



FINAL REPORT

# Phoebe Hall Knipling Outdoor Lab Crew



2016

Arlington Outdoor Education Association

Program Dates: 7/18/2016 – 8/7/2016

Leader(s): Jon Skaggs and Linsey Edmunds

# Executive Summary

The mission of SCA is to build the next generation of conservation leaders and inspire lifelong stewardship of our environment and communities by engaging young people in hands-on service to the land.

SCA was founded in 1957 by Liz Putnam, a college student who believed that the passion, talent, and hard work of young people could be a force for tackling the challenges facing America's public lands. Today SCA provides opportunities for thousands of young people to develop conservation values and explore pathways to green careers, strengthen their leadership skills, and deepen their sense of responsibility to others and to the world. Young people emerge from SCA with fuel for their continuous growth and with a sense of empowerment to take action for the issues that they care about, in conservation and beyond. SCA nurtures thriving youth and thriving landscapes.

The Phoebe Hall Knipling Outdoor Lab is an outdoor education facility located approximately 45 minutes from Arlington, Virginia and is operated by the Arlington Outdoor Education Association (AOEA). During the school year, students from Arlington Public Schools travel to the Outdoor Lab for day trips to extend their knowledge in the natural sciences through experiential based learning. It is with these first nature-based experiences in mind that Neil Heinekamp, Director of the Outdoor Lab, and the board of the AOEА chose to sponsor a SCA National Crew.

The partnership between the AOEА and the SCA resulted in a cyclical exchange of generosity and mutualistic benefit. The AOEА sought a National Crew not only to improve the trails at the Outdoor Lab, but also as an opportunity to extend its impact and inspire yet another group of students. SCA crew members volunteered their own efforts to improve the sustainability of The Outdoor Lab so that it may continue to reach students in the Arlington community while finding personal growth and shaping their role as conservation leaders.

# Conservation Impact

Through SCA, young people have the opportunity to complete meaningful work that makes a positive impact on the world around them. SCA projects make tangible and positive impacts to the land, protecting and restoring parks and public lands, educating visitors about conservation, and increasing access to urban green spaces.

Summary of Accomplishments	
Education & Outreach to People	20
Improving Trail	669
Building & Maintaining Structures	10

The trail system at the Phoebe Hall Knipling Outdoor Lab is impacted by heavy use from large groups of visiting students, many of whom wander in and out of the trail corridor, which has led to substantial erosion and trail widening. To meet the needs of the primary user group and improve trail sustainability, the crew incorporated unique trail design and structure considerations to their work.

The crew worked on the three-mile Pine Mountain Trail, which follows the south boundary of the Outdoor Lab property. The varied terrain along this trail offered a unique opportunity to gain skills in a variety of areas including constructing with rock and timber and trail corridor improvements.

The crew's first project consisted of improving trail corridor and tread conditions along the 600ft ridge top section. They began by removing rocks and redesigning the trail corridor to reduce trail erosion and migration downhill. The crew added small rock retaining walls, improved trail drainage, constructed rocks steps, and incorporated natural design features to keep hikers on the designated trail. Previous conditions indicated wide hiker wandering and trail widening. To prevent further damage, the crew arranged rock, timber, and other natural obstacles to subtly guide hikers along the most durable surface.



**Crew members Zoey and Matthan cut kerfs along the walking surface of the footbridge.**

Rock fields provided ample material for stair construction in areas with sharp gradient changes. The crew added three rock staircases to improve accessibility and reduce trail erosion along several sections of the Pine Mountain Trail. Staircases were flanked by rock gargoyles to reduce hiker wandering.

In addition to rock staircases, the crew constructed two rock reinforced drainage dips, carried out routine maintenance on previously existing reinforced drainage dips, and contributed to the construction of a turnpike.

The construction of a timber footbridge by the crew improved accessibility, improved stream health, and provided the crew an opportunity to use backcountry woodworking techniques. A steep bank and muddy crossing added significant danger to users and negatively impacted stream health. To improve the crossing, the crew cut, prepped, and carried Black Locust to the work site, joined sills and stringers using saddle notches and landscape spikes, planed the walking surface, and built a four-step staircase on the steep bank.

At the conclusion of the hitch, 16 summer campers and their counselors met the crew at their worksite to learn about trail sustainability and conservation. The crew described their work, its importance, and answered questions from the campers. This interaction provided an opportunity for the crew to interact with the students who use the trail system and synthesize their hard work with the broader concepts of conservation and volunteerism.

