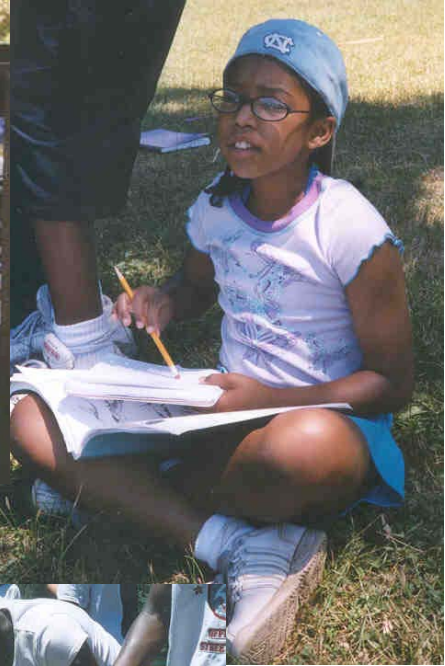


University of California 4-H Youth Development Program
Sierra Club Youth in Wilderness ● Camp Fire USA



On the Wild Side 2004 Program Evaluation

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Marianne Bird
4-H Youth Development Advisor
University of California
Cooperative Extension

Participant Reflections

“I’m on the bus right now and I am so excited to go to camp. This is my second year at camp, so I already know what to expect. But Ms. Lynda said, ‘Things are going to be different.’ I can’t wait.”



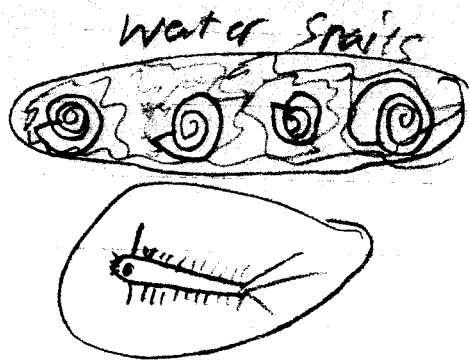
“When I was at the lake boating, I heard a bullfrog. I also saw lily pads with flowers on them and butterflies! I had a lot of fun!”



“I learned that if candles do not have any oxygen, they will go out. Like a person will die if they do not have any oxygen.”



“We had to wake up at 6:30 a.m. to go Polar Bear Swimming. I did wake up at 6:00 a.m. At 6:35 a.m., I went in the lake. The air was cold, but the water was warm. Not all the boys went in from my school. Almost all the girls went in the lake. I jumped in the lake 4 times. It was fun!”



"We caught lots of interesting fish and bugs...I caught a lot of snails and they were cool. They had neat shells and one of mine had a yellowish-gold shell. Today we saw a freshwater snake..."

"Today, I almost caught a Bluegill. I also caught a water snail, two mayfly nymphs, and one dragonfly nymph."

"If I were a fish, I would live under bridges and under a dock because it's safe. Big fish won't fit to get me and so I have good protection. Also because there's lots of bugs for me under the dock."



“We had so much fun at canoeing. I think we were the best at backing up. I was with Scott and this boy named Jordan. We had the funniest time. At first, we were a little scared. We all were. But I liked it at the end.”



“The soil is bumpy and has little twigs in it. There’s some little rocks in it. The soil is kinda soft and hard. The soil smells just like regular dirt. After we put water in it, the little twigs floated up and pieces of grass. All the different soil has different colors. It looks like coffee, kind of. After adding water, all of the organic materials floated on the top and the soils on the bottom.”

“The bell rang and we came to the campfire. We sang songs and right now we’re discovering the nature of owls like a barn owl and a spotted owl. We’re discovering the voice of owls, we’re listening to a lot of owls...Some owls sound like whistles. Some owls even have eyes in the back of their head. Owls can’t roll their eyes, so they turn their heads.”



“What is migration? A group of species move to a different place. A wetland is a lot of water on land – a swamp.”

On the Wild Side 2004 Narrative Report

On the Wild Side, a collaborative environmental education project spearheaded by the Sacramento County 4-H Youth Development Program, aims to enthuse and educate elementary school children about nature and the outdoors through weekend camp experiences. Trained teenagers work in partnership with adult volunteers to plan and deliver the program to 4th, 5th and 6th grade children attending schools in low-income neighborhoods. The University of California Cooperative Extension conducted this evaluation documenting the positive results of On the Wild Side and the insights program planners gained through their experience.

