



## Evaluation Report: 2015

Submitted October 25, 2015 by Maggie Miller Consulting

### BACKGROUND

In 2015, Cottonwood Institute (CI) began working with Maggie Miller Consulting (MMC) to develop evaluation methods that were more robust than those CI had used in the past. CI wanted to measure their progress toward their outcomes so that they could improve their program and share program successes with funders.

They developed a logic model outlining activities, outputs, and short-term, intermediate, and long-term outcomes. (See Appendix: Logic Model.) They then developed an evaluation plan outlining ways to collect quantitative and qualitative data about their progress toward these outcomes. (See Appendix: Evaluation Plan.)

From May through October 2015, CI and MMC implemented the evaluation plan. This report presents findings from three evaluation methods which focus on the short term outcomes of CI.<sup>1</sup>

### METHODS<sup>2</sup>

#### METHOD 1: HARVESTING DATA FROM STUDENT PAPERS IN CAP

In 2015, CI offered four sessions of the Community Adventure Program (CAP) at New Vista High School, serving public school students in Boulder, CO, and STRIVE Preparatory Schools, serving 90% high need, 95% students of color in Denver, CO. CAP is a class offered during the school day for academic credit. During CAP, students go on hikes, overnight camping trips, learn about and discuss local environmental issues, choose an issue to address as a class, and collaborate with other local organizations to design and implement a student-directed Action Project to positively address their issue.

MMC and CI developed a method of harvesting data from student papers to learn about CI's progress toward outcomes. The idea was to utilize an existing CAP assessment tool to learn from the students about CI's progress toward intended outcomes.

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<sup>1</sup> CI is also in the process of measuring progress toward intermediate outcomes; information on these methods and findings can be found in a different report.

<sup>2</sup> Please see the Appendix for copies of the instruments.

Students were given the prompt to write about what they learned from their experiences in CAP, and to reflect on how CAP changed their relationship with the environment, their view of environmental issues affecting their community, and their role as a student in their community.

Qualitative analysis was conducted on a sample of seven papers,<sup>3</sup> themes related to CI's intended outcomes were identified.

## **METHOD 2: SURVEYS WITH STUDENTS AFTER FIELD-BASED EXPERIENCES**

In 2015, CI offered 15 Multi Day Field Based Projects, which are 2-7 day programs designed to connect students to the outdoors, camp out under the stars, and complete fun and engaging projects to help protect and preserve the environment.

Beginning in June, MMC and CI began conducted paper-and-pencil surveys with students at the end of their experience to learn about CI's progress toward outcomes. One hundred seventy out of 195 surveys were collected from all Multi Day Field Based Project groups. Quantitative and qualitative analysis was conducted on the survey responses.

## **METHOD 3: SURVEYS WITH STUDENTS AFTER CAP**

As described above, CI offered four sessions of the Community Adventure Program (CAP) in 2015 at New Vista High School and STRIVE Preparatory Schools.

In May, MMC and CI began administering a survey with students at the end of class to learn about CI's progress toward outcomes. Thirty out of 39 students from three different classes completed the survey. Quantitative and qualitative analysis was conducted on the survey responses.

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<sup>3</sup> Three papers were assigned during each of the two New Vista CAP sessions. There were 17 students in one session and 12 students in the second session. MMC chose the final paper from one of the sessions for the sample. Papers which were unreadable were excluded from the sample; however papers were not excluded from the sample based on content.

## FINDINGS

**Student's desire to be in the natural world:** In the Field Experience survey, 97% of participants agreed that on a nice day they like to be outside.

Field Experience students commented on how much they liked to be outside in the program:

*[A favorite part was] going out and exploring everything, getting to know nature.*

In the CAP students' papers, personal connection with the natural world emerged as a theme:

*I learned how nature can change my emotions. Like when we learned how to meditate. Nature also gave me a sense of safety especially after the second overnight a lot came up and I appreciated it all. It even increased my energy, like when we were backpacking by the end of the trail I was struggling but I got a burst of energy and ended up jogging the rest of the way to camp.*

### **Students' desire to learn more about the environment:**

In the Field Experience survey 86% of participants agreed with the statement, "I am more curious about local plants or animals after this program." In the CAP survey 70% of participants reported that they had been curious about local plants or animals before the program, and 97% of them were currently curious about these things.

In the Field Experience survey 92% of participants agreed with the statement, "I want to learn more about ways to help the environment." In the CAP survey 67% of participants reported that they had wanted to learn about ways to help the environment before the program, and 80% of them currently wanted to learn about this.

