



Position Description

Sierra Nevada AmeriCorps Partnership

Position Title: Education Coordinator
Host Site: Sierra Streams Institute
Site Supervisor: Justin Wood
Contact: 530-265-6090 x204, justin@sierrastreamsinstitute.org

Position Location: Nevada City, California.

Sierra Streams Institute is located in Nevada City, California, with our work primarily occurring in the Yuba and Bear River watersheds. Nevada City is located in the foothills of the Sierra Nevada mountains in Northern California at 2500' elevation, one hour west of north Lake Tahoe and three hours east of the Pacific coast. During the Gold Rush, Nevada City was a thriving hub of mining activity, and it remains one of the liveliest, friendliest and most beautiful of all California Gold Rush towns with a remarkably rich cultural life. It is considered to be one of the best preserved towns in the west. In addition to its rich history and considerable natural beauty, Nevada City boasts a thriving arts and entertainment community with fine restaurants, a vibrant live music scene, galleries, museums, and theater. Nevada City is a Mecca for outdoors enthusiasts, with abundant recreational opportunities such as backpacking, cycling, and kayaking in the many rivers and lakes, as well as skiing and rock climbing in the nearby mountains. The climate is characterized by warm, dry summers, and wet winters with periodic snowstorms and lots of winter sunshine.

Organization Description: Sierra Streams Institute is a watershed science organization based in Nevada City, California, dedicated to increasing watershed stewardship capacity throughout the Sierra Nevada region and beyond. Founded in 1996 as Friends of Deer Creek, SSI has grown to become an important voice in the regional scientific community. We work with local, state, and federal agencies as well as universities and community groups to find solutions to the problems that afflict Deer Creek and other watersheds (Yuba, Bear) throughout the region that share the challenges resulting from a century and a half of gold mining, development, and agriculture. SSI's emphasis on rigorous science, data collection and community engagement provides the basis for restoration decisions that are made on behalf of Sierra watersheds, and makes us a valuable partner of local and state government agencies.

Program Description: Sierra Streams Institute focuses on the following program areas: Watershed Restoration, Science Education, Research, Training, Lab and Testing Services, and Friends of Deer Creek. Please visit www.sierrastreamsinstitute.org for a description of these program areas.

Position Description: The Education Coordinator will work with Sierra Streams Institute staff, volunteers, and interns to educate youth and adults about watershed science. In addition the member will assist with monitoring, assessment, research, and restoration throughout the Deer Creek, Bear River, Yuba River, and surrounding watersheds. Responsibilities include: teaching, lesson planning, curriculum development, coordination and outreach in the watershed science education program; monthly water quality monitoring, macroinvertebrate and algae collection, annual habitat assessments, amphibian surveys, mammal surveys, and bird monitoring. He/she will also assist with current restoration and research projects, which may include: Identifying macroinvertebrates and/or diatoms in the lab; using algae, macroinvertebrates, birds, fish, amphibians, and mammals as indicators of health and restoration success; monitoring effects of storm events

on water quality; developing maps of monitoring and restoration sites using GIS, using GIS to analyze spatial data, and using GIS to make maps for outreach and presentations; data and statistical analysis of various datasets; working with the Nisenan Maidu tribe on restoration and teaching projects; conducting research and outreach to community members on how the environment affects public health; participating in restoration projects including the Hirschman's Pond Healthy Forest Initiative, Scotch Broom Challenge events, and the Great Sierra River Clean-Up. Recruit and organize stakeholders and volunteers to participate in watershed monitoring and restoration; outreach and presentations to community groups, citizen scientists, and stakeholders; help organize the Sierra Science Speaker series; assist with monthly newsletter publication.

Required Qualifications:

- College degree with a focus or interest in biology, ecology, hydrology, geology, river science, restoration science, chemistry, environmental science, education or related field.
- Ability to work independently, with other staff, and a diverse group of volunteers and interns.
- Experience working in informal or formal education contexts and desire to inspire youth and adults to learn about environmental science.
- Strong written and oral communication skills; strong computer and organizational skills.
- Knowledge of the scientific method, strong science communication skills.
- Ability to hike through creeks and vegetation (occasionally poison oak or Himalayan blackberry) and be on your feet for up to 10 hours a day to perform monitoring and habitat assessments. Ability to carry monitoring and education equipment that weighs up to 50 lbs.
- Ability to work in the office sitting at a computer station, or in the lab sitting and standing to process samples and/or working at a microscope, for up to 8 hours a day.
- Willingness to occasionally work early in the morning (before 6:00A.M.), in the evening (after 6:00P.M.), and/or on weekends to complete monitoring and assessment projects (such as bird or mammal monitoring).
- Ability to drive for up to 8 hours a day to access monitoring sites and required trainings across the Sierra Nevada.

