



American Conservation Experience

2900 North Fort Valley Road, Flagstaff, AZ 86001

ACE Project Report for Coconino National Forest

Title of Project: Western Gateway Trail System

Task Agreement Number: SRRTF2001

Project Partner: Red Rock Trail Fund, USFS

Location: Western Gateway, Red Rock Ranger District

Dates: 01/08/2020 - 02/29/2020

Days worked: 34

Total Hours Worked: 5083.5 hours

Donated Crew Time: 40.5 hours

Crew Supervisor: Cora Supenski, Elyse Johnson,
Jake Groth, Jimmy Gregson

Project Overview:

American Conservation Experience (ACE) worked with the Red Rocks Ranger District (RRRD) of Coconino National Forest's (USFS) trail staff to improve the Western Gateway trail system in the RRRD. The crews were tasked with making a variety of improvements to the existing trail system, including social trail closures, trail tread improvement (widening and benching), removing brush from sight of the trail, new trail construction and building rock retaining structures. All work was conducted in consideration of the RRRD being an internationally renowned mountain bike destination and popular hiking destination with a highly involved local community. The crews increased safety and sustainability of the trails while enhancing user experience.





American Conservation Experience

2900 North Fort Valley Road, Flagstaff, AZ 86001

Trails Maintained / Constructed

US Forest Service trail staff helped to identify priority locations which required maintenance. USFS trail staff worked alongside ACE to improve trail sustainability and user experience on the Western Gateway system trails. The following is a list of the trails the ACE crew worked on.

- Saddle Up Trail
- Girdner Trail
- Stirrup Trail
- Lasso Trail
- Axis Trail
- Bolo Trail
- Bottom Out Trail
- Outer Limits Trail



More information on the specific work done in each area is provided later in this report.



American Conservation Experience

2900 North Fort Valley Road, Flagstaff, AZ 86001

Results and Measurable Accomplishments:

Total Trail Maintained: 29.65 miles

New Tread Constructed: 9.55 miles

Grade Dips Installed: 2

Social Trail Closed: 12.48 miles

Retaining wall Constructed: 513 feet squared

Steps installed: 1

Tread Armored: 42 feet squared

Junk retaining wall built: 583 feet squared



American Conservation Experience

2900 North Fort Valley Road, Flagstaff, AZ 86001

Crew Demographics

Individual Youth: 47

18: 1

19: 2

20: 4

21: 3

22: 1

23: 2

24: 3

25: 3

28: 3

29: 1

Undeclared: 24

Females: 25

Males: 20

Undeclared: 2

White (non-hispanic): 30

Hispanic Origin: 5

Asian-American: 2

African-American: 0

Native American: 3

Unidentified: 7

Veteran Status: 0

Disability Status: 0



American Conservation Experience

2900 North Fort Valley Road, Flagstaff, AZ 86001

Social / User created trail closure



The ACE crew commenced the season in chilly January by closing the abundance of social trails present in the Western Gateway system. A social trail, or user-created trail, is one that is unauthorized and often created unintentionally by users that lose the actual trail or by users taking short cuts. Social trail closures are necessary to protect cultural resources and reduce user impact on the landscape. The goal is to keep trail users concentrated to existing, sustainable trails built intentionally with hydrology in mind.

In the RRRD, user-created trails are sometimes adopted into existence with alterations for erosion control. A major goal of trail building is to create trails that are interesting to users while still laying lightly on the land. Building sustainable trails is vitally important to this area of the Coconino National Forest, which is home to highly erosive soils and sensitive cryptobiotic crust.

Social trails were closed on Saddle Up Trail, Stirrup Trail, Outer Limits Trail, Lasso-Axis Trail, and Girdner Trail. The method used to close trails involves decompacting the soil, visually eliminating the route and creating physical barriers with rocks, branches and vegetation. The above left photo depicts ACE corps members transplanting a Prickly Pear to help restore the social trail to its natural state. Above right shows a Crew member using rocks and vegetation to physically block access to a social trail.



American Conservation Experience

2900 North Fort Valley Road, Flagstaff, AZ 86001

Girdner Trail

The Girdner Trail is a fixture in the West Sedona community. A popular trail for hiking, biking, and equestrian use. Girdner Trail receives heavy impact on a daily basis. This was addressed in two different areas by building rock structures to combat erosion.

Before



Left: A section of rock armoring in need of repair, near the junction of Saddle Up Trail and Girdner Trail.

The rocks that had previously armored the tread had become loose and were impeding the flow and safety of the trail, as well as allowing tread soil to erode away.

After



ACE replaced the rocks to withstand the impact of trail users by burying them sufficiently and filling gaps with crushed rocks.

