

Yuba River Watershed Outreach, Partnership Development, and Restoration Prioritization

Proposal to the WaterSMART Cooperative Watershed Management Program

Phase 1 Grant



Looking upstream at a gravel pile on property owned by the BLM from the active restoration site at Long Bar



An aerial image of channelization at the Van Norden meadow.

Applicant:

South Yuba River Citizens League
313 Railroad Ave. #101
Nevada City, CA 95959

Project Manager:

Aaron Zettler-Mann
313 Railroad Ave. #101
Nevada City, CA 95959

aaron@yubariver.org

530.265.5961 x221

Table of Contents

Table of Contents	2
Figures and Tables.....	3
Executive Summary.....	4
Project Location	5
Technical Project Description	6
Applicant Eligibility	6
Project Goals.....	7
Approach.....	8
Task A – Watershed Group Development.....	8
Task B – Watershed Restoration Planning.....	8
Task C – Watershed Group Development	13
Evaluation Criteria.....	13
E.1. Technical Proposal: Evaluation Criteria	13
E.1.1. Evaluation Criterion A – Watershed Group Diversity and Geographic Scope (30 points)	13
E.1.2. Evaluation Criterion B – Addressing Critical Watershed Needs.....	14
E1.3. Evaluation Criterion C – Implementation and Results	18
E.1.4. Evaluation Criterion D – Department of the Interior and Bureau of Reclamation Priorities.....	21
Environmental and Cultural Resources Compliance.....	22
Federal Environmental, Cultural, and Historic Permits	24
Citations	25

Figures and Tables

Figure 1: Map of the Yuba River Watershed and SYRCL’s restoration projects within it.....	5
Figure 2: Map of SYRCL’s River Monitoring Program monitoring site locations.....	10
Figure 3: Gantt chart illustrating proposed timeline of completing tasks.....	19
Table 1: List of SYRCL’s restoration projects.....	7
Table 2: Data categories considered when developing our project prioritization matrix.....	9
Table 3: Analytic objectives and considerations for SYRCL’s current and proposed projects	12
Table 4: Proposed SYRCL staff time breakdown by task.....	18

Executive Summary

Date: January 19th, 2021

Applicant: South Yuba River Citizens League (SYRCL)
Nevada City, Nevada County, California

The South Yuba River Citizens League (SYRCL; pronounced “circle”) is located in the foothills of the Sierra Nevada in California. Part of SYRCL’s core activities is to use the best-available science to advance ecologically water management and improve water quality. SYRCL has projects focusing on forest health and meadow restoration in the upper portion of the watershed, salmonid habitat enhancement in the lower Yuba River, and water quality monitoring and invasive weed management throughout the watershed. SYRCL will use these funds to develop a set of collaborative near- and long-term restoration priorities to enhance the health, climate resilience, and adaptation of our watershed. In direct support of this goal, we will update the 2011 Yuba River Watershed Assessment. These goals, and the identified projects, will be used to inform our advocacy and outreach directly tied to the SYRCL mission statement: to unite the community to protect and restore the Yuba River watershed. As part of this process, we will engage with a diverse group of stakeholders including landowners, local native peoples (Nisenan, Mountain Maidu, Konkow, and Washoe peoples), Yuba County Water Agency, Nevada Irrigation District, Army Corps of Engineers, National Marine Fisheries Service, CalFire, U.S. Forest Service, private dam operators, California Department of Fish and Wildlife, and California State Parks. The Yuba River watershed suffers from a long history of mining which has severely impacted much of the watershed. Combined with heavy grazing, fire suppression, and multiple dams there is a need for comprehensive watershed assessment, management and restoration plans which incorporate climate change models for our region.

- SYRCL is requesting \$99,851.76 for two years of support beginning in 08/2021 and ending 07/2023.
- The proposed planning efforts will not focus on a Federal facility. However, much of the watershed is comprised of National Forest lands which will be included in project identification.

Project Location

The Yuba River watershed is located in the northern part of the Central Valley California. The watershed falls predominately in Yuba, Nevada, and Sierra Counties, with small portions of its northern boundary crossing into Plumas and Butte Counties and its southern boundary crossing into Placer County. Its waters begin at the crest of the Sierra Nevada mountains and flow west in three main forks: the north, middle, and south forks of the Yuba River. The mouth of the Yuba Watershed is at its confluence with the Feather River near Marysville, California. The Yuba River watershed is denoted as USGS HUC 1802012501. See Figure 1 for a map of the Yuba watershed.