Desired Qualifications:

- Experience teaching in a classroom or field setting and/or leading groups of students or citizen scientists in the field.
- Experience performing habitat assessments, conducting algae and macroinvertebrate sampling, conducting water quality and other monitoring, and processing samples in a lab.
- Experience with on-the-ground restoration projects that involve the local community.

Additional Benefits: Perks of serving as an AmeriCorps Member at Sierra Streams Institute include:

- Live and work in Nevada City, in close proximity to abundant recreational opportunities including skiing and snowboarding, mountain biking, kayaking, swimming, and backpacking.
- Work with scientists in a great environment to develop professional skills.
- Have the opportunity to lead projects and classes, and to work with and manage citizen scientist volunteers and interns.
- Get assistance with settling in to the area, as needed, from our staff and volunteers.

Website: www.sierrastreamsinstitute.org



Member Service Plan Sierra Nevada AmeriCorps Partnership

Host Site: Sierra Streams Institute
Position Title: Education Coordinator
Designated Site Supervisor: Justin Wood
Term of Service: Mid-October 2016 – Mid-September 2017

Organizational Background: Sierra Streams Institute is a watershed science organization based in Nevada City, California, dedicated to increasing watershed stewardship capacity throughout the Sierra Nevada region and beyond. Founded in 1996 as Friends of Deer Creek, SSI has grown to become an important voice in the regional scientific community. We work with local, state, and federal agencies as well as universities and community groups to find solutions to the problems that afflict Deer Creek and other watersheds (Yuba, Bear) throughout the region that share the challenges resulting from a century and a half of gold mining, development, and agriculture. SSI's emphasis on rigorous science, data collection and community engagement provides the basis for restoration decisions that are made on behalf of Sierra watersheds, and makes us a valuable partner of local and state government agencies.

Organizational/Program Goals 2016-17: Sierra Streams Institute focuses on the following program areas: Watershed Restoration, Watershed Science Education, Research, Human Health/Environment, Training, Lab and Testing Services. The following lists the organizational and program goals for 2016-17:

- Summer Learning Academy: Sierra Streams Institute is partnering with Nevada County to offer a month-long summer school program for children in the region who are at risk of falling behind in school. These children will be selected from local K-5 classes to attend the “Adventures in Learning” program. Sierra Streams Institute education staff are developing science and PE materials and implementing them during the second year of this program.
- Science Education Program: Sierra Streams Institute has offered a science education program for students in the region since 2011, and will continue to provide these programs to schools and adults in 2016-17.
- Watershed monitoring and restoration projects: In 2016-17 we will continue restoration of meadow and riparian areas downstream of Lake Wildwood at the Sheatsley property and begin assessments and planning for hydrologic restoration of a meadow on Deer and Squirrel Creeks; continue assessments and healthy forest and land management activities at Hirschman’s Pond in Nevada City; implement a fourth year of abandoned mine lands clean-up projects in Nevada City at Providence Mine; continue organizing Scotch Broom pull events at restoration projects throughout the watershed; help stakeholders in the Bear River watershed develop and implement a restoration plan; and continue our on-going citizen based monthly monitoring program at 18 sites in the Deer Creek watershed and 10 sites in the Bear River watershed.

- Human and environmental health research: Sierra Streams Institute is engaged in several projects aimed at evaluating impacts to public health, including bacteria monitoring and remediation, abandoned mine land cleanup, a phytoremediation project at an abandoned mine site, and research into the health effects of living amongst abandoned mine lands. We plan to continue and expand upon these research projects in 2016-17.

- Citizen Science Program: Sierra Streams Institute will continue our successful citizen science monitoring program in the Deer Creek watershed, ongoing since 2000. As part of this program, citizen scientists work with staff members to monitor water quality, macroinvertebrates, algae, birds, mammals, amphibians, vegetation, participate in a phenology project, and much more. In 2016-17, in addition to continuing our long term monitoring projects in the Deer Creek watershed, we will continue work with local stakeholders in the nearby Bear River watershed and expand upon baseline water quality monitoring to include other assessments.

- Nisenan Tribe Partnership: Sierra Streams Institute are working with the Nisenan tribe of the Nevada City Rancheria to develop a curriculum focusing on native restoration practices and natural history education. In addition, we will continue to collaborate on projects that focus on ecological and cultural restoration of important Nisenan sites.

