Environmental Careers and Education Pathways for Underrepresented Youth

Introduction

In the Summer of 2019 (June 9 - August 31) Lincoln Hills Cares helped design and produce with Colorado State University and El Laboratorio an environmental careers and education pathways program to connect underrepresented youth to transformative, hands-on, outdoor learning experiences and community service—and make them aware of possible environmental jobs.

The Environmental Careers Pipeline brought together teams of underrepresented high school and college youth in a replicable and scale-able summer program characterized by:

- Radical integration of culturally sensitive citizen-science with hands-on project-based learning
- Focus on rivers and clean environment
- Meaningful engagement and interaction between youth, community, and decision-makers
- Regained wonder of nature by our youth
- Active learning through careful integration of dialogue, education, and practice.

2019 Summer Report

Accomplished Outputs

- 60 students engaged
- 37 partners engaged
- 303 trees planted
- 2.55 square miles of river habitat restored
- 10 habitat and river restoration events
- 1 youth-led River Festival
- 34 miles of youth-led preliminary riparian area assessments
- Outreach to 3,000 homes in and around Globeville, Elyria and Swansea neighborhoods
- 8 weeks of room and board for Bridge Scholars
- 3 weeks of room and board for UB-17 (Upward Bound) students
- 16 incoming CSU freshmen received 6 university credit hours for program participation
★ Youth Innovation Engine Work Products:

- 1 Solution from Upward Bound/16 rising high school seniors from Denver: *Sourcebook for South Platte Youth Advisory Council*
  
  *This solution competed for and received a $9,000 award from the Network for Landscape Conservation Catalyst Fund to create the Youth Advisory Council

- 7 Solutions from Bridge Scholars/18 incoming first-generation CSU freshmen:

  1. Greenway Networks: an Informative Sourcebook
  3. Food For Thought: Evaluating Food Resources in Underserved Communities of Denver, Colorado
  4. National Western Center Water Exhibit Sourcebook: Water Conveyance
  5. Xeriscaping Within Denver | Xerojardín Dentro Denver
  6. Cleaning up the South Platte River Through Community Engagement
  7. Learning and Improving From Mistakes: Historical failures and successes of Xeriscaping
Program Components & Highlights:

❖ **Bridge Scholars:**
Lincoln Hills Cares and El Laboratorio Green Tracked a cohort of 18 incoming freshman students from the CSU Bridge Scholars Program who are the first in their generation to go to college. The Bridge Scholars generated seven final reports and solutions addressing environmental and social justice issues in the Globeville, Elyria and Swansea neighborhoods that included but were not limited to gentrification anti-displacement, people experiencing homelessness, food insecurity and pollution.

❖ **Upward Bound Scholars:**
Lincoln Hills Cares and El Laboratorio Green Tracked a cohort of 16 rising high school seniors from Denver with the CSU Upward Bound Program. Upward Bound is a federally funded grant sponsored by the Department of Education to prepare high school students for post-secondary success. The Upward Bound students selected Metro DNA as their client, for which they generated a Sourcebook for a new South Platte River Youth Advisory Council.

“In partnership with Metro DNA, Lincoln Hills Cares and El Laboratorio will receive $9,033.00 dollars from a Catalyst Fund grant in order to build this youth council.”
❖ **CSU-National Western Center Youth River Festival:**
The CSU-National Western Center Youth River Festival (Saturday August 31, 2019) was the capstone project for the Green Tracked Upward Bound and Bridge Scholars CSU Programs. Additionally, Lincoln Hills Cares and El Laboratorio lead the coordination and production of the River Festival in collaboration with JF Stem Institute, Mo Betta Green Marketplace, Americas for Conservation and the Arts, among others. The River Festival included a community wide restoration service event with more than 40 volunteers, a free farmers market for the community and presentations from the innovation scholars and local grass-roots environmental justice, youth development and wellness groups. We estimate that more than 150 people attended the festival.

❖ **Restorationists-in-Training**
The Restorationist-in-Training Program was tailored to provide an immersive intensive capacity and leadership building experience for innovation scholars interested in the professional field of river restoration. Habitat and river restoration activities took place from the mountain headwaters, through the urban river corridor and into the agricultural plain of the South Platte River Watershed. See the restoration work in the accomplished outputs list above and in Appendix B below.

❖ **Youth River Photo Elicitation**
Lincoln Hills Cares and El Laboratorio empowered youth to use photos to tell their personal stories of the river. The photo elicitation project was produced by innovation scholars interested in oral history, social justice, urban river management and storytelling. The photo elicitation project road tested the new best in class evaluation metrics developed by the Colorado Collective Outcomes (COCO) pilot to better understand how water education and access to rivers can create real and lasting impacts. For more information on the photo elicitation project, see Appendix C below. Youth also took pre and post surveys to evaluate their experience.
## Appendix A: Program Partners

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<th>Lincoln Hills Cares</th>
<th>El Laboratorio</th>
<th>CSU Access Center</th>
<th>Justina Ford STEM Institute</th>
<th>Wildland Restoration Volunteers (WRV)</th>
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<td>Denver Public Works</td>
<td>Mo Betta Green Marketplace</td>
<td>Coalition for the Upper South Platte (CUSP)</td>
<td>Trips For Kids Denver</td>
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<td>Americas for Conservation and the Arts (AFCA)</td>
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<td>Denver Botanic Gardens</td>
<td>Metro Waste Water Reclamation District</td>
<td>North Denver Cornerstone Collaborative (NDCC)</td>
<td>CSU at National Western Center</td>
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<td>Denver Mayor’s Office at National Western Center</td>
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<td>Outdoor Retailer Marketplace Conference</td>
<td>Residents of Globeville, Elyria, and Swansea neighborhoods</td>
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Appendix B. Habitat Restoration Projects

August 10th and August 16, 2019.