Project Goals

Since its inception five years ago, program goals for On the Wild Side remain constant. For children, they include:

- Expanded knowledge of the natural world and systems within it.
- The development of an enthusiasm for nature and outdoor living experiences.
- An appreciation for the importance of conservation and environmental stewardship.
- A fun, positive experience with peers and staff in the outdoor setting.

Teens involved as project planners and leaders were also expected to gain:

- Increased awareness of the value and importance of civic engagement.
- Skills and confidence in program planning and delivery.

Project Implementation and Accomplishments

Program Changes: On the Wild Side saw several changes in 2004. Agencies in the partnership shifted. The after school program that had provided youth participants and chaperones in past years decided overnight programs were beyond the scope of their mission. Elementary schools joined the partnership to fill the void. The result was a change in program participants: the majority of children were new to On the Wild Side, and many adults accompanying youth were credentialed teachers as opposed to after school program leaders.

Funding for the program also changed. Without the Sierra Club's Youth in Wilderness financial support (only minimal funds remained from the previous Youth in Wilderness grant), On the Wild Side collected money through program fees from participating schools and contributions from community members. Funding for next year's program has already been secured through the California State 4-H Youth Development Program and Blue Cross of California.

On the Wild Side is evolving, and the changes bring new energy and resources to the project. They also demonstrate the growing commitment from the community to invest in this proven program.

Population Served: Five elementary schools participated in one of two weekend overnights. Participation was lower than expected as two sites had hoped to bring more students.

Table 1: Profile of On the Wild Side 2004 Participants

Ethnicity	Elementary Students (n=107)		Teen Teachers (n=18)		Adult Staff & Chaperones (n=31)	
African American	44	41%	3	17%	5	16%
Asian/Pacific Islander	13	12%	5	28%	2	7%
American Indian	1	1%	0	0%	1	3%
Caucasian	23	22%	10	55%	21	67%
Hispanic	26	24%	0	0%	2	7%
Gender						
Female	64	60%	12	67%	20	65%
Male	43	40%	6	33%	11	35%

Program Components: Volunteers from the California Department of Fish and Game trained the staff in *Project Wild*, *Project Aquatic Wild*, and *Project Learning Tree* curricula. Teenagers then worked side-by-side with adults to plan the camp program based on activities from the curricula. In addition, a biologist led an evening program on owls at camp both sessions. Children rotated through the following teen-led activities:

Fishy Who's Who: Exploring and understanding fish habitat.

Migration Headache: A game about factors affecting water bird migration.

Soil Stories: Examining the difference in soil types.

Color Crazy: Art project emphasizing the role of color in wildlife.

Living With Fire: Understanding fire and its role in ecosystems.

Canoeing: A favorite activity that includes learning parts of canoe and paddle.

Program Impact: This evaluation utilized data from participant surveys, children's journals, and pre-and post-test measuring knowledge gain for young participants. The data suggests that participants are learning environmental concepts, and that the program is a fun, positive experience.

Participants are learning. Pre- and post-test scores from children over the years verify this short-term impact, and the positive pattern continues this year (Appendix, Figure 1). All but one of the five participating sites demonstrated statistically significant knowledge gain in the environmental concepts presented (Appendix, Figure 2). As a group, the greatest gain came in understanding the elements necessary to create fire, a lesson fortified not just with experimentation with heat, oxygen and different fuels, but with a journal exercise to diagram the fire triangle. The improved overall test scores likely indicate an increased vocabulary (words like "migration" and "habitat"), exposure to new concepts (like the fire triangle), and an increased awareness about wildlife in the sierra foothill ecosystem.

At the end of camp, participants were given a retrospective pre-post test asking them how much they new about nature before camp and how much they learned about nature at camp. What the children felt they learned was significantly more than what they reported they knew before attending the program (Appendix, Figure 5). The children perceive they're learning, a finding the test scores validate.

The experience is a new and positive one for most participants. Almost 70% of the children attending On the Wild Side had never slept outside before, and for many, On the Wild Side has been their only camp experience. Ratings of the program are high: Seventy-five percent of youth rated their time at camp as excellent, and another 18% rated it as good. Only 7% of

participants rated camp as fair, and no one rated the experience poorly (Appendix, Figure 6). Adult chaperones also give high marks to the experience with a 79% excellent and a 21% good rating.

