

Further Development of the Bear River Watershed Group

Submitted to

The Bureau of Reclamation: WaterSMART
Cooperative Watershed Management Program

by

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Table of Contents

1. Executive Summary	-----	3
2. Background Data	-----	4
3. Technical Project Description	-----	6
i. Description of Applicant	-----	6
ii. Eligibility of Applicant	-----	7
iii. Goals	-----	9
iv. Approach	-----	10
v. Length of time	-----	13
4. Phase 1 CWMP Evaluation Criteria	-----	13
i. Criterion A1: Watershed Group Diversity	-----	13
ii. Criterion A2: Geographic Scope	-----	15
iii. Criterion B1: Critical Watershed Needs or Issues	-----	16
iv. Criterion B2: Watershed Group Contributions	-----	18
v. Criterion C1: Meeting Program Requirements	-----	19
vi. Criterion C2: Building on Planning Efforts	-----	21
vii. Criterion D1: Building Resilience to Drought	-----	23

Technical Proposal

1. EXECUTIVE SUMMARY

May 4, 2016

Sierra Streams Institute

Nevada City, Nevada County, California

Project Summary: Sierra Streams Institute seeks Phase 1 Task B funds to further develop and expand the Bear River Watershed Group for the Bear River in the western Sierra Nevada.

This project will build on the successes of the previous Phase 1 Task A project funded in 2014 by the Bureau of Reclamation WaterSMART Program. The previous project developed an inclusive Bear River Watershed Group that incorporated stakeholders from a myriad of government, community, private and nonprofit originations. A mission statement, a 300-page disturbance inventory, and a restoration project list were outcomes from the quarterly stakeholder meetings. Phase 1B will ensure that the previous two years of progressive successes will not come to a halt. This project will build on lessons learned from the Phase 1A project and address emergent challenges including 1) the different and possibly competing interests among our diverse stakeholder group, reflecting the ecological diversity represented within the watershed as a whole; 2) the larger scale and scope of projects resulting from this sub-watershed diversity; and 3) an unforeseen and controversial proposal to build a major dam on the Bear River.

In Phase 1B the Sierra Streams Institute team, led by the watershed coordinator, will continue to recruit stakeholders and formalize the complex coalition through targeted stakeholder outreach and broader community education. The watershed coordinator will lead the group to 1) further develop the mission statement, incorporating objectives and goals from continued stakeholder discussions; 2) synthesize and translate the group's disturbance inventory into a more comprehensive restoration plan and project concepts list; 3) continue watershed monitoring to produce necessary data to inform prioritization of restoration projects as well as frame debates around the dam proposal, and ultimately populate a prioritization model that shows interactions between major project types/topics that would help guide stakeholders in moving restoration work forward in the most logical and strategic manner; and 4) develop Phase 1 projects/deliverables to ready-to-implement stage for Phase 2 through a comprehensive restoration plan with prioritized list of projects and possible collaborations.

This work will produce a self-sustaining watershed group that will incorporate strategies and protocols that will continue to address the watershed's many pressing demands, which include coordination of land management, cleanup of legacy mining contamination, improvements to flow regime and water quality, restoration of ecologically important habitat, and addressing climate change and wildfire pressures. This project will continue to be supported by and coordinated with Placer Land Trust and Bear Yuba Land Trust. With recent successes by project partners in placing much of the watershed into permanent protection as well as the new threat of a proposed dam, it is critical that the work and momentum of this Watershed Group not be interrupted.

The project will take two years and will be completed by September 30, 2018.

2. BACKGROUND DATA

The Bear River in the western Sierra Nevada flows for 73 miles from just below Lake Spaulding reservoir at 5,500 feet to its confluence with the Feather River in the Central Valley. The Bear River watershed (Figure 1) is located on the west side of the north central Sierra Nevada and is a tributary to the Feather River between the Yuba and American River drainages. It is contained within the borders of Nevada, Placer, Sutter and Yuba counties, which are among the fastest growing regions in California. The Bear River watershed drains from conifer forests above 5000 feet to Sacramento Valley agricultural areas below 100 feet, where it joins the Feather River. The watershed is 296,452 acres and includes over 990 miles of stream, creeks and rivers, not including ephemeral creeks. Wolf Creek and Dry Creek are major tributaries, with Wolf Creek flowing through the only major city in the watershed, Grass Valley. There are several rapidly urbanizing areas along the highway 49 corridor, leading to an increased need to protect and manage private land.

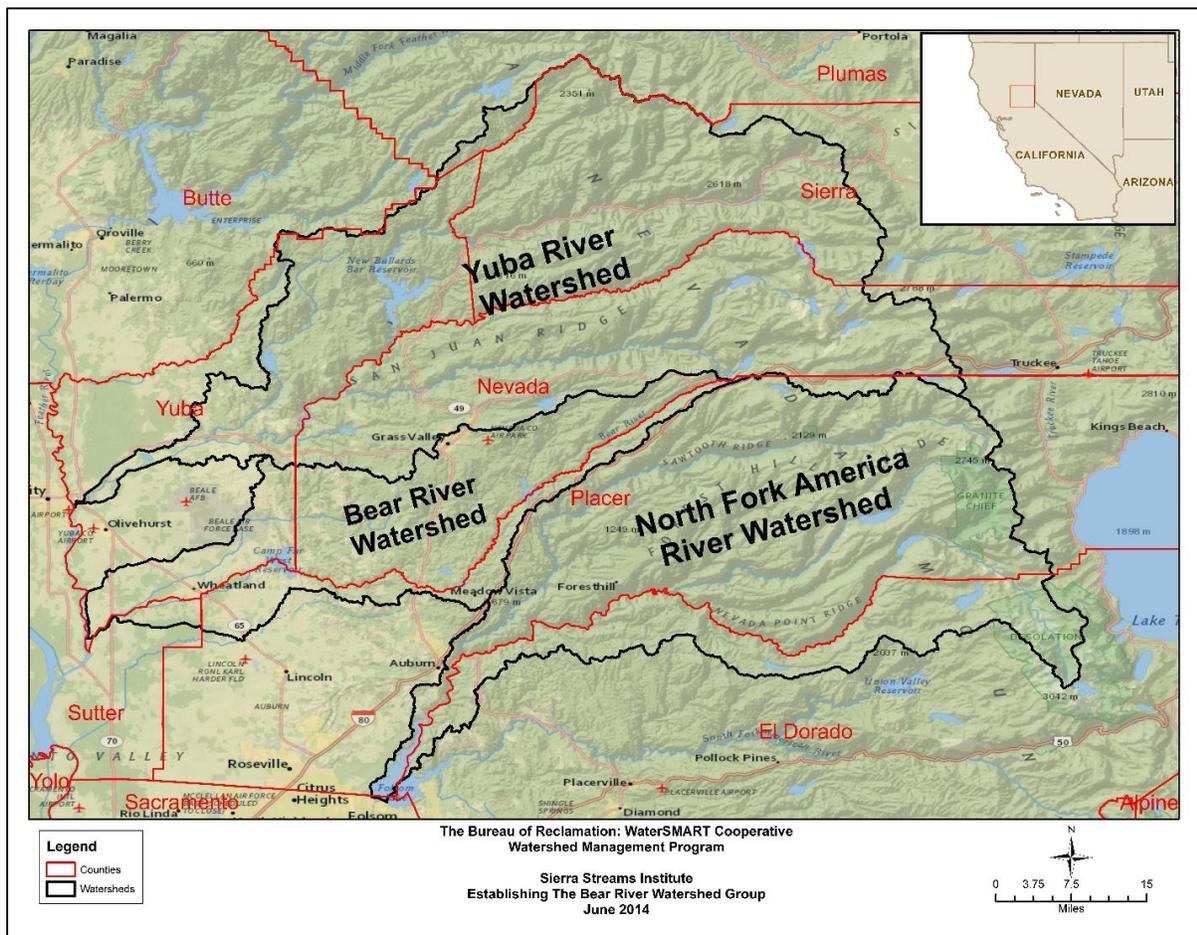


Figure 1: Bear River Watershed located in the Sierra Foothills of California.

Yuba County and the city of Grass Valley in Nevada County are classified as “disadvantaged communities” with a median household income below 80% of the statewide income. According to the 2014 Census data and the State of California Employment Development Department, the social and economic demographics for the impacted communities within the watershed are as follows: Population: 73,966-371,940; Per Capita Income: \$19,244-\$34,886; Unemployment: 4.4-8.1%; Poverty Rate: 8.3-20.6%; and Percent Minority: 6.4-26.0%. The Nisenan tribal members, who are part of an underserved community that used this area as their historical lands, are still living in the area and trying

to reconnect to the land. The Nisenan have become active in the stakeholders group and are already bringing important traditional ecological knowledge and perspectives to discussions of the restoration plan.

Stewardship efforts in this severely impacted watershed have historically been hampered by many factors related to fragmentation of management efforts by diverse public and private interests, and the scarcity of resources and lack of coordination of public interests in the protection of natural resources. As one of the most heavily managed watersheds in the Sierra Nevada – and among the most grievously afflicted by the events that began with the California Gold Rush in 1849 – the Bear River has a multitude of critical issues:

- Listed under section 303(d) of the Clean Water Act for mercury and diazinon
- High density housing growth in process and planned for the watershed
- Heavily regulated water flows
- Five years of drought and other climate change impacts
- Fragmented ownership, with 87% privately owned, and lack of local coordinated stewardship
- 172 dams or diversions, with planning in place for a major new dam in the upper watershed
- Lack of any long-term watershed-wide monitoring data
- Almost total loss of viability for native salmon
- Pervasive non-native vegetation, particularly yellow star thistle, Scotch broom, and Himalayan blackberry
- New threat of post-fire erosion of heavy metal contaminants across 2,304 acres in the Bear's upper watershed in the wake of the 2015 Lowell Fire

Water flows are heavily regulated for a combination of urban consumptive, agricultural irrigation, and hydropower uses. Flows in the Bear River drainage are largely controlled by Nevada Irrigation District, PG&E, and South Sutter Irrigation District.

Recent changes in land tenure have created an opportunity that will allow for a coordinated management approach for the first time in the Bear River's troubled modern history. The vast majority (87%) of land within the watershed is privately owned. The large proportion of privately held land demands effective community engagement and coordination of education and outreach efforts. The large tract of privately held land belonging to PG&E in the upper watershed is currently being transferred to new ownership for public benefit with permanent protection through conservation easements held by Bear Yuba Land Trust and Placer Land Trust. Once these agreements are complete, there will be an opportunity for more community engagement in the coordinated management of these lands. In addition, Bear Yuba Land Trust and Placer Land Trust have worked together to acquire outright (in fee title) or to place agricultural easements on private land in the lower watershed, which has resulted in the creation of a protected wildlife corridor across 8,000 acres along six river miles of the Bear River.

