

### **a. Detailed Project Description Narrative**

**Project Summary:** The Lower Deer Creek Meadow Restoration Project is an effort to complete permitting and restoration plan development for 40 acres of rare and threatened meadow habitat in the lower Deer Creek watershed in order to:

- restore the hydrological function of a degraded meadow for the benefit of downstream health
- restore native vegetative communities
- reduce the risk of large fires for the communities of Penn Valley, Smartsville, Lake Wildwood and North San Juan, identified by CalFire as a Very High Fire Hazard Severity Zone
- improve water quality

**Environmental Setting:** The project site is private land located at the confluence of Deer and Squirrel Creeks, approximately 2 miles downstream of Lake Wildwood, and is subject to a conservation easement. The site consists of chaparral severely impacted by non-native plants, especially Scotch Broom and Yellow Star Thistle, and is the only meadow in the lower watershed.

**Project Description:** The proposal is an effort to complete pre-project planning and permitting for the hydrologic/geomorphologic restoration of a 40 acre meadow located in a key reach of Deer Creek and Squirrel Creek upstream of a spawning area for three listed species of anadromous fish. The proposal is offered by a partnership comprised of Sierra Streams Institute (SSI), a non-profit watershed science organization, and the Sheatsley Trust, owners of the project land.

The project property is the site of SSI monitoring sites 8, 9 and 16, with monthly monitoring data collected since 2000. The entire 114 acre property is protected by a conservation easement, and a cooperative relationship exists between SSI and the property owners, with right of access granted in perpetuity for monitoring and restoration purposes. The meadow is bordered by Deer Creek and Squirrel Creek, and the site is the only meadow habitat in the entire lower watershed downstream of Lake Wildwood to the confluence with the Yuba River.

The meadow's hydrological and geomorphological functions have been severely impaired by a series of impacts since the time of the Gold Rush. Waste rock from gold mining operations settled in the floodplain, altering the system and drastically reducing the frequency of inundation of the floodplain. Subsequently, major grazing operations were in effect on the property throughout the 1900s, resulting in encroachment of invasive species throughout the riparian zone and meadow. Native meadow grasses have been replaced by prolific Scotch

broom, whose far greater biomass results in excessive uptake of water and a lowering of the water table, already impacted by reduced flood frequency. Additionally, a low water crossing over Deer Creek was located at the site, along with a now disused road that traversed the meadow. The meadow was drained to allow for inhabited buildings (no longer standing) within the floodplain. These impacts have combined to result in the transformation of the meadow into seasonally parched upland-type habitat, overtaken by Scotch broom and yellow star thistle. Adjacent to the meadow is a steep slope which marks the boundary of the encroachment by non-native vegetation. It is imperative that the spread of non-natives not be permitted to encroach on these slopes, because of the extremely high risk of wildfire associated with impacted slopes.

The public benefit of this meadow restoration effort on private land is considerable. The land is protected by a conservation easement, and is located immediately upstream of spawning grounds for three listed species of salmon and steelhead. Restoration of hydrological and geomorphological function results in more water storage capacity and increased ability to retain sediment and filter nutrients. The filtration capacity is especially important given the presence of the Lake Wildwood Wastewater Treatment Plant just upstream, which discharges a large volume of nutrients, contributing to algae blooms and habitat degradation. The Lake Wildwood community includes a golf course, which is also a major contributor of nutrients. This section of Deer Creek is 303(d) listed for high pH caused by nutrients, which can be reduced with revegetation work. The meadow will serve as an important buffer to the ongoing impacts caused by Lake Wildwood, and by ongoing grazing practices in the upstream reach. Meadow restoration will also improve the area's fire safety by reducing non-native fuel load and increasing ground water storage. A high fire risk is posed to the neighboring communities of Penn Valley and Lake Wildwood by the high fuel load in the steep narrow canyons. The lower Deer Creek canyon is classified by CalFire as a Very High Fire Hazard Severity zone. In 1988 the 49er Fire raged through the Deer Creek canyon, burning 33,700 acres and destroying 312 structures between North San Juan and Lake Wildwood. Lake Wildwood is now a Firewise Community ([firewise.org](http://firewise.org)), and this project supports their efforts and those of the Firesafe Council to make the Deer Creek canyon firesafe.

