

# Colorado Youth Corps 2001 Final Evaluation Report



Prepared by  
**M. Lynette Fleming, Ph.D.**  
11220 E. Stetson Place  
Tucson, AZ 85749-9550  
520-749-4909  
[fleming@cox.net](mailto:fleming@cox.net)

## Table of Contents

Executive Summary .....	3
Introduction .....	9
Methods and Subjects.....	9
Results .....	10
Education.....	10
Ratings of Interest and Knowledge .....	11
CYC Experience, Correlations with Ratings.....	14
Hopes and Outcomes.....	15
Understanding of Natural Resources.....	17
Natural Resource Agencies .....	18
Helping Colorado .....	20
Issues Facing Colorado .....	22
Environmental Education Component .....	23
General Comments .....	23
Journals.....	24
Discussions.....	25
Role Playing & Simulations.....	25
Games.....	25
Activities .....	25
Group Investigations .....	26
Long-term Projects.....	26
Other opportunities.....	26
Summary, Conclusions and Recommendations .....	27
Appendix: Crew Member Surveys.....	31
Crew Member <u>Entry</u> Survey .....	31
Crew Member <u>Exit</u> Survey.....	33

## List of Tables

Returned Surveys by Youth Corps.....	10
Interest in Finishing High School.....	10
Interest in Finishing College .....	10
Total CYC Responses .....	11
LCYCC Responses.....	12
MHYC Responses .....	12
PCC Responses .....	13
RMYC Responses .....	13
SLVRYC Responses .....	13
SYC Responses .....	14
Days between Entry and Exit Surveys .....	14
Correlations of Days with Change in Responses .....	15
Natural Resources Agencies Involved in CYC Experiences .....	18
Most Important Issues Facing Colorado's Environment .....	22

# **Executive Summary**

## **Colorado Youth Corps 2001**

### **Environmental Education Program Evaluation**

The Colorado Youth Corps Association (CYCA) acts as an umbrella organization representing nine local and regional youth conservation corps in rural and urban settings throughout Colorado. In 2001, CYCA served 600 young adults between the ages of 16 and 24. These crew-based programs involve corps in seasonal full-time employment experiences in environmental and conservation-based projects, providing a structured, disciplined environment where young adults gain on the job skills, and learn self-discipline, leadership skills, how to receive direction, and how to work in teams.

Each corps program allocates 20% of their time to education, including environmental education, high school and college credit courses, and life management skill development. The participating youth

#### **Findings from Entry and Exit Surveys**

- Crew members reported statistically significant growth in knowledge about Colorado's natural resources.
- Crew members recorded statistically significant growth in knowledge of jobs in natural resources.
- Understanding of natural resources increased significantly between entry and exit surveys.
- The percentage of respondents interested in completing college rose from 63% to 69%.
- The longer crews were involved in CYC programs, the higher their ratings of knowledge of natural resources, the environment, and jobs in natural resources.
- Ratings of interest in Colorado's natural resources, the environment, and jobs in natural resources were very high (between agree and strongly agree ratings).
- Crew members' hopes for the summer were met and exceeded. They learned skills, developed physically, positively changed attitudes, and increased knowledge of themselves, their peers and the environment.
- Participants know how to build trails; identify Colorado flora and fauna, noxious weeds, and rare plants; and do paperwork. Nearly a third of the respondents named important work and people skills, including getting along with people who come from different social and ethnic backgrounds, as outcomes of their summer experiences.
- The Environmental Education component was positively received. More than 25% made very positive comments about the environmental education part of their CYC program, compared to negative comments made by only 10%.
- Crew members preferred hands-on group work and the lessons they taught to peers and children.

corps allocated up to four hours per week specifically for implementation of environmental learning activities in [The Colorado Outdoor Odyssey: A Tool Kit for Environmental Education Work and Learning](#).

#### **Overview**

The purposes of this evaluation were to learn about the participants in the CYC programs funded by Colorado State Parks and Division of Wildlife, to judge the statewide environmental education efforts facilitated through these programs, and to guide decision making about the direction of future environmental education efforts.

The six corps that worked on state lands during the summer of 2001 were: Larimer County Youth Conservation Corps, Mile High Youth Corps, Partners Conservation Corps, Rocky Mountain Youth Corps, San Luis Valley Regional Youth Corps, and Southwest Youth Corps. Every participant in these locally operated youth corps completed questionnaires at the beginning and end of their program. Of the 266 crew members, 135 entry and exit surveys could be matched (51% of the total population.) Surveys pursued several areas of inquiry including levels of

education, interest in and knowledge about natural resources and the environment, hopes and outcomes, work with natural resource agencies, perceptions on how corps helped Colorado, issues facing the state, and opinions about the environmental education component of their youth corps program.

Results suggest that most youth had a positive summer, rich in experiences that increased their understanding of self, peers, work, education, and the natural world. This was the first CYC experience for more than three-quarters of the respondents. Half of the responding corps members finished high school before the CYC program started. Nearly all the other half had high interest in completing high school. The percentage of respondents interested in completing college rose from 63% to 69% over the summer.

In addition to making money, these youth hoped to gain work skills, people skills, and outdoor skills. They wanted to develop themselves physically, emotionally, and intellectually. Their hopes were met and exceeded. They learned skills, developed physically, positively changed attitudes, and increased knowledge of themselves, their peers and the environment.

Most were well informed about what they were going to do over the summer with CYC. They worked hard and most were very proud of their accomplishments. Many expressed the importance of their work to the state's future.

### Rating Changes between Entry and Exit Surveys

Crews started with high interest in Colorado's natural resources, the environment, and jobs in natural resources. On entry, most gave a medium rating to their knowledge of Colorado's natural resources, the environment, and jobs in natural resources. Ratings of interest went down and ratings of knowledge went up over the summer. All but one of the changes was statistically significant.

#### RATINGS OF INTEREST

Survey Item	Entry Average Rating Range of Ratings Most Frequent Rating	Exit Average Rating Range of Ratings Most Frequent Rating	Change
I am interested in Colorado's natural resources.	4.40 2-5 5	4.06 1-5 5	decline significant
I am interested in the environment.	4.53 1-5 5	4.39 1-5 5	decline significant
I am interested in jobs in natural resources.	4.12 1-5 5	3.77 1-5 5	decline significant

Ratings of Interest in Colorado's natural resources, the environment, and jobs in natural resources were high (between agree and strongly agree), but declined over the summer.

Two of these gains show statistically significant growth in ratings of knowledge - knowledge about Colorado's natural resources and knowledge of jobs in natural resources.

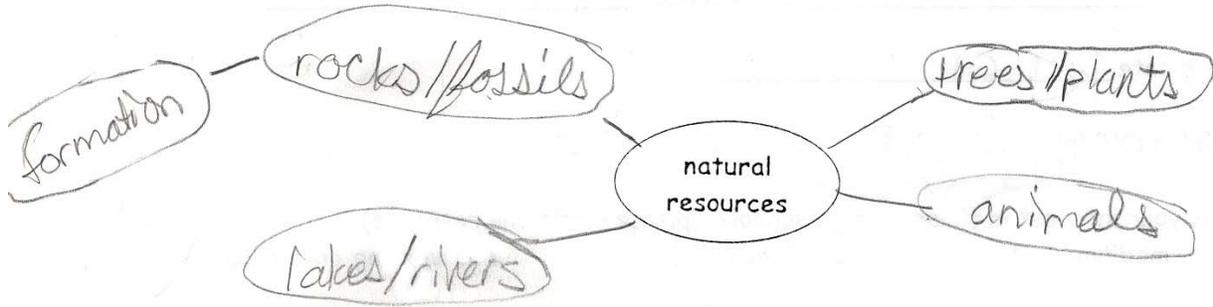
#### RATINGS OF KNOWLEDGE

Survey Item	Entry Average Rating Range of Ratings Most Frequent Rating	Exit Average Rating Range of Ratings Most Frequent Rating	Change
I know about Colorado's natural resources.	3.30 1-5 3	3.60 1-5 4	growth significant
I know about the environment.	3.94 1-5 4	4.02 1-5 4	growth not significant
I know about jobs in natural resources.	3.36 1-5 3	3.68 1-5 4	growth significant

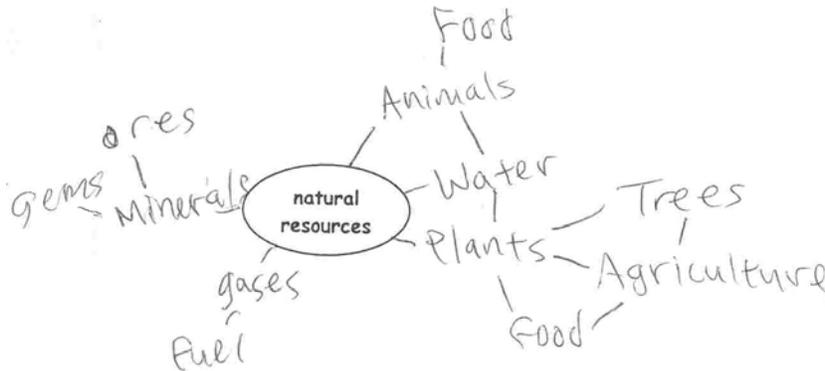
All correlations of the Likert Scale items with the ratings of knowledge gained were positively related to the amount of time between the administration of the entry and exit surveys. Thus, the longer crews were involved in CYC, the higher their ratings of knowledge of natural resources, the environment, and jobs in natural resources. The inverse is also true; the shorter the experience, the lower the ratings. While these correlations are slight ( $r=.17$ ,  $.12$ , and  $.28$ ), they provide encouragement for the effect of longer programs on ratings of knowledge gained. On the interest items, there appears to be no relationship between time and change in responses between the entry and exit surveys.

## Natural Resources Understanding

To measure natural resources knowledge and the connections made with natural resource concepts, crew members were asked to complete concept maps on both the entry and exit surveys. A concept map depicts how the respondent organizes information in a hierarchical manner and connects new information to prior information to create new knowledge. In this evaluation, crew members created concept maps on the topic of *natural resources*. Below is an example of one crew member's concept map on the entry survey.