Located within the watershed is the 80-square-mile Wolf Creek sub-watershed, which flows through the city of Grass Valley. Wolf Creek suffers from severe impacts similar to those that afflict the Bear, but with the addition of the problems associated with urban waterways. In Grass Valley the creek is extensively channelized, lined in concrete, or encased underground. As recently as 2007, a section of the creek was buried under the parking lot of a new Holiday Inn Express in downtown Grass Valley. The creek is used by Nevada Irrigation District (NID) as a conveyance canal for irrigation from mid-April to mid-October, with water diverted from Deer Creek in the Yuba watershed and from Lake Spaulding in the South Yuba River. NID water comprises the majority of Wolf Creek's summer flow through Grass Valley. Urban development infringes into its riparian corridor and up to its constrained banks. Accidental releases of wastewater at the City of Grass Valley's wastewater treatment plant on

Wolf Creek as well as numerous septic tanks close to the riparian zone, cause periodic sewage spills into the creek, resulting in Wolf Creek being 303(d) listed for bacteria. Grass Valley has one of the highest concentrations of abandoned mines in the Sierra, with 74 known abandoned mines within the city limits of Grass Valley, and 337 in the Wolf Creek Watershed, plus tailing piles, placer diggings, acid mine drainage, and old hydraulic mining sites.

Another major tributary to the Bear, Dry Creek, runs through the California Department of Fish and Wildlife's (CDFW) Spenceville Wildlife Refuge. Along with the Bear River main stem downstream of Camp Far West, Dry Creek is viable habitat for listed species of Chinook salmon. The creek suffers severe impacts from historic copper mining. Sierra Streams Institute in partnership with Friends of Spenceville has developed and begun to implement a water quality-monitoring plan for Dry Creek on behalf of CDFW. Below Spenceville, a major portion of Dry Creek runs through Beale Air Force Base, providing extensive protected habitat with a staffing commitment to environmental conservation. Beale AFB installed a fish ladder on Dry Creek as part of their efforts to protect wildlife.

Although significant efforts have been in place on behalf of the Bear River since at least 1998, these efforts were not successful in achieving the comprehensive assessment necessary for planning next steps. The Bear River Coordinated Resource Management Plan (CRMP) process initiated in 1998 led to development of a Disturbance Inventory but the CRMP itself was never written. A watershed coordinator was funded in 2004, but was not successful in bringing the parties together as needed. A comprehensive monitoring effort for Wolf Creek began in 2013, in an effort to solidify the ten-year monitoring effort by Wolf Creek Community Alliance, a watershed group based in Grass Valley. Until 2014, when the Establish a Bear River Watershed Group Project was funded by a Phase 1 Task A grant from the Bureau of Reclamation WaterSMART Program, no comprehensive watershed-wide monitoring effort had taken place for the Bear River.

3. TECHNICAL PROJECT DESCRIPTION

i. DESCRIPTION OF APPLICANT

Started in 2014 with funding from Bureau of Reclamation WaterSMART Program, the Bear River Watershed Group is a cooperative watershed-wide group comprised of diverse stakeholders in the Bear River watershed. The stakeholders have coalesced around general calls to participate in the coordinated management of the watershed as well as in response to specific issues including plans to develop recreational trails, the ongoing FERC relicensing process, and most recently, the proposed Centennial dam project. Membership is robust and diverse, and includes representatives of local, federal and state government, private property owners, conservation groups, irrigation districts, tribal members, and others.

The current group had roots in the Yuba Bear Watershed Council (YBWC), a long-standing if uneven local forum for sharing information and coordinating efforts in the Yuba and Bear Watersheds. Sierra Streams Institute was a founding member and a staff member served as the first president of YBWC. Out of this council, the idea for creating a watershed group specifically for the Bear emerged, and the YBWC Council served as a forum for reaching out to stakeholders to initiate the development of the inclusive Bear River Watershed Group.

Members of the group are an integral component of every decision process, taking an active role in each meeting as well as in the development of the mission statement, disturbance inventory, and watershed management and restoration project concepts. The active membership of the Bear River Watershed Group includes representatives from the following:

Federal Agencies: US Forest Service - Tahoe National Forest; US Fish & Wildlife Service; Beale Air Force Base Conservation Corps; Bureau of Land Management; US Geological Survey; US Bureau of Reclamation-Mid-Pacific Region; National Marine Fisheries Service-SW Region; Natural Resources Conservation Service

State Agencies: CA Department of Fish & Wildlife; CalFire; State Water Resources Control Board; Sierra Nevada Conservancy

Counties: Nevada County (Planning Department, Agricultural Commissioner, Environmental Health Department, Local Agency Formation Commission); Placer County (Building Department, Environmental Health Department, Planning Department, Public Works, Agricultural Commissioner, Local Agency Formation Commission, Office of Emergency Services, Mosquito Abatement District); Yuba County (Agricultural Commissioner); Sutter County (Agricultural Commissioner) Have you checked that all of these groups have attended?

Tribes: Nevada City Rancheria; Auburn United Indian Community

Water Agencies: Nevada Irrigation District; Reclamation District 1001; Camp Far West Irrigation

Agricultural Organizations: Placer County Farm Bureau

Non-Profit Organizations: Bear Yuba Land Trust; Placer Land Trust; Wolf Creek Community Alliance; Wolf Creek Community Alliance; Friends of Spenceville; American Rivers; The Sierra Club; Foothills Water Network; The Sierra Fund; Point Blue Conservation Science; Northern California Council of Federated Fly Fishers; Gold Country Fly Fishers; South Yuba River Citizens League (SYRCL); American River Watershed Institute; North Fork American River Alliance

Communities: Meadow Vista; Dutch Flat; You Bet

Consultants: Stantec Consulting; Michael Baker International

This proposal to extend the work of the Watershed Group has substantial support from community partners, with letters of support from a representative array of stakeholder members including: Nevada Irrigation District (NID), California Department of Fish and Wildlife, Bear Yuba Land Trust, Placer Land Trust, Stantec Engineering Company, Wolf Creek Community Alliance, Local Landowner, Nisenan Tribe of the Rancheria (attached). It is important to note that with the contention of the Centennial Dam proposals, the success of the Watershed Group and Sierra Stream Institutes in non-partisan, science based led forum, that NID has submitted a letter stating their support of the Watershed Group even with some stakeholder members who are opposed of the Dam proposal present at meetings.

ii. **ELIGIBILITY OF APPLICANT**

Sierra Streams Institute is an eligible applicant under III.A.1. as a 501(c)(3) non-profit watershed science organization based in Nevada City, California, in the Sierra Nevada foothills. Sierra Streams Institute has the ability to promote sustainable use of water resources and to significantly affect the quality and quantity of water in a watershed, important ecological habitat, and land management stewardship. Sierra Streams has direct experience with working in partnerships to promote collaborative solutions to watershed issues under numerous challenges including aging infrastructure, rapid population growth, depletion of groundwater resources, water needs for human and environmental uses, and drought and climate change.

Sierra Streams Institute is a watershed science organization based in Nevada City, California in the Sierra Nevada foothills. Founded as Friends of Deer Creek in 1996 to monitor the creek for the city of Nevada City during the demolition and reconstruction of a road bridge, Sierra Streams Institute has grown to become a vitally important voice in the regional scientific community. Sierra Streams

Institute's mission is to link water, science, and people to protect human and environmental health. Our programs include: comprehensive watershed monitoring, assessment and restoration; education; training of other groups and agencies in community-based watershed stewardship practices; lab services; and research. We work with local, state, and federal agencies, as well as universities and community groups, to find solutions to the problems that afflict watersheds and human communities throughout the region. Scientific staff members include two hydrologists, two geologists, three biologists, a chemist, and two educational specialists. Sierra Streams Institute's emphasis on rigorous science and consistent data collection provides the basis for all of our restoration decisions, and makes us an especially valuable partner of local government agencies. Sierra Streams Institute enjoys a level of community support that allows us to foster collaborations between private landowners, community members, businesses, and government entities for the protection of public and environmental health.

Of particular note, our organization has practiced community-based science and has trained hundreds of local community members to collect monthly water quality monitoring data, producing sharable, quality-assured data for over fifteen years. Thus, we have created a community of "citizen scientists" who understand the value of local stewardship and monitoring and their contribution to a larger body of knowledge. These volunteer citizen scientists are currently monitoring at ten sites along the Bear, and many are also attending stakeholder meetings. With an emphasis on citizen engagement in watershed stewardship, Sierra Streams Institute has achieved a high degree of coordination of efforts on behalf of Deer Creek, including a Coordinated Resources Management Plan, collaborative modification of management practices at Lake Wildwood Reservoir for the benefit of downstream environmental health, and numerous restoration, revegetation, abandoned mine land assessment and remediation, and salmon habitat enhancement projects, as well as fifteen years of consistent monthly water quality monitoring data.

Sierra Streams Institute has a highly successful track record in the neighboring Deer Creek watershed, implementing projects that have brought dramatic improvements to water quality, as measured by our fifteen years of consistent water quality data. One notable outcome has been a more than five-fold increase in salmon spawning activity since 2011. Our success stems from the successful completion in 2003 of a watershed assessment, the Deer Creek Coordinated Resources Management Plan (CRMP). The CRMP process brought together all of the stakeholders in the watershed in a sometimes contentious but ultimately productive collaboration, which led to our success in securing funds and implementing projects that have resulted in measurable water quality improvements. Our facility includes a full laboratory, including a mercury analyzer, giving us the capacity to process samples at low cost in a timely manner. We have conducted research measuring the transport of mercury over dams during storms in gold mining-impacted streams, and were able to quantify the amount of mercury transported downstream in each storm event. In 2011, we completed a watershed-wide Restoration Plan for Deer Creek based on ten years of citizen monitoring data. This plan serves as a guide to our current and future restoration efforts.

In 2009, we began to apply our highly effective stewardship model to other streams in the Sierra and throughout California, particularly the Bear River watershed. Sierra Streams Institute is a longtime member and signatory of the Yuba Bear Watershed Council, a coalition of stakeholders dedicated to coordination of efforts in the Bear and Yuba River watersheds, and a staff member of Sierra Streams Institute recently served as president. Sierra Streams has entered an agreement with Bear Yuba Land Trust to plan for restoration of lands in the Bear Watershed held by Bear Yuba Land Trust in conservation easement. We act as fiscal sponsor for a monitoring project currently in progress by Wolf Creek Community Alliance on behalf of Wolf Creek, a tributary of the Bear River. As well as providing fiscal management and oversight for Wolf Creek Community Alliance, we trained their volunteer

monitors, designed their monitoring plan, planned and conducted heavy metal sampling, and performed lab analysis. In February 2014, we began a partnership with CDFW and Friends of Spenceville to monitor Dry Creek, a major tributary to the Bear.

For the past eighteen months Sierra Streams Institute has been actively and productively engaged in the successful development of a Bear River Watershed Group with Phase 1 Task A funding. This project is now in the final months of work with the following Phase 1, Task A activities successfully completed:

- Establishment of the Bear Watershed Stakeholders Group with multiple successful stakeholder meetings
- Built sufficient stakeholder consensus to develop a mission statement
- Produced a 300-page Comprehensive Disturbance Inventory
- Project Concepts List for Research Projects to fill gaps in the Disturbance Inventory
- Created monitoring plan, trained monitors who are actively doing water quality monitoring at ten sites.

Two additional Phase 1, Task A activities are currently underway and on track for completion in September 2016:

- Envisioning a list of 200+ projects within the final restoration plan with no prioritization.
- Initial Bear River Restoration Plan

The initial Bear River Restoration Plan is currently being written by Sierra Streams Institute under the Phase 1A funding, with substantial input from diverse members of the Bear River Watershed Group, who have been meeting quarterly for the past year and a half to interpret past data and determine data gaps and develop ideas for restoration projects in order to structure and implement more coordinated management of the watershed.

