

Upper Pete's Creek Restoration Project: Narrative Description

a. Project Description

Project Summary

The purpose of the Upper Pete's Creek Restoration Project (Project) is to increase management efficiency of cattle and water resources on the Pete's Valley Ranch while improving watershed health and providing benefits to wildlife in an upper reach of the Susan River Watershed in Lassen County, California. The Project includes restoration of 1.3 miles of Pete's Creek and approximately 50 acres of wetlands and wet meadows. Specifically, 10 check dams will be resurfaced and regraded, and Pete's Creek will be restored to a historic channel. Connection of the stream to its floodplain will restore the form and function to a historic condition. The desired result will be a self-maintaining stream where energy from peak flows are dissipated across a broad, well-vegetated wetland surface. Returning the stream to a state mimicking what nature designed reduces maintenance needs and increases ecological integrity in the watershed.

Direct outcomes of the project include restored groundwater hydrology; improved forage for livestock production; and public benefits through enhanced wet meadow and wetlands habitat for Greater sage grouse, migratory waterfowl and shorebirds, pronghorn antelope, mule deer, and a variety of other wildlife species.

Environmental Setting

Pete's Creek is primarily a spring-fed stream spanning 14 miles through sagebrush shrublands and is a tributary to Willow Creek in the Susan River Watershed. Over three decades ago, a previous landowner manipulated the system in order to create standing pools to encourage use by waterfowl. This failed attempt to create habitat for waterfowl resulted in a series of 10 check dams along 1.3 miles of Pete's Creek. This disruption has resulted in an ecological departure of the stream and its associated wetland and wet meadows. As a result, there is a lack of native wetland vegetation and presence of undesirable, invasive plant species (e.g., *Cirsium arvense*/Canada thistle). Currently, natural processes, form, and function are not present along this portion of the stream which contributes to degradation of watershed health.

Pete's Valley Ranch is an active cattle ranch with approximately 1,600 acres of deeded land (i.e., private ownership) along seven miles of Pete's Creek. The ranch is a mix of irrigated pastures, wetlands, wet meadows, riparian, and sagebrush upland systems. Pete's Valley serves as summer grounds for cow-calf pairs for the Ranch's organic, grass-fed beef operation. The Ranch sits among approximately 30,000 acres of public grazing allotments managed by the Bureau of Land Management. The Ranch manages cattle on their private land and public allotments from April – October, and are the primary land steward of this upper reach of the Susan River Watershed.

The Ranch has participated in multiple programs to improve the conditions of the ranch for their cattle and for the watershed. Protection measures include enrollment of 1,300 acres into the Natural Resources Conservation Service's Grasslands Reserve Program easement program, a voluntary conservation program that emphasizes support for working grazing operations, enhancement of plant and animal biodiversity, and perpetual protection of grassland under threat of conversion to other uses. Watershed improvement projects include livestock exclusion fencing of Pete's Creek on the lower portion of the ranch to promote recovery of the creek, installation of water troughs to provide livestock water off stream, and removal of approximately 100 acres of juniper that had encroached into sagebrush systems (i.e., sage grouse habitat).

The Project is consistent with goals identified in the Lassen County General Plan for 'conservation of productive agricultural lands' (Goal L-16) and 'protection and enhancement of important wildlife habitats' (Goal L-22).

Pete's Valley is within primary habitat that has been identified for sage grouse, a species proposed for listing under the Endangered Species Act. Sage grouse require a broad array of habitats for different stages in their lives, all which are provided by the Pete's Valley Ranch and surrounding landscape. Lassen County lost hundreds of thousands of acres of sagebrush and associated systems to wildfire this past summer, making conservation and habitat enhancement efforts along Pete's Creek more important than ever.

Project Goals

Goal 1: Natural Resource Protection and Restoration

Improve groundwater hydrology (e.g., increased water retention of the wet meadow and wetland, raised water table, and delivery of more water to lower portions of Pete's Valley Ranch) which will provide benefits to wildlife and overall watershed health.

Goal 2: Resource (livestock) management - Increased site productivity

Improve operations of the Pete's Valley Ranch through improvements in site productivity, providing cattle access to clean water, and increasing the flexibility for managing cattle.

Scope of Work

The two major components of the Project include implementing conservation practices for livestock management and active restoration of Upper Pete's Creek and its associated wet meadows and wetlands.

Livestock management

Initially, approximately two miles of fencing (10,560 feet) will be constructed in order to facilitate grazing management to meet cattle production and conservation objectives within the area. Wildlife friendly fencing specifications will be utilized and new fences will be marked with fence tags to reduce collisions by Greater sage grouse, a candidate species for listing under the Endangered Species Act, which are abundant in the area.