Concept maps were scored numerically using the Novak and Gowin scoring method. This quantitative scoring technique totals the number of correct connections, the number of hierarchical levels, and the number of crosslinks between related concepts. In this study, each correct connection was given one point. Each level was multiplied by scoring coefficient 5, and each crosslink was multiplied by scoring coefficient 10. The entry concept map above received a score of 10. The exit map below received a score of 66.



The average concept map score on the entry survey was about 21, but entry scores ranged from 6 to 85. Scores averaged 30 on the exit survey and ranged from 6 to 185. Comparison of entry and exit scores indicated a statistically significant gain in understanding of natural resources over the summer. These results suggest crew members' knowledge of natural resources grew because of their work and learning in the Colorado Youth Corps.

Entry	Exit	Change
Average Rating	Average Rating	
Range of Ratings	Range of Ratings	
20.95	30.20	growth
6-85	6-154	significant

## What did crew members get from their CYC experience?

Nearly half mentioned improved physical abilities and behaviors. More than half cited job skills and knowledge of jobs or careers. Participants know how to build trails; identify Colorado flora and fauna, noxious weeds, and rare plants; and do paperwork. Nearly a third of the respondents named important work

and people skills, including getting along with people who come from different social and ethnic backgrounds.

On the exit survey there were more mentions of attitude changes, personal learning, and discoveries about self and the natural world than on the entry survey. Gains included friends, confidence, leadership, responsibility, and motivation. Patience, acceptance, and tolerance were virtues gained by several. The understanding of and commitment to LNT (Leave No Trace) practices were mentioned by a few crew members. Some learned outdoor cooking and meal planning skills. One learned "*new places to go in Colorado.*"

### **For whom did crew members work?**

Crew members worked with a variety of national, state, regional and local agencies to improve Colorado's environment. While it is heartening to see the range of agencies that benefited from the hard work of these young people, more than 10% could not name any of the state or federal agencies for which they worked. Many others were confused about the names of the agencies involved in their programs. For example, crew members who worked with two forest-related agencies gave more than 15 answers to the exit survey question about which agency they were working with this summer. Similar confusion is seen for Parks, both state and national.

### **How did crew members help Colorado?**

The exit survey helped many crew members put their summer's work in perspective. Many expressed the importance of what they did to the state's future. Their work and quotes are cause for celebration.

#### **Selected Responses**

- *(I helped) in so many ways! Increased awareness for Colorado's state parks, increased awareness for public role in funding CO State Parks, made beautiful pieces of land for others to enjoy.*
- *By educating myself about the environment and Colorado's resources I am able to make more aware decisions myself, and will probably influence other people at some point as well.*
- *We have increased biodiversity through exotic plant eradication.*
- *(I helped) by building a fence to help protect the boreal toad, an endangered species of Colorado. I feel this one was the greatest accomplishment and hardest work I had every done. I feel proud of myself doing a hard task but sticking with it, because nothing comes easy. I just hope the work we've done together as a crew will help these species come off the list. When they do, I will know I had a part of doing something good and saved those boreal toads.*
- *The construction and maintenance that we did will increase people's awareness of the outdoors, and make it more enjoyable for the public to travel those trails.*
- *I helped to create safe sustainable trails. This in turn will help recreationalists from hurting themselves and the surrounding environment.*
- *(I've) given people more and better opportunities to view nature, which will hopefully increase awareness and commitment to natural resources.*

### **Issues Facing Colorado**

On the entry survey, most respondents expressed a general understanding of issues facing Colorado's environment. On the exit survey, responses were more diverse and reflected the complexities of many issues, an indication that crews were better informed as a result of their CYC experience.

## **The Environmental Education Component**

Nearly one-fourth of the crew members had very positive comments about the total environmental education component of their CYC experience. Only 10% made negative comments about the time spent on environmental education. Crew members liked hands-on, group work and the lessons they taught to peers and children. They disliked lecture, reading, paper-pencil exercises.

For most crew members, the environmental education component of their CYC program was a success. Crew leaders did a good job of making the learning fun and appealing to a variety of learning styles. Crews learned from lessons in The Colorado Outdoor Odyssey as well as from other sources. Respondents were very positive about the lessons in the Discussions and Games sections, and complimented lessons from every section. Criticisms were few and in the nature of "boring", "immature", and involving skills the respondents weren't proficient with, such as writing, reading or public speaking. A few named learning about their work site as their favorite environmental education activity.

The data suggest many respondents were at least introduced to each of the strands that comprise a comprehensive environmental education program as defined in Excellence in Environmental Education - Guidelines for Learning (NAAEE, 1999). Crews practiced questioning and analysis skills (Strand 1), and gained knowledge of environmental processes and systems (Strand 2). They analyzed, investigated and addressed environmental issues (Strand 3), and they learned personal and civic responsibility (Strand 4).

## **Recommendations for Environmental Education**

The following recommendations are directed to crew leaders, CYCA, State Parks, Division of Wildlife, and to all the agencies and organizations that benefit from the hard work of these youth.

- Continue offering The Colorado Outdoor Odyssey for crew leaders.
- Continue allowing leaders to add their own activities to personalize their environmental education program.
- Find funding to continue supplying the journals, and writing and drawing tools to all crews.
- Journal writing should be continued with crew leaders sometimes giving the crew members the option of selecting the topics about which the crew will write.
- Discussions should continue to be an instructional technique employed by crew leaders for environmental education. Leaders should remember that participants must be allowed an option to pass, however.
- Crew leaders should continue facilitating the lessons with which they are comfortable and that the majority of their crew is likely to enjoy.
- Continue leadership training for crew leaders in environmental education, not only training about the lessons in the The Colorado Outdoor Odyssey, but also the larger picture of what environmental education should be as defined by the Guidelines for Learning.
- Conduct interviews to learn what corps did to keep interest high.
- Encourage all involved to recognize frequently that the work being done does help the environment, and how the work fits into the bigger picture of Colorado's environmental future.
- Help crew members and leaders identify and differentiate among the agencies and organizations with which they work. Staff at CO State Parks and Division of Wildlife should create a diagram clearly differentiating local, state and national agencies including links to Great Outdoors Colorado (GOCO) to be used for this purpose.
- The environmental education component of the CYC program should support opportunities to find the joy that can come from knowing a place well. As part of their environmental education, crews should have permission to enjoy, discover and have adventures at their work sites.

Environmental education is essential education. It is the vehicle by which to develop and nurture an environmentally literate populace - a population that is aware of and sensitive to environmental concerns and who act as stewards of the environment. This study glimpsed the environmental education offered by six independent youth corps to 135 crew members. Although there exists some frustration about boring lessons,

about careless tourists, and about other difficulties, there also exists tremendous dedication and enthusiasm on the part of these CYC youth for Colorado's environment. Based on the results of these surveys of six corps, the environmental education efforts have been successful. Ultimately, these citizens will make decisions and demonstrate behaviors that affect the future of Colorado and Earth. Support for environmental education in CYC should be continued.

# Colorado Youth Corps 2001 Evaluation Report

## Introduction

The Colorado Youth Corps Association (CYCA), a partnership between Great Outdoors Colorado (GOCO) and several foundations, networks Parks and DOW work projects among several independent regional youth conservation corps in Colorado. In addition to their work to enhance Colorado's environment, these corps are committed to building stronger environmental stewardship and work experience opportunities for Colorado's youth.

CYCA acts as an umbrella organization representing nine local and regional youth conservation corps in rural and urban settings throughout Colorado. In 2001, CYCA served 600 young adults between the ages of 16 and 24. These crew-based programs involve corps in seasonal full-time employment experiences in environmental and conservation-based projects, providing a structured, disciplined environment where young adults gain on the job skills, and learn self-discipline, leadership skills, how to receive direction, and how to work in teams.

Each corps program allocates 20% of their time to education, including environmental education, high school and college credit courses, and life management skill development. The participating youth corps allocated up to four hours per week specifically for implementation of environmental learning activities in The Colorado Outdoor Odyssey: A Tool Kit for Environmental Education Work and Learning. This curriculum resource book was designed to help crew leaders teach environmental education as they work with their crew members. The curriculum was pilot tested throughout the state during Summer 2000. It was revised during the following winter and introduced to crew leaders for use with crews during Summer 2001. The findings of this study are based on the environmental education that occurred during the first year of implementation of the curriculum's first edition.

The purposes of this evaluation were to

- learn about the participants and their experiences in the CYC programs funded by Colorado State Parks (Parks) and Division of Wildlife (DOW)
- judge the statewide environmental education efforts facilitated through these programs
- make recommendations to guide decision making about where future education efforts should be directed.

## Methods and Subjects

Crew members from six corps completed an entry survey before their youth corps program started and an exit survey as close as possible to the end of their youth corps work. Both surveys appear in the appendix. These surveys were designed by the evaluator in collaboration with staff from Colorado Youth Corps Association, Division of Wildlife, State Parks, and Youth Conservation Corps.

In most cases the entry surveys were administered in June and exit surveys were completed in August. Data were entered into Microsoft Excel program through February and analyzed over the subsequent months. Concept maps were scored using the Novak and Gowin scoring method as adapted by Wells and Stark. (Novak, J.D. and Gowin, D. 1984. *Learning To Learn*. Cambridge University Press and Wells, M. & Stark, C.G. in their "Analysis of Concept Maps from the 2000 and 2001 CYN Programs".)

Analysts were able to match 135 entry and exit surveys, but unable to match an additional 80 entry surveys to 19 remaining exit surveys, a total of 234 different respondents. The total number of participants in CYC programs during Summer 2001 was 266. Although 88% of participants completed and returned at least one survey, our "matchable response rate" was 51% of the total population of crew members and 58% of those who returned at least one survey. Only 104 entry and exit concept maps were matched and analyzed. Thirty-one crew members completed the entry concept map, but not the map on the exit survey.

Results are presented in the next section followed by Conclusions and Recommendations Section and the entry and exit surveys in the Appendix.

## Results

This section presents the results of entry and exit surveys matched for 135 CYC participants and administered during the summer of 2001. These findings summarize crew members' responses to the closed and open ended items that appear on the surveys.

