



American Conservation Experience Project Report

2900 North Fort Valley Rd., Flagstaff, AZ 86001

Arizona Trail Association Youth Conservation Corps Program 2018

Title of Project: Seeds of Stewardship, Summer of Service

ACE Agreement Number: ATASOS2018

Project Partner: The Arizona Trail Association (ATA), U.S. Forest Service (USFS)

Main Project Location : Happy Jack Re-Route, The Arizona Trail

Dates: June 18, 2018- August 1, 2018

Days worked: 28 Crew Days; 183 Person Days (28 Crew Leader Days + 155 Crew Member Days)

Total Hours Contributed: 1,463 youth hours (AZ Trail Specific: 1019.5 hours)

Funds Invoiced: \$23,348.00

ACE Crew Supervisor(s): Sarah Butler

Project Overview: During the summer of 2018, American Conservation Experience (ACE) partnered with the Arizona Trail Association (ATA) to organize and lead a Youth Conservation Corps (YCC) crew comprised of six local high school youth to learn about and conduct vital trail maintenance and construction along the Arizona Trail near Happy Jack, AZ. The six week summer high school conservation program, Seeds of Stewardship, Summer of Service (SOS), created meaningful professional development opportunities for local Flagstaff area youth (ages 15-17) to gain invaluable job skills while stimulating education and community involvement. Under the guidance of an ACE Crew Leader and ACE Trainers, the SOS crew accomplished a variety of trail construction and maintenance projects for the Arizona Trail Happy Jack reroute project located within the Coconino National Forest. Additionally, SOS members gained an appreciation and sense of stewardship of natural and cultural resources while being exposed to career opportunities and pathways within resource management and the conservation field.



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During the course of the six-week program, the YCC SOS crew worked to directly assist the ATA with completing a trail re-route near Happy Jack, AZ in the Coconino National Forest, as well as restoration and trail projects on public lands near and around Flagstaff, AZ. These projects included supporting nearby conservation organizations through activities such as invasive species removal at Flagstaff Arboretum, creation of a pollinator garden at Willow Bend Environmental Education Center, and trail maintenance at Fort Tuthill County Park. The YCC crew also had the opportunity to join an adult ACE crew in Mund's Park to repair and maintain trail. Throughout the program, the youth participated in weekly environmental education and career development opportunities within the Coconino National Forest, as well as with other local conservation organizations.

Specifications:

Pre-Program: In May 2018, ACE and the ATA began recruitment efforts to reach local youth (ages 15-19) by providing application outreach materials to local high schools and organizations. After collecting all applications, six youth were selected for the summer YCC crew. ACE began recruitment, selection, and pre-program training for one crew leader within the ACE leadership development program. The selected ACE Crew Leader arrived at the ACE Flagstaff office one week prior to the start of the six week program to meet with ACE and ATA staff to plan, organize and prepare for the program orientation, field projects and environmental education activities.

Six-Week Crew Projects: The Seeds of Stewardship summer youth program began on Monday, June 18, 2018. During the course of the six-week program, the YCC members worked on a variety of conservation and environmental restoration projects with a specific focus in local park and trails stewardship, including trail building and maintenance, habitat restoration, and public outreach.



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While learning and gaining work experience, the YCC members were instilled with positive work ethic and opportunities to develop technical and interpersonal skills. Each day, the YCC crew participated in a Safety Circle before heading into the daily scheduled field projects under the leadership and supervision of the ACE Crew Leader. Working under the guidance and support of the ACE and ATA staff, the YCC crew completed projects Monday to Friday throughout various locations within the Coconino National Forest. Throughout the six week summer program, the YCC members furthered their experience, education, and engagement in the USFS and conservation by actively participating in hands-on, interactive educational activities to develop their skills to advance into resource management and environmental careers while fostering a lifelong connection to their local National Forest and trails.

Objectives:

Willow Bend Pollinator Garden:

- Assist staff at Willow Bend Environmental Education Center with creation of a pollinator garden;
- Install native milk weed plants;
- Remove invasive species to promote growth of native plants.