Because cattle will have reduced access to Pete’s Creek after fencing, offsite water will be developed in the adjacent uplands. Benefits of this practice include increased flexibility in managing grazing within wet meadows and cleaner drinking water for the cattle.

Restoration of Upper Pete’s Creek and associated meadows

In June 2012, the landowner and PFW Program coordinator visited the Project area with StreamWise, a consultant from Mount Shasta, California, that specializes in stream assessment and restoration. A preliminary restoration design has been developed by StreamWise that entails returning Pete’s Creek to its natural channel along 1.3 miles and restoration of 50 acres of wet meadows and wetlands within the project area. Ten check dam structures spread semi-evenly across the project area will be removed and revetments will be placed at key stress locations. Revegetation efforts in disturbed areas will include planting willow seedlings, reseeding with meadow forbs and grasses, and mulching.

b. Workplan and Schedule

Project Deliverables	Year 1 (2013)					Year 2 (2014)					Yrs 3-10
	Mar-Apr	May-Jun	Jul-Aug	Sep-Oct	Nov-Dec	Mar-Apr	May-Jun	Jul-Aug	Sep-Oct	Nov-Dec	May-Jun
Fencing - installation	█										
SNC Agreement Start		█									
Water developments		█									
Road maintenance		█									
Complete design		█									
Pre- monitoring		█									
Earthwork			█	█	█						
Revegetation				█	█				█	█	
Post- Monitoring					█		█				█
Progress Report				█		█			█		
Final Report										█	
Project Completion										█	

The major tasks of the Upper Pete’s Valley Restoration project include:

- **Fencing:** Fencing will meet wildlife friendly specifications and be marked with tags to reduce collisions by Greater sage grouse. Fencing is the first major step

of the project because of the importance of managing cattle in the stream and associated riparian area during and after restoration efforts. (March-April 2013)

- **Water developments:** Currently, cattle have unrestricted access to Pete's Creek for water. Once the fence is constructed, cattle will need an alternative water source. Three water troughs will be installed, two of which will be connected to each other by polyethylene plastic water pipe. A solar pump will deliver water to the first trough in the system that will, in turn, gravity feed water to the second trough. Overflow from this trough will be returned back to Pete's Creek via water pipe. The third trough is on the opposite (east) side of Pete's Creek and will be gravity fed water collected by an instream water collection device. (May-June 2013)
- **Road maintenance:** The Project area is in a remote location that is accessed by rocky, dirt roads, a portion of which will require maintenance in order to facilitate machinery access for restoration earthwork. (May-June 2013)
- **Complete design:** A concept project design has been developed by StreamWise for earthwork to return Pete's Creek to a historic channel and regrade 10 check dams. Once a final survey of the project area is complete, the specifications for the project will be finalized. (May-June 2013)
- **Earthwork:** Includes removal and grading of 10 check dams along 1.3 miles of Pete's Creek. Work will be completed using a track excavator and wheeled loader and, potentially, a D-5 Caterpillar bulldozer. Existing check dams will be regraded and Pete's Creek will be returned to its historic channel in order to return form and function to the landscape. Earthwork will be conducted between July and October (2013), with the start date being determined by site conditions (i.e., drier time of year which will be dictated by spring precipitation). Upon completion of earthwork, revegetation efforts will commence and includes planting of willows and seeding native vegetation within the project area.

Other tasks that are a part of the project include:

- **Monitoring:** Pre-project monitoring will entail establishing photopoints and documenting existing vegetation via vegetation transects (May 2013). Post-project monitoring will include documenting completion of earthwork (October 2013), photopoints (May 2014 and at least every other May through May 2022, expiration of landowner agreement with FWS), and vegetation transects to evaluate response of plant community to restoration activities (May 2014 and possibly, May 2015).
- **Progress Reports:** 6-Month Progress Reports will be filed on schedule to Sierra Nevada Conservancy through the term of the agreement.

- **Project Completion and Final Report:** Upon project completion, a Final Report will be submitted to the Sierra Nevada Conservancy (anticipated December 2014).

c. Restrictions, Technical/Environmental Documents and Agreements

Restrictions/Agreements

There are no property restrictions or encumbrances that could adversely impact project completion. The landowner has signed a Landowner Agreement with the U.S. Fish and Wildlife Service that includes a written commitment to provide access for completing project work and necessary follow-up through the term of the FWS-Landowner agreement (September 2022).