Students who wrote the CAP paper also described wanting to learn more and do more to help the environment:

*It makes me want to go further and find out how it would be possible to make blackwater reusable, and how much it would cost to do so. Would it be efficient? Could I get this set up in our city/county/state? That would be an interesting senior project, or even something I can set up earlier.*

*CAP class has showed me so many things it amazes me. Especially where I want to take my life. That is to work with nature and hopefully teach it to people.*

CAP students were asked if they were interested in learning more about jobs they could get to help the environment; 77% of participants said that they were interested.

### **Students' practical communication skills:**

In the Field Experience survey 93% of participants agreed that they knew how to ask others to do things that help the environment. In the CAP survey 57% of participants reported that they had known how to ask others before the program, and 87% said that they currently knew how to ask.

In the Field Experience survey, 84% of participants reported that they *have* asked others to do things that help the environment. In the CAP survey 53% of participants reported that they had asked others to help the environment before the program, and 70% said they currently asked others.

In the CAP survey, students were also asked to self-report about their skills on the phone, in email, and in person when asking others to help the environment. Students' responses show increases in their confidence in these skills.

Good at...	Before	Now
Making phone calls	37%	50%
Writing emails	47%	63%
Talking to people	48%	73%

Students wrote about developing practical communication skills in their papers:

*We wanted people to learn more about the legislation in Boulder and the state of Colorado and the water laws and why they should change. I learned just how difficult it is to convince people to change their set lifestyle even if it was for the sake of the environment. I enjoyed talking to people on Pearl Street and marketing the idea and our class really reached out to many people, handing out an impressive amount of information.*

### **Students' applicable knowledge of local environmental issues:**

In the Field Experience survey 95% of participants agreed that they had learned about environmental problems or issues. In the CAP survey 100% of the students agreed with this statement.

In the Field Experience survey, 96% of participants agreed that they had learned about ways to help the environment. In the CAP survey 90% agreed with this.

In the Field Experience survey, 93% agreed that they learned something that they can apply at home or at school. In the CAP survey 97% agreed that they learned something that they can apply at home or at school.

In the student papers students wrote about gaining tangible applicable knowledge of local environmental issues.

*During our Action Project, I learned a lot about the idea of greywater, which I had never heard of before it was mentioned in CAP.*

*When we were camping we learned outdoor etiquette is important. We're taught to stay on the trail because it helps preserve the wilderness around us. Going off the trail*

*can damage plants and it can affect natural drainage routes. Packing out what you pack in helps preserve the wilderness by not leaving any sort of trash or food behind. The reason this can be a problem is because some of the animals do not have the ability to digest human food and trash. You need to hang your food high to not attract bears or other animals to your campsite.*

*I wish all subjects caught and held my attention like this class did, because I feel like I learned things that are actually useful in real world situations.*

CAP students were asked if they learned from people who have jobs helping the environment; 87% of participants agreed that they had.

### **Students' opportunity to develop 21st Century Skills:**

Among CI's intended outcomes are student development of 21st Century Skills such critical thinking, problem solving, collaboration, communication, leadership, creativity, civic & personal responsibility, work ethic.

In the Field Experience survey 98% of participants agreed that they did something that was helpful to another person in the group during this program (which can reflect collaboration, communication, leadership, and/or civic and personal responsibility). In the CAP survey, 87% agreed that they did something that was helpful to another during the program.

In the Field Experience survey 88% of participants agreed that they had a chance to solve a problem during this program (and did so).

In the CAP survey students were asked to describe a problem that they solved during the program. Some students described very practical problem-solving:

*Originally my partner and I struggled with a very small complicated tent, so before the next overnight trip I made extra sure and forced my new group to set up our tent beforehand.*

Other students gave examples related to projects to help the environment:

*We gathered money to donate to a bike place to promote biking/public transportation to stop pollution.*

In the CAP survey 93% of participants agreed that they had worked hard during the program.

In the CAP papers students gave several examples of developing 21<sup>st</sup> Century Skills, such as critical thinking (i.e., planning), problem solving (i.e., flexibility), collaboration, leadership, and creativity.