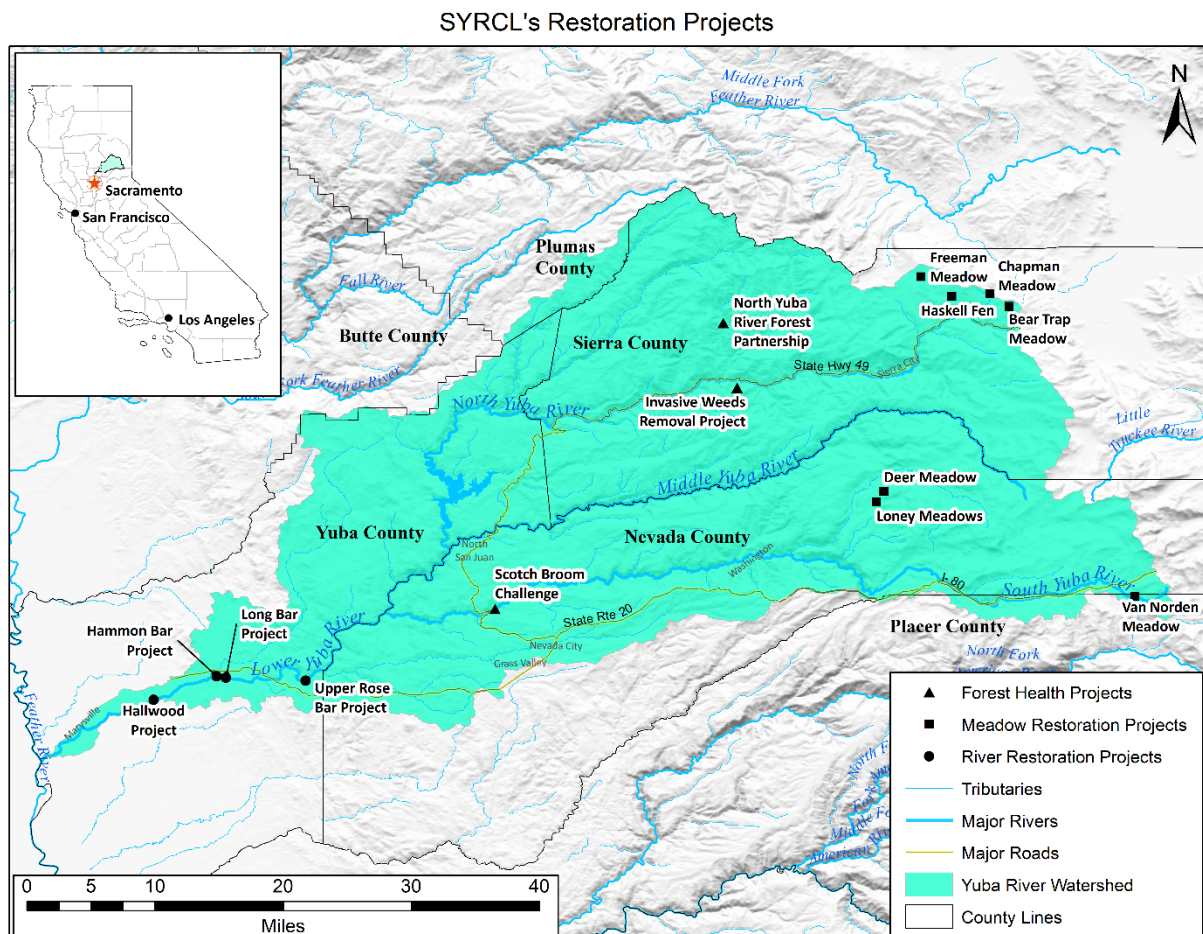


FIGURE 1: YUBA RIVER WATERSHED IS LOCATED IN NORTH-CENTRAL CALIFORNIA. SYRCL HAS PROJECTS LOCATED THROUGHOUT THE WATERSHED WHICH FALL INTO THE GENERAL CATEGORIES OF FOREST HEALTH, MEADOW RESTORATION, AND RIVER RESTORATION.

Technical Project Description

Applicant Eligibility

The South Yuba River Citizens League (SYRCL) is seeking funding as an existing watershed group. SYRCL is a 501(c)3 non-profit with a Board of Directors comprised of community members from throughout the watershed. SYRCL has a membership of more than 3500 members, and 22 full-time employees. It is a grassroots, non-regulatory organization that advocates for responsible water resource management and strives to unite the community to protect and restore the Yuba River watershed. SYRCL was founded in 1983 by grassroots activists determined to protect the South Yuba River from dams, ultimately earning protections for 39 miles of the South Yuba River under California's Wild and Scenic Rivers Act. Today, SYRCL is the central hub of community activism to protect, restore, and celebrate the Yuba River watershed.

Throughout the decades, SYRCL has utilized a bottom-up approach for garnering community support of watershed protection and restoration through our River Monitoring Project and Yuba River Cleanup. SYRCL also pioneered the first ever river restoration project in the Goldfields on the Lower Yuba River at Hammon Bar. SYRCL continues to work with project partners and volunteers to advocate for and protect the water quality and quantity in the Yuba River watershed. The Watershed Science Department has a number of ongoing projects throughout the Yuba River watershed (Figure 1; Table 1). Some highlights include celebrating the 20th anniversary of our water quality monitoring program in 2020, leading two large projects in the lower Yuba River creating rearing and spawning habitat for salmonids, restoring degraded meadow habitat and aspen stands in the headwaters, and working with diverse partners to alleviate a legacy of fire suppression for resilient forests and communities.

SYRCL and its constituents both affect and are affected by the quality and quantity of the water in the Yuba River Watershed. Nearly one million people, both local and from further afield, visit the watershed to swim in the emerald green waters annually, and they look to SYRCL as its steward. SYRCL prioritizes sustainable management of the river, meadows, and forests within the watershed by participating in Working Groups, River Management Team meetings, Yuba Integrated Regional Water Management Plan, Groundwater Sustainability Committee Meetings, North Yuba Forest Partnership, and Yuba Forest Network to coordinate current and future projects and ensure the Watershed receives the best management practices.

Forest Health	North Yuba Forest Partnership Yuba Forest Network Yuba Watershed Stakeholder Mapping Project Invasive Weeds Removal Project
Meadow Restoration	Loney Meadow Restoration Project Van Norden Meadow Restoration Project Deer Meadow Restoration Project Beartrap Restoration Project Haskell Fen Restoration Project Chapman Saddle Meadow Restoration Project Freeman Meadow Restoration Project
River Restoration	Hallwood Floodplain and Side Channel Restoration Project Long Bar Juvenile Salmonid Habitat Restoration Project Upper Rose Bar Salmonid Spawning Habitat Restoration Project
River Health	River Monitoring Program Yuba River Cleanup
Advocacy	Yuba Salmon Now Campaign Growing Green for the Yuba
Education	Salmon Expeditions Youth Outdoor Leadership Opportunity

TABLE 1: CURRENT SYRCL PROJECTS THAT ARE BEING WORKED ON, INCLUDING RESTORATION AND MONITORING PROJECTS THROUGHOUT THE WATERSHED. AND, EDUCATION AND ADVOCACY WORK TARGETED AT COMMUNITY ENGAGEMENT AND PROTECTING THREATENED AND ENDANGERED SPECIES.

