GRANT APPLICATION – COVER PAGE

CONTACT INFO

Organization	**Sonoma State University Copeland Creek Restoration**		
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PROJECT INFO

Project Name	Copeland Creek Restoration				
Summary	We will be addressing the removal of invasive and problematic species in the project area. Followed by replanting of native vegetation. We also hope to filter the unregulated runoff pipes leading into Copeland Creek.				
Total Project Cost	$650,000			**Amount Requested**	$350,000
Start Date	09/2015			**End Date**	12/2018
Project Type (check all that apply)	☐Planning ☐Acquisition ☐Implementation/Construction ☐Access ☐Agricultural Preservation ☐Climate Change ☒ Habitat Conservation/Enhancement ☐Urban Greening ☐Urban Waterfront				
Acres	**0.08**	**Trail Miles**		**APNs** (Acquisition Only)	

LOCATION INFO

County	Sonoma	**Specific Location**	Copeland Creek, Rohnert Park
Latitude	38.339 N	**Longitude**	122.675 W
What point is represented by the lat/longs (eg., parking lot, center of site, etc):	Sonoma State University		

ELECTED OFFICIALS

Districts	**Number(s)**	**Name(s)**
State Senate	1	Mike McGuire
State Assembly	2	Mike McGuire & Jim Wood
Congressional	1	Jared Huffman

GRANT APPLICATION – PROJECT DESCRIPTION

Complete each of the elements of the project description below with clear, but detailed answers. Limit your response to this section to no more than four pages if possible.

1. **Need for the project.** Describe the specific problems, issues, or unserved needs the project will address.

This project is needed to restore Copeland Creek to a functional ecosystem that shows similarities in species richness to historical data. A lot of issues revolve around the fact that Copeland Creek cannot be returned to how it used to be before humans settled in the area. Because of this, this project is required to restore function to the ecosystem over historical accurateness, as too many parameters have changed in the river system since humans have settled (Hughes et al. 2005).

Some of these issues include changes in creek structure and flow, which has altered flood plains within the area, changes in species richness and biodiversity, and changes in water quality. The main issue Copeland Creek faces is nonnative invasive species, which are shifting the understory areas towards a monoculture, and are starting to exclude important native wildlife such as the Western Pond Turtle. This shift to a monoculture is also affecting the riparian zones, causing erosion of the creek sides and the exclusion of native riparian species in favor of nonnative invasive species like Himalayan Blackberry, Harding Grass, Velvet Grass, and wild Fennel. Himalayan Blackberry is a large problem within Copeland Creek, and certain implementations will need to be tested to ensure the populations of the nonnative plant can be controlled. These include ground removal, herbicides, prescribed burnings, and grazing. Therefore, grants will need to be obtained for use of herbicides and prescribed burnings. Volunteers would also be needed for removal of vegetation by hand, and local farmers would need to be contacted for use of their animals for grazing.

The need for tree removal and replanting of other trees is a large issue that needs to be addressed during this project. Because of this, specialists will need to be contacted that are capable of cutting down large, fully grown trees. Volunteers will also be needed to help remove nonnative grasses such as Harding Grass and Velvet Grass. There will be a large need to monitor the soil underneath the brush to make sure that there are not any dormant seed banks of the nonnative species hidden away. If there are, then removal of these seeds will be a necessity to ensure they do not sprout again.

Other issues include water quality as several pipes drain into Copeland Creek directly from the campus, causing concern for health and safety for residential areas nearby, local wildlife, and Sonoma State University students, as the creek runs through the campus. Some testing will need to be done to check water quality, and measure the amount of runoff into the creek through the pipes.

The issue with water quality could also affect native species such as macroinvertebrates, amphibians, reptiles, birds, and mammals. Great care should be taken in research as to where these certain species reproduce and migrate so restoration efforts do not hinder their natural behavior (Semlitsch and Bodie, 2003). Effort should be made to enhance their survivability rates instead of reduce them. In regards to keeping native species in check, an effort will need to be made to combat the issue of feral and outdoor domestic cats that tend to wander around the creek. These cats are a large threat to a large amount of species such as birds, reptiles, and small mammals. A need to reduce these populations is crucial for restoration of fauna within the ecosystem.

2. **Goals and objectives.** The goals and objectives should clearly define the expected outcomes and benefits of the project

Goal:

Our goal is to restore and increase the population of endangered species within Copeland creek through the process of removal of non-native species, reintroduction of native species, restoration of habitat, and improvement of quality in riparian zones that can support the species.