*Being prepared is important when camping. We planned our meals ahead of time and divided up jobs between us.*

*One of the things you learn to do in the woods is to change your plans and adapt with ease. I feel like I applied this principle out on the mall [speaking to people about greywater] and it really worked to my favor.*

*Throughout the project, the class came together as a team more than ever before. We assigned roles and groups in the class based on people's strengths whether it was gathering information, graphic design, answering questions, research, art, or editing, we all used our specific strong attributes to contribute.*

*These trips taught me about leadership by doing things like leading group hikes or doing teamwork games such as "light house."*

*My favorite survival-esque activity was shelter building, because I am a creative person, and it gave me a chance to really shine.*

### **Students' sense of friendship and connection with others in the program:**

In the Field Experience survey 95% of participants agreed that they feel a connection to their group after the program. One participant described a favorite story from the experience:

*Loved the campfire time, music, s'mores, games and fellowship.*

In the CAP survey 80% of participants agreed that they felt connected to others. When asked for a favorite story, several students wrote about connections to others:

*Spending time with good people.*

*I bonded a lot with people.*

*I made a lot of friends.*

Students wrote in their CAP papers about the friendships they formed in CAP.

*I loved how small and intimate the class felt, and I loved the environment of respect and community that the class had.*

*Through CAP, I bonded with many people who I have may not become friends with otherwise.*

*These people became my friend so much so that I shared information that I haven't even told my parents. I trust them and I know they trust me. There is a bond that many other classes don't have.*

### **Students' feelings of empowerment after the program:**

In the Field Experience survey 92% of participants agreed that young people (like themselves) have a voice to share in the community. In the CAP survey 83% of participants reported that they had agreed with this statement before the program, and 90% said they currently agreed with the statement.

CAP student papers reflect their sense of empowerment.

*I helped with the pamphlets, the canvassing, the bake sale, and the presentation. I feel very accomplished when I reflect on how I contributed on this large project.*

*The action project...we spent 2 weeks just working with greywater and we raised over 100\$ and informed many many [sic] people. This showed me that I can actually do something about the environment.*

*I feel more comfortable in my school and in my own skin, which may as well increase the quality of everyday life for me. I am more confident in my ability as a student to make a change than ever.*

### **Students sense of responsibility toward the environment:**

In the Field Experience survey 93% of participants agreed that it is their job to help the environment. One student commented:

*This is important because [sic] help mother nature.*

In the CAP survey 67% of participants reported that they had agreed that it is their job to help the environment before the program, and 86% said they currently agreed with the statement.

CAP students wrote in their papers about specific steps they would take to help the environment.

*Excluding the fact that my family recycles, we waste as much as the average American. At night, lights are left on and showers are not cut short when they need to be. I believe that beyond just cutting these things back, my family can also extend conservation further to collecting rainwater and separating our waste into compost.*

*I've spoken with my parents about implementing the water bottle in septic tank trick in our homes, and we have already set up a time to set those up.*

### **Do students recommend the program to others?**

Ninety-seven percent of Field Experience students said that they would recommend that experience to others.

Ninety-seven percent of CAP students would or might recommend the class. Seventy percent of CAP students said that they would recommend the CAP class and 27% said they might recommend the class<sup>4</sup>.

*I would suggest CAP to people that are interested in the environment.*

*It was an amazing experience and I think that others should have the same opportunity as me.*

*I enjoyed it a lot, and believe that high school students have a lot of potential and opportunity around environmental issues.*

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<sup>4</sup> Depending on the type of student they were speaking to.

**While “fun” is not listed as an intended outcome of CI, common sense tells us that students who have fun in a program are more likely to engage fully in program activities, and thus benefit from the program’s outcomes.** When students (in both Field Experiences and CAP) were asked to comment on favorite parts of the program, they wrote about connecting to nature, trying new things, and having fun with friends.

- *How our instructor showed us how to do a fire without a liter[sic].*
- *It was fun to feel the chickens and put the hay down.*
- *When I climbed the mountain at night, even though it was difficult.*
- *My favorite story is that my friend and I were out in nature, and we got to sit in a nice place and we shared information.*
- *During the 1st overnight I did a sit spot where I was high up on a rock looking out over the camp sight and I had a really cool train of thought. I liked the reflection I got to have in that moment without needing a lot of external stimulation like music or food or drugs.*

In the CAP papers students wrote about how **positive and life-changing** the program was for them:

*I realized that it takes a united community to make a difference, and that I myself can start a movement within my own community. It comes so effortlessly for us to focus on ourselves instead of thinking how our own presence extends beyond us. We all make an impact but it is up to the individual to choose what impact we make. Whether we make a positive difference or a negative one our attitudes make that distinction. We all have the potential to change the world and save it if we take advantage of one another’s specialties and recognize the beneficial distinctive features in ourselves.*