Milliken, Colorado floodplain restoration with Wildland Restoration Volunteers. 2 days (planting, weeding and watering). .94 square miles of habitat restored, 103 trees planted (Chokecherry, Plum, Sumac, Indigo, Currant).
August 15th, 2019.

Horse Creek riparian stream restoration with the Coalition for the Upper South Platte in Douglas County, CO. 0.43 square miles of invasive species removal (Mullen, Thistle).
August 22, 2019.

Riparian reforestation with the Coalition for the Upper South Platte in Park County, Colorado. 200 trees planted (Ponderosa pines) and .8 square miles of restored habitat at the headwaters of the South Fork tributary of the South Platte River.

Click on image above for timelapse of the youth tree planting initiative
August 24, 2019.

Seed collection family day with Wildlands Restoration Volunteers and Boulder County Parks and Open Space. 0.38 square miles of habitat restored.
Appendix C: Photo Elicitation

Lincoln Hills Cares and El Laboratorio are grateful to be part of this national model to evaluate the impacts of nature and the environment on youth.

Colorado Collective Outcomes model information.

https://www.caee.org/CollectiveOutcomes

By bringing together EE practitioners, evaluators, and funders to create shared outcomes, environmental educators can more effectively demonstrate the role of EE in improving quality of life in Colorado.

Environmental education has struggled to tell the story of its work and how intentional EE programs, activities, curricula, etc. enhances and improves the lives of those who participate. Because of this, the field in general has struggled to secure both financial and policy-based support for its many endeavors, leaving many organizations to piece-meal a budget together to support their work. As a result, far too many communities go without access to quality EE initiatives to help improve the lives of individuals and the life of their community.

By bringing together practitioners, evaluators, and funders, we hope to create a framework to:

- Demonstrate the role of EE in improving the quality of life in Colorado
- Build capacity for evaluation within EE Organizations
- Provide a framework for evaluating ee across and among organizations
- Align the needs of funders and EE practitioners
Lincoln Hills Cares and El Laboratorio 2019 Summer Report

- What results do we want in CO as a result of EE?
- Develop State Level Indicators of Success

Survey

1. Your school’s name: JF STEM
   Your grade level: Sophomore

2. How would you rate this field trip on a scale from 0 to 10? Circle a number.
   Terrible
   1 2 3 4 5 6 7 8 9 10 Equivalent

3. As a result of this field trip, do you intend to do anything differently in your life? Circle one: Yes
   No
   If yes, what will you do? Write your answer in the space below.
   I feel like I will be more conscious about my own water usage because this river water has to be shared with everyone, and there are more people than I realize.

4. In the left-hand column, circle the number that matches how much you agree with each statement before attending this field trip. In the right-hand column, circle the number that matches how much you agree with each statement after.

5. How much do you feel you learned from this field trip, on a scale from 0 to 10? Circle a number.
   Nothing at all
   0 1 2 3 4 5 6 7 8 9 10 A huge amount

Survey
The Urban South Platte River: Through the Eyes of Denver’s Youth

A PhotoVoice/Photo Elicitation Project

**Purpose:** Biking the South Platte River will give youth the opportunity to explore the river and give them a fun yet powerful learning experience. The youth will be given the chance to share their perspectives and voices on benefits, values, and issues related to the South Platte River.

**Agenda:**
9:00 am - 9:30 am = Welcome, Intro, Purpose, & survey
9:30 am - 10:30 am = Bike Ride Tour + Photo Elicitation
10:30 am - 10:45 am = Break + Snack
10:45 am - 11:40 am = Bike Ride Tour + Photo Elicitation
11:40 am - 12:00 pm = Close + Survey.

**Prompts:**
“I would like you to take photographs of:

➢ Take a picture of what the river means to you
➢ Take a picture of how nature and the river are connected
➢ Take a picture of how the river is being endangered
➢ Take a picture of how humanity has caused harm to the river

**Questions:**
1. What does the river mean to you?
2. What changes do you want to see happen in regard to the South Platte River?
3. How can humanity reduce the damage that it has caused to the river?

**CHOOSE THREE PHOTOS YOU WANT TO TALK ABOUT**
“Can you tell me about each of your pictures?”
“How did you feel when you were in this place?”

**Process**
Results. *(poster boards with the photo elicitation results from youth).*
**Conclusion**

Lincoln Hills Cares and El Laboratorio are incredibly grateful to so many for the support over the summer of 2019. Thanks to everyone who was part of this incredible summer.

Special thanks to our sponsors:

**Sponsors:**

Colorado State University  
The United States Department of Education  
The Beacon Fund  
The City and County of Denver Office of Children's Affairs  
Colorado Parks and Wildlife  
The Nature Conservancy  
National Western Center  
Kiewit Construction

Thank you,

For questions, concerns and/or for future partnership please contact:

Shane C Wright  
303-815-7613 phone  
shane@lincolnhillscares.org  
Lincoln Hills Cares Fundraising and Program Development