Objectives:

1. By 2020, heavily filter the multiple runoff pipes leading into the creek.
    a. Test water quality in Copeland Creek
    b. Determine if pollution is point or nonpoint source. If point source of pollution is found coming from the multiple runoff pipes we will begin mitigation.
    c. Mitigation will include the regulation and filtration of the runoff pipes
2. By 2018, remove 100% of large, senescent willow species (e.g. *Salix lasiolepis*) and replace half of those removed with the alternative willow species *Salix laevigata*, and the remaining half with Alder Trees.
    a. Mark tree species that need to be removed
    b. Hire a crew to remove specified trees and remove from creek area
    c. Replant with desired species
    d. Monitor new trees to see how they are doing
3. To increase the populations of Western Pond Turtles within Copeland Creek by 20% by the year 2025 through the restoration of native habitat and the removal of any non-native species that have proven to be detrimental to the species' survival.
    a. Removal of nonnative vegetation that could be hindering the natural migrations of Western Pond Turtles
    b. Research migration patterns of Western Pond Turtles, and locate breeding sites to restore
    c. Replant native vegetation within the creek to create more sustainable and natural habitats for Western Pond Turtles, their food sources, their migration sites, and their breeding sites
4. To reduce the density of Himalayan blackberries by 90% by 2020 from Petaluma Hill Road down to Snyder lane.
    a. Research various methods for removal of Himalayan blackberries
    b. Adopt a phased approach to removing Himalayan blackberries in the creek. Use herbicides, above ground removal and biological controls such as grazing starting at Petaluma hill road and working downstream in predetermined restoration zones.

c. Following blackberry removal, replant area with native species that can outcompete or reduce the growth of Himalayan blackberry.

d. Create a campus club that can monitor and maintain Himalayan blackberries and prevent their reinvasion.

5. Inform the community of the dangers of outdoor cat populations, as well as feral cat populations, and the damage they cause, by being an invasive species, on the native animal populations. Reduction of outdoor/feral cat populations will aid in the increase of native small animal populations by 2025 in the portion of the creek that runs through Sonoma State University.

a. Educate the surrounding community of the dangers of outdoor cat populations through the use of community outreach, such as workshops, informative pamphlets and posters, and veterinarians encouraging owners to keep their cats indoors.

3. **Site Description.** Describe the project site or area, including site characteristics that are tied to your project objectives (i.e.: for acquisition of habitat, describe current vegetation assemblages, condition of habitats, known wildlife migration corridors, etc.). When relevant, include ownership and management information.

Copeland Creek is part of the Laguna de Santa Rosa's watershed, which in turn is part of the Russian River basin, eventually draining into the Pacific Ocean. This riparian system begins at the top of Sonoma Mountain and flows down through many grazing lands and vineyards. The focus of this project will be the section of creek that bisects Sonoma State University, which is located in Sonoma County, about 50 miles North of San Francisco. This particular spot of the creek is essentially a bridge between the urban setting of Rohnert Park and the rural agricultural properties in the surrounding areas. This area of Copeland Creek has gained interest from the community and many programs at the University, such as the Environmental Studies department and Biology department. This riparian habitat is important to the University and community because it provides a wealth of biodiversity and ecological services, as well as an educational area for students who are interested in restoration projects.

As a results of being downstream of rural agriculture properties, the portion of creek that runs through the University receives an increase of sedimentation and runoff. This, as well as the long history of cattle grazing in the past, has reduced the quality of the surrounding habitat. Much of the creeks habitat has been altered and many invasive plant species are now present.

4. **Specific Tasks.** Identify the specific tasks that will be undertaken and the work that will be accomplished for each task.

#	Task Name	Description
1	Filtration of pipes running off into the creek	Working with the water agency to test water quality, locate possible pollutants, and install filtration systems on pipes if necessary.
2	Removal of *Salix lasiolepis*	A team of people will monitor the area for these species and then proceed to remove them, while taking note of possible saplings and dormant seed banks so the species does not spring back.