Project Goals

The mission statement of SYRCL is to unite the community to protect and restore the Yuba River watershed. As a community-based organization of nearly 40 years, SYRCL continues to advocate for a healthy watershed by working closely with government entities that manage water resources in the watershed. With this grant, the goals of the South Yuba River Citizens League are:

1. Assess on-going and completed projects to ensure that they continue to support SYRCL's mission, and plan for future projects ensuring they continue to meet the needs of the community in a changing climate.
2. Bolster our existing partnerships and develop new ones to maintain and evolve good working relationships with our community.
3. Develop a project prioritization framework to assist in maximizing project benefits within the watershed – considering geographic location, funding availability, threatened species or habitat unit, and the inclusion of new and diverse project partners.

4. Create a watershed restoration plan including a list of priority restoration projects, monitoring needs, and new project partners. Include near- and long-term goals for each category and identify collaborative opportunities.

Approach

Task A – Watershed Group Development

SYRCL is not proposing any activities in Task A

Task B – Watershed Restoration Planning

Task B1 – Bolstering watershed group member relationships and collaboration.

A central objective of this proposal is to extend the representation and collaborative opportunities for SYRCL. Climate and hydrology variability, the impacts of dams and agriculture, and impacts from historic land uses and management practices have a combined negative impact on the health of the Yuba River watershed. To effectively advocate for ecologically sound management of the water resources it is important that SYRCL continue to work with local partners and expand the list of individuals and organizations we work with. Especially important is to build relationships with entities that we historically have not had the opportunity to work closely with, but share in our vision of clean water, healthy ecosystems, and beneficial water management. At the same time, it remains important to continually steward our existing relationships to ensure open and healthy communication surrounding management of water resources in the Yuba River watershed.

Specific interests in this objective are to develop more diversity in our relationships with local agriculture and irrigators, non-governmental dam managers, and the U.S. Army Corps of Engineers. Our working relationships with the Yuba County Water Agency, Nevada Irrigation District, National Marine Fisheries Service, California Department of Forestry and Fire Protection, and the U.S. Forest Service are also central our ability to continue advocating for smart water management. To help us achieve Task B1, we propose taking the following actions:

- B1.a* Curate a contact list of individuals who represent the above organizations including their contact information, as well as the individual(s) at SYRCL who work most closely with them.
- B1.b* Develop a list of meetings of that we do not currently attend and work to begin attending those meetings to better learn about the diverse needs and goals of stakeholders in the watershed.
- B1.c* In collaboration with project partners, develop a list of shared priorities and management objectives which we can use to begin building relationships with existing and new partners.
- B1.d* Continue attending regular, collaborative meetings with the above groups focused on management of the Yuba River watershed.
- B1.e* Improve the online presence for our restoration and monitoring efforts through an updated website with more information about past, current, and future work SYRCL is doing to help manage the Yuba River watershed.

Task B2 – Develop a watershed prioritization matrix and identify priority restoration and partnership opportunities

The Watershed Science Department within SYRCL works on projects across the watershed to preserve water resources and strives for a healthy watershed today and looking forward. Watersheds are, by definition, connected hydrologically and ecologically. Efforts to improve forest management and improve meadow function inherently benefit the ecologic and anthropogenic needs in the lower Yuba River. However, within a large watershed it can be challenging to develop collaborative projects that can bridge the physical and political barriers within the watershed. To ensure that we are maximizing the effectiveness of our restoration and management actions, we will work internally to develop a project prioritization matrix to vet restoration, management, and advocacy efforts. Project prioritization criteria and weighting will be developed as part of this task (Table 2).

Example Prioritization Matrix Category	Example data type considered
Spatial Data	Hydrology, Slope, Proximity to stream, Slope, Land use/Land cover
Ecological Targets	Threatened or endangered species Threatened or endangered habitats/biomes
Collaboration (internal)	Geographic, species, habitat project overlap Hydrologic connectivity (surface-ground water, upper-lower watershed)
Collaboration (external)	Project development in areas, and with partners we don't currently work with Continuing to leverage existing relationships and projects
Time Frame	Annual or semi-annual effort, multi-year planning and implementation projects, long-term multi-stakeholder objects
Benefits	Targeted species or habitat restoration (point benefit) Water management benefit

TABLE 2: DATA CATEGORIES AND THE RELATED DATA TYPE CONSIDERED WHEN DEVELOPING OUR PROJECT PRIORITIZATION MATRIX. THROUGH COLLABORATION WITH ADDITIONAL STAKEHOLDERS AND CONVERSATIONS WITHIN SYRCL, ADDITIONAL CATEGORIES WILL LIKELY BE REVEALED.

Task B3 – Develop a watershed restoration plan

When SYRCL was founded, it was created with the goal of protecting and preserving the water resources in the Yuba River watershed. Central to that mission is the need to understand and monitor water quality within the watershed. As a first step towards the completion of this task, we will update the Yuba River Watershed Assessment written in 2011. The original document assessed the health of the watershed, synthesized the impacts on the health of the watershed – historic and contemporary. Finally, the report outlined a number of restoration

priorities. In our updated document, we will reassess much of the original work while focusing on how recent and future policy changes impact the regulatory, management, and conservation landscape in the Yuba River watershed. We will also assess the restoration priorities set ten years ago and use the experience of the last ten years to outline a new set of restoration priorities emphasizing the need for climate resilience and the integration of a diverse group of management partners.