For purposes of this evaluation, the aggregated data for the six corps are called Total CYC. Findings are reported first for all CYC members followed by data for each of six corps: LCYCC - Larimer County Youth Conservation Corps, MHYC - Mile High Youth Corps, PCC - Partners Conservation Corps, RMYC - Rocky Mountain Youth Corps, SLVRYC - San Luis Valley Regional Youth Corps, SYC - Southwest Youth Corps.

**Table 1 Returned Surveys by Youth Corps**

<b>Youth Corps</b>	<b>Number of Matched Surveys</b>	<b>Entry Surveys Returned, Unmatchable</b>	<b>Exit Surveys Returned, Unmatchable</b>
Total CYC	135	80	19
LCYCC	17	11	2
MHYC	2	6	0
PCC	11	24	0
RMYC	54	19	14
SLVRYC	16	12	0
SYC	35	8	3

Eighty entry surveys were returned that could not be matched to 19 exit surveys. Surveys were unmatchable because exit surveys weren't returned and names (and other identifying characteristics) could not be paired. One possible match within the RMYC was not analyzed because of incomplete data. In this case, pages were blank or missing, items were left blank, or responses were illegible.

## Education

Half of the CYC members had finished high school by the start of their CYC experience. Nearly all the rest (42%) had a high interest in completing high school. While only 1% had finished college, nearly two-thirds (63%) were interested in finishing college.

**Table 2 Interest in Finishing High School**

<b>Response</b>	<b>Entry Survey Percent</b>	<b>Exit Survey Response</b>
<b>high</b>	42	42
<b>medium</b>	2	3
<b>low</b>	1	0
<b>I already finished.</b>	50	50
<b>I'm working on a GED.</b>	5	5

**Table 3 Interest in Finishing College**

<b>Response</b>	<b>Entry Survey Percent</b>	<b>Exit Survey Response</b>
<b>high</b>	63	69
<b>medium</b>	25	19
<b>low</b>	10	10
<b>I already finished.</b>	1	3

Almost no changes were observed between the entry and exit surveys in response to the question: **What is your interest in finishing high school?** The one person who rated his interest as low on the entry

survey, however, changed the rating to medium on the exit survey. Although this change is statistically insignificant, it may make a huge difference for this one young adult.

Some change in the percent of crew members highly interested in finishing college, however, were recorded. An additional 6% reported increased interest in college, changing their responses from medium on the entry survey to high interest on the exit survey. Another 2% reported college completion over the summer.

### ***Ratings of Interest and Knowledge***

Crew members were asked to rate their interest and knowledge on six Likert scale items with these response options: Strongly Agree (5), Agree (4), Not Sure (3), Disagree (2), Strongly Disagree (1). In the data analysis, Strongly Agree was coded as 5 points; Strongly Disagree was coded 1 point, etc. Thus, the higher the number, the more positive the rating.

The interest and knowledge items and mean (average), range, median (the midpoint), and mode (the most frequently occurring number) of responses are presented in the following tables for Total CYC and each of the six corps. In addition, a probability column appears in all but one table. Because there were only two members of MHYC and almost no changes in their ratings between the entry and exit surveys, probability calculations are meaningless and the probability column is absent.

Significant changes between entry and exit survey responses are reported as a p-value in the probability column. A probability of .05 means that the changes observed between the entry and exit ratings would be expected due to chance in only 5 out of 100 cases;  $p \leq .1$  means the changes observed between the entry and exit ratings would be expected due to chance in only 1 out of 10 cases;  $p \leq .00001$  would be expected due to chance in 1 out of 100,000 cases. This evaluator believes p-values less than .1 are educationally significant and should be reported.

**Table 4 Total CYC Responses**

<b>Item</b>	<b>Entry Survey Mean, Range Median, Mode</b>	<b>Exit Survey Mean, Range Median, Mode</b>	<b>Probability p<math>\leq</math></b>
I am interested in Colorado's natural resources.	4.40, 2-5 4,5	4.06, 1-5 5,5	.0005
I am interested in the environment.	4.53, 1-5 5,5	4.39, 1-5 5,5	.05
I am interested in jobs in natural resources.	4.12, 1-5 4,5	3.77, 1-5 4,5	.00001
I know about Colorado's natural resources.	3.30, 1-5 3,3	3.60, 1-5 4,4	.001
I know about the environment.	3.94, 1-5 4,4	4.02, 1-5 4,4	-
I know about jobs in natural resources.	3.36, 1-5 3,3	3.68, 1-5 4,4	.0005

The average or mean ratings for these interest and knowledge items were all above Not Sure (3) and in most cases were above the Agree (4) rating. With the exception of entry item, *I am interested in Colorado's natural resources*, however, the range included every response option from Strongly Agree to Strongly Disagree.

Basically, ratings of knowledge went up and ratings of interest went down over the summer. All but one of these changes were statistically significant when data from all six corps were analyzed together.

The very high interest ratings on the entry survey (4.4, 4.53, 4.12) should be contrasted with the lower knowledge ratings (3.30, 3.94, 3.36). By the end of a long summer of work, interest in Colorado's natural resources, the environment, and jobs in natural resources fell. Note however, on average, the crew members still agreed with each of these statements.

The increase in the knowledge ratings over the summer are impressive. Two of these gains are statistically significant, knowledge about Colorado's natural resources and knowledge of jobs in natural resources.

**Table 5 LCYCC Responses**

Item	Entry Survey Mean, Range Median, Mode	Exit Survey Mean, Range	Probability p≤
I am interested in Colorado's natural resources.	4.60, 3-5 5,5	4.06,4-5 5,5	.1
I am interested in the environment.	4.59,2-5 4,3	4.59,4-5 5,5	-
I am interested in jobs in natural resources.	4.12,2-5 4,3	3.47,1-5 4,3	.05
I know about Colorado's natural resources.	3.18,2-4 3,4	4.00,3-5 4,3	.0001
I know about the environment.	4.12,3-5 4,4	4.12,3-5 4,4	-
I know about jobs in natural resources.	3.12,2-5 3,5	3.88,3-4 4,4	.005

Unlike the Total CYC ratings, which dropped, LCYCC responses stayed the same between entry and exit surveys on the item, *I am interested in the environment* (see Table 5). The drops in ratings of interest in Colorado's natural resources and in jobs in natural resources are statistically significant. The gains in ratings of knowledge in Colorado's natural resources and in jobs in natural resources are also statistically significant.

**Table 6 MHYC Responses**

Item	Entry Survey Mean, Range Median, Mode	Exit Survey Mean, Range
I am interested in Colorado's natural resources.	5, 5-5 5,5	5, 5-5 5,5
I am interested in the environment.	5, 5-5 5,5	5, 5-5 5,5
I am interested in jobs in natural resources.	4, 3-5 5,5	4, 3-5 5,5
I know about Colorado's natural resources.	4, 4-4 4,4	3.5, 3-4 4,4
I know about the environment.	4, 4-4 4,4	4, 4-4 4,4
I know about jobs in natural resources.	5, 5-5 5,5	4, 4-4 4,4

The responses of the two matched crew members of the MHYC changed on only one item between the entry and exit surveys. Their responses were very positive on both the interest and knowledge items.

PCC crew members' ratings mirror the pattern observed for the Total CYC, interest ratings went down and knowledge ratings went up (see Table 7). Interest ratings were high on the entry survey and remained high, but lower, on the exit survey. The changes were statistically significant on the first two interest items about Colorado's natural resources and the environment.

**Table 7 PCC Responses**

<b>Item</b>	<b>Entry Survey Mean, Range Median, Mode</b>	<b>Exit Survey Mean, Range</b>	<b>Probability p≤</b>
I am interested in Colorado's natural resources.	4.45, 3-5 5,5	3.90,3-5 4,5	.1
I am interested in the environment.	4.45,3-5 5,3	4.09,3-5 4,4	.05
I am interested in jobs in natural resources.	4.27,3-5 4,4	4.09,3-5 4,4	-
I know about Colorado's natural resources.	3.91,3-5 4,3	4.09,3-5 4,4	-
I know about the environment.	4.00,3-5 4,3	4.09,3-5 4,4	-
I know about jobs in natural resources.	3.73,3-5 4,4	3.91,2-5 4,3	-

**Table 8 RMYC Responses**

<b>Item</b>	<b>Entry Survey Mean, Range Median, Mode</b>	<b>Exit Survey Mean, Range</b>	<b>Probability p≤</b>
I am interested in Colorado's natural resources.	4.36, 2-5 5,5	4.26,2-5 5,4	-
I am interested in the environment.	4.57,2-5 5,5	4.61,3-5 5,5	-
I am interested in jobs in natural resources.	4.22,2-5 4,4	4.09,2-5 5,4	-
I know about Colorado's natural resources.	3.17,1-5 3,3	3.48,1-5 4,4	.05
I know about the environment.	3.85,1-5 4,4	4.06,3-5 4,4	.1
I know about jobs in natural resources.	3.32,2-5 3,3	3.63,2-5 4,4	.05

Unlike the CYC corps at large, RMYC responses went up slightly between entry and exit surveys on the item, *I am interested in the environment* (see Table 8). Similar to the average findings for Total CYC, RMYC knowledge responses increased on the exit survey. All gains on the knowledge items were statistically significant.

**Table 9 SLVRYC Responses**

<b>Item</b>	<b>Entry Survey Mean, Range Median, Mode</b>	<b>Exit Survey Mean, Range</b>	<b>Probability p≤</b>
I am interested in Colorado's natural resources.	4.63, 4-5 5,5	4.44,3-5 5,4,5	-
I am interested in the environment.	4.50,3-5 5,5	4.56,4-5 5,5	-
I am interested in jobs in natural resources.	4.12,2-5 5,4	3.75,2-5 4,4	.1
I know about Colorado's natural resources.	3.50,2-5 4,4	4.00,3-5 4,4	.05
I know about the environment.	3.86,3-5 4,4	4.44,3-5 5,4,5	.01
I know about jobs in natural resources.	3.38,2-5 3,3	3.86,2-5 4,4	.05

Unlike Total CYC, SLVRYC responses went up slightly between entry and exit surveys on the item, *I am interested in the environment* (see Table 9). The ratings loss was statistically significant on the interest items about jobs in natural resources. Similar to the average findings for Total CYC, SLVRYC knowledge responses increased on the exit survey. All gains on the knowledge items were statistically significant.

