VALLES CALDERA NATIONAL PRESERVE

PROPOSED STEWARDSHIP ACTION

Wetland and Riparian Restoration – San Antonio Creek and Alamo Canyon

Date: March 28, 2008

Proposed Stewardship Action

San Antonio Creek and Alamo Canyon Wetlands Restoration

Introduction or Background

In July 2007 intensive aerial and pedestrian photographic surveys of San Antonio Creek wetlands from its headwaters to the Preserve boundary was conducted. The purpose of the reconnaissance was to quantify the condition of the wetland and riparian system within the sub-basin watershed (Map Attached).

Numerous issues were inventoried and mapped throughout the sub-basin landscape. Many of the issues are infrastructure related. Poorly located roads; roads in disrepair; poorly located, improperly installed or sized, culverts; and poorly located fences are contributing directly, indirectly, and cumulatively to the degradation of the wetland and riparian systems.

Earthen tanks and culverts, often located to drain wetlands; as well as past grazing, logging, and road building; have combined to reduce the extent of wetlands and floodplains throughout the San Antonio Creek sub-basin. Numerous meanders are at risk to being cutoff increasing the likelihood for rapid degradation to occur in the near future.

In fall, 2007, design reconnaissance of wetland issues at Alamo Canyon was conducted. The primary pressures on the wetlands in the canyon are the placement of geothermal well pads and the abandoned roadbed causing headcuts in wetlands adjacent to the road.

Proposed Action

The Valles Caldera Trust in cooperation with the New Mexico Environment Department Surface Water Quality Bureau and Los Amigos del los Valles Caldera is proposing to implement a series of projects along San Antonio Creek and within Alamos Canyon to restore and protect the riparian and wetland systems.

Specific activities being proposed include:

1. **Improve drainage along VC09 and VC09A –** Installation of rolling dips along VC09A to move water off the road system where it can be harvested into a stable wet meadow system. Use of this road would continue to be limited to administrative uses, preferably under dry conditions only. Deferred maintenance would occur on VC09 and VC09A, including:
    - Installation and replacement of culverts
    - Reshaping and crowning of the road prism to provide proper drainage to reduce erosion.
    - Realignment of the road to reduce slope and erosion.
    - Intersections will be reworked to provide proper drainage.

2. **Reduce animal trailing into creek -** Livestock fencing that is perpendicular to San Antonio Creek would be relocated, removed, or replaced with temporary fencing depending on administrative needs.
3. **Plug gullies resulting from earthen tanks –** Using structures made from native materials rocks and/or small logs.
4. **Treat incipient meander cut-offs –** Stream barbs, pointing upstream would be placed at the upper bend of the meanders; sod wads would be transplanted on outer bends.
5. **Restore historic delta at the confluence of Rito de los Indios and San Antonio Creek –** Remove material from non functioning earthen dam, dig out historic channel and use piping to initiate historic distribution of water into the restored delta.
6. **Wetlands Restoration/enhancement –** Where changes in gradients have initiated drainage of existing wetlands, use log and fabric dam or Zuni bowl techniques to protect and restore wetlands along San Antonio Creek.
7. **Repair Headcut west of San Antonio Cabin –** Plug headcut, restore historic channel, and place grade control structures in lead out ditches along VC09A.
8. **Headcut Mitigation in Alamo Bog –** Decommission of abandoned logging road through and along the wetlands including the construction of drainage and erosion control features.
9. **Re-establishing Historic Wetland in Alamo Bog –** Stabilizing the geothermal well pad and restoring historic water catchment and drainage patterns.

Activities would use hand labor, mechanized equipment, and heavy equipment.

Purpose and Need

The watershed condition of the Preserve has been assessed at a variety of scales using measurements of water quality, functioning condition, benthic diversity, and upland and riparian biotic and abiotic indicators. All assessments indicate an overall moderate departure from a "reference" condition. Measurements taken over time indicate that degraded wetland and riparian systems are beginning to rehabilitate due to road maintenance projects and a reduction in the intensity of domestic livestock grazing.

The restoration activities are being proposed:

- To reduce future risks to the wetland and riparian systems;
- To initiate rehabilitation in areas where processes have degraded beyond the point where they can be naturally restored;
- To support the restoration that has already occurred or is occurring; and
- To restore and protect a unique wetland complex that occurs in Alamo Canyon.

The Valles Caldera Preservation Act lists the protection and preservation of the scientific, scenic, geologic, watershed, fish, wildlife, cultural, historic and recreation values of the Preserve as among the purposes for acquisition and the goals for management of the Preserve. The U.S. Environmental protection Agency (EPA) describes wetlands as the link between the land and the water. Further identifying them as "transition zones where

the flow of water, the cycling of nutrients, and the energy of the sun meet to produce a unique ecosystem characterized by hydrology, soils, and vegetation—making these areas very important features of a watershed." Using a watershed-based approach to wetland protection ensures that the whole system, including land, air, and water resources, is protected.

This water-collecting basin of the Preserve contains a number of unique aquatic and wetland features, ranging from warm and extremely acidic geothermal waters to numerous springs, seeps, and boggy wetlands. These water-rich environments, combined with the Preserve's many creeks and streams, provide a robust foundation for the ecological diversity and productivity that characterize the Preserve. The restoration of wetlands and riparian systems of San Antonio Creek is being proposed in support of the resource protection purposes and goals enumerated in the Valles Caldera Preservation Act.