# Participant Impact

In every SCA experience, participants complete projects that solve real conservation challenges and see the tangible results of their labor. Through this work they learn how to conserve resources and protect the planet, learn why their conservation work projects are critical to that effort, and discuss with teammates and leaders what they could do to address environmental issues after SCA; including exploring possible careers in conservation or green jobs and discussing their academic and career goals. SCA experiences provide participants with opportunities to lead their peers, engage in problem-solving, conflict resolution, and group decision-making, and ultimately reflect on the ways the experience is impacting them.

Team Roster		
<b>Sophie Kelly</b>	Boulder, CO	<i>SCA alum</i>
<b>Quinn Zuleger</b>	Chicago, IL	<i>SCA alum</i>
<b>Alexander Goddard</b>	Rye, NY	
<b>Lillian Tipton</b>	New Haven, CT	<i>YCC alum</i>
<b>Matthan Hale</b>	Omak, WA	
<b>James Boyle</b>	Belmont, MA	
<b>Zoey Mondshine</b>	Arlington, VA	<i>SCA alum</i>
<b>Kyle Griffey</b>	Tampa, FL	

The Outdoor Lab provided an excellent platform from which to build conservation work skills and meet environmental education goals. Through the work of building a bridge, rock stairs, reinforced drainage dips, and improving tread on eroded trails, the crew gained a diverse set of technical skills. They fine-tuned those skills throughout the crew, gaining confidence until it was their turn to take the lead on work projects. Building the next generation of conservation leaders begins there.

The location of the Outdoor Lab offered numerous educational opportunities. Less than an hour from Washington D.C., the crew spent their first day off exploring the Museum of Natural History. While wandering the exhibit halls from Iceland to Africa, mammals to geology, dinosaurs to butterflies, and plants to the astounding ocean exhibit, it was hard to hide excitement for our awe inspiring natural world.

On another day off, the crew traveled the short distance to Harpers Ferry, West Virginia: a historic town famous for John Brown’s Raid and the symbolic halfway point of the Appalachian Trail. The crew enjoyed an afternoon at the Appalachian Trail Conservancy, where members and leaders learned about the founding of the AT, how the trail is maintained, the importance of trails, and a few fun trail stories from local legend and thru-hiker, “Poptart”, who worked at numerous locations along the trail.

The crew celebrated their achievements at the end of their hitch by visiting Shenandoah National Park. Not only did Shenandoah provide an opportunity to relax and have fun, it was also an opportunity to discuss trail structures with a critical, experienced eye and was the perfect ending for the crew. Following their trail crew experience, members gave more thought to the beautiful landscape and the scope of the National Park Service. They investigated the history of Shenandoah and the Park Service at Visitor Center exhibits, learned about National Park funding and administration, and explored the impact of Civilian Conservation Corps and other National Park trail crews.

Taken together, these experiences highlighted the value of each member’s impact on conservation, and how to continue to be involved – whether as a weekend volunteer at a nearby park or a career in conservation. Members’ growth as individuals and together as a crew community was evident by their increased confidence in their own work, cohesiveness as a team, and their interest in the Park Service and the Appalachian Trail Conservancy.



## Great Stories

### Matthan Hale, age 17, Omak, WA



*“I really enjoyed the variety of skills I learned. From building steps to bridges to water bars to gargoyles, all this work was exciting and very cool to be a part of. I will for sure either join either a trail crew with the Forest Service or a wildland fire-fighting crew next summer. I am so glad that this program exists and that I was given this awesome opportunity to explore the outdoors and be able to help others explore it and enjoy it as well.”*

### Lilly Tipton, age 16, New Haven, CT



*“During the three weeks at the Outdoor Lab, I have grown tremendously both individually and with the crew. I have felt myself become more confident and self-reliant around camp and at the worksite. From not even remembering how to use all of the tools at the beginning of the crew to leading a set of rock stairs in the last few days, I feel that I have grown so much and gained even more experience doing trail work. Living at the Outdoor Lab has been an incredibly meaningful experience. I live in a very urban area without much access to nature, so being in a beautiful place for three whole weeks was like a dream come true. It was made even more meaningful because of the purpose of the Outdoor Lab itself. Being able to directly give back to all the kids that come here from urban areas to learn about nature was such a rewarding and powerful experience. During these three weeks I have felt so at home in nature, and now am certain that I want to pursue a career in conservation. Living in nature has given me a sense of clarity about what really matters in life which has been the most powerful lesson I will take away from these three weeks.”*