Fort Tuthill/ Coconino County Trail Maintenance:

- Brush sections of Sinclair Wash Trail using loppers and hand saws
- Naturalize human-made social trails to minimize impact
- Remove large rocks and berms from the tread
- Carve new tread and backslope for unopened trail (Bridge Trail)



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Flagstaff Arboretum Trail Maintenance:

- Invasive species removal
- Bench new tread, including rock and debris removal
- Spread new gravel over public trail

Happy Jack Trail Re-Route:

- Follow outlined flags to build new tread
- Remove rocks and debris
- Brush and clear proper corridor

Public Engagement/Outreach:

- Campbell Mesa and Happy Jack trail day with ATA Gear Girls program: Taught trail maintenance, learning proper mountain biking techniques

Environmental Educational Activities:

- Willow Bend Educational Center
- Flagstaff Arboretum Butterfly House
- Grand Canyon National Park: learned history and geology of park
- Walnut Canyon National Monument: visited Sinagua cliff dwellings, heard from NPS volunteer about local ecology
- Picture Canyon Natural and Cultural Preserve: learned cultural and ecological history and significance to local area
- Water Quality Assessment at Frances Short Pond: performed tests for phosphorous, nitrogen, dissolved oxygen, and pH levels; calculated macroinvertebrate diversity to determine pond health
- Resume development and interview skill-building.



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Results and Measurable Accomplishments:

Over the course of six weeks, the YCC Members completed the following:

- **Willow Bend Pollinator Garden:**
 - Installed 25 milkweed plants
 - Removed 4,200 invasive plants
 - Removed 140 cottonwood saplings
- **Fort Tuthill Trail Maintenance:**
 - Brushed 220ft of trail using loppers and hand saws
 - De-rocked 115ft of trail
 - Naturalized 50ft of trail
 - Widened 35ft of trail
 - Constructed three feet of junk rock wall
 - Removed three stumps and eight roots from tread
- **Flagstaff Arboretum Habitat Restoration and Trail Maintenance:**
 - Removed 4,785 invasive plants
 - Benched 527ft new tread, including rock and debris removal
 - Spread gravel over 0.25mi trail, three feet wide
- **Happy Jack Trail Re-Route:**
 - Built 1.6 miles new trail
 - Widened tread to 24 inches
 - Removed rocks and debris



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Youth Demographics:

YCC Members:

- 6 local youth (ages 15-17)
- 50% Male; 50% Female
- 17% Black/African American
- 33% Hispanic/Latino
- 50% White/Caucasian

YCC Crew Leader(s):

- 1 youth (ages 22)
- 100% Female
- 100% White/Caucasian

Member Quotes:

"The most rewarding experience that I had in the program was working with others to help create a better environment for others in Flagstaff, Arizona. I learned that giving to the community and the environment is important, so others can enjoy the work we do."-- Allie Arrona

"I have developed a stronger work ethic because of this program and learned that I could get through anything if I put my mind to it." --Bailey Kohnen



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2018 Seeds of Stewardship, PLC Student Work Crew

Left to Right: Sarah Butler, ACE Crew Leader; Allie Arrona; Maddie Morse; Ali McAllister; Adin Meeks; Bailey Kohnen; Bellicia Vaiza.

The following pages include the project photos and weekly reports for the Seeds of Stewardship, Summer of Service summer youth conservation program.



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Project Report

2900 North Fort Valley Rd., Flagstaff, AZ 86001

Project: Invasive Species Removal and Pollinator Garden Willow Bend Environmental Education Center





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Project Report

2900 North Fort Valley Rd., Flagstaff, AZ 86001

Project: Invasive Species Removal, Trail Maintenance, Butterfly House The Arboretum at Flagstaff





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Project: Grand Canyon National Park Education Day





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Project: Trail Maintenance, Fort Tuthill County Park





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Project Report

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Project: Water Quality Assessment, Macroinvertebrate Diversity

Frances Short Pond





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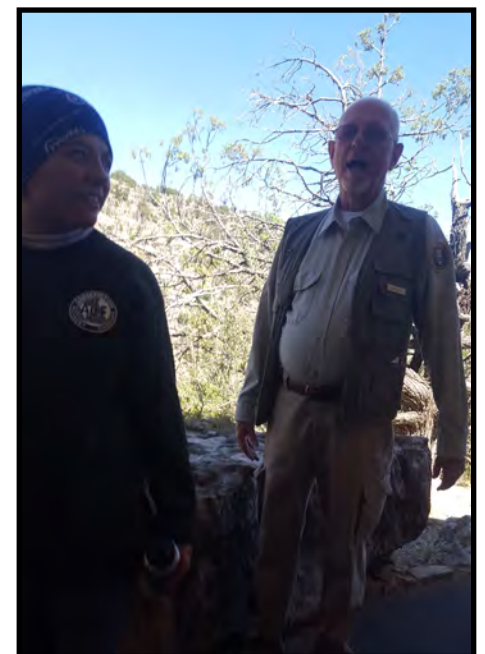