**Table 10 SYC Responses**

<b>Item</b>	<b>Entry Survey Mean, Range Median, Mode</b>	<b>Exit Survey Mean, Range</b>	<b>Probability p≤</b>
I am interested in Colorado's natural resources.	4.21, 3-5 4,4	3.57,1-5 4,4	.01
I am interested in the environment.	4.40,1-5 5,5	3.91,1-5 5,4	.05
I am interested in jobs in natural resources.	3.89,1-5 5,4	3.31,1-5 3,3	.01
I know about Colorado's natural resources.	3.26,1-5 3,3	3.24,1-5 4,3	-
I know about the environment.	4.00,3-5 4,4	3.71,1-5 4,4	.1
I know about jobs in natural resources.	3.31,1-5 3,3	3.49,1-5 4,4	-

Unlike the CYC corps at large, SYC responses went down on nearly all items between entry and exit surveys (see Table 10). Ratings gains were seen on the item, *I know about jobs in natural resources*. The ratings losses were statistically significant on the interest items as well as the knowledge about the environment.

### ***CYC Experience, Correlations with Ratings***

2001 was the first CYC experience for 79% of crew members. Some, however, were returning for their second (14%), third (6%) and even fourth year (1%).

Crew leaders were asked to administer the entry surveys on the first day the crew met, and the exit surveys as close to the final day as possible. In most crews, participants wrote the dates entry and exit dates on their surveys. In other cases, crew leaders provided those records. The length of time between the administration of the entry and exit surveys was determined to provide a sense of the range of program lengths. This data were also used to calculate any relationships between the time on a CYC crew and the change in crew members' responses to the Likert Scale items between the entry and exit surveys. Data for all CYC corps considered together and for individual corps follow.

**Table 11 Days between Entry and Exit Surveys**

<b>Corps</b>	<b>mean, median, mode</b>	<b>range</b>
Total CYC	44, 51, 51	9-82
LCYCC	52, 51, 48	48-67
MHYC	72, 72, 72	72
PCC	59, 65, 65	45-66
RMYC	34, 28, 28	12-64
SLVRYC	59, 59, 59	59
SYC	43, 49, 51	9-82

The average number of work days (week days) between the two surveys was 44. Mode and median were both 51 days. The most telling descriptive statistic is the range, the minimum number of days between entry and exit surveys was 9. The maximum number of days between entry and exit surveys was 82.

A correlation, in statistical language, is a summary of the degree of relationship between two variables. This statistic summarizes the magnitude and direction of the relationship and can have values ranging from -1.0 for a perfect inverse relationship, through 0 for no systematic correlation, to 1.0 for a perfect direct relationship. In social science research, a correlation of .2 (positive or negative) is considered slight; .4 is considered a moderate relationship; and .6 and above, a strong relationship between two variables.

In this study, correlation coefficients were calculated comparing number of days (between the entry and exit survey) and the change between entry and exit responses to six Likert Scale items. Pearson's correlation coefficients appear for the total CYC group as well as individual corps in the following table.

**Table 12 Correlations of Days with Change in Responses**

Item	Total CYC	LCYCC	MHYC	PCC	RMYC	SLVRYC	SYC
I am interested in Colorado's natural resources.	.04	.23	no change pre-post	-.35	.08	-.09	.24
I am interested in the environment.	-.03	.16	no change	.50	-.12	.03	.05
I am interested in jobs in natural resources.	.01	.06	no change	-.40	.14	-.13	.19
I know about Colorado's natural resources.	.17	.14	no change	-.29	.04	.16	.48
I know about the environment.	.12	.46	no change	-.57	-.05	-.53	.36
I know about jobs in natural resources.	.28	-.47	no change	.18	-.21	.16	.10

For the total CYC group, all correlations of the Likert Scale items with the ratings of knowledge gained were positively related to the amount of time between the administration of the entry and exit surveys. Thus, the longer crews were involved in CYC, the higher their ratings of knowledge of natural resources, the environment, and jobs in natural resources. The inverse is also true; the shorter the experience, the lower the ratings. While these correlations are slight ( $r=.17$ ,  $.12$ , and  $.28$ ), they provide encouragement for the effect of longer programs on ratings of knowledge gained.

On the interest items, there appears to be no relationship ( $r=.04$ ,  $-.03$ ,  $.01$ ) between time and change in responses between the entry and exit surveys for the total CYC. An examination of the correlations of many individual corps also shows no relationship between the interest items and length of the corps experience. The exceptions are notable for the strength of the relationships observed. Slight positive relationships were observed for SYC (.24) and LCYCC (.23) on ratings of interest in Colorado's natural resources, and for LCYCC on interest in the environment (.16).

PCC members showed a moderate positive (.50) relationship between days and interest in the environment. Negative correlations were found for the PCC members, however, on two interest items and two knowledge items. The longer PCC members spent, the more negative were their ratings of their interest in jobs in natural resources ( $r=-.41$ ), interest in Colorado's natural resources ( $r=-.35$ ), knowledge of the environment ( $r=-.57$ ), and knowledge of Colorado's natural resources ( $r=-.29$ ). SLVRYC recorded a similar negative correlation when rating their knowledge of the environment ( $r=-.53$ ), but LCYCC and SYC ratings were positive ( $r=.46$ ,  $.36$  respectively). The change of SYC members' ratings of their knowledge of Colorado's natural resources was moderately related to length of work time ( $r=.48$ ).

### ***Hopes and Outcomes***

Two questions on each survey yielded fairly similar results, and are reported together in this section. On the entry surveys crew members were asked:

**Name 2 things you hope to get from your work experiences this summer.**

**Name 2 things you hope to learn from your experiences this summer.**

On the exit survey, they were asked to complete these items:

**Name 2 things you have gained from your work experiences this summer.**

**Name 2 things you have learned from your CYC experiences this summer.**

Although there appeared to be no differences in responses based on years of CYC experience, the reader is reminded that this was the first CYC experience for more than three-quarters of the crew members. In addition to money, what respondents said they hoped to gain or learn fell into four broad categories: skills, physical development, knowledge, and attitudes.

Job skills, people skills, and outdoor skills were the most frequently hoped for outcomes of the summer. More than 15% of the total CYC responding group specifically said they hoped to gain work skills. Crews also wanted to learn how to stay on task, teamwork, experience, work ethics, satisfaction of hard work, and how to build trails and bridges. Desired people skills included learning cooperation, life lessons, making new friends, and *"how to communicate with my parents."* One hoped to gain memories. These youth also wanted to learn how to camp, survival skills, and how to identify plants, rocks, and Colorado animals.

Respondents wanted to gain a tan and pectoral muscles, get strong, build strength and endurance, stop smoking, lose weight, be more active, and get bigger, healthier and in shape. A few mentioned hopes for mental and emotional strength, personal growth, self confidence, good feelings about what they had done, *"a broader mind"*, and future purpose and *"direction as to what I want my life to become."*

By the end of the summer, participants hoped to know the names of animals and plants, and how to improve and *"protect Colorado's resources."* They hoped to learn about Colorado, ecology, the environment, native species, and *"myself."* Crew members also wanted to gain knowledge of jobs and careers.

Only a few stated attitudes they hoped to change. Two hoped they could stop littering. Others wanted to *"learn to appreciate others"* or *"to be a better person."*

What did they get from their CYC experience? They got all of the above hopes and more. Although there were no reports on tans or pectoral muscle development, nearly half mentioned improved physical abilities and behaviors. More than half cited job skills and knowledge of jobs and/or careers. Participants know how to build trails; identify Colorado flora and fauna, noxious weeds and rare plants; and do paperwork. Nearly a third of the respondents named important work and people skills, including getting along with people who come from different social and ethnic backgrounds.

On the exit survey there were more mentions of attitude changes, personal learning, and discoveries about self and the natural world than on the entry survey. Gains included friends, confidence, leadership, responsibility, and motivation. Patience, acceptance, and tolerance were virtues gained by several. The understanding of and commitment to LNT (Leave No Trace) practices were mentioned by a few crew members. One learned *"new places to go in Colorado."*

A few crew members learned outdoor cooking and meal planning skills. Other comments were much more specific and personal. Selected comments follow. Respondents learned:

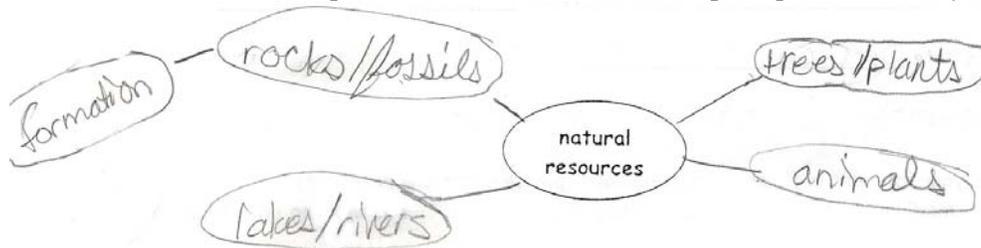
- *How to express myself better.*
- *Positive attitude,*
- *To have more faith in myself.*
- *How better to control my temper.*
- *How to laugh in any situation.*
- *How to live with 9 other people.*
- *How to live in the moment.*
- *Don't take first impressions seriously.*
- *No amount of money could bring me back again.*
- *I hate camping. I hate trail work.*
- *Life goes on just as well without so many things!!*
- *How to play chess*

- *More about alpine ecology.*
- *Bats and echolocation.*
- *How ecosystems operate.*
- *About the black canyon formation.*
- *About issues such as colorado's wildlife, water sources, wildfires, and other environmental issues. The environmental education sessions this summer have been great.*
- *Colorado is awesome and has a lot of opportunities for fun in the outdoors.*
- *About goco and the funding process that great outdoor colorado goes through.*
- *Differences between america's land management agencies.*
- *Marmots are cool.*
- *How to be flexible with the weather because this is colorado.*
- *I love to eat meat and hate to eat tofu.*
- *How to cook falafel.*
- *Our food planning was malnourished.*
- *When people don't get enough water, they get cranky.*
- *How to drink water.*
- *How long it takes to maintain trails.*
- *How to use a chainsaw.*
- *Tool names and uses for them.*
- *I can deal with any situation - five stars for interpersonal skills.*