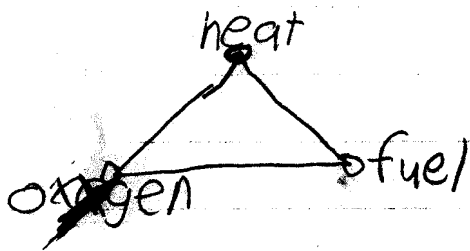
The positive experience translates to a desire to return to the program. Though the On the Wild Side partnership lost the administrative support of the Sacramento START after school program, individual sites that had participated in past years spoke with their school principals to secure funding so that their students might still participate. While initially it can be difficult to bring a new site to the program, once they attend they are invested to return.

This year's evaluation does not assess the impact on the teenagers who planned and delivered the program. Program goals include increasing skills and confidence in program planning, and developing an awareness of civic engagement in teenagers. The On the Wild Side 2003 Program Evaluation explored these themes through focus groups and teen surveys. Next year's On the Wild Side program evaluation will include an extensive component to document impact on the teenagers who plan and deliver the event.

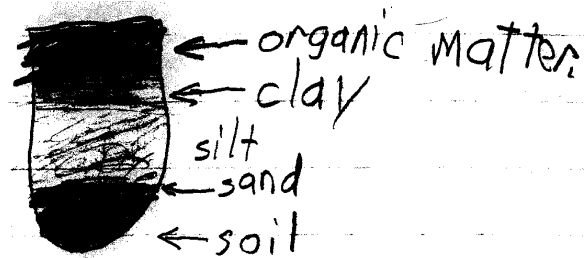
Insights Gained

Journaling exercises are a good tool to reinforce learning. This year teens and their adult coaches were given instructions and ideas to stimulate the journal exercises students completed after each activity segment. Children included drawings, descriptions and charting in their journals, and in some cases these were effective methods to reinforce lessons. One example of this was the "fire triangle" many students drew to illustrate the components necessary for fire: fuel, heat and oxygen. The number of students who could correctly identify the elements of the fire triangle dramatically improved on the post-test indicating that the pictorial representation they drew likely reinforced the material they learned.

Fire Triangle



Soil Diagram



It is difficult to know long-term program impact. This evaluation address many of the On the Wild Side goals: Increasing knowledge and awareness, improving attitudes and skills, assessing participant's opinion of the program. What are harder to measure are the long-term program outcomes: behavior changes, decision making and social action. We know that participants enjoy the program and learn important information important to understanding the natural world, but how this ultimately impacts their behavior as environmental stewards is unknown.

The forces affecting a young person's development are many. Family, schools, friends, after school activities, churches—all these influence the growth, skills and values young people develop. Perhaps a weekend environmental education program—even one attended several years—may not have a profound influence on the attitudes and behaviors a child adopts, but we believe it is one more positive piece to encourage a love of nature and responsible stewardship of our planet.

On the Wild Side 2004 Financial Report

Category	Description	Budgeted	Actual
REVENUE			
Grants	Sierra Club (carry-over from 2003)	\$ 995	\$ 995
Fees	School sites (8 @ \$250)	2,000	1,750
Donations		3,165	
	Elks Lodge		200
	The Lyle Company		500
	Memorial Gifts (carry-over from 2003)	_____	<u>*1,225</u>
	Total Revenue	\$6,160	\$4,670
EXPENSES			
Personnel	Lifeguard for camp sessions		\$ 150
Program Supplies	Program materials		140
Facility	Facility rental	\$2,400	**1,900
Food	Meals for camp sessions	1,600	1,281
Transportation	2 buses for each camp session	2,160	2,064
Program Evaluation	Both summative and formative	_____	<u>250</u>
	Total Expenses	\$6,160	\$5,785
	Total	\$ 0	-\$1,115

* Money not spent in 2003 from Ramona Imes memorial and other donations.

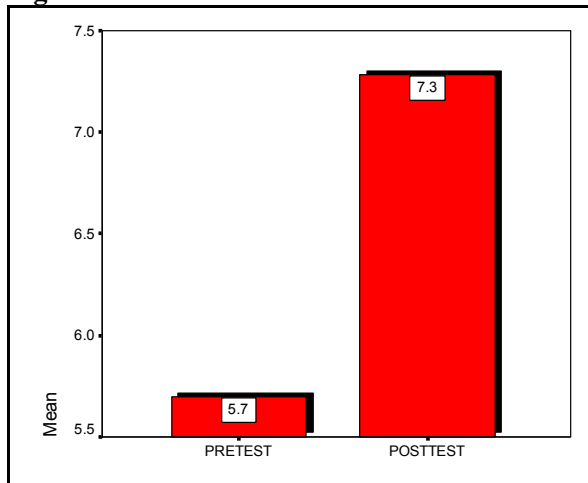
** Received a \$300 discount on camp for participation in camp work weekend.