- Outreach: Sierra Streams Institute will continue to present at conferences, local stakeholder group meetings, State trainings, and government meetings to discuss the results of our work. In 2016-17 we will continue collaborating with the City, County, State, local groups including the Nisenan, Gold Country Fly Fishers, Audubon, Lake Wildwood Lake Committee, Bear Yuba Land Trust, and South Yuba River Citizens League, and plan to publish the results of some of our scientific projects. In addition we will continue to partner with Sierra College to offer the Sierra College Science Speaker Series in fall 2016 and spring 2017.

Member Service Plan Overview and Outcomes: The Education Coordinator will work with Sierra Streams Institute staff, volunteers, and interns to educate youth and adults about watershed science. In addition the member will assist with monitoring, assessment, research, and restoration throughout the Deer Creek and surrounding watersheds. Responsibilities include: teaching, lesson planning, curriculum development, coordination and outreach in the watershed science education program; monthly water quality monitoring, macroinvertebrate and algae collection, annual habitat assessments, amphibian surveys, vegetation surveys, mammal surveys, and bird monitoring. He/she will also assist with current projects, which may include: Identifying macroinvertebrates and/or diatoms in the lab; conducting pre and post-project monitoring to evaluate success of restoration; using algae, macroinvertebrates, birds, fish, amphibians, and mammals as indicators of health and restoration success; developing maps of monitoring and restoration sites using GIS, using GIS to analyze spatial data, and using GIS to make maps for outreach and presentations; data and statistical analysis of various datasets; working with the Nisenan Maidu tribe on restoration and teaching projects; conducting research and outreach to community members on how the environment affects public health; participating in restoration projects including Scotch Broom Challenge events and the Great Sierra River Clean-Up. The member will also recruit and organize stakeholders and volunteers to participate in watershed monitoring and restoration, conduct outreach and presentations to community groups, citizen scientists, and stakeholders, and help organize the Sierra Science Speaker series; assist with monthly newsletter publication.

Service Position Major Projects:

1. Watershed Restoration and Assessment:

a. Priority Project: Bear River Watershed Group. The member will help with development of restoration plan for Bear River watershed; monitor sites in the Bear River watershed and train volunteers on monitoring protocols; outreach to stakeholders in the Bear River watershed.

i. Projected Hours: 30

ii. Estimated Acres Restored: 0 acres restored

1. Acres Restored by Member (ONLY): 0

b. Priority Project: Sheatsley Meadow Restoration. The member will assist with ongoing non-native species removal and planting of native vegetation along Deer Creek downstream of Lake Wildwood Reservoir; monitor results of restoration efforts through vegetation and animal surveys; assist with monitoring and assessments of the meadow.

i. Projected Hours: 25

ii. Estimated Acres Restored: 1 acre restored

1. Acres Restored by Member (ONLY): 1

c. Priority Project: Hirschman's Pond Healthy Forest Initiative. The member will assist with monitoring and assessments as part of the ongoing forest management effort at Hirschman's Pond; assist with land management and restoration activities including Scotch Broom removal and forest thinning.

i. Projected Hours: 50

ii. Estimated Acres Restored: 0 acres restored

1. Acres Restored by Member (ONLY): 0

d. Priority Project: Environs Clean-Up. Work with staff to assess the Environs parcel in Nevada City; assist with phytoremediation research project; educate community about phytoremediation project.

i. Projected Hours: 25

ii. Estimated Acres Restored: 0 acres restored

1. Acres Restored by Member (ONLY): 0

e. Priority Project: Citizen Science Monitoring Program. Participate in the Friends of Deer Creek and Bear River Watershed Group monitoring programs, including water quality monitoring, algae and macroinvertebrate sampling, physical and biological habitat assessments, bird surveys, mammal trapping, amphibian surveys, vegetation surveys, and fish surveys. Support citizen scientists during monitoring and assessments. Identify macroinvertebrates in the macro lab, develop and implement a research project involving macroinvertebrates to assess efficacy of citizen science collecting programs.

i. Projected Hours: 100

ii. Estimated Acres Restored: 50 sites monitored/assessed.