## ***Understanding of Natural Resources***

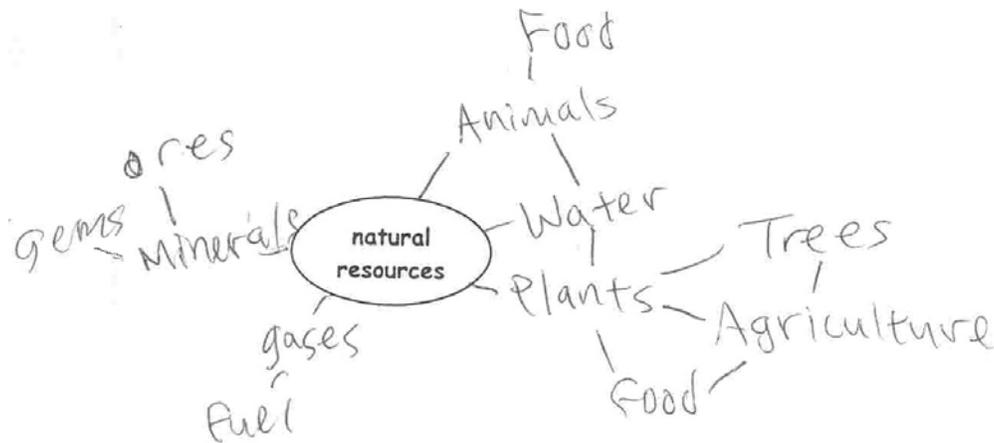
To measure natural resources knowledge and the connections made with natural resource concepts, crew members were asked to complete concept maps on both the entry and exit surveys. Concept mapping is a tool that can be used to judge how one organizes his or her knowledge about topics or ideas. A concept map depicts how the respondent organizes information in a hierarchical manner and connects new information to prior information to create new knowledge. These visual representations can show conceptual understanding and any knowledge misconceptions that may exist.

In this evaluation, crew members created concept maps on the topic of *natural resources*. On both the entry and exit surveys, concept maps were introduced to crew members in a short paragraph and with an example on an unrelated topic. Crew members were asked to complete their own concept map on the topic of *natural resources*. Below is an example of one crew member's concept map from the entry survey.



Concept maps were scored numerically using the Novak and Gowin scoring method (Novak, J.D. and Gowin, D. 1984. *Learning To Learn*. Cambridge University Press and adapted by Wells & Stark in their "Analysis Of Concept Maps From The 2000 And 2001 CYN Programs".) This quantitative scoring technique totals the number of correct connections, the number of hierarchical levels, and the number of crosslinks between related concepts. In this study, each correct connection was given one point. Each level was multiplied by scoring coefficient 5, and each crosslink was multiplied by scoring coefficient 10. The entry concept map above received a score of 10. There are five correct connections and two levels;  $5 + 2(5) = 10$ .

The exit concept map below received a score of 66. There are 16 connections, 2 levels, and 4 crosslinks (for example, agriculture is a second level from plants, and crosslinked to trees and food);  $16 + 2(5) + 4(10) = 66$ .



The average score on the entry survey was about 21, but entry scores ranged from 6 to 85. Scores averaged 30 on the exit survey and ranged from 6 to 154. In 2001, 13 natural resource experts from Colorado also completed concept maps on the natural resources topic. Their average score was almost 152. Experts' scores ranged from scores of 40 to 240. While the concept maps of some of the crew members indicate simplistic knowledge structures of natural resources, others reflected knowledge structures as complex as those of the experts.

Comparison of the 104 matched entry and exit concept map scores indicated a statistically significant gain in understanding of natural resources over the summer. These changes would be observed due to chance in fewer than one in a million cases. These results suggest crew members' knowledge of natural resources grew because of their work and learning in the Colorado Youth Corps.

Entry Mean Rating Range of Ratings	Exit Mean Rating Range of Ratings	Probability p≤
20.95 6-85	30.20 6-154	.000001

### ***Natural Resource Agencies***

On the exit survey, crew members were asked to: *List the natural resources agencies involved in your CYC experiences.* The range of responses for the entire 2001 CYC group are provided in the following table. These findings are not broken out by individual corps.

**Table 13 Natural Resources Agencies Involved in CYC Experiences**

Exit Responses	Number of Responses
BLM	15
Bureau of Land Management	1
CIA	1
DOW	7
Division of Wildlife	2
Division of Wildlife - Cherokee/Centennial	1
CDW	1
Fish Hatchery - Wildlife Division	1
Wildlife	1
Forest-related Responses	
ANFS	1
CO Forest Service	1
CO State Forest	3
CSFSP	2
CO State Forest State Park	1

Dillon Forest Service	1
FS	1
Forest people	1
Forest Service	29
Forest Service Groups	1
Forestry Service	1
National Forest	4
National Forest Service	8
National Forest Wilderness	1
National Forests	1
Natural Forests	2
3 FS	1
USFS	1
U.S. Forest Service	7
U.S. Forestry Service	1
Natural Resources	
dirt	1
solid, water, minerals, plants, animals	1
trees, rocks, soil	1
water, air, trees, plants	1
water, wood	1
Nature Conservancy	3
TNC	1
Park-related responses	
CSFSP	2
CO State Park	3
CO State Parks	5
National Park Monument	1
National Park Service	3
National Parks	2
National Parks like El Dorado	1
NPS	2
NP Services	1
Park Service	1
Parks Service	1
Specific National Parks	
Natural Resource Management at RMNP	1
Rocky	1
Rocky Mountain Forest and Park Services	1
RMNP	1
R. M. National Park	1
Rocky Mountain NPS	1
Rocky National	1
Sand Dunes	4
Specific State, Regional and City Parks	
Arkansas Headwater	1
Bohart Ranch	1
CA Gulch	2
City of Ft. Collins Parklands	1
City of Fort Collins Parks and Recreation	2
Cotton Creek	2
11 Mile	1
Ft. Collins Natural Areas	1
Lathrop	1
Lory State Park	9
Mancos State Park	3
Music Pass	2
Navajo Lake State Park	2
Pueblo Lake	3
Spanish Peaks	2
Steamboat Lake State Park	1
State Park	3
State Park Service	2

State Parks	10
Other	
Americorp	1
CFI	12
Essenterra	1
Fat Tire	2
GOCO	1
Ignacio School Trails	1
LNT Ethics Class	1
Partners	1
Priest Gulch Trail & Calico Trails from San Juan Mtns.	1
Rangers	1
Red Cross Red Shield First Aid Class	1
RMYC	3
San Juan Mountain Association	2
SYC Board members	1
Tekla the author	1
USDA	1
USGS	1
Don't know, don't remember, unsure, ask my leader	15
No answer	9

This list is notable for the number and variety of responses provided by crew members. While some might be disappointed that 15 couldn't name any organizations with which they worked this summer, it is heartening to see the range of agencies that benefited from the hard work of these young people.

Of concern to the evaluator is the confusion over the names of the agencies involved in this program. For example, crew members who worked with two forest-related agencies gave more than 15 answers to the exit survey question about which agency they were working with this summer. Similar confusion is seen for Parks, both state and national.

## ***Helping Colorado***

Great changes were not observed between the entry and exit surveys to these questions:

**How do you think your work this summer will help Colorado?**

**How do you think your work this summer has helped Colorado?**

It was clear from the entry survey that the majority of crew members knew what they were going to be doing over the summer in CYC. On the exit survey, most respondents described their work. A glance at the verbs used by these crew members best describes their actions over this summer of work in Colorado. At least two crew members:

cleaned (mentioned by 23 youth)  
 helped (22)  
 made (13)  
 killed (weeds, 6)  
 maintained (5)  
 improved (4)  
 taught (4)  
 built(2)  
 encouraged (2)  
 preserved (2)  
 and remodeled (2)

Some questioned how or if their work helped Colorado. Comments included:

- *I feel that we truly helped Colorado one week out of the whole summer. Most of our time was spent building fence in a state park to help them herd cattle through the park.*
- *I don't think we really helped with anything.*
- *Not much but it taught me how to work with other people.*

- *Did not help at all.*
- *I don't really know how my work helped Colorado.*

Most were very positive, however. The exit survey helped many put their summer's work in perspective. Many expressed the importance of what they did to the state's future. Their work and quotes are cause for celebration. The following selected comments are organized by three themes - Knowledge, Attitudes and Skills; Natural Resources, Habitat, Weeds; and Trails, Recreation, Safety, Education.

#### Knowledge, Attitudes and Skills

- *It has enhanced my job skills and outdoor skills.*
- *I feel I have helped Colorado very much. I have also learned more about the environment.*
- *It has made one (if not more) person more aware of the world around her.*
- *In so many ways! Increased awareness for Colorado's state parks, increased awareness for public role in funding CO State Parks, made beautiful pieces of land for others to enjoy.*
- *By educating myself about the environment and Colorado's resources I am able to make more aware decisions myself, and will probably influence other people at some point as well.*

#### Natural Resources, Habitat, Weeds +

- *I helped preserve natural resources.*
- *Ridding it (CO) of noxious weeds - keeps lands nice! . . Also keeps weeds from taking over so animals still have plants to eat.*
- *We also have increased biodiversity through exotic plant eradication.*
- *It helped a lot by all the hard work we did even though it didn't seem like it, because every little bit helps. We did a lot for Billy Creek, so it can regenerate and make things greater.*
- *We helped the Boreal toad habitat by building a fence, helped archaeologists find more information about the past, and helped hikers to not camp so close to a lake or trail.*
- *By building a fence to help protect the boreal toad, an endangered species of Colorado. I feel this one was the greatest accomplishment and hardest work I had ever done. I feel proud of myself doing a hard task but sticking with it, because nothing comes easy. I just hope the work we've done together as a crew will help these species come off the list. When they do, I will know I had a part of doing something good and saved those boreal toads.*