This budget does not reflect personnel expenses that UCCE or schools may have incurred.

Appendix: On the Wild Side 2004 Test Results

Knowledge Gain: On the Wild Side participants took a pre-and post-test to help measure what they learned through the program. Each participant was given a total score for both the pre-test and post-test, and we compared mean (average) scores between the two. We then conducted a paired samples t-test to determine whether there was a significant difference between the scores. The t-test revealed significant differences ($p=.00$) for the entire sample ($n=99$) participants. As in the past five years, we can say with confidence that the children are learning about the environment through participating in On the Wild Side.

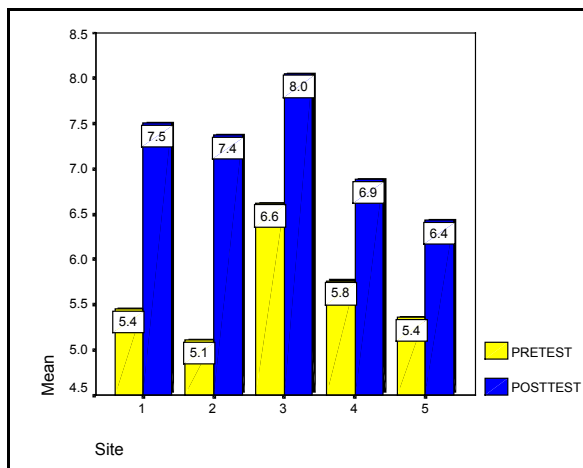
Figure 1: Mean Pre-Test and Post-Test Scores Difference



	Pre-Test	Post-Test
Means	5.70	7.28
Std. Deviations	1.71	1.65
n	99	99

Site Comparisons: All sites showed significant differences in the pre- and post-test scores (site 1, $p=.000$; site 2, $p=.000$; site 3, $p=.006$; site 4, $p=.008$) with the exception of site five ($p=.085$). While all sites demonstrated knowledge gain, site five had a smaller sample size ($n=14$) making the test for significance more difficult.

Figure 2: Test Score Differences by Site



Site	n	Mean Pre-Test	Mean Post-Test	Difference
1	20	5.45	7.50	2.05
2	19	5.10	7.37	2.27
3	21	6.61	8.04	1.43
4	25	5.76	6.88	1.12
5	14	5.35	6.43	1.08

Session and Grade Level: Both sessions 1 and session 2 scores showed significant differences between pre- and post-tests (session 1, $p=.000$; session 2, $p=.001$). Likewise, the differences in scores for all grade levels—four, five and six—were significant ($p=.000$, $p=.000$, $p=.001$ respectively). Learning happened for children in the program regardless of their age or which session they attended.

Figure 3: Test Score Differences by Session

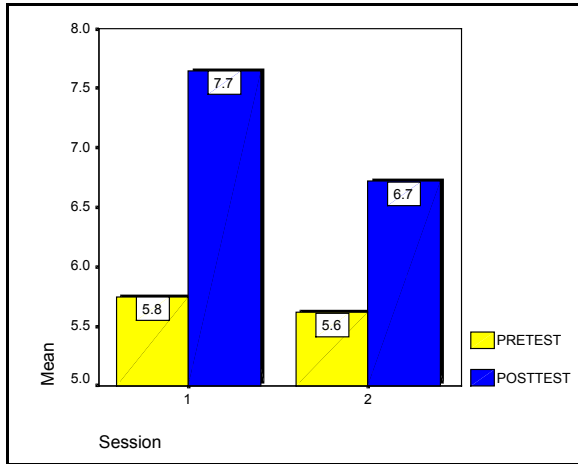
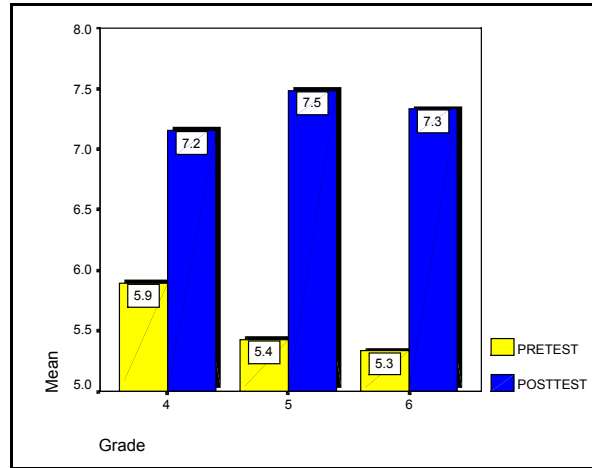
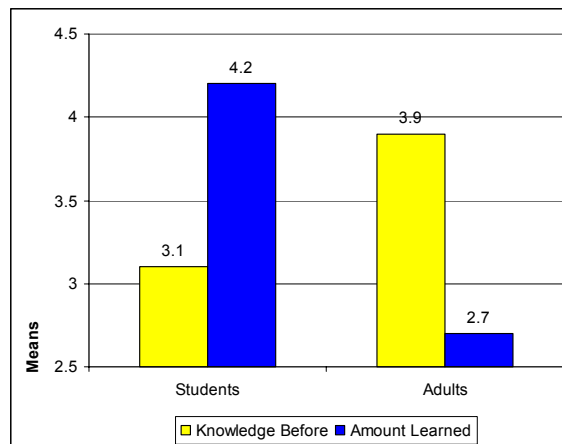