Beginning in 2000, SYRCL developed a river monitoring program which harnessed the power of volunteer scientists to monitor water quality throughout the watershed (Figure 2). To date, SYRCL has 20 years of water quality data covering turbidity, temperature, dissolved oxygen, pH, and conductivity at sites located throughout the watershed. This program is a foundation for the community advocacy and outreach work that SYRCL does. However, a changing climate means changing hydrology in the Yuba River watershed. Recently, the first

SYRCL's River Monitoring Program

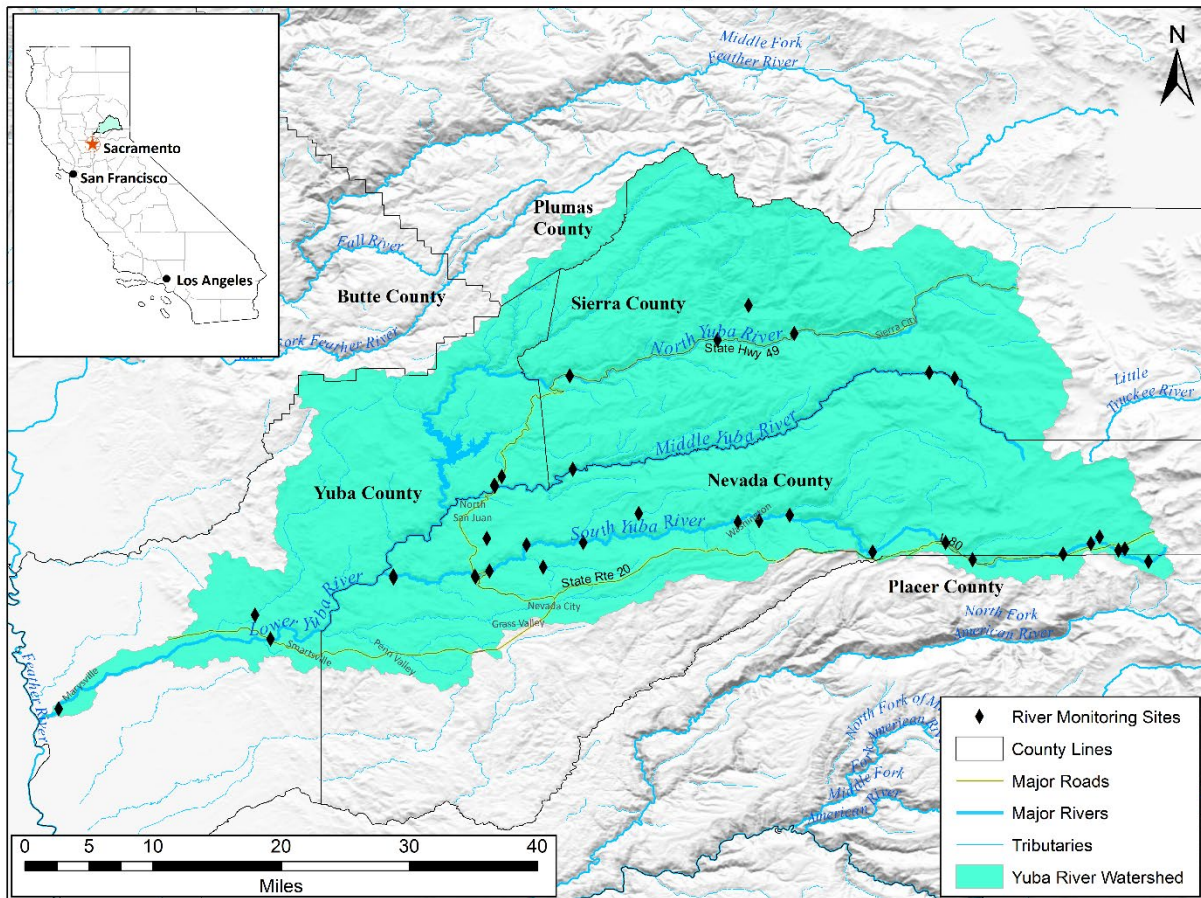


FIGURE 2: SYRCL HAS BEEN COLLECTING WATER QUALITY DATA ACROSS THE YUBA RIVER WATERSHED FOR TWENTY YEARS. WATER QUALITY METRICS INCLUDE TURBIDITY, TEMPERATURE, DISSOLVED OXYGEN, PH, AND CONDUCTIVITY. THE DATA FROM THESE SITES CAN BE USED TO IDENTIFY WHERE POINT-SOURCE POLLUTIONS ISSUES EXIST, AND HOW POLLUTANTS MOVE THROUGH OUR WATERSHED.

rains of the fall have triggered plumes in the South Yuba River trigger questions of water safety for the community (<https://www.theunion.com/news/source-of-nevada-countys-south-yuba-river-plume-remains-a-mystery/>). The Jones Fire in 2020 in our watershed also emphasized the relationship between fire and rivers in the Sierra Nevada. The threat of additional fires poses a threat to water quality through the potential for increased turbidity from burn scars and the impacts of the phosphorous and other constituents found in fire retardant. Looking forward, it is important that our water monitoring program is posed to adapt to a changing environment and can help provide the water quality data and support for our State and County project partners.

In addition to our water quality monitoring program, SYRCL is also leading the monitoring effort associated with a number of restoration projects within the watershed. Specifically, SYRCL has partnered with government and NGO project partners to develop and implement restoration projects across the watershed; active projects include the restoration of floodplains in the lower Yuba, and meadow and aspen habitats in the headwaters. Effective monitoring is a crucial, and underfunded component of restoration projects. Without meaningful monitoring, it is impossible to ascertain the effectiveness of the restoration actions, and therefore to improve future restoration efforts. With this grant, SYRCL will critically analyze our on-going monitoring efforts to ensure that they continue to be effective and meaningful for the work SYRCL, and its partners, do to create a healthy watershed. Table 3 shows our on-going monitoring projects and how we plan to examine them, and identifies two new projects we will develop which also serve as an example for the kinds of projects we hope to develop to better respond to the needs of the watershed in a changing climate.

On-gong Monitoring Programs	Analytic Objective and considerations
Water quality	Identify sampling sites with water quality challenges. Assess for seasonal and spatial influences. Attempt to identify causes for pollution. Develop criteria for on-call water quality monitors to respond to natural events
Riparian Vegetation Monitoring	Analyze existing data for trends and gaps. Explore challenges with existing monitoring protocol specifically as related to standardization between volunteers. Identify challenges with riparian monitoring and quantification in the face of changing hydrologic trends
New and Expanded Monitoring Projects	
Meadow Vegetation Monitoring	Analyze existing data and determine potential relationship between areas of groundwater change and change in plant communities. Work with existing and new project partners to develop volunteer monitoring trainings and protocols
Water quality	Identify water quality metrics not currently being monitored by SYRCL which will be crucial to effective water resource management. Develop monitoring protocols and metrics for them Identify funding sources and partners to implement these projects.
Stakeholder outreach	Work with new and existing project partners and watershed stakeholders to develop metrics which will be important to inform better water resource management.