3	Planting of *Salix laevigata* and Alders	Using seeds or cuttings locally collected, teams of people will plant the desired willows and alders along the riparian zone so their roots can help keep a foundation on the creek banks and prevent erosion.
4	Reduce density of Himalayan Blackberry	Sectional implementation of certain eradication methods such as herbicides, prescribed burnings, above ground removal, and grazing shall be used. Shade from newly planted trees might also help keep populations low further down the line.
5	Lower population of feral cats in area	Educate the general public about the dangers of releasing cats outdoors, or letting cats go outside without supervision. Humane traps will be set up to catch feral cats so they can be neutered or spayed through local shelters. Every year, a survey will be done of feral cat populations compared to the population of small mammals such as rats and mice.

Add or delete rows as necessary.

5. **Work Products.** List the specific work products or other deliverables that the project will result in.

- Annual monitoring reports showing different measure of success
- Herbicides
- Plants various species
- Humane traps
- Tools – saws, shovels, gloves, ect.
- Drain filters
- Crew to install the system
- Equipment to test water quality

6. **Measuring Success.** For projects involving restoration, construction or land acquisition, describe the plan for monitoring, evaluating and reporting project effectiveness, and implementing adaptive management strategies if necessary. Who will be responsible for funding and implementing ongoing management and monitoring?

Sonoma State University will be responsible for funding and implementing the ongoing management monitoring in Copeland Creek. Monitoring and evaluation of the project will include both qualitative and quantitative data collected each year after restoration goals have been met. Quantitative monitoring should include plant survival, hydrologic status, species richness, turbidity, in stream and environmental conditions. Qualitative monitoring will be collected observationally during monthly walks through the project area.

-Eric Fuss

7. **Project Maps and Graphics.** Provide the following project graphics with your application. Project maps and design plans should be combined into one pdf file with a maximum size of 5 mb. Project photos should be provided in jpg format.

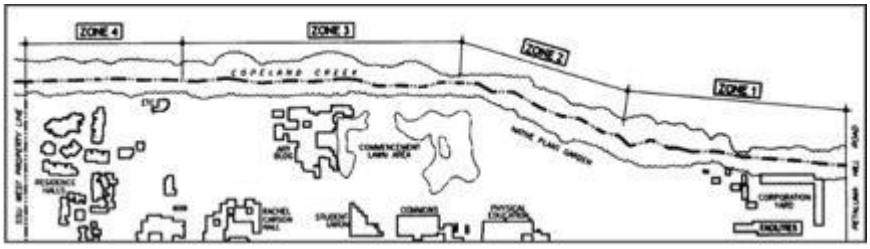
- Regional Map – Clearly identify the project's location in relation to prominent area features and significant natural and recreational resources, including regional trails and protected lands.

- Site-scale map – Show the location of project elements in relation to natural and man-made features on-site or nearby. Any key features discussed in project description should be shown.
- Design Plan – Construction projects should include one or more design drawings or graphics indicating the intended site improvements.
- Site Photos – One or more clear photos of the project site

Sight Photo

Sight Photo

Site-Scale Photo



PROJECT DESCRIPTION

Regional Photo

GRANT APPLICATION – PRELIMINARY BUDGET AND SCHEDULE

-Eric Fuss

In the budget matrix below, relist the tasks identified in #4 above and for each provide: 1) the estimated completion date for the task, 2) the estimated cost of the task, and 3) the funding sources (applicant, Conservancy, and other) for the task. The table will automatically sum the totals for each row and column. To do this, highlight the whole table and hit F9.

Task Number	Task	Completion Date	Applicant's Funding	Coastal Conservancy	Other Funds	Total Cost
1	Mechanical removal of HB	09/2016	$2,000	$2,000		**$ 4,000**
2	Herbicide treatment on HB	10/2016	$1,000	$1,000		**$ 2,000**
3	Filters on runoff pipes	08/2018	$300,000	$300,000		**$ 600,000**
4	Removal of *Salix lasiolepis*	10/2017	$1,000	$1,000		**$ 2,000**
5	Replanting native vegitation (purchasing native trees and understory)	02/2017	$5,000	$5,000		**$ 10,000**
6	Human cat traps	9/2016	$250	$250		**$ 500**
7						**$ 0**
						$ 0
						$ 0
						$ 0
						$ 0
						$ 0
TOTAL			**$ 309,250**	**$ 309,250**	**$ 0**	**$ 618,500**

In Kind Services

In-kind services or contributions include volunteer time and materials, bargain sales, and land donations. Describe and estimate the value of expected in-kind services.