#### Trails, Recreation, Safety, Education +

- *The people of Colorado will benefit from our trail work and possibly from our use of the environmental education sessions.*
- *The construction and maintenance that we did will increase people's awareness of the outdoors, and make it more enjoyable for the public to travel those trails.*
- *I helped to create safe sustainable trails. This in turn will help recreationalists from hurting themselves and the surrounding environment.*
- *The backcountry is a safer place due to more defined trails.*
- *Building trails helps localize impact thus decreasing erosion and degradation in other areas.*
- *We protected some of Colorado's natural resources, provided sustainable trail and recreation, and localized impact.*
- *I believe that I've helped greatly. It helped because it not only allows people to see the mountains, but to keep them on trails.*
- *We have minimized the damage people do by not walking on trails, will have helped the safety of peoples trips into the wilderness, and we have helped link people up to the wilderness.*
- *It has probably helped saved lives because we replaced a look out.*
- *Got people into the wilderness who wouldn't go there and made them environmentally aware.*
- *Keeping people on the trails and has helped preserve a lot of beautiful land.*
- *I've made Colorado trails more comfortable to hike. I've helped hikers to be able to see all the beautiful places I've seen this summer.*
- *It has helped people to get to walk on trails and for kids to come and learn about the environment.*
- *I believe it has contributed to the integrity of some of Colorado's most beautiful wilderness sites, prevented erosion, raised awareness among corps members and others.*
- *Our work has made Colorado more picture perfect. We tried to prevent social trails..*

- *I think that people will enjoy the outdoors more now that we have built and maintained so many trails, and when people are outdoors, they develop their own appreciation for nature.*
- *Beautification of trails, accessibility, erosion prevention.*
- *Given people more and better opportunities to view nature, which will hopefully increase awareness and commitment to natural resources.*

## Issues Facing Colorado

On both the Entry and Exit Surveys, crew members were asked: **What do you think are the most important issues facing Colorado's environment?**

A few crew members had trouble answering this question. On the entry survey, 16% (22) left this question blank or said "don't know"; compared to 5% (7) on the exit survey. On the initial survey, most respondents named single "simple" issues in one or two words. On the exit survey, responses were more diverse and reflected the complexities of many issues, an indication that crew members were better informed as a result of their CYC experience. For example, one respondent named poaching on the entry survey as the most important issue facing Colorado's environment, and listed wildlife habitat and human population on the exit survey. Another said pollution on the entry survey, and wildlife habitat destruction and degradation and human attitudes on the exit survey. A few were uncertain about the "most important issue", but made comments worthy of note in this report.

- *I'm not sure about the most important but more campers should be taught about the Leave-No-Trace principles.*
- *It may not be most important, but I'm concerned about the wastefulness and threat of pollution from SUVs driven by old, rich Sierra Club members.*

The following categories were developed from a summary of crew members' responses on the entry and exit surveys. Summary items are listed alphabetically. They provide a glimpse of the changes observed between the survey administration as well as perceptions of youth about the state of Colorado's environment.

**Table 14 Most Important Issues Facing Colorado's Environment**

Category	Entry Survey Summary of Concerns	Exit Survey Summary of Concerns
<b>Agriculture</b>	agriculture, cattle	animal safety, cows on forests, food quality and quantity
<b>Air</b>	pollution	quality
<b>Conservation</b>		land and water
<b>Culture</b>		awareness of sites of human history, cultural & historic site and artifact protection, protection from prescribed burnings
<b>Economy</b>	big business killing environment, commercialization, industrialization	excessive consumerism
<b>Energy</b>	coal burning	demand, fossil fuel extraction, oil drilling, sources, subsidies, use/overuse and abuse
<b>Fire</b>	fires burn lots, wildfires	danger, forest fires, wildfires
<b>Land (Use)</b>	habitat loss, housing developments, need for open space, overuse of public lands,	commercial and private development, disappearance of open spaces, dumping, erosion, exploitation of land for personal interest(cattle grazing), proper land management, protection/preservation, urban sprawl
<b>Native Species</b>	noxious weeds, trees	decreasing biodiversity. habitat loss, invasive species (weeds, beetles). noxious weeds (hurting livestock, wildlife & native plants)
<b>People</b>	bad attitudes, environmentalists, growth, ignorance, littering, overcrowding, overpopulation, people not caring	attitudes, "clueless" rich people, "Colorado's growing population", consumer "gotta have it" behavior, health, knowledge, laziness, migration, no knowledge or practice of Leave No Trace, overpopulation, trash
<b>Politicians</b>	2 national politicians named	"clueless" national and state politicians; "leaders

		without environmental conscience"; 3 state or national politicians named
<b>Pollution</b>	pollution	air, land, light, litter/trash, noise, visual ("cell phone towers on mountain summits"), water
<b>Recreation</b>	irresponsible campers, skiing	abuse and over-use, devastating recreational activities (ski resorts, golf courses, snowmobiles, off-road vehicles), excessive access to trails via ATVs, motorized vehicles/boats in parks, overuse by tourists, social trails made by hikers
<b>Resource Agencies</b>		lack of funding, "manpower" & support
<b>Resource Use &amp; Abuse</b>	deforestation, logging, mining in mountains, natural resources, oil and the opening of national forests for it,	deforestation, drilling and other energy concerns (see above), grazing on national forest land, lack of recycling, lumber harvesting/ overharvesting, mine tailings, nuclear waste cleaning and storage, productive land destruction, too many tourists
<b>Water</b>	erosion, supply, water drainage, water rights, watersheds,	depleting western slope aquifers, erosion, quality, quantity, watershed control and protection
<b>Weather</b>	depleting ozone, really dry summers, weather	not enough rain, global warming
<b>Wilderness</b>		need more, protection
<b>Wildlife</b>	endangered animals, habitat destruction, poaching, wildlife preservation	disease (chronic wasting, whirling), endangered and threatened species (boreal toad, cutthroat), habitat destruction & degradation, hunting, overpopulation (prairie dogs), preservation, protection
<b>Transportation</b>	SUVs, transportation, vehicles using gas for fuel,	excessively large vehicles, poor public transportation, too many private vehicles

### ***Environmental Education Component***

On the Exit Survey, crew members were asked to respond to two questions:

**What were your favorite environmental education activities? Why?**

**What was your least favorite environmental education activity? Why?**

From the range of responses, crews were busy doing environmental education (EE) during Summer 2001. Many lessons and activities were named from The Colorado Outdoor Odyssey: A Toolkit for Environmental Work and Learning. In addition, crew leaders facilitated many other activities that were named by crew members. Readers are reminded that crews completed the exit surveys at the end of their CYC experience.

General comments will be discussed first, followed by the order of lessons in The CO Outdoor Odyssey: Journals, Discussions, Role Playing & Simulations, Games, Activities, Group Investigations, Long-term Projects. Finally, other educational opportunities named will be described.

### **General Comments**

Of the 135 respondents for whom we could match entry and exit surveys, 31 or 23% had very positive comments about the total environmental education component of their CYC experience. The SEED mentioned throughout this section refers to the name used by RMYC for all environmental education activities. Comments about the favorites question included:

- *They were all enjoyable. I especially liked learning about the areas we worked at.*
- *SEED - fun*
- *All, because you learn more and you can use it later in life.*
- *All of them because I had never done anything like it before.*
- *Everything.*
- *All of them. They were great.*
- *They were all enjoyable. I especially liked learning about the areas we worked at.*

A sample of positive comments to the question about their least favorite environmental education activity, follow.

- *I liked all of them. I had no problems from the education. I have learned a lot that I didn't know from the summer.*
- *Didn't have one.*
- *They were all enjoyable. I didn't dislike any of them.*
- *Didn't really have a problem with any SEEDs, Some might have been a bit boring at times, but I got something out of every SEED. It was all good.*
- *None come to mind. They were all cool.*
- *I can't really say I had a least favorite activity. I like them all, because I have learned something new about the earth.*
- *Actually I didn't have a least favorite. I thought everything we did was equal. Everything we did was fun and I'd like to do it again next year!*

Only 14 crew members or 10% made negative comments about the environmental education part of their CYC experience. Selected comments follow.

- *I thought they were all a little silly*
- *Did not like the education.*
- *Don't have one, never been interested.*
- *The required SEEDs tended to be dull and uninformative. We just slugged through it.*
- *SEED - boring*

Crew members also made general comments about methodologies used during the environmental education part of their experience. Comments about instructional methods to the favorites question follow. Some crews did peer teaching. Crew members liked:

- *working as a group*
- *the ones I taught because I taught them because I had an interest in them*
- *The hands-on ones where we had to go out and find things and discuss them. I learned a lot more this way.*

Crew members disliked:

- *when we had to listen and not do hands-on activities*
- *environmental issues - forced rather than suggested*
- *reading out of a book*
- *the ones with papers you have to fill out*
- *repeating activities done before*
- *lecturing*
- *the ones that were completely unorganized*

## **Journals**

Crew members made three positive and six negative statements specifically about journaling. Six other positive comments and three more negative comments were made about writing, without the respondents specifically naming journals. This represents an even split, 7% for writing and journals, 7% opposed. Selected comments follow.

- *Best was writing in our journals*
- *The journal topics we covered were awesome. I love writing and it gave me the ability to express my thinking process and thoughts on things.*
- *I love journaling, so I liked any chance to journal on mostly thoughtful questions.*
- *Writing about what we saw and draw(ing) pictures. I liked the journals because they are not telling us what to write.*
- *(least favorite) Journal entries, because most of the time they were dull.*
- *I hate journaling.*
- *Journaling - boring*
- *(least favorite) We had to write in journals.*
- *(least favorite) Our journals. There were no good topics to write.*

## Discussions

Comments about discussions and brainstorming techniques were overwhelmingly positive - 10% of crew members were positive versus 4% who had negative comments. Most of the positive comments were general in nature, such as:

- *Discussion - new ideas*
- *I enjoyed discussions.*
- *(favorite activities) those involved in getting to hear different crew members' perspectives.*

Two comments were negative about specific individuals during discussion. Others were concerned about the technique in general.

- *Talking. Don't talk good or spell good.*
- *Pure discussion. Not everyone feels comfortable speaking.*
- *My least favorite was talking about how we felt about archaeology, because it was kind of boring, but it was ok.*

The Leave No Trace (LNT) principles and discussions are also part of the Discussions section. Positive comments listed LNT or "the trip planning". Two of the six comments were negative and both involved human waste concerns. The one that can be repeated follows.