TABLE 3: PRIOR TO WRITING A WATERSHED RESTORATION PLAN, IT IS IMPORTANT TO ASSESS WHAT IS WORKING WELL WITH CURRENT MONITORING AND RESTORATION PROJECTS, IDENTIFYING STRENGTHS AND WEAKNESSES IN THE EXISTING DATA AND PROTOCOLS. SYRCL’S EXISTING MONITORING DATA CAN BE USED TO HELP GUIDE RESTORATION PRIORITIES, IN COMBINATION WITH THE INPUT OF STAKEHOLDERS.

As a final product derived from Tasks B1 through B3, we will develop a watershed restoration plan, including a list of restoration project priorities and collaborative opportunities to guide the next five-plus years of watershed conservation, advocacy, and restoration work in the Yuba River watershed. This restoration plan will be integrated into the updated Yuba River Restoration Assessment. Like the restoration priorities in the 2011 Yuba River Restoration Assessment, our new list of opportunities will describe specific areas throughout the watershed for targeted restoration actions and enhanced monitoring efforts. The identified target priority list will integrate associated policy and community advocacy work and will include project partners identified as part of Task B2. Targeted restoration opportunities may include:

- Developing a strategic plan to identify and restore meadows in the upper portion of the watershed to enhance natural water storage contributing to a watershed which is more resilient to climate change.
- Through advocacy with existing and new partners, expanding the forest management strategies which minimize fuel load and enhance the hydrologic and nutrient connectivity within the Yuba River watershed.
- Combining meadow restoration with protecting and expanding Aspen habitat from the threat of grazing and conifer encroachment.
- Developing collaborative irrigation objectives and needs that improve volitional fish passage in the lower Yuba River.
- Expanding water quality monitoring to inform ecologically and hydrologically sound irrigation and land management practices.

Task C – Watershed Group Development

SYRCL is not proposing any activities in Task C

Evaluation Criteria

E.1. Technical Proposal: Evaluation Criteria

Please reference the Technical proposal section, above.

E.1.1. Evaluation Criterion A – Watershed Group Diversity and Geographic Scope (30 points)

Sub-Criterion A1. Watershed Group Diversity

As an existing watershed and community advocacy group, SYRCL is supported by 3,500 members and 1,300 active volunteers. Further, SYRCL works closely with the Yuba County Water Agency, the National Marine Fisheries Service, Nevada Irrigation District, the U.S. Forest Service, California State Parks, CalFire, and local tribal partners on issues of watershed management and restoration. Despite our differences in opinion for how the watershed should be managed, it is crucial to maintain a diverse group of project partners. As part of this proposal, we hope to continue to foster these relationships, further develop our partnerships with the Army Corps of Engineers and the Bureau of Land Management, and emphasize establishing a trusting working relationship with the farmers and irrigators in our community – partnerships we have historically not had.

The Yuba River watershed is more than 1,340 square miles in area. It therefore has far more stakeholders than can effectively be displayed on a map. Small communities and private landowners are scattered throughout the watershed. Large tracts of National Forest land, as well as California State Parks also exist, especially in the upper portion of the watershed. In the lower river, agriculture and aggregate mining become more prevalent taking advantage of flat floodplains and aggregate left over from historic gold mining. Task B1, as described above, is focused on bolstering our existing partnerships, and developing new ones to ensure that we represent all voices in our watershed. To that end, we will continue working in collaborative environments and regular meetings including the River Management Team, Sierra Meadow

Partnership, Sierra Nevada Alliance, Yuba County Integrated Regional Water Management group, the Lake Wildwood Association, and Groundwater Sustainability group. As a first step in developing additional relationships, we will begin attending the Agricultural Commission meetings, Nevada County Resource Conservation District meetings, and the Nevada County California Fish and Wildlife Commission meetings. Meeting attendance is only the first step in building meaningful relationships, but it allows SYRCL to be in a position to listen to the challenges that face members of the watershed that we have traditionally not worked closely with. As part of this grant, key members of our staff will attend the meetings outlined above. From there, we will be able to ensure that as we work towards management and restoration goals all interests are represented.

Sub Criterion A2. Geography Scope

Please see Figure 1 for a map illustrating the geographic boundaries of the Yuba River watershed (USGS HUC 1802012501), and the areas in which the watershed group will work and the locations of existing projects. The Yuba River flows west, ending at its confluence with the Feather River near Marysville, California. It begins at the crest of the Sierra Nevada Mountains, just on the other side of the divide from Truckee, California. It begins as three forks, the North, Middle, and South Fork which come together just upstream of Englebright Dam to form the main Yuba River. Figure 1 also shows the location of existing restoration and monitoring projects SYRCL is engaged with in collaboration with our existing project partners. Figure 2 shows the locations of on-going water quality monitoring throughout the watershed.

E.1.2. Evaluation Criterion B – Addressing Critical Watershed Needs

Sub-Criterion B1. Critical Watershed Needs or Issues

The Yuba River watershed has a long history of exploitation and mismanagement beginning during the Goldrush and the advent of hydraulic mining in the mid-1850s. This process had landscape-scale impacts on the watershed. High pressure water cannons eroded entire hillsides and dismantled mountains in the search for gold. Extracting the gold from the eroded material required millions of pounds of elemental mercury which was “lost” to the environment. Once the gold had been separated from the land, the “waste”, now laden with mercury, was dumped back into the tributaries and main channel of the Yuba River. It is estimated that 685 million cubic yards of sediment (close to four times the amount removed in the construction of the Panama Canal) was washed from the hills into the Yuba river. The legacy of hydraulic mining disrupted the riparian life of the mainstem and nearly every tributary. The legacy of this gold mining can still be seen today in the middle elevations of the watershed where escarpments divulge the erosion of entire hillslopes. In the lower Yuba River Goldfields piles of gravels and cobbles more than 60 feet tall cover an area greater than 4,400 acres – material that was washed down from the middle portion of the watershed and was then mined for gold a second time using dredge mining. The legacy of intensive mining in the watershed continues to threaten listed salmonid species in the lower Yuba River which are blocked from 90% of their native spawning habitat by Englebright Dam. Water quality concerns also exist from the mercury remaining in the ecosystem from gold mining, acid mine drainage as

oxygenated groundwater and rainfall seep into abandon mines and piles of mine tailings. In addition, naturally occurring arsenic, lead, and asbestos are concentrated in the crushed mine tailings and are more readily integrated by the ecosystem.