- The estimated value of in-kind services is unlimited. Being a University we have the ability to utilize the talents of our students. Services such as the removal of invasive plant species throughout the creek, replanting of native vegetation, data collection and observational monitoring throughout the creek. These services can provide unlimited resources from the removal of invasive species to testing water quality in the creek and helping monitor the success of this project.

GRANT APPLICATION – ADDITIONAL INFORMATION

For each question unless otherwise specified, please limit your answer to one concise paragraph. See grant application instructions for more information. For question #6, limit your answer to 1-3 sentences per relevant plan. Questions 1-7 should be answered by all applicants. For questions 8-11, enter "not applicable" if the question does not pertain to your project.

1. **Project and Applicant History:** Provide a history of the project, and any background information not provided in the project description. Is the project related to any previous or proposed Coastal Conservancy projects? If so, which ones and how are they related?

The project area of Copeland Creeks is 3,767 feet. The creek is managed by the Sonoma County Water Agency just east and west of the project area. Invasive Himalayan blackberry has taken over the project area. Earlier restoration attempts have used willow stakes of *Salix lasiolepis*, which have become problematic during rainy seasons. The branches break easily and when they fall in the stream bank they will slow or even dam the flow of the creek. Storm-water runoff from Sonoma State University leads into Copeland Creek through storm drains. This project is similar to the Ellis Creek Restoration Coastal Conservancy project in which riparian vegetation was planted and soil erosion were addressed.

2. **Environmental Review**: Projects funded by the Coastal Conservancy must be reviewed in accordance with the California Environmental Quality Act ("CEQA"). CEQA does not apply to projects that will not have either a direct or indirect effect on the environment. For all other projects, if the project is statutorily or categorically exempt under CEQA, no further review is necessary. If the proposed project is not exempt, it must be evaluated by a public agency that is issuing a permit, providing funding, or approving the project, to determine whether the activities may have a significant effect on the environment. The evaluation results in a "Negative Declaration (Neg Dec)," "Mitigated Negative Declaration (MND)," or "Environmental Impact Report."

The proposed project…. (Select the appropriate answer):

☐ Is not a project under CEQA. Briefly specify why.

☐ Is exempt under CEQA. Provide the CEQA exemption number and specify how the project meets the terms of the exemption.

☒ Requires Neg Dec, MND, or EIR. Specify the lead CEQA agency (the agency preparing the document) and the (expected) completion date. Please note that the Conservancy will need to review and approve any CEQA document. For more information on CEQA, visit: http://ceres.ca.gov/topic/env_law/ceqa/flowchart/index.html

CEQA: The lead agency is Sonoma State University and the expected completion date is 2018.

3. **Support:** List the public agencies, non-profit organizations, elected officials, and other entities and individuals that support the project.

- Sonoma State University
- Sonoma County Water Agency
- California Conservation Corps
- CA Department of Fish and Wildlife
- Laguna de Santa Rosa Foundation
- Center for Environmental Inquiry

4. **Regional Significance:** Describe the regional significance of the project with respect to recreation (regional trails and parks, staging areas, environmental education facilities, etc.), agricultural resources, and natural resources (including listed species, identified high priority habitat, wildlife corridors, watersheds, and agricultural soils).

    a. Recreation: The main significance for recreation of the restoration of Copeland creek is for educational and the community to observe and enjoy nature.
    b. Natural resources: Increasing the local, native plants and animal communities is significant to the project because it will create a diverse and resilient habitat for the surrounding community to learn and observe the local ecosystem.

5. **Need for Conservancy Funds:** What would happen to the project if no funds were available from the Conservancy? What project opportunities or benefits could be lost and why if the project is not implemented in the near future?

If the project had no funds available, restoration would be slow and not over-arching. Education opportunities would be lost due to no funding, such as studying the restoration project, observing natural processes, or learning about native flora and fauna. Funding allows the project to successfully remove invasive species and implement native species. Funding will also aid in the monitoring program of the project, ensuring the methods were viable, as well as making sure removal of invasive species is done multiple times and that the water quality of the creek is appropriate for the wildlife surrounding the area.

6. **Consistency with State Plans:** If the proposed project will help to implement or promote the goals of any of the State Plans listed below, check that plan and specify which goals, objectives, priority actions, etc. will be furthered by the project.