- *(least favorite) LNT just because I don't like the idea of no toilets.*

## Role Playing & Simulations

There was one general comment about how fun the role playing activities were. Four of the Role Playing and Simulation lessons were mentioned by name. Favorites named were Cycles (1), Habitat Lap Sit(1), Pass the Jug (1), and The Thunderstorm(1). Least favorites named were Habitat Lap Sit(1) and The Thunderstorm(2).

## Games

Twenty-four crew members (18%) listed games as their favorite environmental education activities. Favorites named were "The Thicket Game" (4), "Where do they Live?" (3), "Expression Connection" (2), "Silent Stalking" (1), and "Envirolopes" (1). In addition, nine respondents named predator and prey games as their favorites. There are six games that teach about predator and prey relationships, so one can't be sure which lessons these crew members liked best.

Least favorite games named were "Envirolopes" (1), The Thicket Game (1), and Where Do They Live?" (1). One crew member also named the predator and prey game as his least favorite activity. Comments about games include these.

- *Games - They are fun.*
- *The games - I learned more in one session than I did in school.*
- *(least favorite) Predator and prey. It had nothing to do with the environment.*
- *(least favorite) Identify Colorado's animals. Everyone already knew what they were. Too boring and way too predictable.*
- *(least favorite) Oh Deer! I broke my ankle.*
- *(least favorite) Oh Deer! The concept of this EE activity is good even though it's a little elementary.*

## Activities

A few crew members named lessons from the Activity section as their favorite environmental education activities, including "400 Acre Wood" (3), "Natural Resources Bill of Rights" (2), and "Values on the Line"(2). "Natural Gifts" (2), "Murder Ewe Wrote" (1) and "400 Acre Wood" (1) were also named as least favorite activities. Comments include:

- *400 Acre Woods - learned a lot about parks, etc.*
- *Natural Resources Bill of Rights - I led it and it made everyone think, even me.*
- *Environmental Bill of Rights - very fun! I liked playing with our amendments! This is a very good way to practice being specific and eliminating loopholes.*
- *Values on the Line - good way to think deeply and discuss many different viewpoints and to peel back the layers on important issues.*

- (least favorite) *400 Acre Wood*. It turned into a big math problem not well suited to a tired group of mostly 26-year-olds. Only the two oldest members were involved.
- (least favorite) *Now and Then (Natural Gifts)* from education mentor's handbook, because it was cheesy and for a younger group.
- (least favorite) *Murder Ewe Wrote* - it felt immature for our age group.

## Group Investigations

Group investigations identified as favorite environmental education activities were "Fire Ecologies" (4), "The Most Wanted Weeds of Colorado" (2), and "Trail Construction" (1). Two crew members named "The Most Wanted Weeds. . ." their least favorite lesson. Comments included:

- *Trail construction, because it was different.*
- (least favorite) *Weeds, though important they were boring.*

## Long-term Projects

No crew members mentioned the words, long-term projects, as their favorite environmental education activities. Many however described activities that were listed in this section as their favorites and least favorites. Those named and selected comments follow.

Create an advertisement, least favorite (1)

Natural Resources Charades. Three named charades as their favorite environmental education activity.

- *Fun and productive*
- *Plant identification (4)*

Identify native and introduced animals. Crew members liked:

- *Snakes (2) - interesting stuff*
- *Bats - interesting.*

Talk with Park Rangers

- *Being out in the field with an expert on exotic species and population behaviors. I actually learned something.*
- *Talking to the ranger because he is, like, the man.*
- *The lectures on plants and rocks.*
- *When \_\_\_ came and talked to us about the lives of other hard workers.*
- *The talk about reforestation.*
- *Chaco and Archeo -Astronomy talks - fascinating. Terms I could understand and a desire to learn more. \_\_\_'s talk was personal and informative as well as inspirational and I want to spread the word.*

Observe a small area

- *In El Dorado when all sat in different places along the trail for about twenty minutes to observe what wildlife would come our way.*

Write poems (2)

## Other opportunities

Ten crew members named hiking and their discoveries while hiking and working as their favorite environmental education activities. Comments included:

- *Walking and finding rocks and other stuff.*
- *Hiking when we just observed nature.*
- *Hiking is just fun.*
- *My favorite was when we hiked back and forth on hills to find artifacts and old rusted cans to see how old they are.*
- *Nature walks because I like to know what I'm seeing.*
- *Educational hikes*
- *Being out there, experiencing without the work.*
- *Building trail and hiking because you actually got to experience it.*
- *Finding an arrowhead*

Some crew members enjoyed learning more about their work sites and the resources there as their favorite environmental education activity. Comments included:

- *Learning about the sites where we worked.*
- *Learning about how the mountains at Music Pass were formed.*
- *Learning about the plants that were located around the California park area. Because yampa was one of my favorites - they tasted like carrots. I never knew about this until now. Willow can take away headaches. Sage can help sinus or allergies.*

A few crew members named books they read as favorites and least favorites. About favorites, they said: *The Lorax (2) story because it teaches a lot.*

To least favorites, some said:

- *Reading the book The Education of Little Tree*
- *Reading about how to manage land. It wasn't new to me.*

Crew members named other activities that may or may not have included environmental education.

Some of their favorites and least favorites sounded a lot like work. Others sounded like fun. These favorite "EE" activities included:

- *Fence (2) - because it just was.*
- *capture the flag*
- *red rover*
- *swimming in the lakes and rivers*
- *first aid - it prepared me if situations should arise and if I needed to take action in an emergency.*
- *Deep ecology (2) - it showed me how equal all living things are and the different viewpoints and reasonings behind it.*
- *Fishing*

Least favorite activities

- *Fence building.*
- *Fencing - it's hard*
- *Cleaning forest camps, because we shouldn't have to.*
- *Lynx surveys - a waste of time!*
- *water control*
- *the work*

## **Summary, Conclusions and Recommendations**

The purposes of this evaluation were to learn about the participants in the CYC programs funded by Colorado State Parks and Division of Wildlife, to judge the statewide environmental education efforts facilitated through these programs, and to guide decision making about the direction of future education efforts.

A survey methodology was employed to meet the research goals. Every participant in six locally operated youth corps completed questionnaires at the beginning and end of their program during the summer of 2001. Although surveys of 227 of the 266 crew members were returned (85% return rate), only 135 entry and exit surveys could be matched (51% of the total population.) Eighty entry surveys were returned that could not be matched to 19 exit surveys. Surveys were unmatchable because exit surveys weren't returned and names (and other identifying characteristics) could not be paired. One possible match within the RMYC was not analyzed because of incomplete data. In this case, pages were blank or missing, items were left blank, or responses were illegible. Only 104 of the 135 matched surveys contained completed concept maps on both surveys. Thirty-one crew members did not complete the concept maps on the exit survey.

Surveys pursued several areas of inquiry including levels of education, interest in and knowledge about natural resources and the environment, hopes and outcomes, work with natural resource agencies, perceptions on how corps helped Colorado, issues facing the state, and opinions about the environmental education component of their youth corps program.

Results suggest that a great number of youth had a positive summer, rich in personal, peer, work, natural, and educational experiences. This was the first CYC experience for more than three-quarters of the respondents.

Half of the responding corps members finished high school before the CYC program started. Nearly all the other half had high interest in completing high school. The percentage of respondents interested in completing college rose from 63% to 69%.

In addition to making money over the summer, these youth hoped to gain work skills, people skills, and outdoor skills. They wanted to develop themselves physically, emotionally, and intellectually. Their hopes were met and exceeded. They learned skills, developed physically, positively changed attitudes, and increased knowledge of themselves, their peers and the environment.

Most were well informed about what they were going to do over the summer with CYC. They worked hard and most were very proud of their accomplishments. Many expressed the importance of their work to the state's future.

Comparison of the entry and exit scores on the concept maps built by crew members indicated a statistically significant gain in understanding of natural resources over the summer. These changes would be observed due to chance in fewer than one in a million cases.

Crew members worked with a variety of national, state, regional and local agencies to improve Colorado's environment. Many CYC members, however, did not know the names of the state and federal agencies for which they worked.

On the entry survey, most respondents expressed a general understanding of issues facing Colorado's environment. On the exit survey, responses were more diverse and reflected the complexities of many issues, an indication that crews were better informed as a result of their CYC experience.

Crews started with high interest in Colorado's natural resources, the environment, and jobs in natural resources. On entry, most gave a medium rating to their knowledge of Colorado's natural resources, the environment, and jobs in natural resources. Ratings of interest went down and ratings of knowledge went up over the summer. All but one of the changes was statistically significant.

In some individual corps, however, interest in the environment remained about the same or went up very slightly (Larimer County Youth Conservation Corps - LCYCC, Mountain High Youth Corps - MHYC, Rocky Mountain Youth Corps - RMYC, and San Luis Valley Regional Youth Corps - SLVRYC). The ratings of many individual corps went up significantly for knowledge about Colorado's natural resources (LCYCC, RMYC, SLVRYC), knowledge about the environment (RMYC, SLVRYC, Southwest Youth Corps - SYC), and knowledge about jobs in natural resources (LCYCC, RMYC, SLVRYC). In conclusion, although interest stayed the same or waned over the summer, crew members recognized their knowledge increased greatly about Colorado's natural resources, the environment, and jobs in natural resources.

For the total CYC group, correlations of the ratings of knowledge gained were positively related to the amount of time between the administration of the entry and exit surveys. The longer crews were involved in CYC, the higher their ratings of knowledge of natural resources, the environment, and jobs in natural resources. The inverse is also true - the shorter the experience, the lower the ratings of knowledge.

On the interest items, there appears to be no relationship between time and change in responses between the entry and exit surveys when the corps are considered together. An examination of the correlations of three individual corps also shows no relationship between the interest items and length of the corps experience. Slight positive relationships were observed for SYC and LCYCC on ratings of interest in Colorado's natural resources, and for LCYCC on interest in the environment. Partners Conservation Corps - PCC members showed a moderate positive relationship between days and interest in the environment. Negative correlations were found for the PCC members, however, on two interest items. The longer PCC members spent, the more negative were their ratings of their interest in jobs in natural resources and in Colorado's natural resources.