Significantly, recent matching funds from the Jiji Foundation and Patagonia have enabled SSI to supplement Bureau of Reclamation-funded work, including a bird, mammal and frog monitoring project in prioritized areas of the Bear River and a small emergency restoration project just downstream of the Lowell fire where heavy metal contaminants are eroding into the stream. In addition, SSI has used data from the Disturbance Inventory to partner with the BLM, one of the participants in the stakeholder group, on an application for funding to do a more extensive restoration in a larger area below the Lowell fire site.

iii. GOALS

The currently proposed project, *Further Development of the Bear River Watershed Group*, would extend and amplify our initial efforts to conduct a comprehensive watershed assessment focused on the significantly impacted Bear River watershed. The current proposal will consolidate our progress to date, enabling us to better coordinate the diverse current stakeholders, to recruit other critical stakeholders and fill gaps in representation, and to build greater collaboration and capacity to pursue future restoration projects that promote water quality and habitat improvements and better management of land and water resources.

We seek funds to perform Task B – *Further Development of a Watershed Group*. The overall goal of the Bear River Watershed Group is to provide rigorous scientific data and diverse stakeholder coordination for long-term protection and restoration efforts in the watershed.

The Bear River Watershed Group has the following goals and objectives:

1. Expand the current Bear River Watershed Group, filling gaps in membership with particular attention to large agricultural landowners.
2. Further develop the mission statement incorporating more thorough objectives and goals from stakeholder discussions
3. Identify potential affinity groups and build networks among Watershed Group members for long-term self-sufficiency and collaborations (including external fundraising and grants) on future restoration projects
4. Expand Task 1A monitoring sites from ten to fifteen to produce needed additional baseline data for Restoration Plan as well as debate surrounding proposed dam project. An additional year or two of data will also help with creating projects and assessing impacts
5. Provide science-based, data-driven discussion forum for Watershed Group engagement with proposed Centennial Dam project
6. Public outreach education campaign to raise community awareness of the work of the Watershed Group and the myriad issues facing the watershed.
7. Synthesize disturbance inventory into a more exhaustive project concepts list, possibly organized by sub-watershed to encourage consensus among stakeholders with different and possibly competing interests.
8. Complete a restoration plan for the Bear River with prioritized, implementation-ready projects.
9. Produce foundation for digital modeling project to help with project prioritization and creation of partnerships for future restoration work.

iv. **APPROACH**

The approach for Phase 1 Task B, *Further Development of the Bear River Watershed Group*, is informed by key take-aways from nearly two years of on the ground work in Phase 1 Task A, most particularly the need for continued stakeholder outreach and coordination. The first eighteen months of consistent stakeholder meetings have successfully produced a robust and engaged group and all deliverables identified in Task A have been or will be completed by the end of 2016.

However, the Bear Watershed is more diverse, with a larger stakeholder group and greater differences within sub-watersheds than we anticipated when developing the original Task A proposal. Additionally, the proposed Centennial Dam project, also unknown in 2014, has created unforeseen challenges to coalition-building efforts, while also powerfully demonstrating the need for 1) developing an objective science-driven understanding of what is at stake for the watershed, 2) educating stakeholders and the public about the issues and potential consequences in a non-partisan manner; and 3) providing rigorous baseline data to guide future restoration projects as well as to help depoliticize the decision-making process around the proposed dam.

Our approach for Task B is broken down into three major activities: Expand and Consolidate Watershed Group, Additional Monitoring, and Restoration Plan and Digital Prioritization Model.

Expand and Consolidate Watershed Group: Additional funding is crucial to continue the quarterly stakeholder meetings and the work of the Bear River Watershed Group. Substantial engagement and momentum has been built and must be maintained, particularly in light of the dam proposal submitted in 2015 by the Nevada Irrigation District. With six miles of the Bear River subject to flooding by the dam project, the Centennial Dam proposal has made the already complex stakeholder coalition building even more challenging – while giving an even greater urgency to critical restoration needs and

providing objective data and perspectives to inform public debate on the dam and the future of the watershed.

Our top priority, given the range of diverse, and sometimes competing, interests among stakeholders, is to identify and develop affinity groups, leading to coalitions within the larger group. We see a distinct need for building networks between current participants that would enable them to identify shared interests and potential collaborations for future restoration projects. The ultimate goal is a self-sustaining stakeholders group that is able to work independently as well as collaboratively to develop partnerships, seek external funding, and pursue a wide range of priority restoration projects.

Moving forward, we also will work to fill gaps in stakeholder representation to ensure that all voices and interests are represented in the development of the restoration plan. After eighteen months of consistent watershed group meetings we have identified gaps in representation, which we seek to fill through Task B funding. Of particular concern is the low level of participation by agricultural organizations and landowners. Given the importance of working landscapes within the Bear River watershed, significant effort will be made to engage this constituency. Groups listed below under Agricultural Organizations/Agencies will be the focus of a targeted outreach campaign. Additional new membership of the Bear River Watershed Group will be solicited from the following:

Federal Agencies: USDA, Natural Resources Conservation Service, Grass Valley, Auburn and Yuba/Sutter service centers; USDA, Farm Services Agency, Nevada/Placer and Yuba/Sutter; Federal Energy Regulatory Commission; USDA, US Army Corps of Engineers, Sacramento District; US Environmental Protection Agency, Region IX Office; Federal Emergency Management Agency (FEMA), Region IX Office; National Marine Fisheries Service Southwest Regional Office

State Agencies: California State Lands Commission; California Governor's Office of Emergency Services; California Conservation Corps; California Department of Forestry and Fire Protection; California State Parks; Central Valley Regional Water Quality Control Board; California Department of Toxic Substances Control; California Geological Survey; California Department of Food and Agriculture; California Integrated Waste Management Board; Northern Sierra Air Quality Management District; Feather River Air Quality Management District

Counties: Reclamation District 817 (Dry Creek/Bear River); Reclamation District 1001 (Bear River)

Cities: City of Grass Valley; City of Wheatland; City of Colfax

Utilities: Pacific Gas & Electric

Water Agencies: Placer County Water Agency; South Sutter Water District

Agricultural Organizations/Agencies: Nevada County Farm Bureau; Yuba/Sutter County Farm Bureau; Nevada/Placer Weed Management Area; Sutter/Yuba Weed Management Area; Placer County Farm and Home Advisor; Nevada County Farm Advisor; University of California Extension, Nevada, Placer, Sutter-Yuba Counties; California Farm Bureau Federation; Society of American Foresters; Associated California Loggers; California Cattlemen's Association; Tahoe Cattlemen's Association, Nevada County RCD, Placer RCD, UC Davis Extension

Non-Profit Organizations: Sierra Business Council; The Trust for Public Lands; American Farmland Trust

Fire Safety Groups: Greater Colfax Area Fire Safe Council; Placer County Fire Safe Alliance; Fire Safe Council of Nevada County

Finally, we will pursue opportunities to educate the broader public about the work of the Watershed Group. For example, we envision at least two public talks by SSI scientists and/or stakeholder group members for the Sierra College Science Speakers Series (which we co-produce). There will also be multiple public forums over the course of the next year to discuss the impending dam proposal in which we will participate to bring the findings and recommendations of the Watershed Group.

Additional Monitoring: In Phase 1A activities, the group addressed water quality issues by developing and implementing a monitoring plan, the first watershed-wide effort to collect baseline data, which built on the water quality monitoring efforts underway in the Dry Creek and Wolf Creek sub-watersheds led by Sierra Streams Institute. The group identified ten sites throughout the watershed as priorities for providing a snapshot of watershed conditions across a diverse range of ecological, environmental and human impact situations.

Phase 1B will continue the monitoring of the original ten sites to give a multiyear datum that will start to point to trends within the watershed. An additional five sites will be added that were deemed important, but were outside of the original Phase 1A budget constraints.

Additional monitoring – of both the original ten sites and the five new sites – to produce substantial baseline data and increase the number of years of monitoring is critical for creating a comprehensive restoration plan with implementation-ready projects, but also to ensure that the already-contentious debate over the proposed Centennial Dam and the future of the Bear River Watershed is framed around objective science-driven principles and data.

Restoration Plan and Prioritization Model: Given the complexities of the watershed and the diversity of stakeholder interests, the restoration plan currently being written for Phase 1A will provide a list of 200+ project concepts without prioritization. An additional two years of funding for further stakeholder consolidation and expanded watershed monitoring would enable us to produce a Restoration Plan with a prioritized list of projects and possible collaborations as well as develop Phase 1 projects/deliverables to ready-to-implement phase with workable partnerships.

We also anticipate that Phase 1B time and funding could be leveraged for additional external support to build an interactive digital model that would provide data-driven strategies for prioritizing restoration projects within the watershed. Inspired by a model developed for another SSI collaboration (see www.cabreastcancer.org/causes/index.php), this digital model would enable prioritization of projects within specific topics/types (water, wildlife, fire, etc.) and in other strategic ways depending on the needs and interests of different affinity groups within the watershed. Through its graphic portrayal of interconnected restoration issues, stakeholders would more easily be able to identify interrelationships among complex projects that address multiple restoration needs. This model could be used by all stakeholders regardless of interests or sub-watershed specificity, and could also provide an exportable model to be used by other stakeholders in other watersheds.

Staffing: The tasklist, deliverables, and timelines are outlined in the table below in Criterion C2. The workplan will be accomplished through the efforts of the Sierra Streams Institute project team. Key members include:

Executive Director/Biologist – high level oversight and strategic planning, networking/liason to the stakeholders group.

Watershed Coordinator/Geologist – overall project manager, stakeholder meeting lead, production coordinator for restoration plan and monitoring plan, principal geologist/hydrologist for project.

Wildlife Biologist – lead wildlife biologist and ecologist, will assist with the restoration plan and monitoring plan.

Outreach/Volunteer Coordinator – administrative and logistical oversight for stakeholder meetings, outreach and networking of stakeholders as well as for citizen-science volunteers performing monitoring. Given the complexities of stakeholder coordination experienced in Phase 1A, we have budgeted substantial time for this position

Additionally, SSI has contracted with a local meeting facilitator with expertise in local environmental issues; her facilitation of stakeholder meetings in Phase 1A has been critical in navigating the unforeseen challenges of the dam proposal and competing stakeholder interests. We have also budgeted additional funds for this position.

To oversee data collection and the monitoring program, the core Sierra Streams Institute team works with an extensive network of community partners and volunteers, as well as the laboratory director. Sierra Streams Institute has an in-house laboratory and much experience with water quality monitoring data collection and analysis.

v. LENGTH OF TIME AND ESTIMATED COMPLETION DATE

The project will take two years and will end by September 30, 2018.

4. EVALUATION CRITERIA

i. CRITERION A1: Watershed Group Diversity

The Bear River watershed is subject to intense development pressure as well as severe and continuing historical impacts resulting from a century of intense gold mining activity beginning with the California Gold Rush. 87% of the watershed is in private hands (individual and corporate) in a highly fragmented checkerboard ownership pattern that defies coordinated management; with no towns along the main stem, the watershed lacks a coordinated human community. Grass Valley, an economically disadvantaged community, is located on the tributary Wolf Creek. The community organization Wolf Creek Community Alliance was established in 2004 to monitor and protect the Wolf Creek watershed. Friends of Spenceville began a partnership with Sierra Streams Institute in 2014 to monitor another tributary, Dry Creek. No comparable effort exists for the main stem.