Project Goals:

1. Restoration of meadow ecosystem stability and function: Improvement to meadow's hydrology will result in flood control, water quality, groundwater recharge, erosion control and habitat benefits.
2. Restoration of Water Table: Removal of invasive non-natives will provide more water for the meadow and increase the natural water storage capacity.

3. Alignment with SNC Program Goals: The project clearly aligns with SNC's mission and addresses SNC's "triple bottom line" of environmental, economic and social well-being. Environmental benefits include improvement in forest health in a critical reach of Deer Creek immediately upstream of anadromous fish spawning habitat; increased habitat resulting from removal of invasive vegetation and replanting with native plants; and reduction of the risk of catastrophic wildfire. Economic benefits will be achieved by enhancing threatened fisheries. Social well-being is achieved by involving the local community in monitoring and restoration tasks, and by including local students in the project, using Deer Creek as an outdoor classroom. Specific SNC program areas addressed by the project are:

- Protect, conserve and restore physical and living resources by improving vegetative complex, water quality, and habitat;
- Reduce the risk of wildfires by eliminating fire-prone invasive non-natives such as Scotch Broom;
- Protect and improve water quality by restoring meadow function.

4. Consistency with Prop 84 goals:

The project directly supports the goals of Proposition 84 by contributing to the protection and restoration of rivers, streams, their watersheds and associated land, water, and other natural resources. The project has the following Land and Water Benefits:

- Develops a plan to protect the riparian and adjacent zones of the Deer Creek and Squirrel Creek watersheds in a threatened area for listed species of anadromous fish
- Reduces fire hazard to Penn Valley and Lake Wildwood.
- Reduces the potential for post-fire erosion and resulting sedimentation and water quality impacts to the Deer Creek watershed.
- Fosters a sustainable healthy meadow on the site.

**b. Workplan and Schedule Narrative**

**Part of a Larger Project**

The proposed meadow restoration planning project is part of an overall project aimed at restoring the health of the lower Deer Creek watershed, host to three listed species of spawning anadromous fish. The overall project is composed of several phases. Phase I consisted of development of relationships with key stakeholders in the lower Deer Creek watershed between Lake Wildwood and the confluence with the Yuba River, including private property owners in the riparian zone, and the managers of Lake Wildwood and of its wastewater treatment plant. These efforts have been ongoing since 2000 and will require constant

nurturance to ensure that the reach can be treated as a whole connected system despite the fragmentation caused by private property ownership. Phase II is the ongoing partnership with the managers of Lake Wildwood reservoir to ensure that year round flows are managed in a way that does not negatively impact the spawning reach at the confluence with the Yuba. Phase III is complete, and consists of planning and permitting for a gravel augmentation effort aimed at restoring habitat for anadromous fish. Phase IV is implementation of gravel augmentation and spawning bed enhancement efforts, which began in August 2011 and will continue as funding allows. Phase V is revegetation of the entire riparian zone throughout the 4 mile stretch of creek between Lake Wildwood and the confluence with the Yuba River. This phase began in 2010 and will involve implementing projects and adaptive management tasks as funding permits. Phase VI is the development of a plan for restoration of the only meadow in the lower watershed, and is the subject of this proposal. Phase VII will be the restoration of the meadow.

### **Workplan**

The workplan outlined below includes specific tasks and subtasks, as well as deliverables and timeline for each task. This schedule assumes a September 1, 2012 start date and an August 31, 2015 end date. The project team is ready to proceed once funding is made available. At present, there are no foreseeable factors affecting the project's timeline.

#### **Task 1: Project Management and Administration**

The project team recognizes that project management and administration is a critical aspect of a successful project. In this task, Sierra Streams Institute will undertake reporting requirements, finalizing the workplan, developing and managing subcontracts, convening project team meetings; developing and disseminating project information; coordinating with the Sierra Nevada Conservancy's grant manager; and trouble-shooting any issues. Subtasks include:

- 1.1 Convene project team meetings
- 1.2 Finalize workplan and budget
- 1.3 Draft and finalize subcontracts/grants
- 1.4 Manage project budget
- 1.5 Submit financial and performance reports
- 1.6 Draft and submit final report

#### **Task 2. Data gathering**

In this task Sierra Streams Institute will undertake the collection, review and desktop analysis of all existing data, photos and maps relating to the project area; and identification of data gaps.