1. Acres Restored by Member (ONLY): 0

f. Priority Project: Deer Creek Environs Project. The member will help with long-term monitoring and assessments and land management activities at the Environs property in Nevada City, including leading phenology plant walks and educating citizen scientists about phenology and climate change, and developing a native plant garden.

i. Projected Hours: 20

ii. Estimated Acres Restored: 1 acres restored

1. Acres Restored by Member (ONLY): 0.5

g. Priority Project: Great Sierra River Clean Up. Organize a clean-up event in coordination with the Great Sierra River Clean-Up in September 2017, to clean up a section of creek in the

Yuba or Bear River watersheds. Recruit and coordinate volunteers to participate in the event; educate community members about the importance of the event.

i. Projected Hours: 20

ii. Estimated Acres Restored: 3 acres restored

1. Acres Restored by Member (ONLY): 1

h. Priority Project: Scotch Broom Challenge. Participate in local Scotch Broom removal events during the spring of 2017; organize at least two Scotch Broom removals at sites in the Deer Creek watershed; recruit volunteers to participate in the Scotch Broom challenge.

i. Projected Hours: 20

ii. Estimated Acres Restored: 5 acres restored

1. Acres Restored by Member (ONLY): 2

Watershed Restoration and Assessment Totals:

Total Projected Hours: 270

Total Estimated Acres Restored: 10 acres restored

Total Member Acres Restored: 4.5 acres restored

2. Watershed Education and Outreach

a. Priority Project: ASPB Phenology program. Communicate with teachers about lesson plan design, field trip planning, and student behavior; design hands-on, investigation based lessons for classes; prepare and purchase materials for classes; organize materials and lessons to use in future classes; meet with education team on a weekly basis to plan classes; visit classrooms to teach hands-on lessons; design and implement citizen science based field trips for schools.

i. Projected Hours: 400

ii. Estimated Education Outcomes:

- 1. Presentations** (Presentations and/or Service Learning projects of at least 30 minutes in which the member will be able to query participants with a pre and post test): 100
- 2. Outreach:** (Educational Outreach in which members will be able to ask participants if the outreach conducted increased their level of understanding): 0

b. Priority Project: Summer Learning Academy Program. Develop and implement a 1 month summer program for grades K-5; purchase and prepare materials for program; design games, crafts, and nature based programs; recruit interns; advertise program on website, Facebook, Yubanet, newsletter; attend Summer Learning Academy planning meetings and events; instruct 4 week program.

i. Projected Hours: 300

ii. Estimated Education Outcomes:

- 1. Presentations** (Presentations and/or Service Learning projects of at least 30 minutes in which the member will be able to query participants with a pre and post test): 150
- 2. Outreach:** (Educational Outreach in which members will be able to ask participants if the outreach conducted increased their level of understanding): 0

c. Priority Project: Outreach and Events. Outreach to the public about the watershed science education program and opportunities at Sierra Streams Institute; outreach to citizen scientists in the Deer Creek and Bear River watersheds about results of monitoring and

assessment projects; conduct outreach or tabling at local events to promote Sierra Streams Institute including the Sierra College Science Speaker Series; assist with monthly Sierra Streams Institute newsletter.

i. Projected Hours: 75

ii. Estimated Education Outcomes:

1. **Presentations** (Presentations and/or Service Learning projects of at least 30 minutes in which the member will be able to query participants with a pre and post test): 0
2. **Outreach** (Educational Outreach in which members will be able to ask participants if the outreach conducted increased their level of understanding): 200

d. Priority Project: Public Schools programs (Yuba River Charter and others). Communicate with teachers about lesson plan design, field trip planning, and student behavior; design hands-on, investigation based lessons for classes; prepare and purchase materials for classes; organize materials and lessons to use in future classes; meet with education team on a weekly basis to plan classes; visit classrooms to teach hands-on lessons; design and implement monitoring and restoration based field trips for schools.

i. Projected Hours: 250

ii. Estimated Outcomes:

1. **Presentations** (Presentations and/or Service Learning projects of at least 30 minutes in which the member will be able to query participants with a pre and post test): 60
2. **Outreach** (Educational Outreach in which members will be able to ask participants if the outreach conducted increased their level of understanding): 20

e. Priority Project: California Naturalist. Assist with teaching and lesson planning for the California Naturalist class in spring 2017.

i. Projected Hours: 60

ii. Estimated Outcomes:

1. **Presentations** (Presentations and/or Service Learning projects of at least 30 minutes in which the member will be able to query participants with a pre and post test): 30
2. **Outreach** (Educational Outreach in which members will be able to ask participants if the outreach conducted increased their level of understanding): 30

a. Watershed Education Totals:

i. Total Projected Hours: 1085

ii. Total Estimated Outcomes:

