying the Water Related Ecosystem Services assessment for their individual use. The Water Demand Map for the Coconino Plateau Watershed Partnership Area of Interest also needs regular updating to make it relevant for users. All three of these projects were completed using Reclamation funding assistance agreement number R18AP00101 and will be expanded upon with the award of this grant.

If you have questions or need additional information regarding AGFD please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Hannah Griscom".

Hannah Griscom
Habitat Specialist, Region 2 Habitat Evaluation and Lands Program

azgfd.gov | 928.774.5045

FLAGSTAFF OFFICE: 3500 S. LAKE MARY ROAD, FLAGSTAFF AZ 86005

GOVERNOR: DOUGLAS A. DUCEY COMMISSIONERS: CHAIRMAN, JAMES S. ZIELER, ST. JOHNS | ERIC S. SPARKS, TUCSON | KURT R. DAVIS, PHOENIX
LELAND S. "BILL" BRAKE, ELGIN | JAMES E. COUGHNOUR, PAYSON DIRECTOR: TY E. GRAY DEPUTY DIRECTOR: TOM P. FINLEY



City of Flagstaff Water Services Division



March 17, 2022

Bureau of Reclamation, Financial Assistance Operations
Attn: NOFO Team
P.O. Box 25007, MS 84-27133
Denver, CO 80225

RE: Letter of Support – WaterSMART: Cooperative Watershed Management Program Phase I
Grants for FY 2022 (Notice of Funding Opportunity No. R22AS00163)

Dear Grant Committee Members,

The City of Flagstaff is a participant in the Coconino Plateau Watershed Partnership (Partnership) and supports its goal “to ensure an adequate long-term supply of water is available to meet the current and future reasonable needs while preserving the health of the environment on the Coconino Plateau.” The Partnership provides an important forum for diverse stakeholder participation. Our purpose is to develop consensus for water studies, programs, and projects that will enhance the sustainability of the area’s water supplies.

The City of Flagstaff supports the efforts of the Partnership in developing sustainable regional solutions to water supply issues, including efforts to obtain necessary funding to achieve its goals. The projects included in the current grant application will further the modeling efforts for the Coconino and Redwall-Mauv Aquifers to be used in helping determine adequate water supplies. They will also follow up on recommendations from the Water Related Ecosystems Services Assessment to create a web-based dashboard for stakeholders to use in applying the Water Related Ecosystem Services assessment for their individual use. The Water Demand Map for the Coconino Plateau Watershed Partnership Area of Interest also needs regular updating to make it relevant for users. All three of these projects were completed using Reclamation funding assistance agreement number R18AP00101 and will be expanded upon with the award of this grant. In addition to the previous projects, funding from this grant will be used to strengthen the annual 4th Grade Water Ethics Contest by allowing for greater public outreach to rural schools in communities that make up our Partnership’s stakeholders.

Water – Wastewater - Reclaimed Water - Stormwater

Administration Offices
2323 N Walgreens St. Suite 1
Flagstaff, Arizona 86004

City Hall
211 W. Aspen Ave.
Flagstaff, Arizona 86001



City of Flagstaff Water Services Division



If you have questions or need additional information regarding the City of Flagstaff's support, please feel free to contact me.

Sincerely,

A handwritten signature in cursive script that reads "Erin Young".

Erin Young, R.G.
Water Resources Manager
City of Flagstaff Water Services Division

Water – Wastewater - Reclaimed Water - Stormwater

Administration Offices
2323 N Walgreens St. Suite 1
Flagstaff, Arizona 86004

City Hall
211 W. Aspen Ave.
Flagstaff, Arizona 86001

March 16, 2022

Bureau of Reclamation

Financial Assistance Operations

Attn: NOFO Team

P.O. Box 25007, MS 84-27133

Denver, CO 80225

RE: Letter of Support – WaterSMART: Cooperative Watershed Management Program Phase I Grants for FY 2022 (Notice of Funding Opportunity No. R22AS00163)

Dear Grant Committee Members,

The Tusayan Sanitary District is a participant in the Coconino Plateau Watershed Partnership (Partnership) and supports its goal “to ensure an adequate long-term supply of water is available to meet the current and future reasonable needs while preserving the health of the environment on the Coconino Plateau.” The Partnership provides an important forum for diverse stakeholder participation. Our purpose is to develop consensus for water studies, programs, and projects that will enhance the sustainability of the area’s water supplies.