The Bear River Watershed Group Project has brought a diverse group of stakeholders together in this under-stewarded watershed at a unique moment in its history. The watershed is on the brink of transformation, due to a confluence of events: the proposal for the Centennial Dam by the private utility Nevada Irrigation District (NID); the compulsory dispersal of lands owned by the public utility Pacific Gas & Electricity (PG&E) for conservation purposes; the subdivision and planned residential development of lands in the middle watershed; the new terms and conditions implemented as a result of the FERC Yuba-Bear and Drum-Spaulding relicensing; and the placement of large swathes of agricultural land in the lower watershed into permanent protection.

With conservation and recreational development efforts underway by a large number of disparate entities, combined with the need for coordinated management of newly protected lands and for watershed protection to be in place for land slated for development, it is essential to have a strong coordinated effort and plan in place to ensure that these efforts are in accordance with the wishes of the communities and with the needs of the many stakeholders.

The stakeholders in the Bear River have emerged through a variety of processes as outlined below. The current membership of the Bear River Watershed Group represents a diverse set of interest from federal, state, county, tribal organizations, water and agricultural agencies, nonprofit organizations, communities, consultants, and individual property owners. One intent of this proposal is to further

collaborations of existing members as well as to continue outreach to new stakeholders not already represented within the group. This will enhance creation of a watershed-wide framework for all of these disparate stakeholders to come together for the purpose of reaching consensus in perpetuity.

Over the past eighteen months, outreach to stakeholders has taken many forms and will continue based on the successful approaches of the Phase 1A project. SSI's outreach/volunteer coordinator, under the direction of the watershed coordinator, will continue to target new stakeholders that represent the full geographic scope of the watershed by pursuing new membership through the current stakeholders: Continued collaboration with current stakeholders throughout the watershed and sustained outreach to target new stakeholder membership will include a variety of approaches to maximize stakeholder diversity and geographic range. To help us engage new members and fill the gaps in the participants list, we also will leverage the network of current stakeholders including:

Federal Agencies: US Forest Service - Tahoe National Forest; US Fish & Wildlife Service; Beale Air Force Base Conservation Corps; Bureau of Land Management; US Geological Survey; US Bureau of Reclamation-Mid-Pacific Region; National Marine Fisheries Service-SW Region; Natural Resources Conservation Service

State Agencies: CA Department of Fish & Wildlife; CalFire; State Water Resources Control Board; Sierra Nevada Conservancy

Counties: Nevada County (Planning Department, Agricultural Commissioner, Environmental Health Department, Local Agency Formation Commission); Placer County (Building Department, Environmental Health Department, Planning Department, Public Works, Agricultural Commissioner, Local Agency Formation Commission, Office of Emergency Services, Mosquito Abatement District); Yuba County (Agricultural Commissioner); Sutter County (Agricultural Commissioner)

Tribes: Nevada City Rancheria; Auburn United Indian Community

Water Agencies: Nevada Irrigation District; Reclamation District 1001; Camp Far West Irrigation

Agricultural Organizations: Placer County Farm Bureau

Non-Profit Organizations: Wolf Creek Community Alliance; Wolf Creek Community Alliance; Friends of Spenceville; American Rivers; The Sierra Club; Foothills Water Network; The Sierra Fund; Point Blue Conservation Science; No. Cal. Council Fed. Fly Fishers; Gold Country Fly Fishers; South Yuba River Citizens League (SYRCL); American River Watershed Institute; North Fork American River Alliance

Communities: Meadow Vista; Dutch Flat; You Bet

Consultants: Stantec Consulting; Michael Baker International

Beyond this engaged core of participants, outreach will be conducted through our partners at Bear Yuba Land Trust and Placer Land Trust, who have worked with agricultural landowners in the lower watershed to create a wildlife corridor that is permanently protected from development through conservation easements. Land in the lower watershed is made up of very large agricultural properties that have typically been held in the same family for more than one hundred years. Bear Yuba Land Trust recently launched the "Land for Farms" Campaign, an effort to work with these large landowners to preserve agricultural land from development. Individual landowners will be recruited to participate in the development of the watershed group.

This proposal to extend the work of the Watershed Group has substantial support from community partners, with letters of support from a representative array of stakeholder members including: Nevada Irrigation District (NID), California Department of Fish and Wildlife, Bear Yuba Land Trust, Placer

Land Trust, Stantec Engineering Company, Wolf Creek Community Alliance, Local Landowner, Nisenan Tribe of the Rancheria (attached). It is important to note that with the contention of the Centennial Dam proposals, the success of the Watershed Group and Sierra Stream Institutes in non-partisan, science based led forum that NID has submitted a letter stating their support of the Watershed Group even with some stakeholder members who are opposed of the Dam proposal present at meetings.

ii. CRITERION A2: Geographic Scope

The watershed consists of two 8-digit Hydrological Unit Codes (HUC): Upper Bear 18020126, and Lower Bear 18020108. This proposal will treat the two HUCs as a coordinated whole. The map below (Figure 2) outlines the geographic scope of the watershed group.

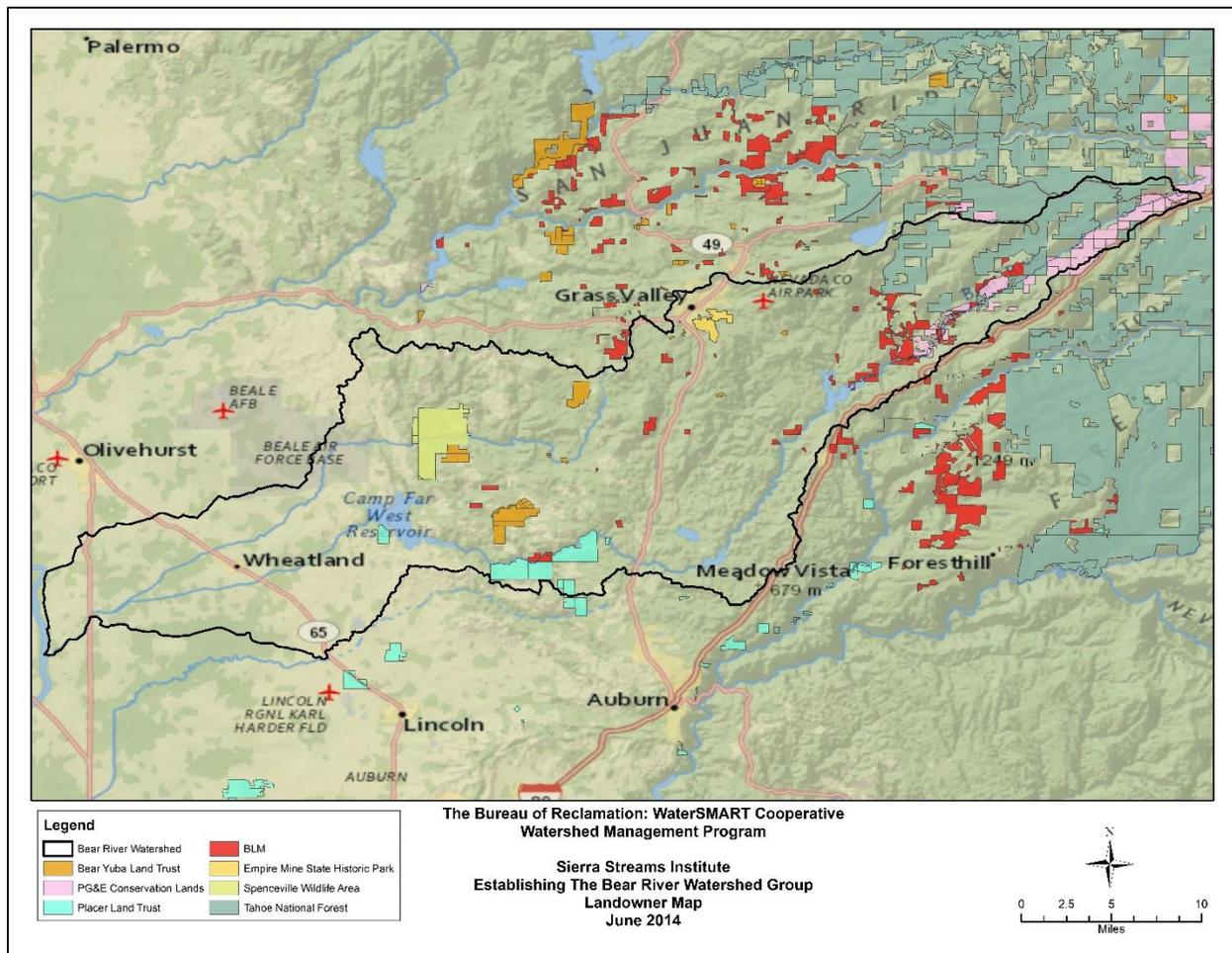


Figure 2: Landowner Map of public lands, private conservation lands, and Land Trust lands.

Geographic Scope of Representation: In the lower watershed, property ownership consists of very large agricultural parcels. Conservation efforts in this reach have been coordinated to date by Placer Land Trust and Bear Yuba Land Trust to promote the permanent protection of agricultural lands. Efforts to engage these key landowners will center on the prior relationships developed by Placer Land Trust and Bear Yuba Land Trust.

In the upper watershed, much of the property is owned by the utility PG&E and US Forest Service/Tahoe National Forest, who are currently engaged in the FERC relicensing process.

Compulsory divestment of PG&E land is currently underway through the Stewardship Council, with large swathes of land being placed in permanent protection through conservation easements held by Placer Land Trust, Bear Yuba Land Trust, CalFire, and University of California, Berkeley. Additional land throughout the watershed is managed by the Bureau of Land Management.

Expanding Geographic Scope of Representation: A major component of this proposal is to continue engagement with current members as well as expand the representation of new membership. To do this, we have added an Outreach Coordinator that will specifically devote time to the continual outreach needs in growing a membership base.

iii. **CRITERION B1: Critical Watershed Needs or Issues**

The Bear River Watershed, on the western slopes of the northern Sierra Nevada, is one of the most impacted, and simultaneously least-studied, watersheds in the state. It is home to a diversity of plant, wildlife, and human communities, and has a complex history of development and anthropogenic impact.

Right now the most pressing issue facing the watershed is the NID's proposed Centennial Dam project. The proposed dam would flood six miles of the Bear River, with substantial impacts on land and wildlife as well as humans, with 25 homes and 120 parcels potentially affected. Not surprisingly, the proposal has created significant controversy in the local community and among stakeholders in the Bear River Watershed Group. Significantly, NID is an active member of the Watershed Group and continues to support the project because of its scientific bent, which is extremely valuable to this process of collaboration. The proposal will be voted on in a year, during which time continued work by the Watershed Group is critical.

At the initial formation of the watershed group, members agreed that the first step to addressing watershed issues and needs was to complete a disturbance inventory. These major issues have been laid out in the recently completed Disturbance Inventory, which details the current state of the watershed including:

Land Ownership: The vast majority of the watershed (87%, 266,052 acres) is owned by private individuals or corporations. These lands are subject to a wide variety of uses including logging, grazing, vineyards, and large residential properties. There is no watershed-wide basis for regulation of these activities, making consistency for watershed protection challenging.

Since 2005, Placer Land Trust has prioritized the Bear River as a focus area for conservation, particularly the middle stretch of the Bear River from Lake Combie downstream to Camp Far West Reservoir. Placer Land Trust has protected over four miles of Bear River frontage and 3,600 acres of contiguous land in the Bear River watershed in Placer County.