- 2.1 Compile assessment data, topographical and parcel maps, photos and other data

- 2.2 Identify data gaps
- 2.3 Develop plan for on-the-ground surveys and assessment
- 2.4 Prepare report

### **Task 3. On the Ground Assessment**

This task will follow and complement Task 2. Sierra Streams Institute include ground truthing of desktop data; on-the-ground surveys including topographical, soil, vegetation surveys; installation of piezometers to measure ground water levels; expansion of existing biological monitoring dataset in order to establish the means of connection of the meadow to the creek and assess changes before and after project implementation.

- 3.1 Conduct on the ground survey to confirm desktop data
- 3.2 Conduct comprehensive surveys and assessment
- 3.3 Prepare report

### **Task 4. Meadow Restoration Plan Development**

In this task, Sierra Streams Institute will develop the plan for geomorphological restoration. Project elements will include coordination of planning efforts with the property owners; reconnection of the meadow to the creek; removal of non-native vegetation; reestablishment of meadow plants; restoration of native fauna; pre-, during, and post-project monitoring.

- 4.1 Hold collaboration meetings with land owner-partners
- 4.2 Develop draft plan
- 4.3 Present draft to land-owner partners
- 4.3 Review and revise draft

### **Task 5. CEQA and Permitting**

Under this task, Sierra Streams Institute will ensure that the planning project is ready to proceed to the implementation phase with further funding. Working with the County planning department, we will ensure that all environmental planning and permitting necessary for implementation of the Meadow Restoration Plan is completed.

- 5.1 County planning department staff to identify and plan for permitting requirements
- 5.2 Secure CEQA-compliance certification
- 5.3 Secure all needed permits, including a Lake and Streambed Alteration Agreement from California Dept of Fish and Game, a 401 Water Quality Certification from

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Regional Water Quality Control Board, a Section 404/10 permit from the Army Corps of Engineers, Section 7 ESA Consultations with NMFS and USFWS, Section 106 Consultation with State Historic Preservation Office.

**Partnership Roles:** In the task list above, we outline the role of each partner in implementation of the project.

Detailed Project Deliverables	Timeline
<b>Task 1</b>	
Finalized workplan and budget	September 1, 2012
Finalized subcontracts/grants	October 15, 2012
Financial and performance reports to SNC	January 15, 2013, July 15, 2013, January 15, 2014, July 15, 2014, January 15, 2015, July 15, 2015
Draft Final Report	July 15, 2015
Final Report	August 31, 2015
<b>Task 2</b>	
Finalized Report of Existing Data	February 1, 2013
<b>Task 3</b>	
Final Survey and Assessment Report	July 15, 2014
Maps of Survey Data/Vegetative Communities and Piezometer Locations	July 15, 2014
<b>Task 4</b>	
Draft Meadow Restoration Plan	December 31, 2014
Final Meadow Restoration Plan	April 30, 2015
<b>Task 5</b>	
CEQA Documentation Completed	March 1, 2015
Permits Secured	June 15, 2015

**c. Restrictions, Technical/Environmental Documents and Agreements Narrative**

**Restriction/Agreements:** There are no restrictions or agreements in place that would adversely impact project completion. The property is held in a conservation easement, with permission granted to Sierra Streams Institute to access the property for monitoring and restoration purposes.

**Regulatory Requirements/Permits:** Section 401 Water Quality Certification with the RWQCB; Lake and Streambed Alteration Agreement with Fish and Game; Department of the Army Section 404 permit with the Army Corps of Engineers; Section 7 ESA consultations with

National Marine Fisheries Service and US Fish and Wildlife Service. Prior consultations with the State Historic Preservation Office will be expanded for the project property.