*I learned so much from that first overnight. It helped me prove to myself that I am capable of a lot more than I sometimes think. At times, it takes a metaphor like surviving a cold night or starting a fire or pitching a tent to remind myself that I am strong and I am worth something...I really enjoyed working on the action project. It helped me to find my voice. I’m not exactly sure what sparked it, but a little ember of leadership started to burn within me and I began to nurture it into a steady flame.*



## CONCLUSION

### **CONCLUSION:**

It is obvious from these evaluation efforts that Cottonwood Institute is fulfilling its intended short-term outcomes with tremendous success. The numbers speak for themselves, and the student voices support the numbers.

This information is not revelatory. CI staff, board, and alumni already knew that CI is effectively meeting its intended outcomes. But now that this data has been collected in a systematic way, CI can leverage it to garner support for continued programming.

Potential funders are challenging CI to gather data on longer-term outcomes. CI is currently engaged in building a database of alumni so that they can survey them about those outcomes.

**Cottonwood Institute Logic Model: CAP<sup>i</sup>, ETF<sup>ii</sup>, AND MULTI-DAY PROJECTS (2/23/2015)**

Inputs	→Activities				→Outputs	Outcomes		
		CAP	ETF	MDP		→Short Term	→Intermediate	→Long-Term
<b>Cottonwood Institute staff &amp; instructors</b>	Research	✓	✓		<ul style="list-style-type: none"> <li>• # Programs</li> <li>• # Participants Served</li> <li>• # Contact Hrs. / Participant</li> <li>• # Contact Hrs. / Program</li> <li>• # Program Days</li> <li>• # Service Learning Hrs. / Program</li> <li>• Donor Supported Program Demographics</li> </ul> <p><i>Please contact Cottonwood staff for current information about outputs.</i></p>	<p><b><u>Student Knowledge &amp; Skills:</u></b></p> <ul style="list-style-type: none"> <li>• Tangible applicable knowledge of local environmental issues</li> <li>• Practical communication skills<sup>iii</sup></li> <li>• 21<sup>st</sup> Century Skills: Critical Thinking, Problem Solving, Collaboration, Communication, Leadership, Creativity, Civic &amp; Personal Responsibility, Work Ethic.</li> </ul> <p><b><u>Student Affect / Attitude:</u></b></p> <ul style="list-style-type: none"> <li>• Love of the natural world</li> <li>• Awareness of their place in the natural world</li> <li>• Passion to protect the natural world</li> <li>• Increased:                             <ul style="list-style-type: none"> <li>○ Self-awareness, / personal environmental ethic</li> <li>○ Sense of empowerment</li> </ul> </li> </ul> <p><b><u>Students build friendships.</u></b></p>	<p><b><i>Students take these next steps after the program<sup>iv</sup></i></b></p> <ul style="list-style-type: none"> <li>• Talk to others about what they have learned</li> <li>• Recommend their program to others</li> <li>• Explore the outdoors</li> <li>• Seek out more information</li> <li>• Possibly continue education in the environmental field</li> <li>• Take action to improve the environment</li> <li>• Possibly volunteer to address particular issues</li> <li>• Pursue paid work in environmental field</li> <li>• Possibly pursue a career in the environmental field</li> <li>• Maintain or improve academic achievement</li> <li>• Keep in touch with each other and with Cottonwood</li> </ul>	<p>Cottonwood participants are a generation of 21<sup>st</sup> century leaders who are environmentally aware, civically engaged, &amp; empowered to make a positive impact with their communities<sup>v</sup></p> <p>↓</p> <p>Cottonwood participants create national changes in education, behavior &amp; policy related to the environment</p>
	Journaling	✓	✓	ST <sup>vi</sup>				
	Teambuilding / Leadership Activities	✓	✓	✓				
	Hikes	✓	ST	✓				
	Field trips	✓	✓					
<b>Educational partners &amp; students (grades 6-12)</b>	Overnight camping trips	✓	ST	✓				
<b>Funding</b>	Community experts	✓	✓	ST				
<b>Locations</b>	Project-based learning	✓	✓	✓				
<b>Curriculum &amp; design</b>	Environmental service-learning	✓	✓	✓				
<b>Supplies</b>								
<b>Transportation</b>	Teaching:							
	• Wilderness skills	✓		✓				
	• Environmental issues	✓	✓	✓				
	• Leadership skills	✓	✓	✓				