On the Nevada County side, Bear Yuba Land Trust has secured permanent protection for over 3,500 acres of land in the Bear River watershed including a 652-acre working ranch with two miles of Bear River and two miles of Little Wolf Creek frontage. Bear Yuba Land Trust holds 16 acres on Wolf Creek in a conservation easement that includes the North Star Mine, a significant source of ongoing contamination in the Wolf Creek watershed.

5% (15,434 acres) of the watershed consists of National Forest system lands managed by USDA Forest Service for "multiple uses" including water production, mining, grazing, logging, recreation, biodiversity protection, resource extraction, and wildlife habitat. BLM manages 1.7% of the watershed (5,272 acres), primarily in lands in the upper watershed. BLM and National Forest lands in the watershed are scattered in checkerboard fashion among privately held lands.

The state manages about 3% of the watershed, the vast majority in the CA Department of Fish and Wildlife's Spenceville Wildlife Refuge in the lower watershed, one of very few low-elevation Sierra Nevada foothills protected areas.

Low and medium density residential development is planned for areas of the watershed near major highways (I80, CA SR49 and CA SR174). Very little of the watershed has been specifically designated as requiring special protection by the counties, who are the primary regulatory agency. Only the public lands in the upper watershed, as well as properties protected by the Land Trusts and sustainably grazed ranches at lower elevation, provide any assurance of protection for the natural communities and processes present in the watershed.

Water Supply: The watershed is one of the most heavily managed in California for water conveyance. Flows are largely controlled by the Nevada Irrigation District and Pacific Gas & Electric Company. Based on unpublished data prepared for a 1992 study of the proposed Garden Bar Dam (CDFG, 1992), about 200,000 acre feet of water annually is imported from the South and Middle Forks of the Yuba River via Lake Spaulding through the Drum Canal system, and from the North Fork of the North Fork American River through the Lake Valley Canal. Water in the upper Bear is directed into the South Yuba Canal, the Boardman Canal, and the Drum and Dutch Flat canals. Below Rollins Reservoir, about 290,000 acre feet of water is exported annually through the Bear River Canal for contract deliveries to PCWA and SSWD and for use in PG&E's Halsey, Wise, and Newcastle powerhouses. Below Combie Reservoir, about 43,400 acre-feet annually is diverted through NID's Combie Phase I Canal. South Sutter Water District diverts an average of 124,500 acre-feet annually below New Camp Far West. For the years 1921 – 1983 the average unimpaired flow near Wheatland is estimated at 323,000 acre feet/year, versus the average impaired (observed) flow over the same time period of about 292,500 acre feet/year. US Fish and Wildlife Service finds that the annual runoff for the Bear River watershed for water years 1966 – 1994 has averaged 272,800 acre-feet/year. Flow monitoring stations listed by the California Data Exchange Center (www.cdec.water.ca.gov) include the South Canal from Bear River, Bear River at Pleasant Grove Road, Bear River at Rollins, Bear River near Wheatland, Bear River at Camp Far West, Combie Lake, Drum Powerhouse, Rollins and Secret Town. In addition, PG&E, NID, and/or USGS monitor canal flows at various points throughout the system, including the Bear River Canal intake near Colfax (USGS). There are no climate stations on the Bear River below Colfax. Such extensive diversions for the benefit of human uses have made flow management and habitat protection especially challenging.

Endangered Species: The following plant and animal species listed in the California Natural Diversity Database are found in the watershed: Black Rail, Dogface butterfly, Giant garter snake, Chinook salmon, Northwestern pond turtle, California horned lizard, Stebbin's morning glory, Pine Hill flannelbush, Follett's monardella, Red-anthered rush, Woolly violet, and Monadenia Mormonum buttoni. The Bear River canyon from Highway 174 to the west of Highway 49 may provide the last best regional link between the upland conifer forests and lowland oak forests, critical for wintering deer herds and other migrating wildlife. CA DFW is particularly committed to preserving habitat for Black rail, considered a critical indicator species.

The lower Bear has suffered an almost total loss of viability for salmon, with only a few stray salmon remaining. In the past it supported both steelhead and sturgeon as well. The USFWS's Central Valley Project Improvement Act Tributary Production Enhancement Report of May 1998 identifies "Instream flows, high water temperatures, unscreened diversions, poor water quality, partial or complete migration barriers and illegal harvests [as] factors limiting salmon and steelhead migration, spawning, incubation and rearing success in the Bear River" (p. 4-57). Depleted flows and excessive temperatures also have negative impacts on the trout fishery. In addition, constricted channels in Bear

Valley and on the lower Bear at the confluence with the Feather also harm the fisheries, as do gravel mining operations between Rollins and Combie. The Bear River's many dams also block downstream passage of suitably sized gravels and woody debris needed for spawning success.

Invasive Species: Invasive weeds are present in the watershed, notably Yellow starthistle (*Centaurea maculosa*), Scotch broom (*Cytisus scoparius*) and Himalayan blackberry (*Rubus discolor*). These invasive weeds increase fire danger in an already highly fire-prone area, and out-compete native plants, with consequences for the habitat needs of native fauna. Native grassland species have largely been replaced at lower elevations by introduced European grass species for grazing purposes. However, there are currently no maps of the distribution of these invasive plants, or the change in distribution over time. Both types of information are important in determining threat of invasion and spread. USFS and other agencies and organizations are collecting this information for limited areas, but need additional resources.

Contamination: The watershed is located at the heart of Gold Country, the Sierra foothill region that was intensely mined for gold beginning with the Gold Rush of 1849. Historic hydraulic mining and the use of mercury to remove gold through amalgamation has left Sierra Nevada rivers and watersheds with a legacy of eroding hillsides, mercury, and excess sediment. The Bear is listed under Section 303(d) of the Clean Water Act for mercury (primarily in its reservoirs and Greenhorn Creek) resulting from historic gold extraction practices. Methyl mercury, especially in warmer low elevation reservoirs, is a serious problem for fisheries in the watershed. For example, half of the spotted bass sampled in Camp Far West reservoir exceeded the FDA action level of 1.0ppm. Concentrations of mercury in fish tissue in the Bear River watershed range from barely detectable to over 1ppm, with fish in lower, warmer reservoirs having higher concentrations. The extent of current knowledge is that the mercury is at a minimum leaking gradually from abandoned mine tunnels, sluice boxes, and pits.

iv. **CRITERION B2: Watershed Group Contributions that Address Watershed Needs**

Accomplishments of Watershed Group to date: Phase 1A tasks included establishment of the Bear River Watershed Group and has resulted in tangible improvements for this severely impacted watershed. The process began by conducting desktop analysis of existing data, assembling and working with all stakeholders to identify watershed impacts, and then collecting and analyzing additional data that allowed us to characterize these impacts. This step was a necessary precursor for developing projects and securing funding, and has been the missing piece in the multitude of piecemeal efforts in the Bear River watershed to date. The result of these efforts is an updated 300-page disturbance inventory and an active process of collaboration among a diversity of stakeholders.

In Phase 1A activities, the group addressed water quality issues by developing and implementing a monitoring plan, the first watershed-wide effort to collect baseline data, which will build on the water quality monitoring efforts underway in the Dry Creek and Wolf Creek sub-watersheds led by Sierra Streams Institute. Ten sites throughout the watershed were identified within the group as priority to give a snapshot of watershed conditions throughout a diverse ecological, environmental, and human impact conditions.

The process of updating the disturbance inventory included identifying watershed conditions, deciding the boundaries of the analysis and the assessment area, gathering existing data, and determining data gaps. Data about the watershed was collected and organized in the general categories of geography, hydrology, climate, geology, sediment, water quality, aquatic and terrestrial ecosystems, land and water use and management, and socioeconomics. The data was analyzed and synthesized for development of a data gaps project concepts list. Both of these documents were outputs of the Phase 1A project submitted to the Bureau of Reclamation in March 2016. These documents will inform the process of

completing a projects list within a preliminary restoration plan that will be conducted over the final months of the current project.

How the Watershed Group will address critical issues & Enhance Collaboration between Existing Stakeholders: Phase 1B, the purpose of this proposal, is a critical progression of the work initiated in Phase 1A and would enable the Bear River Watershed Group to continue to more thoroughly address watershed needs and issues:

1. Further develop the Bear Watershed Group to:
 - ✓ Prevent an interruption in the quarterly Stakeholder meetings which may impede their functioning
 - ✓ Solidify complex stakeholder coalition through current and new Stakeholder outreach as well as broader community education
 - ✓ Work on creating partnerships and collaborative grant writing efforts in order to fund restoration projects in next phase
2. Further develop the mission statement incorporating more thorough objectives and goals from stakeholder discussions
3. Synthesize disturbance inventory into a more exhaustive project concepts list
 - ✓ Possibly organized by sub-watershed which would help to build a consensus among stakeholders with different and possibly competing interests.
4. Continue watershed monitoring for baseline data production and identification of watershed trends
 - ✓ Continue monitoring of original ten sites to give a multiyear datum
 - ✓ Add additional five (5) sites
5. Produce a Restoration Plan with prioritized list of projects and possible collaborations
 - ✓ Bring Phase 1 projects/deliverables to ready-to-implement status with workable stakeholder partnerships
6. Build the foundation for an interactive prioritizing model (see www.cabreastcancer.org/causes/index.php) that shows interactions between major project types/topics that would:
 - ✓ Help prioritize restoration projects within the watershed
 - ✓ Enable prioritization of projects within specific topics/types (water, wildlife, fire, etc) and in other strategic ways
 - ✓ Could be used by all stakeholders, regardless of interests or subwatershed specificity
 - ✓ Provide an exportable model to be used by other stakeholders in other watersheds

iv. CRITERION C1: Understanding of and Ability to Meet Program Requirements

Task list and Timeline:

Task	Timeline	Milestone	Cost
1. Project Management 1.1 Solidify Project Team: Watershed Coordinator/Geologist, Wildlife Biologist, and Volunteer Coordinator 1.2 Convene project team meetings 1.3 Finalize workplan and budget 1.4 Draft and finalize subcontracts/grants 1.5 Renew contract for current facilitator to lead stakeholder meetings	For the life of the project	Employment contract executed Finalized workplan and budget	\$17,377

<p>1.6 Execute employment and other contracts 1.7 Manage project budget 1.8 Submit financial and performance reports 1.9 Draft and submit final report 1.10 Schedule future stakeholder meetings for restoration plan development 1.11 Outreach and dissemination of project materials and results</p>		<p>Signed subcontracts/ grants with project partners Regular financial and progress reports Final report</p>	
<p>2. Consolidate Stakeholder Group 2.1 Work with partners and current stakeholders to identify new stakeholders 2.2 Convene and lead quarterly stakeholder group meetings 2.3 Host stakeholder meeting, led by facilitator, to further develop mission statement and streamline current watershed goals and objectives 2.4 Identify affinity groups and potential collaborators based on shared stakeholder interests 2.5 Develop and implement strategies for collaboration building and framework for self-sustaining watershed network. 2.6 Community education and outreach</p>	<p>Month 1-24</p>	<p>Stakeholder Network list 8 meetings with Minutes 2 Public Meetings (1st with the Sierra College Science Speakers Series, 2nd TBD)</p>	<p>\$28,060</p>
<p>3. Monitoring Plan 3.1 Determine the scope and type of water quality indicators to be included from lessons learned from Phase 1A activities 3.2 Conduct desktop analysis to identify additional appropriate monitoring sites 3.3 Work with property owners of targeted sites to secure access 3.4 Determine type and scope of biological surveys of additional sites 3.5 Determine number and location of transects for biological studies at additional site 3.6 Continue monitoring plan of Phase 1A sites 3.7 Implement additional Phase 1B sites</p>	<p>Month 1-24</p>	<p>Monitoring plan additions adopted Two years of monitoring data collected at 15 sites (10 Phase 1A sites, 5 Phase 1B sites)</p>	<p>\$33,041</p>
<p>4. Watershed Restoration Plan 4.1 Host a series of stakeholder meetings to review project concepts from Phase 1A output and outcomes and identify consensus-based watershed restoration goals, led by facilitator 4.2 Use lessons learned from Phase 1A disturbance inventory and project concepts list development process to inform and build a restoration plan 4.3 Assemble and present existing and new water quality data to assist stakeholders in identifying restoration goals 4.4 Identify major sections to be studied and discussed and assign them to stakeholders with appropriate expertise to draft 4.5 Submit drafts to stakeholder group for review of drafts and develop consensus wording 4.6 Draft and finalize refined and robust restoration plan 4.7 Foundation for Restoration Projects Prioritization Model</p>	<p>Months 13-24</p>	<p>Bear River Restoration Plan with implementation ready projects prioritized</p>	<p>\$21,454</p>

