# Yuba IRWMP – SSI-01

## Project Short Form[1]

Please fill out the following information to the best of your ability/knowledge. Contact Keri Rinne with questions: keri.rinne@gmail.com

**PROJECT SPONSOR INFORMATION**

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|---|---|
| Lead Agency/Organization | Sierra Streams Institute |
| Name of Primary Contact(s) | Sol Henson (Education Program Director), Jeff Lauder (Executive Director) |
| Mailing Address | 117 New Mohawk Rd, Nevada City, Ca 95959 |
| Email Address | sol@sierrastreamsinstitute.org |
| Phone (###) ###-#### | (530) 210-0509 |
| Project Partners/Collaborators | In development |
| YWA Liaison | NA |

**GENERAL PROJECT INFORMATION**

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|---|---|
| **Project Title** | Leveraging Outdoor Science Education Across the Yuba Watershed |
| **Project Total Budget** (Attach detailed budget, if available) | $74,990 |
| **Budget Breakdown** | Planning/Design Budget: $25,000 |
| | Implementation Budget: $44,990 |
| **Project Funding Match**, if any | |
| **Total Project Funding Need** | |
| **Project Location** (Attach map if available) | Yuba River Watershed Wide, organization site in Nevada City |
| **Watershed/subwatershed** | Yuba River Watershed Wide |
| **Groundwater Basin** (Select one) | ☐ North Yuba Subbasin<br>☐ South Yuba Subbasin<br>☒ Not Applicable |
| **Supports Yuba Groundwater Sustainability Plan (GSP)?** | ☐ Yes<br>☒ No |
| **Measurable Objective(s) Benefit (Answer If 'Yes' above)** (check *all* that apply) | ☐ Chronic lowering of groundwater levels<br>☐ Reduction of groundwater storage<br>☐ Degraded water quality<br>☐ Land subsidence<br>☐ Depletions of interconnected surface waters |
| **Project Priority** (Select one) | ☒ High<br>☐ Medium<br>☐ Low |
| **Project Type** (check *all* that apply) | ☐ Conceptual<br>☐ Feasibility Study<br>☐ Study/Assessment<br>☒ Planning<br>☐ Engineering/Design<br>☐ Permitting |

[1] Completed Project Short Forms should be sent via email to Keri Rinne at keri.rinne@gmail.com

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|---|---|
| | ☐ CEQA/NEPA<br>☐ Facility Construction<br>☐ Restoration<br>☐ Monitoring<br>☐ Best Management Practices<br>☐ Acquisition<br>☒ Demonstration/Pilot Project |
| **Legal Authority** | |

**Please select the *status* of the CEQA/NEPA/Permitting for this project:**

| | |
|---|---|
| **CEQA (Select one)** | ☐ Exempt ☐ Not Started ☐ Initial Study ☐ EIR ☐ Determination ☐ Unknown if Required |
| **NEPA (Select one)** | ☐ Exempt ☐ Not Started ☐ Environmental Assessment ☐ EIS ☐ Record of Decision ☐ Unknown if Required |
| **Permitting (Select one)** | ☐ Not Required ☐ Not started ☐ Identified ☐ Consultations Complete ☐ Application Submitted ☐ Complete ☐ Unknown if Required |

**PROJECT DESCRIPTION**

Write a narrative briefly describing the project components and/or characteristics (Suggest ~ 300 words).

Sierra Streams Institute (SSI) is a community-based, watershed science organization with over 20 years of experience in research, restoration, and education. Our office is located in Nevada City, and we work throughout the Yuba and Bear River watersheds.

Our organization has over a decade of experience designing and implementing outdoor science programs in various habitats in the Yuba River watershed (YRW). We have implemented education grants through the Environmental Protection Agency- Environmental Education Program, State Water Quality Control Board, California Coastal Commission, and many more. Currently, we have a National Science Foundation grant for a project called Our Forests, in which we have built a youth citizen science program in partnership with UC Davis. Under this project, 3rd to 5th graders collect real-world forest health and fire risk data that informs the decision-making of land managers. We will leverage this wealth of experience through a watershed-wide project, which is designed to proceed in two phases.

**Phase 1**

The Yuba River watershed provides a wide array of opportunities to engage with and learn about our natural world. Through our NSF funded Our Forest project, SSI has found that fostering students' connections to nature has meaningful benefits to science learning. With the complementary goals of building on the success of recent outdoor education projects, while increasing educational opportunities within the YRW, SSI will create an interactive database of accessible outdoor field sites as a resource for Yuba River Watershed teachers. The database will include organizations that currently offer educational programming at those sites, safety considerations, transportation logistics, important ecological phenomena, and relevant educational resources for teachers. We have already identified many field sites across the mid-watershed (Nevada City and Grass Valley area), and collaborate with several organizations that offer educational programs. Our goal is to prioritize 10 field sites in both the lower and upper watershed to promote place based environmental stewardship. The database will be linked to an interactive map where details of the site are seen by clicking on each location.

**Phase 2**

SSI will build directly on our experience with the Our Forests project and develop lessons that facilitate science communication between classes that participate in outdoor science field trips, with emphasis on communication between the lower and upper portions of the YRW. This inter-watershed communication will

promote diverse perspectives from Yuba County students through a lens of watershed science and stewardship. These lessons include whole class letters and discussions, individual communications (i.e., pen pals), site visits with another class, how to organize combined class field trips, and more. We would make these lessons publicly available to schools within the YRW.

**PROJECT RATIONALE/ISSUES STATEMENT**

Briefly describe the need for the project and the desired outcomes/deliverables (Suggest ~ 200 words). Include an explanation of benefits and how they would be evaluated.

**Needs**

The primary needs for communities across the Yuba River Watershed that are addressed by this project are three-fold:

1) the lack of outdoor watershed-based education, 2) a lack of communication continuity across the watershed, and 3) the lack of early workforce development for watershed science-based jobs (i.e., forestry, hydrology, etc.).

Due to the absence of outdoor science experiences, we miss the opportunity to use place-based science to drive student learning and engagement. This reinforces the chronic issues around the lack of watershed awareness and gaps in the workforce for watershed-science based jobs. For students who have some outdoor science experience, the learning often ends there. With one-off field trips students do not have the opportunity to exchange knowledge on their experiences and to deepen their understanding of the concepts presented to them while in the field.

Communication across the Yuba River watershed enhances understanding between the lower and upper Yuba River communities around interconnected water resources, while sharing their diverse perspectives and lived experiences about the unique places they live in the watershed. By communicating such information, students can gain new perspectives that will foster compassion for the Yuba River watershed and its communities, while catalyzing watershed-wide stewardship.

**Outcomes/Deliverables**

The outcomes of this project will promote and support outdoor field programs across the YRW. Deliverable 1: increase the visibility of outdoor field experience opportunities within the Yuba River Watershed by creating a database and interactive map of outdoor educational field sites. Deliverable 2: create a set of lesson-based tools that facilitate communication between schools across the watershed.
Deliverable 3: Pilot 12 field programs with middle and upper elementary school students. At least 3 schools will be from the Central Valley, 3 schools from the foothills, and 3 schools from the upper watershed. Each class will have a partner class where they will use the communication tools created in Deliverable 2 to share their experiences, investigations, and any scientific findings that they made.