Crucial to the efforts of gold mining was the diversion of the waters of the Yuba River and its tributaries. The waters of the Yuba River have seldom been allowed to flow undisturbed down their native channels since water diversions began. The engineering and diversion of water continues to exist today. Today, the Nevada Irrigation District and Yuba County Water Agency work closely with Pacific Gas & Electric to manage and transport the waters of the Yuba River watershed over and between sub-watersheds (inter-basin transfers) to generate electricity and provide irrigation water in one of the most complex water delivery and management systems in the country. The impact of dams on watershed health has been well document for decades¹. Inter-basin transfers create numerous ecological challenges for the watershed. As the Bowman-Spaulding Canal flows south through the upper portions of the South Yuba River sub-basin, it takes in water from Texas, Clear, Fall, Trap, and Rucker Creeks which only see flow during high water events. The South Yuba below Spaulding Dam, the North Yuba below New Bullards Bar, and the Middle Yuba below Milton Diversion Dam all suffer significant de-watering during much of the year. In the Lower Yuba, diversions for regional irrigation to water districts in Yuba and Butte Counties can total 300,000 acre-feet annually². Dams and water diversions also create more direct threats to the health of the Yuba River. Englebright dam blocks migration of anadromous fish to 90% of their ancestral spawning habitat. In addition, it and the other dams in the Yuba River watershed prevent the movement of gravels, vegetation, and other nutrients critical to maintaining a health ecosystem. Water sitting in reservoirs is also prone to thermal heating. The South Yuba River was listed by the State Water Resource Control Board as temperature impaired under the Clean Water Act (section 303(d)) in January of 2010.

Timber extraction, grazing, fire suppression, and the introduction of invasive species all pose threats to the health of our watershed as well. Vegetation removal and grazing has a direct impact on how water moves in the upper portions of the watershed. Soil compaction from grazing prevents our meadows from saturating and storing the water of winter snows. Instead, the water channelizes and quickly melts off in the spring. The loss of vegetation decreases infiltration rates which means our groundwater supply is not replenished. The history of fire suppression also creates challenges, especially in the upper portions of the watershed dominated by U.S. Forest Service lands. The accumulation of fuels is leading to more frequent, and more severe fires. Where healthy fires historically occurred every 3-15 years, the suppression efforts of the last 100 years have created a situation where, when burned, there are no native species to recolonize. Further, the health of the soils is also severely threatened. This results in damaging influence on watershed hydrology, delivering more sediment rapidly to channels incapable of transporting it and stripping the hillslopes of the nutrients needed for revegetation. It also opens the door for invasive species, which can quickly take root,

outcompeting native species, and failing to provide the necessary habitat functions of their native rivals.

It is less obvious when looking at the landscape, but land use practices and water diversions have shaped the Yuba River watershed as much as the legacy of gold mining. They all continue to threaten healthy ecosystems throughout the watershed. Some in their legacy on on-going ecosystem impacts, the others through management and prioritization decisions that are made every day. It is for this reason that it is crucial for SYRCL to continue to strengthen our relationships and develop new ones in our watershed. Irrigation is crucial to California agriculture which feeds the world³ and through a more diverse partnership, and stronger relationships SYRCL can work towards creative solutions which benefit the damaged ecosystems in our watershed while maintaining resource for our partners.

Sub-Criterion B2. Developing Strategies to Address Critical Watershed Needs or Issues

Task B -Watershed Restoration Planning: Describe the process the watershed group will use to develop a watershed restoration plan and how completing the plan will contribute to the management of the critical watershed issues and needs.

- *How does the group plan to gather information regarding the critical issues and needs of the watershed (e.g., contacting government agencies, talking to stakeholders, literature research, monitoring and modeling activities)? Will the group use science to identify best practices to manage land and water resources and adapt to changes in the environment? If so, how?*

SYRCL will have two approaches to ensuring that it understands the critical issues and needs facing the Yuba River watershed ecologically, and the needs of the stakeholders in the watershed. One is through our outreach and relationship building as described in Task B1. The other is through the analyses of data from the monitoring efforts SYRCL is engaged in, as described in Task B3. Through meetings with our stakeholders SYRCL will listen to challenges within the watershed and advocate for sustainable management of the Watershed and ensure a resilient future. Similarly, through data analysis of monitoring efforts, SYRCL will measure the efficacy of the management practices to better inform future actions and policies.

SYRCL works hard to rely on scientific data to inform its efforts in restoration and watershed management. As part of Task B3, SYRCL will conduct analysis of its existing water quality and riparian growth data. These data will be used to develop our water resource management and restoration objectives. Our water quality data spans a 20-year period, with sites throughout the watershed (Figure 2). These data provide a picture for how the suite of water quality metrics in our watershed have changed through time, and how they change throughout the watershed. With this we will identify the locations and metrics which offer the largest threat to water quality in our watershed. Additionally, this will help us analyze which places in our watershed would benefit from additional water quality monitoring. Different locations in the watershed are likely to face different water quality issues. As part of Task B3 we will be able to point to our scientific data and identify where, in the upper portions of our

watershed salts from Interstate 80 are entering the South Fork Yuba river and which legacy mines in the middle of the watershed are leeching the most mercury. With this spatially explicit and long-term dataset we can approach our project partners and work towards meaningful solutions. Similarly, in the lower Yuba River, we have eight years of riparian growth data from a floodplain planting restoration project at Hammon Bar that SYRCL led in 2012. The monitoring effort for this project is not included in the budget for this grant. However, the data analysis we plan to conduct on growth rates and sediment accumulation and/or erosion rates is. SYRCL continues to work on floodplain restoration projects in the lower Yuba River with a number of partners, all of which include planting of woody riparian vegetation. The data we have collected at Hammon Bar will help us examine how the shape of the planting influences patterns in erosion and deposition of fine material on the floodplain. Additionally, this monitoring data will help us determine what kind of growth and survival rates can be anticipated at the floodplain restoration projects we continue to work on. Growth and survival rates are important metrics as we work with project partners and permitting agencies to develop and refine the thresholds for success.