Cost Share: Over the course of Phase 1A activities two grants were awarded to support implementing monitoring and restoration projects on the Bear that were high priority for the Watershed Group. The Ji Ji foundation awarded \$20,000 to support monitoring efforts. The Patagonia Foundation awarded \$5,000 to start restoration from a devastating Wild Fire that has increased erosion rates of legacy mining contaminated soils into the waterways. Lastly, Sierra Streams Institute has conducted water quality data collection and wildlife and plant surveying for 15 years. These monitoring efforts, as well as many restoration projects, have been supported by a dedicated group of trained citizen scientist volunteers who have worked with staff from Sierra Streams Institute to monitor ecological conditions at the project site. Volunteer rate is from www.independentsector.org: Volunteer time @ \$26.87/hr for volunteers to monitor 15 sites for 24 months equaling \$59,355.

Anticipated Problems: The Bear River watershed is extremely fragmented, which makes coordination of efforts very important but also challenging. We anticipate that the main obstacle to accomplishing the goals will be achieving coordination among the diverse stakeholders on projects in the restoration plan, but believe that the time is right to continue this process.

Previous work performed: The project will leverage existing efforts from the Phase 1A project by using our experience and many partnerships to facilitate cooperation and to reach consensus. (Note: Efforts undertaken prior to Phase 1A work is detailed in the Disturbance Inventory). Phase 1A efforts and partnerships to date in the Bear River Watershed include:

- Establishment of the Bear Watershed Stakeholders Group with multiple successful stakeholder meetings
- Built sufficient stakeholder consensus to develop a mission statement
- Produced a 300-page Comprehensive Disturbance Inventory
- Monitoring Plan
- Trained monitors who are doing monthly water quality monitoring at 10 sites.
- Developed Project Concepts List for Research Projects to fill gaps in the Disturbance Inventory

Two additional Phase 1, Task A activities are currently underway and on track for completion by the end of 2016:

- Envisioning a list of 200+ projects within the final restoration plan with no prioritization.
- Initial Bear River Restoration Plan

v. CRITERION C2: Building on Relevant Federal, State, and Regional Planning Efforts

Sierra Streams Institute will work closely with stakeholders to enable the project aims in supporting local, regional, and statewide plans (Table 1).

Table 1: Additional programs implemented and supported by Bear Watershed Group Project

Program/ Document	How project advances planning efforts
US EPA’s “Handbook for Developing Watershed Plans to Restore and Protect our Rivers”	The Bear River Watershed Restoration plan will conform to the US EPA’s “Handbook for Developing Watershed Plans to Restore and Protect our Rivers” (http://water.epa.gov/polwaste/nps/handbook_index.cfm). This outlines a stepwise approach to developing a watershed plan, including developing partnerships, creating a resource inventory, identifying goals, analyzing data, and identifying potential management strategies. We will use this Handbook as a blueprint for our management plan, ensuring we take all the necessary steps to

	<p>conduct a comprehensive, integrated assessment and create a useful, coherent management plan. In particular, we will follow the guidelines in Section 2.6: 9 Minimum Elements to Be Included in a Watershed Plan for Impaired Waters Funded Using Incremental Section 319 Funds (http://www.epa.gov/region9/water/nonpoint/9elements-WtrshdPlan-EpaHndbk.pdf). Although we are not currently seeking 319 funding, this section of the Handbook outlines the components needed to create an effective watershed plan for waters suffering from nonpoint source pollution, such as the Bear River.</p>
<p>California State Water Resources Control Board (SWRCB) SWAMP (Surface Water Ambient Monitoring Program)</p>	<p>Sierra Streams Institute’s monitoring program for Bear River, which employs trained citizen volunteers to collect monthly water quality and twice yearly macroinvertebrate and algae data, employs protocols established by SWAMP. These protocols enable us to produce valid data that is shared with the statewide SWAMP database. Using this successful model of citizen stewardship, we have trained volunteers in SWAMP protocols for water quality and biological monitoring in the Bear River, and will share our data with the SWAMP database. By following the SWRCB guidelines for water quality, physical habitat and biological monitoring on the Bear River, we will be collecting comparable, credible data that can be used to inform not just the Bear River management plan, but also plans of greater geographic scope, such as the Watershed Management Initiative for Region 5 http://www.waterboards.ca.gov/water_issues/programs/watershed/ These data can be shared with the California Environmental Data Exchange Network (CEDEN), where they can be publicly accessed and used for basin and statewide management initiatives.</p>
<p>California Department of Fish and Wildlife’s (CDFW) California Essential Habitat Connectivity Plan</p>	<p>The project aims to support the establishment of wildlife corridors in the Bear watershed, with efforts already underway by Bear Yuba Land Trust and Placer Land Trust as described above. This aim conforms to the CDFW California Essential Habitat Connectivity Plan (http://www.dfg.ca.gov/habcon/connectivity/), which has been used to inform the California Climate Adaptation Strategy, (http://www.climatechange.ca.gov/adaptation/strategy/index.html). The strategies outlined in this plan, particularly for water, biodiversity and habitat, will be used to prepare a restoration plan focused on a watershed that is able to more adeptly respond to climate change.</p>
<p>California Landscape Conservation Cooperative (CA LCC)</p>	<p>The establishment of the Bear River Watershed Group fits well within the scope of the CA LCC. Sierra Streams Institute is in the process of becoming an affiliate member of the CA LCC with the goal of sharing tools and data for use by other members when developing climate-smart conservation objectives through the CA LCC Climate Commons web repository. CA LCC scientific and programmatic goals focus primarily on examining potential climate-change impacts at organism, community, ecosystem, and landscape scales. Development of the Bear River Watershed Group will further these goals and the overall LCC mission through identification of climate-change impacts, as well as potential climate refugia, within the Bear River watershed and similar riparian systems. Further study, conservation, and management of the Bear River system will play an important role in protecting wildlife corridors and in-stream flows in riparian systems, which have been recognized as potential climate change hotspots.</p>

<p>California Wildlife Conservation Board (WCB) Strategic Plan (WCBSP)</p>	<p>The WCB Strategic Plan takes a watershed-wide approach to management for environmental protection and conservation, enhance water resources for fish and wildlife (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=75737). We will implement strategies from this Plan and incorporate them in the Bear Restoration Plan.</p>
<p>NOAA Fisheries, West Coast Region California Central Valley Salmon & Steelhead Recovery Plan (NOAA, WC)</p>	<p>The Bear Restoration Plan will integrate strategies to support NOAA Plan. Including actions: Develop and implement instream flow agreements to provide flows that best support all life stages of spring-run Chinook salmon and steelhead. Make conservation a California way of life. Increase regional self-reliance and integrated water. Protect and restore important ecosystems. Manage and Prepare for dry periods. Provide safe water for all communities. Increase operational and regulatory efficiency (http://www.westcoast.fisheries.noaa.gov)</p>
<p>California Water Action Plan (CWAP)</p>	<p>Developed to meet three broad objectives: more reliable water supplies, the restoration of important species and habitat, and a more resilient, sustainably managed water resources system (water supply, water quality, flood protection, and environment) that can better withstand inevitable and unforeseen pressures in the coming decades for the Bear (http://resources.ca.gov/docs/Final_Water_Action_Plan_Press_Release_1-27-14.pdf).</p>
<p>California Department of Fish and Wildlife’s California Essential Habitat Connectivity Plan & California Climate Adaptation Strategy</p>	<p>The strategies outlined in this plan, particularly for water, biodiversity and habitat, will be used to implement stream flow guidelines and a restoration plan focused on a watershed that is able to more adeptly respond to climate change. (http://www.dfg.ca.gov/habcon/connectivity/ and http://www.climatechange.ca.gov/adaptation/strategy/index.html).</p>
<p>CA Department of Conservation California Watershed Program</p>	<p>Take a watershed-wide approach to management, using the Bear River watershed as the “organizing unit for planning and implementation of natural resources management”. By integrating the four basic watershed elements of hydrology, biology, geology and sociology, we will create an integrated, collaborative resource management plan that can be adapted to local, regional, statewide and national goals and mandates (http://www.conservation.ca.gov/dlrp/wp/Documents/CaliforniaWatershedProgram.pdf).</p>
<p>Basin Plan for the Central Valley</p>	<p>Contains guidelines for water quality and other parameters. The plan identifies levels of water quality impairment, which will guide our evaluation of the Bear (http://www.swrcb.ca.gov/centralvalley/water_issues/basin_plans/).</p>

vii. CRITERION D: Building Resilience to Drought

Impacts of Drought: Climate change has exacerbated California’s drought conditions with the 5 year drought creating circumstances that classify most of the state in Severe Drought (D2) to Exceptional Drought (D4) conditions (droughtmonitor.unl.edu) with the Bear River Watershed classified as Severe Drought to Extreme Drought (D3). The California drought has left the state scrambling to provide water for its nearly 40 million residents and its very thirsty agricultural sector. Just as the economic impacts of the drought have grown modestly since 2014, UC Davis reports in the *Economic Analysis of*

the 2015 Drought For California Agriculture, a continuation of the drought to 2016 or beyond with similar intensity is likely to slowly erode the state's agricultural production and employment with \$2.7 billion in economic impact and approximately 21,000 in job losses.

Humans aren't the only ones struggling, the historic dry spell is reshaping the habitats of much of the state's wildlife. The drought has affected all of California's vast diversity of wildlife in different ways, and the most at risk species include special status, threatened, and endangered species. Knowledge of species-specific occurrence patterns is essential for determining the impacts and threats to rare species in the Bear Watershed as a result to climate change driven drought, as well as the conservation and restoration activities necessary to prevent their extirpation and help facilitate species recovery. Surveys for special-status species (plants and animals that are legally protected or otherwise considered sensitive by federal, state, or local resource conservation agencies and organizations) have been completed for only a small portion of the Bear River Watershed. The results from many of these surveys have been published to the California Natural Diversity Database (CNDDDB) and are summarized in the Disturbance Inventory developed in the Phase 1A activities of the Bear River Watershed Group.