Tusayan Sanitary District supports the efforts of the Partnership in developing sustainable regional solutions to water supply issues, including efforts to obtain necessary funding to achieve its goals. The projects included in the current grant application will further the modeling efforts for the Coconino and Redwall-Mauv Aquifers to be used in helping determine adequate water supplies. They will also follow up on recommendations from the Water Related Ecosystems Services Assessment to create a web-based dashboard for stakeholders to use in applying the Water Related Ecosystem Services assessment for their individual use. The Water Demand Map for the Coconino Plateau Watershed Partnership Area of Interest also needs regular updating to make it relevant for users. All three of these projects were completed using Reclamation funding assistance agreement number R18AP00101 and will be expanded upon with the award of this grant. In addition to the previous projects, funding from this grant will be used to strengthen the annual 4th Grade Water Ethics Contest by allowing for greater public outreach to rural schools in communities that make up our Partnership’s stakeholders.

If you have questions or need additional information regarding Tusayan Sanitary District, please feel free to contact me.

Sincerely,



Robert Petzoldt

Manager

Tusayan Sanitary District

RESOLUTION NO. 0106

**A RESOLUTION OF THE COCONINO PLATEAU WATERSHED PARTNERSHIP
AUTHORIZING A GRANT APPLICATION FOR THE WATERSMART
COOPERATIVE WATERSHED MANAGEMENT PROGRAM PHASE I GRANTS FOR
FISCAL YEAR 2022**

WHEREAS, the Coconino Plateau Watershed Partnership non-profit corporation is organized to provide a forum for discussion, analysis and input into the development of federal, state, and regional water resource policies and planning which are of interest or concern to the public for educational purposes; and

WHEREAS, the Coconino Plateau Watershed Partnership is an eligible non-profit 501 (c)(3) watershed group to obtain funding assistance from the United States Bureau of Reclamation (Reclamation) for the purpose of a WaterSMART Cooperative Watershed Management Program Phase I Grant; and

WHEREAS, the Coconino Plateau Watershed Partnership is capable of providing funding and/or in-kind contributions specified in the funding plan; and

WHEREAS, the Chair of the Coconino Plateau Watershed Partnership has the authority to enter into an agreement with Reclamation by virtue of the organization's bylaws; and

WHEREAS, the Coconino Plateau Watershed Partnership is seeking to obtain funding that will assist in the sustainable management of water resources on the Arizona Coconino Plateau and serve to benefit its residents by performing critical need projects; and

WHEREAS, the Coordinator of the Coconino Plateau Watershed Partnership has reviewed and supports the application submitted; and

WHEREAS, the Coconino Plateau Watershed Partnership is capable and willing to work with Reclamation to meet established deadlines for entering into a grant or cooperative agreement.

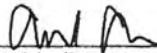
NOW, THEREFORE BE IT RESOLVED that the Coconino Plateau Watershed Partnership Board of Directors; hereby:

Approves the submittal of a grant application to the Department of the Interior, Bureau of Reclamation for a WaterSMART Cooperative Watershed Management Program Phase I Grant

for Fiscal Year 2022 to be used to assist in the sustainable management of water resources on the Arizona Coconino Plateau.

PASSED and ADOPTED this 25th day of February, 2022.

COCONINO PLATEAU WATERSHED PARTNERSHIP



Austin Aslan (Feb 26, 2022 12:29 MST)

Councilor Austin Aslan, Board Chair



DOUGLAS A. DUCEY
Governor

THOMAS BUSCHATZKE
Director

ARIZONA DEPARTMENT of WATER RESOURCES
1110 West Washington Street, Suite 310
Phoenix, Arizona 85007
602.771.8500
azwater.gov

March 22, 2022

Bureau of Reclamation
Financial Assistance Operations
Attn: NOFO Team
P.O. Box 25007, MS 84-27133
Denver, CO 80225

RE: Letter of Support – WaterSMART: Cooperative Watershed Management Program Phase I Grants for FY 2022 (Notice of Funding Opportunity No. R22AS00163)

Dear Grant Committee Members,

The Department of Water Resources (Department) is a participant in the Coconino Plateau Watershed Partnership (Partnership) and supports its goal “to ensure an adequate long-term supply of water is available to meet the current and future reasonable needs while preserving the health of the environment on the Coconino Plateau.” The Partnership provides an important forum for diverse stakeholder participation with the purpose of educating and developing consensus for programs and projects that will enhance the sustainability of the area’s water supplies.

The Department supports the efforts of the Partnership in developing sustainable regional solutions to water supply issues, including efforts to obtain necessary funding to achieve its goals.

If you have questions or need additional information regarding the Department, please feel free to contact me.

Sincerely,

Thomas Buschatzke
Director