Regulatory Requirements/Permits

- **Army Corps of Engineers (ACOE):** Because the project activities are to be conducted on private land in accordance with the terms and conditions of a binding wetland enhancement, restoration, or establishment agreement between the landowner and the U.S. Fish and Wildlife Service, the Upper Pete's Creek Restoration Project activities are authorized by an ACOE Nationwide 27 Permit (Aquatic Habitat Restoration, Establishment, and Enhancement Activities). Conditions for federal permittees include providing the district engineer with appropriate documentation to demonstrate compliance with Section 106 of the National Historic Preservation Act by submitting a letter from State Historic Preservation Office regarding this project. Once we receive this letter, we will provide the required information to the ACOE district engineer.
- **Lahontan Regional Water Quality Control Board (Water Board):** Clean Water Act 401 Water Quality Certification (Certification). Upon receipt of a certified CEQA document (required with application for certification), the U.S. Fish and Wildlife Service will commence the application process for Certification.
- **State Historic Preservation Office (SHPO):** On October 9, 2012, a U.S. Fish and Wildlife Service archaeologist conducted a site visit and survey of the project area. No sites of concern were documented. Currently, a report is being developed and when complete, will be submitted to SHPO.
- **California Department of Fish and Game (DFG):** Under the Lake and Streambed Alteration Program, DFG will receive Notification with associated fees from the U.S. Fish and Wildlife Service for the project ('1600 permit'). Coordination with DFG has been initiated and a site visit with a DFG wildlife biologist was conducted on October 10, 2012.

d. Organizational Capacity

U.S. Fish and Wildlife Service

The Partners for Fish and Wildlife Program (i.e., applicant) is the U.S. Fish and Wildlife Service's habitat restoration cost-sharing program for private landowners. In 1987, the program was established to provide technical and financial assistance to conservation minded farmers, ranchers and other private (nonfederal and nonstate) landowners who wish to restore fish and wildlife habitat on their land. Developing and implementing habitat restoration and ranch improvement projects with private landowners is what the applicant performs on a day-to-day basis. Therefore, we believe we bring unique expertise to successfully complete this project proposed for funding support by the Sierra Nevada Conservancy for the Preservation of Agricultural and Ranch Lands Grant Program.

StreamWise

StreamWise is a consultant with demonstrated commitment to science-based restoration that mimics the natural processes, form, and function of stream ecosystems. Their work is based on understanding the historic, self-maintaining conditions and native vegetation that lend stability, biologic diversity, and aesthetic quality to the channel form. StreamWise has a successful record of working with the private sector and public agencies to establish adaptive management guidelines for the ongoing assessment and management of restored stream systems. StreamWise has completed multiple stream restoration projects in California, Nevada, and Oregon. More details on specific projects they have completed can be found on their website (<http://www.streamwise.com/>).

Pete's Valley Ranch

Pete's Valley Ranch is part of a multi-generational family ranching operation that has produced cattle in northern California over the past 150 years. They have been recognized numerous times for having implemented practices aimed at protecting and improving their land. In addition to their demonstrated land ethic, they possess equipment, materials, and labor expertise that are an integral part of the proposed project. Their substantial involvement in implementing conservation practices on their ranches has resulted in long term, on-the-ground successes. For these reasons, we believe they are an ideal partner for this project and the Preservation of Ranches and Agricultural Lands Grant Program.

e. Cooperation and Community Support

The applicant has worked in coordination with the Honey Lake Valley Resource Conservation District in the development of this project. The RCD is serving as the CEQA lead and will continue to be a primary partner on the project, if funded. The RCD coordinates the Susan River Watershed Group, and the applicant presented information on the project proposal to the group at their September 20, 2012 meeting in Susanville,

California. In addition, the applicant has worked with the local sage grouse working group (i.e., Buffalo Skedaddle Working Group) in project development and ensuring it addresses priority actions identified in the Buffalo Skedaddle Population Management Unit Conservation Plan which was developed collaboratively by a diverse group of government and nongovernmental representatives.

The applicant has worked closely with the Bureau of Land Management on project development (BLM) and will continue to do so through project implementation. A small portion of the proposed fence line is on lands administered by the BLM as well as some of the road maintenance. In addition, the applicant has worked closely with the local and state office staff of the Natural Resources Conservation Service (NRCS) in project development and has taken NRCS staff on multiple site visits. Pete's Valley Ranch has a long history of working with NRCS who has developed a conservation plan with the ranch and provided assistance for multiple projects that have been implemented.