Decision(s) to be Made

The Executive Director of the Valles Caldera Trust as governed by the Board of Trustees is the Responsible Official for the Proposed Stewardship Action.

Scope of the Analysis

1. Environmental Documentation:

   An Environmental Assessment will be prepared to determine the significance of the proposed action.

2. Timing of the Analysis

   The proposed restoration activities are minor in scope and preventative in nature. These activities have precedence and use well established techniques. The completion of an EA should require less than one year.

3. How to Comment

   We would like to hear your thoughts and comments regarding the proposed stewardship action.

   Comments may be sent electronically through our web site (www.vallescaldera.gov) by selecting the feedback button or by sending an email to comments@vallescaldera.gov. Comments may also be sent through the surface mail to:

   Valles Caldera Trust

   P.O. Box 359

   Jemez Springs, NM 87025

   Your comments can be most helpful if they are received by April 30, 2008.

Valles Caldera National Preserve, New Mexico

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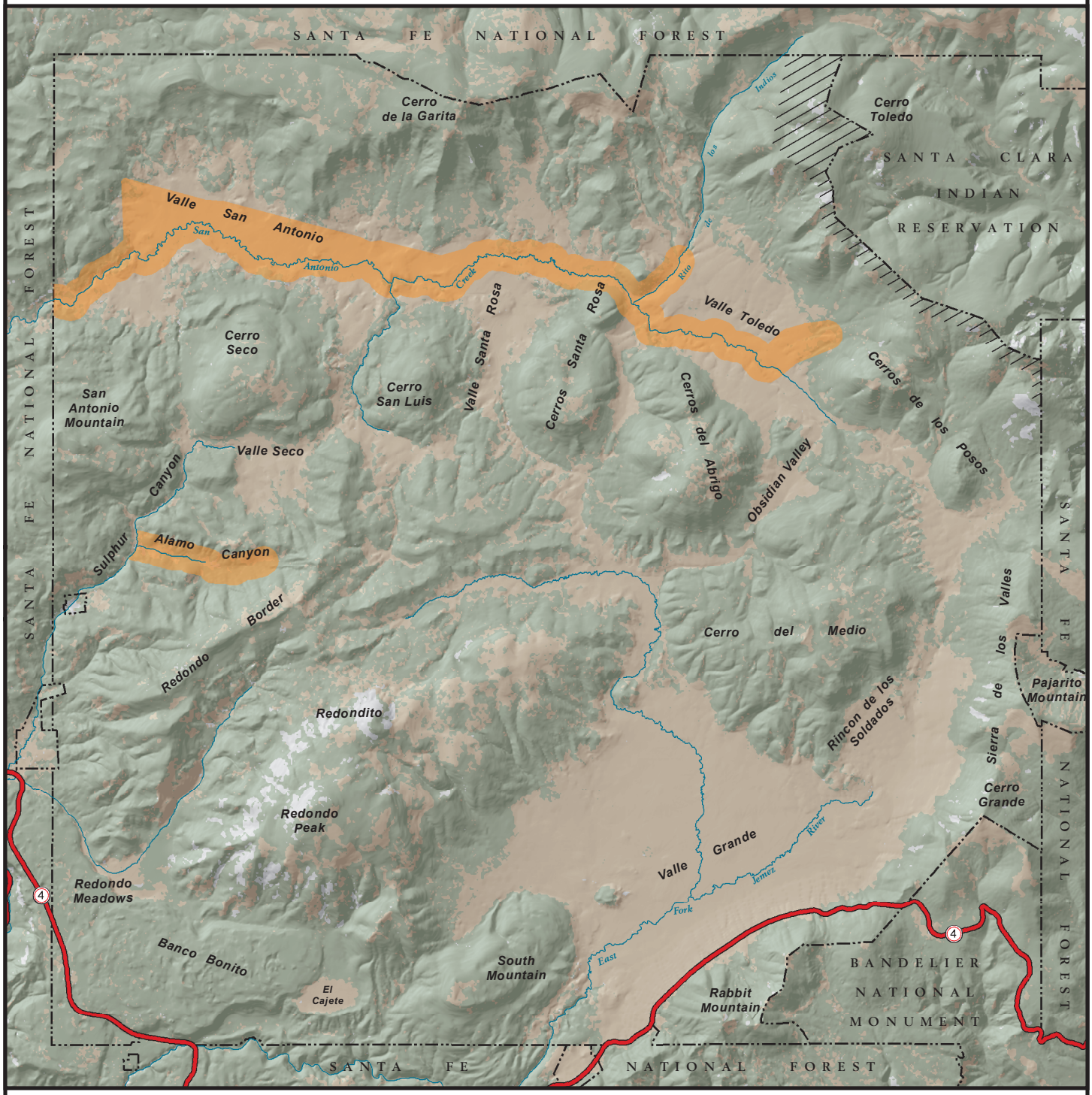

Project Area

Boundary Line

State Highway 4

Santa Clara Easement - No Mechanized Vehicles

0 1 2 Miles

0 1 2 Kilometers

Approximate Scale 1:115,000

N

3/14/2008