### Alex Goddard, age 17, Rye, NY



*“The work that we did was never boring for me, as the projects that our crew worked on required a perfect balance between technical and physical skill. Learning about the function of each new tool was especially interesting for me, and Jon and Linsey did a fantastic job illustrating the proper technique and function required for using them. Both of our crew leaders were also incredibly knowledgeable in the fields of trail work and camping. At the end of our crew, Jon and Linsey gave me ideas as to where I personally could go from here in the realm of trail work, and this trip has been an incredible starting point for me to learn more about trail work”.*

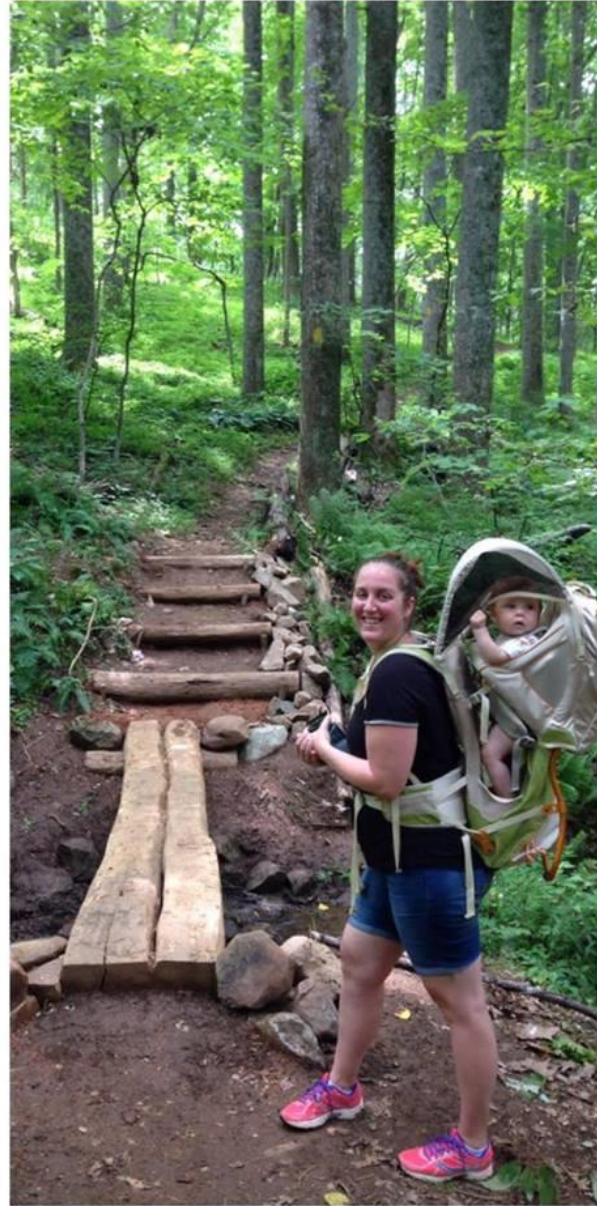
## Acknowledgements

The 2016 SCA Outdoor Lab Crew would like to thank Neil and the other Arlington Outdoor Lab staff for their enthusiastic and sincere welcoming, appreciation and generosity.

Thank you to the AEOA board members and their donors for their commitment to conservation and willing financial support.

# Appendix

## Photographs



*Top left photo; slippery stream crossing with a very steep grade. (Before)*

*Top right photo; the stream crossing now begins with four timber stairs that descend to a beautiful Black Locust bridge. (After)*

*\*Pictured in top right photo are SCA Program Manager Laura Luttrell and sidekick Lulu testing the bridge.*





*These five rock stairs were completed in a day and a half of work. This was one of the final projects, and the members themselves took lead with the design and work.*



*The crew enjoying their finished timber stairs project.*





*The crew, enjoying one of the last days of work!*

## Detailed Project Outputs

<b>Category of Work</b>	<i>Amount Completed</i>
<b>Education &amp; outreach to people</b>	
<b>Visitor center contacts or roving</b>	20
<b>Improving Trails</b>	
<b>Building turnpike</b>	30
<b>Installing steps or staircases</b>	50
<b>Blowdown, brushing, or widening</b>	571
<b>Bridge construction</b>	13