For most crew members, the environmental education component of their CYC program was a success. Crew leaders did a good job of making the learning fun and appealing to a variety of learning styles. Crews learned from lessons in The Colorado Outdoor Odyssey as well as from other sources. Respondents were very positive about the lessons in the Discussions and Games sections, and complimented lessons from every section. Criticisms were few and in the nature of "boring", "immature", and involving skills the

respondents weren't proficient with, such as writing, reading or public speaking. A few named learning about their work site as their favorite environmental education activity.

In sum, the data suggest many respondents were at least introduced to each of the strands that comprise a comprehensive environmental education program as defined in Excellence in Environmental Education - Guidelines for Learning (NAAEE, 1999). Crews practiced questioning and analysis skills (strand 1), and gained knowledge of environmental processes and systems (Strand 2). They analyzed, investigated and addressed environmental issues (strand 3), and they learned personal and civic responsibility (strand 4).

Could the environmental education have been better? Yes. The following recommendations are directed to crew leaders, CYCA, State Parks, Division of Wildlife, and to all the agencies and organizations that benefit from the hard work of these youth.

- Continue offering The Colorado Outdoor Odyssey for crew leaders. The curriculum was used and the results were positive. Also continue allowing leaders to add their own activities to personalize their environmental education program. The freedom and flexibility of choice yielded education that worked for the vast majority of crew members.
- Find funding to continue supplying the journals and writing and drawing tools to all crews. The split findings about writing and journaling are typical of most populations. It is recommended that journaling be continued, perhaps with crew leaders sometimes giving the crew members the option of selecting the topics about which the crew will write.
- Since discussions have usually been popular with this age group, it is recommended that they continue to be an instructional technique employed by crew leaders for environmental education. Leaders should remember that participants must be allowed an option to pass, however.
- Given the fairly even split between the most favorite and least favorite lessons named in role playing and simulations, the recommendation to crew leaders is to continue facilitating the lessons with which they are comfortable and that the majority of their crew is likely to enjoy.
- Continue leadership training for crew leaders in environmental education, not only training about the lessons in the CO Odyssey, but also the larger picture of what environmental education should be as defined by the National Project for Excellence in Environmental Education, Guidelines for Learning. Encourage experienced leaders to share their positive environmental education experiences. Share results of this study so they can celebrate their outstanding efforts.
- Conduct more research to learn what corps did to keep interest high between the entry and exit survey. Interview the leaders and members of select corps. Share those findings.
- Encourage all involved to recognize frequently that the work being done does help the environment and identify how the work fits into the bigger picture of Colorado's environmental future.
- Help crew members and leaders identify and differentiate among the agencies and organizations with which they work. They should learn exact names as well as how these groups are linked with other natural resource agencies, and how they function within the state and national governments. This should be part of their education and reinforced frequently while on the job. Even if participants don't choose careers in environmental fields, this name recognition should yield positive support for these organizations in the future. As a way to reduce confusion and stimulate interest, this education might include facility tours, lectures by superintendents, or whatever it takes to help crews understand the groups that work to protect Colorado's environment. Crews might develop an interview protocol to use at each new site, generating data they can analyze and organize themselves. Staff at Co State Parks and Division Of Wildlife should create a diagram clearly differentiating local, state and national agencies including links to Great Outdoors Colorado (GOCO) and other partners, and consider developing an educational activity in which crew members use this chart.
- The beauty of the CYC program is that the work is in the natural world. These youth liked learning more about their work sites and the resources there. As part of their environmental education, crews should have permission to enjoy, discover and have adventures at their work sites. There is joy in knowing a place well. Even young adults can develop a sense of wonder. The environmental education component of their CYC program should support that.

Environmental education is essential education. Environmental education is the vehicle by which to develop and nurture an environmentally literate populace - a population that is aware of and sensitive to environmental concerns and who act as stewards of the planet. This study glimpsed the environmental education offered by six independent youth corps to 135 crew members. Although there exists some frustration about boring lessons, about careless tourists, and about other difficulties, there also exists tremendous dedication and enthusiasm on the part the these CYC youth for Colorado's environment. Based on the results of these surveys of six corps, the environmental education efforts have been successful. Ultimately, these citizens will make decisions and demonstrate behaviors that affect the future of Colorado and Earth. Support for environmental education in CYC should be continued. This study should be used to stimulate increased attention for environmental education and the efforts of so many who work toward sustaining the health of our environment.

## Appendix: Crew Member Surveys

### Colorado Youth Corps

#### Crew Member Entry Survey

Please complete this form and return it to your crew leader the first week of your CYC program. Your thoughtful responses will help us make it even better in the future. Thanks.

1. Your name, initials or identifying code: \_\_\_\_\_  
(We need this information so we can match beginning and end of summer responses.)
2. Crew Site \_\_\_\_\_ Crew Leader \_\_\_\_\_
3. Today's date \_\_\_\_\_
4. Year(s) in CYC (please circle)      1      2      3      More? \_\_\_\_\_ years
5. What is your interest in finishing high school? (please circle one response)  
**high    medium    low            I already finished.    I'm working on a GED.**
6. What is your interest in finishing college? (please circle one response)  
**high    medium    low            I already finished.**

For the next 6 sentences, please circle the letter(s) that best shows how you feel.

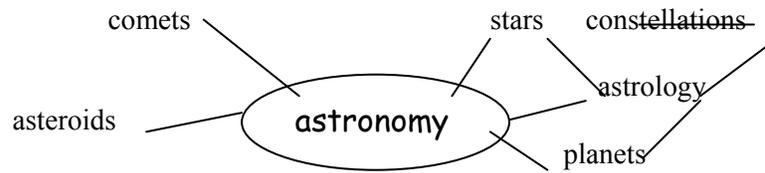
**SA= Strongly Agree, A=Agree, NS= Not Sure, D=Disagree, SD= Strongly Disagree**

- |  |    |   |    |   |    |
|--|----|---|----|---|----|
| 7. I am interested in Colorado's natural resources.            | SA | A | NS | D | SD |
| 8. I am interested in the environment.                         | SA | A | NS | D | SD |
| 9. I am interested in jobs in natural resources.               | SA | A | NS | D | SD |
| 10. I know about Colorado's natural resources.                 | SA | A | NS | D | SD |
| 11. I know about the environment.                              | SA | A | NS | D | SD |
| 12. I know about jobs in natural resources.                    | SA | A | NS | D | SD |
| 13. How do you think your work this summer will help Colorado? |    |   |    |   |    |

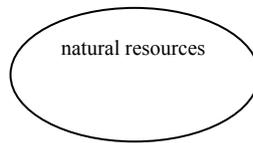
**Please complete page 2.**

Crew leaders: Please return completed surveys to Faye Koeltzow, Youth Outreach Coordinator, Colorado State Parks, 1313 Sherman Street, Room 618, Denver, CO 80203.

14. A concept map or web is a diagram showing relationships between the main topic and related ideas, as well as among those related ideas. There are no right answers in concept maps! A college student made this example at the beginning of an astronomy workshop.



**Make a concept map or web that illustrates what you know about natural resources.**



15. Name 2 things you hope to get from your work experiences this summer.

- 1.
- 2.

16. Name 2 things you hope to learn from your experiences this summer.

- 1.
- 2.

17. What do you think are the most important issues facing Colorado's environment?

# Colorado Youth Corps

## Crew Member Exit Survey

Please complete this form and return it to your crew leader before the end of your CYC program. Your thoughtful responses will help us make it even better in the future. Thanks.

1. Your name, initials or identifying code: \_\_\_\_\_

2. Crew Site \_\_\_\_\_ Crew Leader \_\_\_\_\_

3. Today's date \_\_\_\_\_

4. Year(s) in CYC (please circle)      1      2      3      More? \_\_\_\_\_ years

5. What is your interest in finishing high school? (please circle one response)  
**high    medium    low            I already finished.    I'm working on a GED.**

6. What is your interest in finishing college? (please circle one response)  
**high    medium    low            I already finished.**

For the next 6 sentences, please circle the letter(s) that best shows how you feel.

**SA= Strongly Agree, A=Agree, NS= Not Sure, D=Disagree, SD= Strongly Disagree**

7. I am interested in Colorado's natural resources.      SA    A    NS    D    SD

8. I am interested in the environment.      SA    A    NS    D    SD

9. I am interested in jobs in natural resources.      SA    A    NS    D    SD

10. I know about Colorado's natural resources.      SA    A    NS    D    SD

11. I know about the environment.      SA    A    NS    D    SD

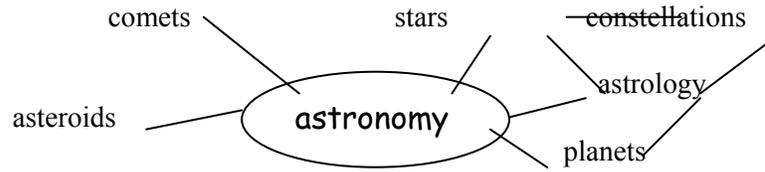
12. I know about jobs in natural resources.      SA    A    NS    D    SD

13. How do you think your work this summer has helped Colorado?

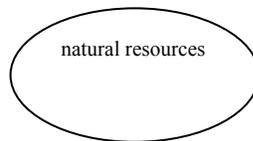
**Please complete pages 2 and 3.**

**Crew leaders: Please return completed surveys to Faye Koeltzow, Youth Outreach Coordinator, Colorado State Parks, 1313 Sherman Street, Room 618, Denver, CO 80203.**

14. A concept map or web is a diagram showing relationships between the main topic and related ideas, as well as among those related ideas. There are no right answers in concept maps! A college student made this example at the beginning of an astronomy workshop.



**Make a concept map or web that illustrates what you know about natural resources.**



15. Name 2 things you have gained from your work experiences this summer.

1.

2.

16. Name 2 things you have learned from your CYC experiences this summer.

1.

2.

**Please complete page 3.**

17. List the natural resources agencies involved in your CYC experiences.

18. What were your favorite environmental education activities? Why?

19. What was your least favorite environmental education activity? Why?

20. What do you think are the most important issues facing Colorado's environment?

**Please add additional comments here or on the back of this page. Thank you.**