**CEQA:** It is likely that the project will qualify for a categorical exemption (1533 – Small Habitat Restoration Projects up to 5 acres.) If the project scope is in excess of 5 acres, we will be required to do an Initial Study. California Department of Fish and Game, California Central Valley Regional Water Quality Control Board, and Nevada County Planning Department will be involved in the CEQA process, with one of the three agencies acting as Lead Agency.

#### **d. Organizational capacity narrative**

SSI is a non-profit watershed science organization, founded in 1995 as Friends of Deer Creek to monitor Deer Creek on behalf of Nevada City during the construction of a road bridge over the creek. Since our founding, we have collected 11 years of monthly water quality monitoring data and have implemented numerous projects that address the issues affecting the creek, successfully working within time and budget constraints. We have successfully completed several restoration efforts throughout the watershed, including revegetation work and gravel augmentation. Long term success of our restoration work has been proven by analysis of our macroinvertebrate dataset.

SSI staff includes a biologist, geologist, hydrologist and chemist, all with considerable expertise in project management. Among SSI's board members and volunteers are a microbiologist, hydrogeologist, former agency head at the State Water Quality Control Board, and the former manager of Nevada City's wastewater treatment plant.

#### **e. Cooperation and Community Support:**

The project is aligned with the goals of Firewise Communities as implemented locally by **Fire Safe Council of Nevada County**, the Nevada County Community Wildfire Protection Plan, and the **Lake Wildwood Fire Safe Committee**.

The project was developed as part of a comprehensive long range plan to improve habitat for salmon and steelhead in the Yuba watershed, and is aligned with the goals of the **US Fish and Wildlife Anadromous Fish Restoration Program**.

**Audubon Society** has assisted with bird surveys, and will be involved in the same capacity in this project.

SSI has established a cooperative relationship with the **Lake Wildwood Lake Committee**, ensuring the adoption of beneficial management practices to improve the health of the reach

below the reservoir. **Nevada County Sanitation District #1** funds the gravel augmentation element of the project.

Revegetation and restoration of the hydrologic function of the lower watershed were identified as key priorities of the Deer Creek Restoration Plan (2011), developed by **SSI, The Sierra Fund,** and **the Maidu**, with SNC funding.

The landowners and community members in the project vicinity have pledged their willingness to provide access for project implementation purposes and for pre- and post-project monitoring. These landowners include: **The Sheatsley Trust, The Foster-Regan Family, Ralph Mullican, Ian Garfinkle,** and **Brian Bisnett.**

The educational component of the project is supported by **Gold Country Fly Fishers**, who have provided our “Salmon in the Classroom” exhibit, in which students in our homeschool science program raise salmon in a tank from egg to fry, observing their development and then releasing them to the wild. **PACE Homeschool Co-op** students participate in our program, and will be involved through the program in the implementation of this project.

**Sierra Nevada AmeriCorps Partnership** provides service members to our organization each year, and fully supports the conservation and restoration goals of this project. AmeriCorps members will be responsible for plan development and restoration tasks. **California Conservation Corps** will also assist with revegetation implementation, and has participated in several of our restoration projects to serve as training projects for their members.

Letters of support are attached from Lake Wildwood Lake Association, Lake Wildwood Fire Safe Committee, Audubon Society, Nevada County Sanitation District #1, US Fish and Wildlife Service Anadromous Fish Restoration Program, Gold Country Fly Fishers Club, California Conservation Corps, PACE Homeschool Cooperative, the Sheatsley Trust, Sierra Nevada AmeriCorps Partnership, Firesafe Council of Nevada County.

#### **f. Long Term Management and Sustainability Narrative:**

The longterm sustainability of project outcomes is assured because of the protected status of the property and the committed funding in place for concurrent improvement projects in the reach. The Sheatsley property is subject to a conservation easement, with no changes in land use permitted. The project results will be monitored in perpetuity as part of the long term volunteer monitoring program at SSI, in place since 2000, and continuing in perpetuity. The monitoring program has produced a continuous dataset with comprehensive physical, chemical, and biological parameters, and ensures that long term data collection and data availability will be available to inform management decisions. 3 monthly monitoring and annual assessment sites

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are located within the immediate project area. The present proposal will fund one piece of the overall lower watershed restoration, with additional properties being restored with separate funding since 2009, with a continuing commitment into the future as funding becomes available.