This provided a hardened trail surface, resistant to heavy trail use and hydrological erosion.



American Conservation Experience

2900 North Fort Valley Road, Flagstaff, AZ 86001

Girdner Trail



This second rock structure was built from scratch on the uphill side of a wash crossing. The steep slope and erosion-prone area called for reinforcement from a rock retaining wall. The USFS trail crew worked alongside ACE to build this structure, offering a valuable learning opportunity for the ACE crew and a chance for them to contribute ideas for a successful rock structure.



American Conservation Experience

2900 North Fort Valley Road, Flagstaff, AZ 86001

Axis Trail

Before



After



The ACE crews helped to complete a volunteer-built trail that now connects the Cockscomb Trail to Girdner Trail. The crews built new tread and cleared a 5ft wide by 10 ft high corridor of brush. This width demarcates the trail to users without allowing the trail tread to exceed a width of 24 inches, thereby reducing human impact. The 10ft height allows trail users, including equestrians to comfortably and safely pass on the trail.

Phone: (928) 226-6960

www.usaconservation.org

Fax: (928) 226-1549



American Conservation Experience

2900 North Fort Valley Road, Flagstaff, AZ 86001

Axis Trail



After initially building the trail, ACE and USFS trails crew observed the need for rock structures in vulnerable areas. Mainly at wash crossings and steeper sections of trail with erosive soil, rock reinforcements were needed. The photo to the left shows a junk wall to the downhill side of the trail on a steep side slope in a large area of water drainage. This structure helps to support the trail tread by preventing washout at the critical edge (downhill side).



This photo depicts a rock retaining wall built to reinforce trail tread in an area where soil readily fell away from steep bedrock within the tread surface. The crews found this multi-tiered structure necessary to preserve soil. Notice that the crews used native materials to naturalize the downhill side after completion of the rock project.



American Conservation Experience

2900 North Fort Valley Road, Flagstaff, AZ 86001

Bolo Trail



Each ACE crew worked from either end of the Bolo Trail to connect Last Frontier Trail to the newly built Axis Trail. The two crews completed this 0.5 mile long connector trail in a matter of days, adhering to the high standard of quality ACE is known for and the USFS requires. Short connecting trails like this one give variety to local trail users while establishing trails that are built in harmony with the land, with perpendicular wash crossings that allow water to exit the trail with minimal erosion.





American Conservation Experience

2900 North Fort Valley Road, Flagstaff, AZ 86001

Bottom Out Trail



To finish out the 2020 season, ACE began work on Bottom Out Trail, rated double black diamond for mountain bikes. Building a trail that is both technically challenging yet safe and sustainable was an excellent learning experience for ACE corps members. The trail mostly follows a wash, with the tread sometimes situated on the bank of the streambed and at other times charging directly through the bottom of the stream channel. Commitment to establishing tread in steep and crumbling slopes as well as building several rock retaining walls made this eagerly anticipated trail a reality.



American Conservation Experience

2900 North Fort Valley Road, Flagstaff, AZ 86001



Tread Armoring

Left: A section of tread armor constructed on Axis Trail near its junction with Girdner Trail. This part of the trail climbs steeply out of the wash on a steep, sandy hill. Due to the erosive nature of the soil it was decided that armoring the tread with sturdy, interlocking rocks buried flush with the existing tread, would be the most sustainable solution. This provides a hardened tread surface and provides traction to trail users. The rocks stacked on either side of the tread function as additional erosion control and a barrier that keeps trail users within the corridor.

Brushing

Below: ACE crews brushed the trail corridor wherever necessary. This provides a clear path for trail users, enhancing safety and enjoyment of the trail. The below picture show the ACE crew clearing a corridor for new trail construction.





American Conservation Experience

2900 North Fort Valley Road, Flagstaff, AZ 86001

Tread Improvements



This section on Saddle Up Trail (top left) needed to be benched and widened. Over the past year since it was built, the hillside reclaimed the trail to the point that it had become too narrow and steep to be safe or comfortable for trail users. ACE worked on sections like this to ensure all of the trail tread was 18-24 inches wide and flat enough to keep trail users off of the fragile critical edge, yet to allow for sheet flow of water. The crew reshaped the backslope the trail to a uniform 45 degree angle in order to allow water to slowly make its way onto the trail, thus preventing channelization of water or sloughing of material onto the trail tread. The tread itself is slightly outsloped to the critical edge side (downhill) to allow water to make its way off the trail tread.





American Conservation Experience

2900 North Fort Valley Road, Flagstaff, AZ 86001



The ACE and USFS crew gather together for a group photo at the end of the project to celebrate another successful year. Many thanks to the Red Rock Trail Fund and USFS for your continued support and for the amazing opportunity this gives to our members.