Figure 4: Test Score Differences by Grade



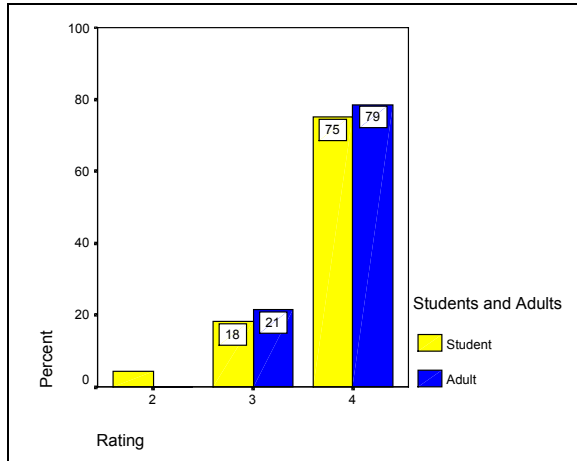
Self-evaluation on Nature Knowledge: A retrospective pre-post test asked participants (both children and adult chaperones) to report how much they felt they knew about nature before camp and how much they learned about nature at camp. A t-test indicated that what the participants felt they learned was significantly more than what they reported they knew prior to camp. For the adults, the results were not significant ($p>.05$). Since adults come to camp with more experience and a greater knowledge base, it is not surprising that they report less learning through the program.

Figure 5: Participant's Self-Evaluation on Nature Knowledge



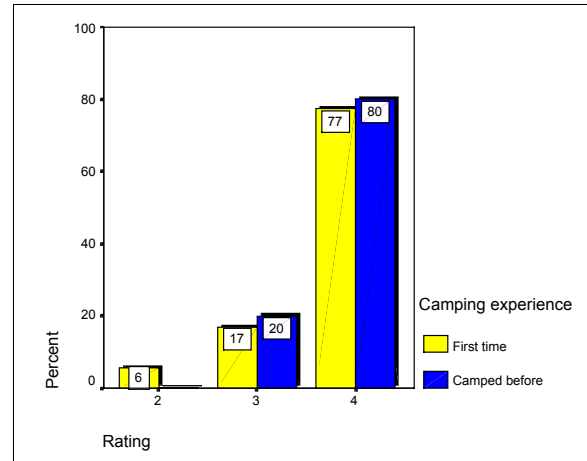
Participant's Experience Rating: Both student and adult participants gave high overall ratings of their camp experience. Using one-way Anovas, we found no significant relationship between participant rating and session, site, grade, or number of times participating in On the Wild Side. However, there was a significant relationship between prior camp experiences and participant's program rating with those who had camped before more likely to give a higher rating. Casual relationships are uncertain here, but it is possible that prior camping experiences influence the likelihood participants feel more comfortable at camp.

Figure 6: Student & Adult Ratings



1 = Poor 2 = Fair

Figure 7: Relation Between Prior Camping Experience and Ratings



3 = Good 4 = Excellent

(Statistical analysis prepared with help from Aarti Subramaniam and the 4-H Center for Youth Development, Davis, California)

COOPERATIVE EXTENSION – UNIVERSITY OF CALIFORNIA – SACRAMENTO COUNTY
 4145 BRANCH CENTER ROAD, SACRAMENTO, CA 95827-3898
 PHONE: (916) 875-6913 • FAX: (916) 875-6233
 E-MAIL: cesacramento@ucdavis.edu • WEBSITE: <http://cesacramento.ucdavis.edu/>

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