With the extreme drought and the last few years among the warmest ever recorded, landscape-level drought-stress has allowed native pine bark beetles to kill drought-weakened ponderosa pine trees throughout the Sierra Nevada, including the Bear and adjacent watersheds. Beetle populations have hit a critical threshold and trees have lost their ability to regulate beetle populations resulting in an epidemic. Placer County has followed the Governor's State Emergency Declaration in 2015 by declaring a local state of emergency due to ponderosa pine tree mortality throughout Placer County. Nevada County has seen similar mortality of ponderosa pine trees. The loss of so many trees, and more to be expected, will lead to vegetation changes in the ponderosa pine and other mixed conifer vegetation communities. With this large addition of dead fuel, these forests will become susceptible to high intensity forest fires.

The ongoing drought has impacted changing flow, fire, and erosion regimes, as well as thermal stratification in larger water bodies, specifically impacting mobilization of mercury-laden sediment, mercury accumulation in reservoirs, and the rate of methylation. In particular, increased erosion following fires could be a large source of fresh mercury into the system after multiple years of drought. In addition, rising global temperatures, which affect dissolved oxygen, may increase the rate of methylation in local reservoirs.

In a hotter and drier climate, ecosystems throughout the Sierra Nevada will be impacted by changing precipitation regimes resulting in reduced snow pack, increased stream temperatures, and decreased late-season flow. The flooding regime, as with fire frequency, is an important indicator of how current conditions differ from historical and natural patterns; it also has important implications for hydrological and geomorphological processes. Floodplains on most inhabited rivers have been greatly modified by human development and flood control structures like levees. Data were insufficient to calculate a score for most of the subwatersheds in the basin. While there were insufficient data available for the Upper Bear, the Lower Bear received a score of only 38 for this indicator, likely due to the abundance of agricultural land on the floodplain in this watershed.

Due to drought conditions, groundwater use is up in the California region. In 2014, Department of Water Resources (DWR) released the *Summary of Recent, Historical, and Estimated Potential for Future Land Subsidence in California*. Groundwater levels observed during the recent drought between spring 2013 and 2014 showed more variability within the Bear River watershed, with wells generally exhibiting recent groundwater elevations near the historical spring low.

Watershed Groups activities to build resilience to drought: The urgency for drought resilience planning has never been greater. Drought affects all facets of our society, from food production to water quality to public health, and there is a growing need to help communities, agriculture, businesses, and individuals threatened by drought to plan accordingly. With rapid changes in land use and increasing impacts from climate change, communities need to determine ways to meet their drought planning goals. In developing the Restoration Plan, the Bear River Watershed Group will analyze potential drought impacts and prioritize drought resilient project concepts. This project will increase and improve water storage capacity and water quality in a Sierra stream in response to climate change-driven drought conditions. This work will serve as a model for climate-sensitive management of the greater Sierra foothill region as well as ecosystems at the upper and lower range boundaries of valley and mountain species. This work will impact three overarching goals and the Bear River Watershed Group objectives and implementation tasks will be refined as the project grows and the Restoration Plan is developed:

1. Provide Tools for Drought Monitoring, Assessing and Forecasting
2. Develop Local and Regional Capacity to Plan for Drought
3. Implement Local Projects to Build Regional Drought Resilience

The Bear River Watershed group acknowledges that drought management and the long-term sustainability of expanding populations living in arid regions of the Western United States require that we have a better understanding of the factors influencing human behaviors toward the environment, more generally, and toward water as a critical and limited resource. Promoting water conservation is important not only in urban environments, but is important for addressing ecological, recreation, and aesthetic concerns and the needs of rural communities. Understanding water conservation behaviors is part of the key to promoting the efficient and equitable allocation of water and the maintenance of water quality. The literature suggests and we are convinced that conservation behavior is the result of a complex mix of factors that can only be understood by addressing the problem in an interdisciplinary fashion. First of all, there is a need for human scientists to synthesize the findings from their various disciplines. This work then needs to be disseminated to the public to help educate the community and inform policy makers. The Bear River Watershed Group has implemented a transparent discussion on issues that face the watershed including drought, and will continue to have drought resiliency a priority for restoration and protection projects.

Budget Proposal

Budget Item Description	COMPUTATION		Quantity Type	TOTAL COST
	\$/unit	Quantity		
Salaries and Wages				
Watershed Coordinator/Geologist	\$35	911	Hours	\$31,900
Wildlife Biologist	\$35	628	Hours	\$21,980
Outreach/Volunteer Coordinator	\$25	251	Hours	\$6,275
Executive Director	\$50	153	Hours	\$7,666
Fringe Benefits				
Fringe Benefits	\$7.16	1944	Hours	\$13,917
Travel				
Travel	\$0.54	2500	Miles	\$1,350
Materials/Supplies				
Office	\$60	24	Month	\$1,440
Printing	\$30	40	Report	\$1,200
Contractual/Construction				
Contractor: Facilitator	\$80	64	Hours	\$5,120
Other				
Total Direct Costs				\$90,848
Indirect Costs - 10%				\$9,085
Total Project Costs				\$99,933

Funding Source	Funding Amount
Non-Federal Entities	
Ji Ji Foundation	\$ 20,000
Patagonia Foundation	\$ 5,000
In-Kind Volunteer Citizen Scientist*	\$ 34,355
Total	\$ 59,355

* Sierra Streams Institute has conducted water quality data collection and wildlife and plant surveying for 15 years. These monitoring efforts, as well as many restoration projects, have been supported by a dedicated group of trained citizen scientist volunteers who have worked with staff from Sierra Streams Institute to monitor ecological conditions at the project site. Volunteer rate is from www.independentsector.org. SSI Volunteer In Kind services described below: Volunteer time @ \$26.87/hr for volunteers to monitor 15 sites for 24 months.

Algae
 Collection: 2 people * 1 hour each * 6 times each year
 Processing: 1 person * 2 hour * 1 times each year
 TOTAL: 14 hours per site each year

Physical Habitat
 Collection: 2 people * 2 hours * 12 time each year
 Data entry: 1 person * 2 hours * 1 time each year
 TOTAL: 50 hours per site each year

Budget Narrative

Salaries and Wages:

Katy Janes, Watershed Coordinator/Geologist, \$35 per hour September 2016 – September 2018
 Approximately 25% FTE, total of 911 hours for the duration of the grant.

Kristen Hien-Strohm, Wildlife Biologist, \$35 per hour September 2016 – September 2018
 Approximately 15% FTE, total of 628 hours for the duration of the grant.

Carmon Fraser, Outreach/Volunteer Coordinator, \$25 per hour September 2016 – September 2018
 Approximately 10% FTE, total of 251 hours for the duration of the grant.

Joanne Hild, Executive Director, \$50 per hour September 2016 – September 2018
 Approximately 5% FTE, total of 153 hours for the duration of the grant.

Labor costs (including benefits) are allocated by task as follows:

Task	Watershed Coord.	Biologist	Outreach Coord.	Ex. Director	Facilitator
1. Project Management	\$9,920			\$3,366	
2. Consolidate Stakeholder Group	\$3,010	\$3,010	\$6,275	\$4,300	\$5,120
3. Monitoring Plan	\$11,970	\$11,970			
4. Watershed Restoration Plan	\$7,000	\$7,000			
TOTAL	\$31,900	\$21,980	\$6,275	\$7,666	\$5,120

Fringe Benefits: Calculated at 23%, and include FICA 7.65%, UI 4.6%, SDI 0.6%, Workers Compensation 2.2%, health benefits 8%

Travel: Local travel to meetings, monitoring sites, and monthly stakeholder meetings. Calculated \$0.54/mile

Equipment: N/A

Materials and Supplies: Office supplies include pens, paper, staples, binder clips, toner, binders, duplication (including meeting materials, project concepts, sampling sheets, monitoring reports etc)

Printing costs are estimated for production of the Watershed Restoration Plan

Contractual: Facilitator costs are \$80/hour for eight (8) meetings, 8 hours total per meeting. The proposed facilitator is Julie Leimbach, who is a skilled facilitator with many years of experience in local watershed issues and has successfully fulfilled the position in Phase 1A.

Reporting: Personnel costs for reporting are included in the salary and benefits items. Additional costs for reporting include duplication, materials, and postage.

Indirect Costs: Includes the watershed coordinator’s allocation for rent, utilities, phone, internet, office supplies, accounting, book keeping, liability insurance, membership dues, subscriptions, licenses and fees, inventory taxes, as well as direct supervision of watershed coordinator by executive director.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Lodi Fish and Wildlife Office

850 South Guild Avenue, Suite 105, Lodi CA 95240-3170

209-334-2968 (Voice) 209-334-2171 (Fax)

May 2, 2016

Bureau of Reclamation
Financial Assistance Operations Section
Attn: Mr. Darren Olson
Mail Code: 84-27852
P.O. Box 25007
Denver, CO 80225

Dear Mr. Olson,

On behalf of the U.S. Fish and Wildlife Service (USFWS), Anadromous Fish Restoration Program (AFRP) I am pleased to support the application by Sierra Streams Institute for the WaterSMART: Cooperative Watershed Management Program for funds to further develop the Bear River Watershed Group. The Bear River Watershed Group has been successful in its initial development with a myriad of stakeholders present at each of the meetings. Through these meetings and the work by Sierra Streams Institute a mission statement, a comprehensive Disturbance Inventory, and a project concepts list have been developed as well as substantial work towards a restoration plan.

The lower Bear River watershed is identified in AFRP's Final Restoration Plan (FRP; USFWS 2001) as comprising habitat for white and green sturgeon, as well as for Chinook salmon and steelhead. Several actions and evaluations (e.g., concerning flow, temperature, water quality, fish habitat use, etc.) are identified in the FRP for the Bear River and many still need to be completed. Additionally USFWS recently finished a fish habitat assessment on Dry Creek, a tributary to the lower Bear River that flows through the Spenceville Wildlife Area and Beale Air Force Base. Fish passage improvement and other habitat restoration actions are planned for Dry Creek. The information being compiled by the Bear River Watershed Group will help us coordinate our habitat restoration and population monitoring efforts with those of other agencies and stakeholders, and also assist us with upcoming FERC re-licensing activities.

Efforts to protect the Bear River will be greatly enhanced by continued coordination within the watershed. Without this opportunity, current work could be hindered. As a stakeholder, USFWS is looking forward to continued participation in the Bear River Watershed Group. I urge you to fund this important effort to protect the Bear River Watershed. If you have any questions please contact Beth Campbell at elizabeth_campbell@fws.gov or (209) 334-2968 ext. 402. Thank you.

Sincerely,



Matthew Dekar
Deputy Project Leader

Reference:

U.S. Fish and Wildlife Service. 2001. Final Restoration Plan for the Anadromous Fish Restoration Program. Prepared for the Secretary of the Interior by the U.S. Fish and Wildlife Service under authority of the Central Valley Project Improvement Act. January 9, 2001. 106 pages, plus appendices.



NEVADA IRRIGATION DISTRICT

1036 W. Main Street, Grass Valley, CA 95945-5424
(530) 273-6185 ~ Fax: (530) 477-2646 ~ www.nidwater.com

Bureau of Reclamation
Financial Assistance Operations Section
Attn: Mr. Darren Olson
Mail Code: 84-27852
P.O. Box 25007
Denver, CO 80225

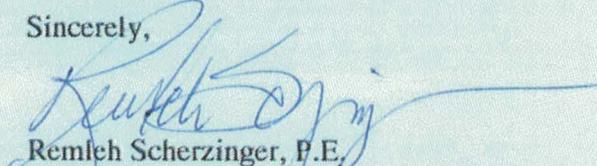
April 20, 2016

Dear Mr. Olson,

On behalf of the Nevada Irrigation District, I am pleased to support the application by Sierra Streams Institute for the WaterSMART: Cooperative Watershed Management Program for funds to further develop the Bear River Watershed Group. The Bear River Watershed Group has been successful in its initial development with a myriad of stakeholders present at each of the meetings. Through these meetings and the work by Sierra Streams Institute a mission statement, a comprehensive Disturbance Inventory, and a project concepts list have been developed as well as substantial work towards a restoration plan.