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Project: Walnut Canyon Education Day





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Project: Trail Maintenance and Bike Ride with Gear Girls

Happy Jack Trail, Campbell Mesa





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Project: Trail Building and Re-Route

Happy Jack Trail, AZT





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Seeds of Stewardship, Summer of Service Weekly Reports



Youth Conservation Corps: Seeds of Stewardship, Summer of Service | Week 1 | Date: June 25, 2018

WELCOME CREW!

On June 18th, the 2018 YCC Seeds of Stewardship crew gathered for introductions to American Conservation Experience (ACE), the Arizona Trail Association (ATA), the U.S. Forest Service (USFS), and Coconino National Forest. Members learned about local



fuels reduction efforts to conserve the forest from The Nature Conservancy and the importance of closures. Together, they discussed safety and communication in the field, the history of conservation, different conservation projects in the Southwest, as well as the seven Leave No Trace (LNT) principles!

PREPARING FOR A SEASON OF SUCCESS



Coming from different high schools in Flagstaff, the YCC members took time to practice teamwork and get to know each other this week through games like "Ninja!" They also explored how stress impacts our decisions in a fast-paced recall name game.

GRAND VIEWS



On Friday, June 22, after the first week of field projects, the YCC crew took a field trip to the South Rim of the Grand Canyon. They learned about the geology of the canyon and the history of how this famous park came to be!

FUN FACT: The Grand Canyon National Park was established in 1919, includes 277 river miles, and had about 6.25 million visitors in 2017!





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Seeds of Stewardship, Summer of Service Weekly Reports

PROTECTING OUR POLLINATORS



TRAILS TO SUCCESS



This week the YCC crew worked at Willow Bend on the Sinclair Wash Trail, as well as in Fort Tuthill County Park preparing a new single track trail. Members carved new bench, widened tread, and created a "junk wall" of rocks to shape the trail and prevent erosion. They also used loppers to brush the trail, clearing a safe corridor for hikers, bikers, and pack animals. As a finishing touch, the crew used surrounding materials to naturalize the work and minimize visual disruption of the landscape. Way to go team!

EXCEPTIONAL EFFORTS

June 19:

- Planted 25 milkweed
- Removed 200 invasive plants

- 50ft naturalization
- 30ft knocking down berm

June 20:

- Removed 140 cottonwood saplings and 4000 weeds
- 220ft brushed trail with loppers
- 115ft de-rocked trail

June 21:

- 1000ft de-rocked trail
- 35ft widened tread
- 8 roots and 3 stumps removed
- 3ft of junk rock wall constructed



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Seeds of Stewardship, Summer of Service Weekly Reports



Youth Conservation Corps: Seeds of Stewardship, Summer of Service | Week 2 | Date: July 2, 2018

TRAILS TRAINING

The team worked hard at Fort Tuthill and Munds Park to remove loose rocks and build new trails. At Fort Tuthill County Park, the crew focused on removing larger, dangerous rocks



from the new Bridge Trail. Later in the week, the YCC crew joined forces with an adult ACE crew in Munds Park to bench new tread and remove rocks for a new motorized trail system in Coconino National Forest.

LEARN THE LINGO!: A trail consists mainly of the *tread* (walkable surface), *back slope* (~45 degree slant cut upside of trail), and *critical edge* (where the hill drops off). The *hinge* connects the tread and back slope, and all together these are referred to as the *bench*.



ALL ABOUT THAT ARBORETUM



This week the YCC crew worked at the Flagstaff Arboretum, pulling invasive weeds and spreading gravel to restore the wetland nature trail. Keeping trails clear and free of harmful plants can help prevent the spread of invasives, as well as minimize the impact of visitors. Later, the crew visited the butterfly house to learn about the Arboretum's 16 in-house species and get an in-depth look at the butterfly life cycle.