1. **Presentations:** 340
2. **Outreach:** 250

3. Volunteer Recruitment and Support:

a. Priority Project: Bear River Watershed Group. The member will monitor sites in the Bear River watershed; recruit and support volunteers during monitoring and assessments.

i. Projected Hours: 20

ii. Estimated Outcomes:

1. **Number of Volunteers Recruited:** 3

2. Total # of Hours Served by Volunteers: 10

b. Priority Project: Hirschman's Pond Healthy Forest Initiative. The member will work with volunteers to monitor and assess the property; assist staff and volunteers with land management and restoration activities including Scotch Broom removal.

i. Projected Hours: 20

ii. Estimated Outcomes:

1. Number of Volunteers Recruited: 5

2. Total # of Hours Served by Volunteers: 20

c. Priority Project: Citizen Science Monitoring Program. Support citizen scientists during monitoring and assessments; educate volunteers and community members about the importance of monitoring and assessments for evaluating the success of restoration projects.

i. Projected Hours: 40

ii. Estimated Outcomes:

1. Number of Volunteers Recruited: 10

2. Total # of Hours Served by Volunteers: 50

d. Priority Project: Deer Creek Environs Project. The member will help with long-term monitoring and assessments at the Environs property in Nevada City, including leading phenology plant walks with volunteers, and educating citizen scientists about phenology and climate change.

i. Projected Hours: 25

ii. Estimated Outcomes:

1. Number of Volunteers Recruited: 5

2. Total # of Hours Served by Volunteers: 25

e. Priority Project: Great Sierra River Clean Up. Recruit and coordinate volunteers to participate in the event; educate community members about the importance of the event.

i. Projected Hours: 20

ii. Estimated Outcomes:

1. Number of Volunteers Recruited: 5

2. Total # of Hours Served by Volunteers: 25

f. Priority Project: Scotch Broom Challenge. Participate in local Scotch Broom removal events during the spring of 2017; recruit volunteers to participate in Scotch Broom challenges.

i. Projected Hours: 20

ii. Estimated Outcomes:

1. Number of Volunteers Recruited: 10

2. Total # of Hours Served by Volunteers: 25

Volunteer Recruitment and Support Totals:

Total Projected Hours: 145 hours

Total Estimated Outcomes:

Number of Volunteers Recruited: 38

Total # of Hours Served by Volunteers: 155

4. Resource Attainment: (Please note that members can complete no more than 170 hours of Resource Attainment Activities. Resource Attainment activities must raise money that goes directly to member service projects. Members may NOT raise general funds, write federal grants, or write grants to cover your site's cash match.)

- a. **Priority Project:** Grants/goods for Member Projects and Resources. Members are encouraged to write grants and seek donations that will benefit their service projects.
 - i. **Projected Hours:** 40
 - ii. **Estimated Outcomes:**
 - 1. **Number of Donations (Grants, Services, Goods, etc):** 1
 - 2. **Dollar Amount of Donation:** \$1000

Resource Attainment Totals:

Total Projected Hours: 40 hours

Total Estimated Outcomes:

- 1. **Number of Donations:** 1
- 2. **Value of Donations:** \$1,000

5. Member Training and Development: (Please note that members can complete no more than 240 hours of training.)

- a. **SNAP Specific Trainings:** Required SNAP Member Orientation, Spring Training and Service Projects, Fall Training and Sierra Nevada Alliance Annual Conference, and Graduation
 - i. **Projected Hours:** 130
- b. **Site Specific Orientation:** Orientation to Sierra Streams Institute. Tour of office, lab, and classroom; introductions to the staff, volunteers, and interns; office policies and procedures; attendance at November 2014 board meeting to meet the board; tour of the monitoring and restoration sites; orientation and training on member projects.
 - i. **Projected Hours:** 25
- c. **Site Specific Training:** Monitoring and Assessment Trainings. Members will receive training from staff and volunteers on all of the monitoring and assessment protocols they will be using throughout the year. Education trainings will include several full-day trainings on curriculum and other educational tools and protocols.
 - i. **Projected Hours:** 50

Member Training and Development Totals:

Total Projected Hours: 205 hours

6. Total Hours: 1,745

7. Percentage Totals:

- a. **Watershed Restoration and Assessment:** 15.5
- b. **Watershed Education and Outreach:** 62.2
- c. **Volunteer Recruitment and Support:** 8.3
- d. **Resource Attainment:** 2.3
- e. **Member Training and Development:** 11.7