**g. Performance Measures Narrative:**

Performance Measure	Target
Number of Collaboratively Developed Plans and Assessments	Collaboratively developed plan: <i>Lower Deer Creek Meadow Restoration Plan</i>
Number of People Reached	Students (under 18 years of age): 40 Community Volunteers: 30 Users of Sierra Nevada Resource: Conservation groups/individuals: 5 Landowner groups/individuals: 30 Resource Professionals: 10 Government officials: 10
Number and Types of Jobs Created	<b>Professional:</b> Number of people employed: 2 length of employment : 3 years average # of hours/week: 10 season of employment (winter, spring, summer, fall): All
Number and Value of New, Improved or Preserved Economic Activity	Not applicable
Resources Leveraged for the Sierra Nevada	# of volunteer hours: 1246 In-kind contributions: \$28,683 Project Funds from other Sources: \$89,000

# Appendix B3

## SIERRA NEVADA CONSERVANCY PROPOSITION 84 - DETAILED BUDGET FORM

Project Name: Lower Deer Creek Meadow Restoration Project

Applicant: Sierra Streams Institute

SECTION ONE DIRECT COSTS	Year One	Year Two	Year Three	Year Four	Year Five	Total
Task 2: Data Gathering	\$4,000.00					\$4,000.00
Task 3: On the Ground Assessment	\$5,000.00	\$7,500.00	\$7,500.00			\$20,000.00
Task 4: Plan Development			\$10,000.00			\$10,000.00
Task 5: CEQA and Permitting		\$5,000.00	\$10,000.00			\$15,000.00
<b>DIRECT COSTS SUBTOTAL:</b>	\$9,000.00	\$12,500.00	\$27,500.00	\$0.00	\$0.00	\$49,000.00

SECTION TWO OPERATIONS AND MAINTENANCE	Year One	Year Two	Year Three	Year Four	Year Five	Total
Task 1: Project Management	\$2,000.00	\$2,000.00	\$2,000.00			\$6,000.00
Task 4: Printing materials and postage			\$500.00			\$500.00
<b>INDIRECT COSTS SUBTOTAL:</b>	\$2,000.00	\$2,000.00	\$2,500.00	\$0.00	\$0.00	\$6,500.00
<b>PROJECT TOTAL:</b>	\$11,000.00	\$14,500.00	\$30,000.00	\$0.00	\$0.00	\$55,500.00

SECTION THREE Administrative Costs (Costs may not to exceed 15% of total Project Cost) :						Total
Overhead (13.5%)	\$2,500.00	\$2,500.00	\$2,500.00			\$7,500.00
						\$0.00
						\$0.00
						\$0.00
<b>ADMINISTRATIVE TOTAL:</b>	\$2,500.00	\$2,500.00	\$2,500.00	\$0.00	\$0.00	\$7,500.00
<b>SNC TOTAL GRANT REQUEST:</b>	\$13,500.00	\$17,000.00	\$32,500.00	\$0.00	\$0.00	\$63,000.00

SECTION FOUR OTHER PROJECT CONTRIBUTIONS	Year One	Year Two	Year Three	Year Four	Year Five	Total
<i>List other funding or in-kind contributors to project (i.e. Sierra Business Council, Department of Water Resources, etc.)</i>						
SSI Volunteer Monitors	\$9,561.00	\$9,561.00	\$9,561.00			\$28,683.00
Bella Vista Foundation	\$58,000.00					\$58,000.00
SNAP	\$8,000.00	\$8,000.00	\$8,000.00			\$24,000.00
NCSD #1	\$2,000.00					\$2,000.00
Wick Kenney Foundation	\$5,000.00					\$5,000.00
						\$0.00
<b>Total Other Contributions:</b>	\$82,561.00	\$17,561.00	\$17,561.00	\$0.00	\$0.00	\$117,683.00

**NOTE:** The categories listed on this form are examples and may or may not be an expense related to the project. Rows may be added or deleted on the form as needed. Applicants should contact the SNC if questions arise.

\* Operating Costs should be allocated to the percentage that is applicable to the grant based on your cost allocation methodology and cannot exceed 15% of your total project costs.