Letters of support are included in this application from the following:

- Jack Hanson, Lassen County Board of Supervisors
- Brian Ehler, California Department of Fish and Game
- Dave Smith, Intermountain West Joint Venture

f. Long Term Management and Sustainability

The Upper Pete's Creek Restoration project has been designed in a manner that the stream will be restored to a natural, self-sustaining condition. Removal of the check dams and reestablishment of Pete's Creek in a historic channel will restore floodplain function and energy from peak flows will be dissipated across a broad, well vegetated wetland surface.

Future condition of the project area will be influenced by how cattle are managed in the area. Therefore, the project design incorporates fencing and providing off-site (i.e., off stream) water sources which will allow for adequate post-restoration activity recovery time and for long-term management of the area.

Upon reestablishment of the native vegetation and stream function of Pete's Creek (1-2 years post project implementation), the Ranch will work with the U.S. Fish and Wildlife Service (FWS), likely in coordination with the local Natural Resources Conservation Service, to develop a grazing plan for the fenced in riparian area. When a grazing management system is implemented, objectives will be set (e.g., minimum stubble height of grass) and cattle will be managed to stay within these objectives. The FWS will work with the Ranch to set grazing objectives that are sustainable for both the operation

and the ecosystem and monitor utilization in years subsequent to project implementation.

Currently, the landowner and U.S. Fish and Wildlife Service have an existing signed agreement through 2022. During the term of this agreement, the FWS will continue to monitor the project on an annual basis and assist with any unforeseen adjustments that are a result of sources outside of the landowner's control.

g. Performance Measures

1. Number of People Reached

The development of this project has been in concert with local partners, many who have already toured the project area. The Ranch has a history of outreach and is very open to discussing their agricultural and conservation practices with interested parties. Upon completion, there will likely be multiple tours to share information on outcomes and lessons learned. Therefore, 'number of people reached' can be reported as a performance measure.

2. Dollar Value of Resources Leveraged for the Sierra Nevada

The U.S. Fish and Wildlife Service and Pete's Valley Ranch are contributing financial and in-kind resources to the project. The final amount of leveraged resources will be calculated by the applicant.

3. Number and Type of Jobs Created

The restoration work along Pete's Creek will be performed by a private consultant and provide employment opportunities that can be quantified. Temporary work will be provided to equipment operators and the project will contribute to the continued operation of StreamWise, a well-established full time stream restoration consultant.

4. Number of New, Improved or Preserved Economic Activities

One objective of the project is to improve livestock forage availability for cattle. Livestock stocking rates will be the measure for 'improved economic activity' since these are benefits to the Ranch operation. Once the vegetation has established after restoration activities, a grazing plan will be developed which will set cattle numbers and a rotation schedule for grazing within the project area.

5. Linear Feet of Stream Bank Protected or Restored

Pre-project surveys will document the location of the current channel and identify historic channel(s). Post-implementation, the route of the channel will be remapped (i.e., linear feet recalculated) and monitored for project effectiveness. The project

proposes to restore (i.e., earthwork) and protect (i.e., fencing and grazing management) the stream within the project area.

6. Acres of Land Improved or Restored

The acres of wetlands and wet meadows within the project area have been calculated using satellite imagery. Vegetation transects will be completed pre- and post- project implementation to document the composition of plant species. After Project implementation, we anticipate restoration in the groundwater hydrology resulting in a vegetation community trending towards being dominated by wetland dependent plants, inferring increases in water availability to these plant communities. Benefits include a reduction in invasive plant species currently present within the meadows (e.g., Canada thistle, cheatgrass).

The project area is within priority habitat identified for sage grouse. As mentioned previously, wildfires in Lassen County this past summer eliminated hundreds of thousands of acres of sage grouse habitat. Habitat restoration and protection efforts such as these are now a very high priority for local wildlife and land management agencies as well as private ranchers relying upon an ecologically intact landscape for their livestock operations.

h. Budget Narrative

The Upper Pete's Creek Habitat Restoration Project has financial commitment from both the U.S. Fish and Wildlife Service and the Pete's Valley Ranch. Funds and in-kind services outlined in Section 3 of the detailed budget form ('Other Project Contributions') total \$92,922 and are secured. If granted the requested amount of \$198,225 from the Sierra Nevada Conservancy, the Project will be ready for immediate implementation.

The U.S. Fish and Wildlife Service has committed \$41,092 in resources and funding to cover personnel expenses for development, management, and monitoring of project; travel to and from project site; fencing materials; water system design; and application fees for required permits.

Pete's Valley Ranch has committed \$51,830 in funds, materials, and in-kind services to the Upper Pete's Creek Restoration Project. Materials include rock, juniper, and fencing. The Ranch will complete installation of fencing and water system. In addition, the Ranch will cover their travel expenses to and from the project site.