- *Will the group identify opportunities to resolve conflicts? If so, how?*

In any watershed with mixed use, such as the Yuba River watershed, there will undoubtedly be conflicts. One of the large areas of conflict SYRCL anticipates and looks forward to working towards resolutions is in the area of water diversions and irrigation. The conflict between agriculture and irrigators, and river and wildlife habitat protection is frequently in the news. Central to conflict resolution is listening to all stakeholders and then finding the shared goals. From there, it is possible to build trust and work towards a solution that works for everyone. One relationship and potential solution we hope to develop and work with is building the relationships necessary to re-engineer Daguerre Point Dam so that it is passable for threatened and listed salmonids and green sturgeon while maintaining the infrastructure necessary for the important irrigation that occurs there. SYRCL has experience in managing and maintaining goals from stakeholders that, conventionally, held different views. For example, the Long Bar Juvenile Salmonid Habitat Restoration Project includes stakeholders from an aggregate mining company and the U.S. Fish and Wildlife Service. SYRCL has been able to navigate the differences of these organizations to find common goals and implement this large-scale restoration project.

- *Will the group complete an analysis to prioritize issues within the restoration plan?*

As part of Tasks B2 and B3, SYRCL will develop a decision matrix to help prioritize restoration efforts. It is important that this decision matrix is informed by the data SYRCL has collected and the needs of watershed stakeholders and the environment.

- *If the watershed group will build on previous efforts, describe these efforts*

SYRCL has been a part of the Yuba River watershed for decades. Our efforts to better understand the restoration priorities within our watershed and how they relate to effective management of the watershed builds on SYRCL's history. As part of Task B3, we will also build on the 2011 Yuba River Watershed Assessment report that SYRCL produced. Ten years later, restoration activities across the watershed have demonstrated the potential to alleviate the legacy effects of hydraulic mining on floodplain habitats in the lower Yuba River, implement sustainable harvest of forest that will reduce extreme fire potential, and restore ecosystem

functions in meadows. Under Task B3, SYRCL will consider the success of these projects when reevaluating the restoration priorities established in the 2011 Yuba River Watershed Assessment and update them for our proposed Watershed Restoration Plan.

E1.3. Evaluation Criterion C – Implementation and Results

Sub-Criterion C1 – Project Implementation

Applicants should describe their plan for implementing the proposed scope of work. Please include an estimated schedule that shows the stages and duration of the proposed work. Applicants may refer to their Technical Proposal if this information is provided there and do not need to provide duplicate information in addressing this sub-criterion if it exists elsewhere in the applicant’s proposal. The schedule should include:

Table 4 identifies the staff members at SYRCL who will be involved in this project and the approximate number of hours they will dedicate to each task. Figure 3 shows the cost for each task. In addition, it outlines each sub-task. The estimated timing for the start and completion of each sub-task is indicated by lighter or darker shading.

Staff Member	Task 1B (\$37,007.14)	Task 2B (\$29,606.15)	Task 3B (\$33,238.47)
Aaron Zettler-Mann: Watershed Science Department Director (project manager)	160	120	160
Executive Director	60		40
Finance and Administration Director	13.33	13.33	13.33
Communications & Engagement Director	120		
Ashley Overhouse: River Policy Manager	160		80
Tyler Goodearly: Fish Biologist	72	120	73
Karl Ronning: Hydrologist	20	120	100
Alecia Weisman: River Science Program Manager	24	80	124
Forest Health Watershed Coordinator	24	120	40
Restoration Coordinator		120	104
Community Engagement Manager	80		

TABLE 4: THIS GRANT WILL SUPPORT STAFF TIME FOR ELEVEN SYRCL STAFF MEMBERS. THE TOTAL COST FOR EACH TASK, AND THE APPROXIMATE NUMBER OF HOURS OF EFFORT FOR EACH STAFF MEMBER ARE SHOWN ABOVE.

Sub-Criterion C2 – Building on Relevant Federal, State, Or Regional Planning Efforts

Please describe how the proposed activities of the watershed group will complement or meet the goals of relevant Federal, state or regional planning efforts. Applicants should describe how the proposed activities of the watershed group will complement or meet the goals of applicable Federal, state or regional water plans. Reclamation suggests that groups contact Federal, state, or local agencies in your area to identify existing goals and plans relevant to the watershed group. Please reference any relevant plans, but do not include these plans as part of this application.

The proposed activities outlined in this grant proposal would complement, and in some cases advance federal, state, and regional planning efforts and water conservation plans. Specifically, the proposed actions complement or will advance the following (this list is not exhaustive):

California State Water Resources Control Board Watershed Management Initiative:

- Goal 1 Use water quality to identify and prioritize water resource problems within individual watersheds. Involve stakeholders to develop solutions. **Task B2.**
- Goal 2 Better coordinate local, state and federal activities and programs, especially those relating to regulations and funding, to assist local watershed groups. **Task B1.**

California Department of Water Resources

- Goal 1 Improved integrated watershed management. **Tasks B1, B2 & B3.**
- Goal 3 Restore ecosystem functions. **Task B3.**
- Goal 5 Improve interagency alignment. **Task B1.**
- Goal 7 Support decision making, adaptive management, and long-term planning. **Tasks B1, B2 & B3.**

California's Water Resiliency Portfolio

- Goal 10 Better leveraging of information and data to improve water management. **Task B2.**