☒ California @ 50 Million: The Environmental Goals and Policy Report

Population Growth and Distribution (Objective 3 and 5), Conservation of Natural Resources, Air and Water Quality (Objective 1), and Recreational Activity

☒ CA Climate Adaptation Strategy/Safeguarding California: Reducing Climate Risk Plan

Biodiversity and Habitat (Objective 4 and 5), Water (Objective 1)

☒ California Water Action Plan

Flood Control (Objective 2), Protect and Restore Important Ecosystems (Objective 1, 2, 4, and 5)

☒ CA Wildlife Action Plan

Abundance and richness (native species) (Objective 2, 3, and 5), sediment deposition regime (Objective 1)

☐ California Aquatic Invasive Species Management Plan

☐ California Essential Habitat Connectivity Strategy for Conserving a Connected California

☒ State and Federal Species Recovery Plans (specify the plan)

Site specific site management actions, objectives and measurable criteria, and estimating time and cost required

☒ Habitat Conservation Plans/Natural Community Conservation Plans (specify the plan)

An NCCP identifies and provides for the regional protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity.

☒ California Coastal Sediment Management Master Plan

Identifying and prioritizing sediment related projects (Objective 1)

☐ Completing the California Coastal Trail

☐ Other relevant state or regional plan(s) (specify the plan)

7. **Sea Level Rise Vulnerability:** If the project involves a site that is close to a shoreline (i.e. potentially flooded or eroded due to climate change), please identify vulnerabilities of the site in relation to flooding, erosion, and sea level rise/storm surges for the years 2050 and 2100 (assume 16 inches and 55 inches of sea level rise respectively). For reference, see the State of California's Sea Level Rise Task Force Interim Guidance Document. Describe any adaptive management approaches you have considered for addressing Sea Level Rise. Specify the expected lifespan or duration of the project.

Vulnerabilities include an excess of willow that cause backing up of debris, and potential flooding throughout the creek in the case of storm surges. Sea level rise may affect the Laguna de Santa Rosa by drastically increasing salinity and altering the species that could survive in the creeks that lead into the Laguna.

8. **Vulnerability from Climate Change Impacts Other than Sea Level Rise:** Using Exhibit F: Climate Change Guidance, and the latest regional scenarios, predictions and trends, describe how the project objectives or project may be vulnerable to impacts (fire, drought, species and habitat loss, etc.) from climate change, other than sea level rise, coastal erosion or flooding. Identify design, siting, or other measures incorporated into the project to reduce these vulnerabilities.

With climate change present and currently altering the average annual temperature, and how long they persist throughout the seasons, our project and its objective are at risk of its

effects. With strong droughts, water flow is reduced, putting habitat for native species at risk. Additionally, drier conditions along with increased brush and thatch put the area at further risk if a fire were to occur. In regards to our objective dealing with willows, efforts to replant and have more effective willow grow in place of the species that is removed would be slowed with less ground water to be taken in by them. As for the potential flooding caused by storms, measures to reduce the risk would be fulfilled by completing our objective of regulating the runoff pipes that lead into the creek.

9. **California Conservation Corps:** Applicants proposing construction projects are urged to consider using the California Conservation Corps. If your project involves construction, please indicate whether you have contacted the Corps regarding your project and the results of that contact. Applicants seeking Proposition 1 funding must consult with the Corps, as described in the Proposition 1 Supplemental Questions.

   N/A

10. **Willing Seller:** Projects that involve acquisition of property must involve a willing seller. If your project includes property acquisition, please describe the status and expected conclusion of landowner negotiations.

    N/A

11. **Greenhouse Gas Emissions/Climate Change:** If the proposed project will result in production of greenhouse gas emissions (including construction impacts and vehicle miles travelled as part of a public access component), describe the measures your project includes to reduce, minimize or avoid greenhouse gas emissions through project design, implementation construction, or maintenance (Refer to Exhibit F: Climate Change Guidance for resources on Best Management Practices and green building techniques and materials). What, if any, are the possible sources or sinks of greenhouse gases for your project, such as carbon sequestration from habitats at the site? If one of the project goals is to sequester carbon (reduce greenhouse gas concentrations), how do you intend to ensure continued long term sequestration while achieving project objectives? Do you have any plans to seek carbon credits for the carbon sequestration activities on the project site?

GRANT APPLICATION – PROPOSITION 1 SUPPLEMENTAL QUESTIONS

Provide clear, concise answer to each question below. Unless otherwise specified, please limit your answer to one concise paragraph. For question #4, limit your answer to 1-3 sentences per relevant plan. Most questions should be answered by all applicants, enter "not applicable" if a question does not pertain to your project.