Efforts to protect the Bear River will be greatly enhanced by the continued coordination within the watershed. Without this opportunity, current work could be hindered. As a stakeholder, Nevada Irrigation District is looking forward to continued participation in the Bear River Watershed Group. I urge you to fund this important effort to protect the Bear River Watershed.

Sincerely,


Remleh Scherzinger, P.E.
General Manager



Nevada City Rancheria Tribal Council

P.O. Box 574 Grass Valley, Ca. 95945

530-265-6563 (Chairman) 530-570-0846 (Secretary)

Bureau of Reclamation
Financial Assistance Operations Section
Attn: Mr. Darren Olson
Mail Code: 84-27852
P.O. Box 25007
Denver, CO 80225

April 27, 2016

Dear Mr. Olson,

On behalf of the Nisenan Tribe of the Nevada City Rancheria, I am pleased to support the application by Sierra Streams Institute for the WaterSMART: Cooperative Watershed Management Program for funds to further develop the Bear River Watershed Group. The Bear River Watershed Group has been successful in its initial development with a myriad of stakeholders present at each of the meetings. Through these meetings and the work by Sierra Streams Institute a mission statement, a comprehensive Disturbance Inventory, and a project concepts list have been developed as well as substantial work towards a restoration plan.

As original people from this place we actively seize opportunity to be involved in any restoration and preservation of the land. The tribe fully supports the Bear River Watershed Group and as sent a representative to each Stakeholder Meeting. The Nisenan Tribe is currently engaged in a collaboration partnership with Sierra Streams Institute to on many projects throughout the region and acts as a consultant for restoration projects. The project is an important step in the tribe's effort to preserve our heritage and culture.

Efforts to protect the Bear River will be greatly enhanced by the continued coordination within the watershed. Without this opportunity, current work could be hindered. As a stakeholder, Beale Conservation Corps is looking forward to continued participation in the Bear River Watershed Group. I urge you to fund this important effort to protect the Bear River Watershed.

Sincerely,

A handwritten signature in cursive script that reads "Shelly Cover".

Shelly Cover
Tribal Council Secretary

Chairman: Richard Johnson

Vice Chair: Virginia Covert

Secretary: Shelly Covert

Treasurer: Lorena Davis

Alt: Sarah Thomas

Mal: Saxon Thomas

April 20, 2016

Darren Olson
Bureau of Reclamation
Financial Assistance Operations Section
Mail Code: 84-27852
P.O. Box 25007
Denver, CO 80225

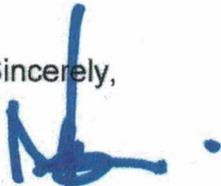
SUBJECT: Sierra Streams Institute – Bear River Watershed Group Grant

Dear Mr. Olson:

The Placer County Community Development Resources Agency is pleased to express its support of the application by Sierra Streams Institute for the WaterSMART: Cooperative Watershed Management Program for funds to further develop the Bear River Watershed Group. The Bear River Watershed Group has been successful in its initial development with a myriad of stakeholders present at each of the meetings. Through these meetings and the work by Sierra Streams Institute, a mission statement, a comprehensive Disturbance Inventory, and a project concepts list have been developed. As a result of its efforts, Sierra Stream Institute has also completed substantial work towards a Bear River watershed restoration plan.

Placer County supports the Bear River watershed restoration plan development, as this watershed is part of the area identified for the Placer County Conservation Program (PCCP) and supports covered species that are identified for recovery in the PCCP. As a restoration plan implementation partner, efforts to restore and better manage the Bear River watershed will be greatly enhanced by the continued coordination between stakeholders within the watershed. Placer County supports the continuation of the Sierra Streams Institute's work effort. The County looks forward to continued its participation in the Bear River Watershed Group, and it is my sincere hope that the Cooperative Watershed Management Grant Program can assist in the funding of this cooperative work effort.

Sincerely,

A handwritten signature in blue ink, appearing to read "M. Johnson", written over a vertical blue line that extends from the signature down to the name block below.

MICHAEL J. JOHNSON, AICP
Agency Director



Bear Yuba
LAND TRUST

Board of Directors

Terry Hundemer
President

Fran Cole
Vice President

Art Thielen
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Michael Smiley
Secretary

Andy Cassano

Rebecca Coffman

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Bill Stewart

Bill Trabucco

Morty Coleman-Hunt
Executive Director

Bureau of Reclamation
Financial Assistance Operations Section
Attn: Mr. Darren Olson
Mail Code: 84-27852
P.O. Box 25007
Denver, CO 80225

April 28, 2016

Dear Mr. Olson,

On behalf of the Bear Yuba Land Trust, I am pleased to support the application by Sierra Streams Institute for the WaterSMART: Cooperative Watershed Management Program for funds to further develop the Bear River Watershed Group. The Bear River Watershed Group has been successful in its initial development with a myriad of stakeholders present at each of the meetings. Through these meetings and the work by Sierra Streams Institute a mission statement, a comprehensive Disturbance Inventory, and a project concepts list have been developed as well as substantial work towards a restoration plan.

Bear Yuba Land Trust (BYLT) has both conservation easements and preserves which we own within the Bear River Watershed. Climate change impacts, wildfire risk and habitat loss are issues that BYLT focuses on through protection and restoration of open spaces. We believe that the work Sierra Streams Institute is doing to collect data and bring important stakeholders together for the Bear River Watershed Group meetings is of critical importance to the health and protection of this watershed into the future.

Efforts to protect the Bear River will be greatly enhanced by the continued coordination within the watershed. Without this opportunity, current work could be hindered. As a stakeholder, Bear Yuba Land Trust is looking forward to continued participation in the Bear River Watershed Group. I urge you to fund this important effort to protect the Bear River Watershed.

Sincerely,

Erin Tarr
Stewardship Program Manager
Bear Yuba Land Trust





Natural Wonders Forever

Placer Land Trust

11641 Blocker Drive #220
Auburn, CA 95603
(530) 887-9222
Fax (530) 888-7720
info@placerlandtrust.org
www.placerlandtrust.org

Board of Directors

Fred Yeager, President

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Larry Welch

Executive Director

Jeff Darlington

Placer Land Trust works with willing landowners and conservation partners to permanently protect natural and agricultural lands in Placer County for future generations.



Placer Land Trust is a private, nonprofit 501(c)(3) charitable organization incorporated in 1991, accredited by the national Land Trust Accreditation Commission. Federal Tax Identification Number: 68-0223143.



April 20, 2016

Bureau of Reclamation
Financial Assistance Operations Section
Attn: Mr. Darren Olson
Mail Code: 84-27852
P.O. Box 25007
Denver, CO 80225

Dear Mr. Olson,

On behalf of the Placer Land Trust, I am pleased to support the application by Sierra Streams Institute for the WaterSMART: Cooperative Watershed Management Program for funds to further develop the Bear River Watershed Group. The Bear River Watershed Group has been successful in its initial development with a myriad of stakeholders present at each of the meetings. Through these meetings and the work by Sierra Streams Institute a mission statement, a comprehensive Disturbance Inventory, and a project concepts list have been developed as well as substantial work towards a restoration plan.

The Bear River is one of the most heavily managed watersheds in the Sierra Nevada, and suffers from a range of serious impacts, including dams, lack of flow, lack of integration of management because of land ownership patterns, and loss of habitat for listed species including threatened species of Chinook salmon. Placer Land Trust has made a commitment to protecting lands within the watershed to minimize further impacts from development, and to reestablish a critical wildlife corridors. Our efforts so far have resulted in the permanent protection of five properties in the Bear River watershed totaling 3,198 acres.

Efforts to protect the Bear River will be greatly enhanced by the continued coordination within the watershed. Without this opportunity, current work could be hindered. As a stakeholder, Placer Land Trust is looking forward to continued participation in the Bear River Watershed Group. I urge you to fund this important effort to protect the Bear River Watershed.

Sincerely,

Jeff Ward
Stewardship Manager

April 28, 2016

Attention: Mr. Darren Olson
Bureau of Reclamation
Financial Assistance Operations Section
Mail Code: 84-27852
P.O. Box 25007
Denver, CO 80225

Dear Mr. Olson,

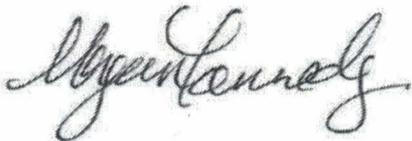
Reference: Sierra Streams Institute for WaterSMART: Cooperative Watershed Management Program

I am pleased to support the application by Sierra Streams Institute for the WaterSMART: Cooperative Watershed Management Program for funds to further develop the Bear River Watershed Group. The Bear River Watershed Group has been successful in its initial development with a myriad of stakeholders present at each of the meetings. Through these meetings and the work by Sierra Streams Institute a mission statement, a comprehensive Disturbance Inventory, and a project concepts list have been developed as well as substantial work towards a restoration plan.

As an individual and as a representative of Stantec Consulting Services Inc., I have been involved with the Bear River Watershed Stakeholder group, providing technical support relating to restoration ecology, vegetation, and watershed management. The stakeholder group has been seamlessly diligent and organized, bringing together experienced and critical personnel to develop and achieve the outlined goals relating to the protection, enhancement and restoration of the Bear River and its associated communities.

Efforts to protect the Bear River will be greatly enhanced by the continued coordination within the watershed. Without this opportunity, current work could be hindered. As a stakeholder, I am looking forward to continued participation in the Bear River Watershed Group. I urge you to fund this important effort to protect the Bear River Watershed.

Regards,



Morgan Kennedy, MK
Vegetation Ecologist, GIS Specialist
Phone: 530-470-0515
morgan.kennedy@stantec.com



Resolution Approving the Application for Grant Funds Under the Department of the Interior, Bureau of Reclamation, Policy and Administration, WaterSMART: Cooperative Watershed Management Program

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

WHEREAS, said procedures established by the Bureau of Reclamation require a resolution, certifying the approval of an application by the Applicant's governing board before submission of said application to the Bureau of Reclamation; and

WHEREAS, the Applicant, if selected, will enter into an agreement with the Bureau of Reclamation to carry out the project; and

WHEREAS, the Sierra Streams Institute has identified the Establishing the Bear River Watershed Group Program as valuable towards meeting its mission and goals.

BE IT HEREBY RESOLVED by the Board of Directors of Sierra Streams Institute that this Board:

1. Approves the submittal of an application for the the Bear River Watershed Group Program; and
2. Certifies that Applicant understands the assurances and certification requirements in the application; and
3. Certifies that Applicant 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
4. Certifies that the Applicant will comply with all legal requirements as determined during the application process; and
5. Appoints Joanne Hild, 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.

PASSED AND ADOPTED by Sierra Streams Institute at a Board meeting held on the 20th day of April, 2016 by the following vote:

Ayes: 6 Nays: — Abstain: — Absent: —

Attested by:

A handwritten signature in blue ink that reads "Nancy L. Fleming". The signature is written in a cursive style and is positioned above a horizontal line.

Nancy Fleming
President, Board of Directors