National Marine Fisheries Service Central Valley Spring-run Chinook Salmon and Central Valley Steelhead Species Recovery Plans

- YUR-1.3 Develop programs and implement projects that promote natural river processes, including projects that add riparian habitat and instream cover. **Task B3.**

California Natural Resources Agency Water Action Plan

- Goal 9 Increase operational and regulatory efficiency. **Task B1.**

E.1.4. Evaluation Criterion D – Department of the Interior and Bureau of Reclamation Priorities

1. Creating a conservation stewardship legacy second only to Teddy Roosevelt

a. Utilize science to identify best practices to manage land and water resources and adapt to changes in the environment;

e. Foster relationships with conservation organizations advocating for balanced stewardship and use of public lands;

We anticipate that through meeting with stakeholders and analyzing existing data that our proposed and updated Watershed Restoration Plan will utilize the best available science to outline effective and sustainable management strategies. **Tasks B1 and B2.**

2. Utilizing our natural resources

c. Refocus timber programs to embrace the entire ‘healthy forests’ lifecycle;

d. Manage competition for grazing resources.

The Watershed Restoration Plan will include plans to decrease fuel load in forests in the North of the watershed and restore meadows that have succumb to overgrazing. Collaboration with stakeholders will also give SRYCL the opportunity to work with federal agencies to ensure they are managing these sensitive ecosystems. **Tasks B2 and B3.**

3. Restoring trust with local communities

a. Be a better neighbor with those closest to our resources by improving dialogue and relationships with persons and entities bordering our lands;

b. Expand the lines of communication with Governors, state natural resource offices, Fish and Wildlife offices, water authorities, county commissioners, Tribes, and local communities.

SYRCL already works with a diverse group of stakeholders within the watershed and plans to continue to foster those relationships. SYRCL will ensure that communication between the groups is effective to avoid conflicts and expand efforts to collaborate on projects. **Task B1.**

4. Striking a regulatory balance

b. Ensure that Endangered Species Act (ESA) decisions are based on strong science and thorough analysis.

SYRCL’s restoration projects on the lower Yuba River directly affect federally-listed anadromous fish species. By analyzing this data, the information gleaned from these projects will bolster future restoration plans. **Tasks B2 and B3.**

Environmental and Cultural Resources Compliance

The proposed activities in this project are all planning and development in nature. There will be no earthwork involved in any aspect of the project. Projects that result from the planning efforts of this grant may require environmental resource review and permitting. Funding and permitting for those projects would be secured as part of those grant applications

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 proposed project is a planning project in nature and will not have any impacts on the surrounding environment. There will be earth-disturbing work associated with this project.

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?

- No Federal threatened or endangered species, or designated critical habitat will be impacted by the planning efforts of this project.

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.

- There will be no wetlands or waterways impacts as a result of this proposed planning and outreach grant.

When was the water delivery system constructed?

- Several water delivery systems exist within the watershed. The earliest water delivery systems were built in the 1850's as part of the gold rush. The current water delivery system will be assessed as part of this proposal but no changes will be made under this grant.

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.

- The proposed project will result in no changes or modifications to any water delivery or irrigation system.

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.

- There are buildings, structures, and features within the proposed project area which are listed on the National Register of Historic Places. This proposed project is a planning and outreach project so no impacts to any existing, or eligible buildings, structures, or historic features will be made.

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

- No archaeological sites will be impacted as a result of this project

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

- This project will not have a disproportionately high and adverse impact on low income or minority populations. With this project SYRCL hopes to engage with a more diverse group of stakeholders in the watershed so that we can better steward our relationship and manage the water resources in the Yuba River watershed.

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

- The proposed project will not limit access to, or the 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. The proposed planning project will not contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species.

Federal Environmental, Cultural, and Historic Permits

As a community outreach and planning project, there are no permits or approvals required for the proposed activities.

Citations

¹ Petts, G. E. (1984). *Impounded rivers: perspectives for ecological management*. Wiley.

² Yuba County Water Agency (2009). *Preliminary information package FERC project No. 2246, Section 6*

³ California Agricultural Statistics Review (2019). www.cdfa.ca.gov/statistcs



SOUTH YUBA RIVER CITIZENS LEAGUE

RESOLUTION NUMBER: 2021-001

RESOLUTION OF THE BOARD OF DIRECTORS OF THE SOUTH YUBA RIVER CITIZENS LEAGUE
AUTHORIZING THE EXECUTION AND PERFORMANCE OF BUREAU OF RECLAMATION
WATERSMART AND ENERGY EFFICIENCY GRANT

WHEREAS, the Federal Government have provided Funds for the program shown above; and

WHEREAS, the Bureau of Reclamation has been delegated the responsibility for the administration of a portion of these funds, establishing necessary procedures; and

WHEREAS, said procedures established by the Bureau of Reclamation require a resolution certifying the approval of receipt of funds by the Applicant's governing board to accompany grant application.

BE IT HEREBY RESOLVED by the Board of Directors of the South Yuba River Citizens League that this Board:


- Approves the application of funds for the WaterSMART and Energy Efficiency program; and
- Certifies that the South Yuba River Citizens League understands the assurances and certification requirements in the contract; and
- Certifies that the South Yuba River Citizens League or title holder will have sufficient funds to operate and maintain the resource(s) consistent with the long-term benefits described in support of the application; or will secure the resources to do so; and
- Certifies that the South Yuba River Citizens League will comply with all legal requirements as determined during the application process; and
- Appoints Executive Director Melinda Booth, or designee, as agent to conduct all negotiations, execute and submit all documents, including but not limited to: applications, agreements, payment requests, and so on, which may be necessary for the completion of the aforementioned project(s).

APPROVED AND ADOPTED the 15th day of January 2021.

I hereby certify that the foregoing Resolution Number 2021-001 was duly passed by the Board of Directors of the South Yuba River Citizens League via email 1/14/2021-1/15/2021, by the following vote:

Ayes: 11 Noes: 0 Abstentions: 0 Absent: 0

Signed and approved by:



John Regan, Board Secretary

1/19/2021