1. **Proposition 1 Goals.** Which of the following purposes of Chapter 6 of Proposition 1 are achieved by the project (check all that apply):

    - Protect and increase the economic benefits arising from healthy watersheds, fishery resources and in-stream flow.
    - Implement watershed adaptation projects for which Grantee has consulted with the state and local conservation corps and included their services if feasible (for restoration and ecosystem protection projects only). Grantees must submit a completed Corps Consultation Review Document. The process for obtaining this required consultation is described in Appendix D.
    - Restore river parkways throughout the state, including but not limited to projects pursuant to the California River Parkways Act of 2004 and urban river greenways.
    - Protect and restore aquatic, wetland and migratory bird ecosystems including fish and wildlife corridors and the acquisition of water rights for in-stream flow.
    - Fulfill the obligations of the state of California in complying with the terms of multiparty settlement agreements related to water resources.
    - Remove barriers to fish passage.
    - Collaborate with federal agencies in the protection of fish native to California and wetlands in the central valley of California.
    - Implement fuel treatment projects to reduce wildfire risks, protect watersheds tributary to water storage facilities and promote watershed health.
    - Protect and restore rural and urban watershed health to improve watershed storage capacity, forest health, protection of life and property, storm water resource management, and greenhouse gas reduction.
    - Protect and restore coastal watersheds including but not limited to, bays, marine estuaries, and near shore ecosystems.

    ☒ Reduce pollution or contamination of rivers, lakes, streams, or coastal waters, prevent and remediate mercury contamination from legacy mines, and protect or restore natural system functions that contribute to water supply, water quality, or flood management.

    ☒Assist in the recovery of endangered, threatened, or migratory species by improving watershed health, in stream flows, fish passage, coastal or inland wetland restoration, or other means, such as natural community conservation plan and habitat conservation plan implementation.

- Assist in water-related agricultural sustainability projects.

2. **Conservation Corps.** For restoration and ecosystem protection projects, include a completed Corps Consultation Review Document Grantee as evidence that applicant has consulted with the state and local conservation corps and included their services if feasible. The process for obtaining this required consultation is described in the SCC's Proposition 1 Proposal Solicitation.

   N/A

3. **Disadvantaged Communities.** Does the project benefit a disadvantaged community? Proposition 1 defines a disadvantaged community as "a community with an annual median household income that is less than 80 percent of the statewide annual median household income." (CA Water Code Section 79505.5.) The Department of Water Resources has developed an online map viewer which shows the maps of California's disadvantaged communities, based on census data including the American Community Survey. Communities are defined at different geographic scales, including county, census tract and census place.

   If yes, specify which community and how it will be benefited by the project.

   N/A

4. **California Water Action Plan.**
   a. Identify which goals of the California Water Action plan the project will promote or implement.
      i. Flood Control, Protect and Restore Important Ecosystems
   b. Identify the Integrated Watershed Management Plan(s) and any other regional or watershed plans that apply to the specific project area. For each, list those goals, objectives, priority actions, etc. that the project will promote or implement.

5. **Best Available Science.** Describe how the project is consistent with best available science.
   a. The project is consistent with the best available science by using proper and adequate methods of invasive species removal, native species introduction, and flood control/water quality. There will also be proper monitoring practices used to ensure that the goals and objectives are having a positively significant effect on the local, native ecosystem. Up to date sensor equipment will be used to measure water quality and track western pond turtles.

6. **New Technology.** Does the project employ new or innovative technology or practices? If yes, describe those technologies and/or practices.
   a. The technology used in this restoration project has been used by other projects before: various tools and labor to remove invasive plants, humane cat traps to remove feral cats, and common monitoring programs to monitor western pond turtles. Water quality would also be tested and storm drain runoff filters would be used to regulate runoff flowing into the creek.

7. **Sustainability.** Described how the project will deliver sustainable outcomes in the long-term.
    a. The project will deliver sustainable outcomes in the long-term by creating a resilient habitat for native plants and animals. The ecosystem will continue to sustain itself even when there are heavy human interactions in and around the creek. When the ecosystem that exists in and around the creek has a higher number of biodiversity of native species, historical range of variability, and relatively low negative anthropogenic effects, the ecosystem as a whole will become more resilient.