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HISTORICAL HIKE



TESTING THE WATERS



On Friday, the YCC crew headed to Frances Short Pond to learn about water quality with Sabrina Carlson from the Arizona Trail Association (ATA). The crew first examined the amount and types of benthic macroinvertebrates (spineless bottom-dwelling organisms) found in the water, including snails, flat worms, and mayfly larvae! Then, the group used special kits to test the pond water for pH, dissolved oxygen, phosphate, and nitrate. All of these components give a better idea of a water system's health and diversity.

FUN FACT: Low-level benthic macroinvertebrates are sometimes called "water canaries," as their absence in a water body can indicate poor system health, much like the old "canary in a coal mine."

EXCEPTIONAL EFFORTS

June 25:

- Removed 4.785 invasive plants

June 26:

- Spread gravel over 0.25 miles of trail

June 28:

- Benched 527 ft of trail and removed rocks





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Seeds of Stewardship, Summer of Service Weekly Reports



YCC WEEKLY SEEDS OF STEWARDSHIP
Youth Conservation Corps: Seeds of Stewardship, Summer of Service | Week 3 | Date: July 16, 2018

HAPPY (JACK) TRAILS!



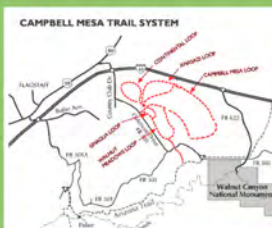
This week the crew set out for Happy Jack trail, a portion of the Arizona Trail (AZT), south of Mormon Lake off of Highway 294. Members will spend the new few weeks working to create a safe and sustainable re-route of a severely damaged area of trail. Maintaining highly used trails helps minimize the impact of trail-users on our natural areas.

Our SOS crew, with help from the Gear Girls, constructed 0.4 miles of brand new trail on Happy Jack this week. That's the equivalent length of about 423 shovels! Great work crew!



GEARING UP WITH THE 'GEAR GIRLS'

This week our crew was joined by the Gear Girls, an Arizona Trail Association (ATA) program initially launched through an REI Co-op Force of Nature grant. The six week program meets three times per week and "uses mountain biking, trail work, and snow sports to build confidence, outdoor competence, community and character in young women grades 4-8." Together, SOS and Gear Girls



worked on the Happy Jack Trail and applied previously learned Leave No Trace (LNT) principles through an overnight camping trip! To finish the week, the Gear Girls shared some mountain biking techniques at Campbell Mesa. Thanks Gear Girls!

A BRIEF HISTORY: The Arizona Trail Association (ATA) was officially formed in 1994, culminating from the original vision of Dale Shewalter (an AZ school teacher) and years of effort by USFS, NPS, BLM, State Parks, as well as numerous organization partners and volunteers. The 800 mile trail has 43 passages and runs from the U.S.-Mexico border up to the Utah border.





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Seeds of Stewardship, Summer of Service Weekly Reports



Youth Conservation Corps: Seeds of Stewardship, Summer of Service | Week 5-6 | Date: July 23, 2018

TRAIL TALES



This week the crew continued work on the re-route of the Happy Jack section of the Arizona Trail, completing another 0.4 miles of brand new tread! Keep it up crew!



TIPS FROM THE TRAIL: If you forget your silverware, nature's chopsticks can help you out in a pinch!

PICTURE CANYON

For our education day this week, the crew visited Picture Canyon Natural and Cultural Preserve to learn about the local area's cultural history and significance. As we know from the crew's trip to Walnut Canyon National Monument, this region was



occupied from 700 to 1300 AD by the Sinagua tribe, hunter-gatherers responsible for nearby cliff dwellings. Picture Canyon is home to the largest concentration of Northern Sinagua petroglyphs (prehistoric rock art) in the area.

FUN FACT: Picture Canyon was put on the National Register of Historic Places in 2008 but was only recently acquired by the City of Flagstaff in 2012 for \$4.8 million, preserving the 478 acres permanently.

MEET THE LOCAL RESIDENTS:

The desert horned lizard, also known as the horny toad or horned toad, is well-adapted to arid and semi-arid climates. These lizards subsist usually on small invertebrates such as ants, crickets, meal worms, etc. When threatened, they will puff up their bodies and run in spurts to hide. Unlike other horned lizards, desert horny toads do NOT squirt blood from their eyes!