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<sup>i</sup> Community Adventure Program

<sup>ii</sup> Earth Task Force

<sup>iii</sup> E.g., make professional phone calls, send professional e-mails, ask for donations

<sup>iv</sup> These steps are indicators of Ecological Literacy (ecoliteracy), which is defined as the ability to understand the natural systems that make life on earth possible. To be ecoliterate means understanding the principles of organization of ecological communities (i.e. ecosystems) & using those principles for creating sustainable human communities. An ecologically literate society would be a sustainable society which did not destroy the natural environment on which they depend. Ecological literacy is a powerful concept as it creates a foundation for an integrated approach to environmental problems. Retrieved from [http://en.wikipedia.org/wiki/Ecological\\_literacy](http://en.wikipedia.org/wiki/Ecological_literacy)

<sup>v</sup> Leadership” may be local or global: can range from influencing family & friends to recycle, to teaching, to changing policy

<sup>vi</sup> ST = “Sometimes”

**Cottonwood Institute Evaluation Plan:**  
Community Adventure Program, Earth Task Force, and Multi-Day Projects  
(3/17/2015)

**Preliminary Notes:**

*To produce this evaluation plan, the Cottonwood Institute evaluation team<sup>1</sup> first developed a Logic Model, then generated evaluation questions based on the Logic Model, then suggested a number of evaluation methods to answer those questions, and finally narrowed down the methods so that the evaluation plan would actually be do-able.*

*This Evaluation Plan gives an overview of the evaluation methods and lists practical considerations for implementing each method.*

*To learn which evaluation questions are answered by which method, please refer to the Excel document titled "Eval Plan 2015-3-16 - EXCEL." If you are designing any of the evaluation instruments listed in this plan, please be sure to use that document as well as this one, so that the method addresses all of the necessary evaluation questions.*

**Evaluation Method #1:**

**"Harvest" Data From Current Journals / Blog Posts / Reflection Papers**

Practical Considerations For Implementing This Method:

***Design:*** Staff should review current assignments and re-write if necessary so that they capture data relevant to evaluation questions.

***Administration:*** Staff should ensure that students do the assignments and that their writing is legible.

***Data Entry:*** Taryn will type data into a Google Spreadsheet for analysis.

***Data Analysis and Reporting:*** Taryn will conduct data analysis and write the report.

***Dissemination and Use:*** Time must be allocated for dissemination and use of data.

**Evaluation Method #2:**

**Update Current Post Surveys – Field-Based (Paper)**

Practical Considerations For Implementing This Method:

***Design:*** Paper survey. Build on existing instrument, which was just updated last November with Thorne. Language should be simple because students 6<sup>th</sup> grade through college will take the survey.

***Administration / Data Entry:*** Teachers must ensure that students complete the survey.

***Data Analysis and Reporting:*** Taryn will conduct data analysis and write the report.

***Dissemination and Use:*** Time must be allocated for dissemination and use of data.

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<sup>1</sup> Cottonwood staff and their evaluation consultant, Maggie Miller.

### **Evaluation Method #3:**

#### **Update Current Pre/Post Surveys – CAP (Computer)**

Practical Considerations For Implementing This Method:

***Design:*** Online survey. No special considerations at this point.

***Administration / Data Entry:*** Teachers must ensure that students complete the survey.

***Data Analysis and Reporting:*** Taryn will conduct data analysis and write the report.

***Dissemination and Use:*** Time must be allocated for dissemination and use of data.

### **Evaluation Method #4:**

#### **Outreach combined with Various Fun Methods Beginning Fall 2015**

Practical Considerations For Implementing This Method:

***Design:***

- Will be combined with a fall volunteer project the November Happy Hour.
- Ford will update Alumni contact info, email, cell, Facebook and/or LinkedIn profiles over the summer to invite alumni (and donors) to these events.
- Maggie will design “fun” methods such as pins on maps, stickies on walls, 1-question intercepts, find-a-friend-and-ask-this-question. The data collection should feel like part of the fun of the get-together.

***Administration / Data Entry:*** Because this is a long-term commitment, administration must be built into job descriptions. This fall, we will talk about the details of data entry.

***Data Analysis and Reporting:*** Time must be allocated for data analysis and reporting. This fall, we will talk about the details.

***Dissemination and Use:*** Time must be allocated for dissemination and use of data.