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## Education in the Environment: A Hands-on Student Research and Outdoor Learning Experience: Quarterly Progress Report, Period Ending May 31, 2006

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**QUARTERLY PROGRESS REPORT**  
**University of Nevada, Las Vegas**  
**Period Ending May 31, 2006**

**Cooperative Agreement Number H8R07010001**  
**Task Agreement Number J8R07040005**  
**Education in the Environment: A Hands-on Student Research**  
**and Outdoor Learning Experience**

**Executive Summary**

During the past three months, the focus of the university's efforts has included the following highlights:

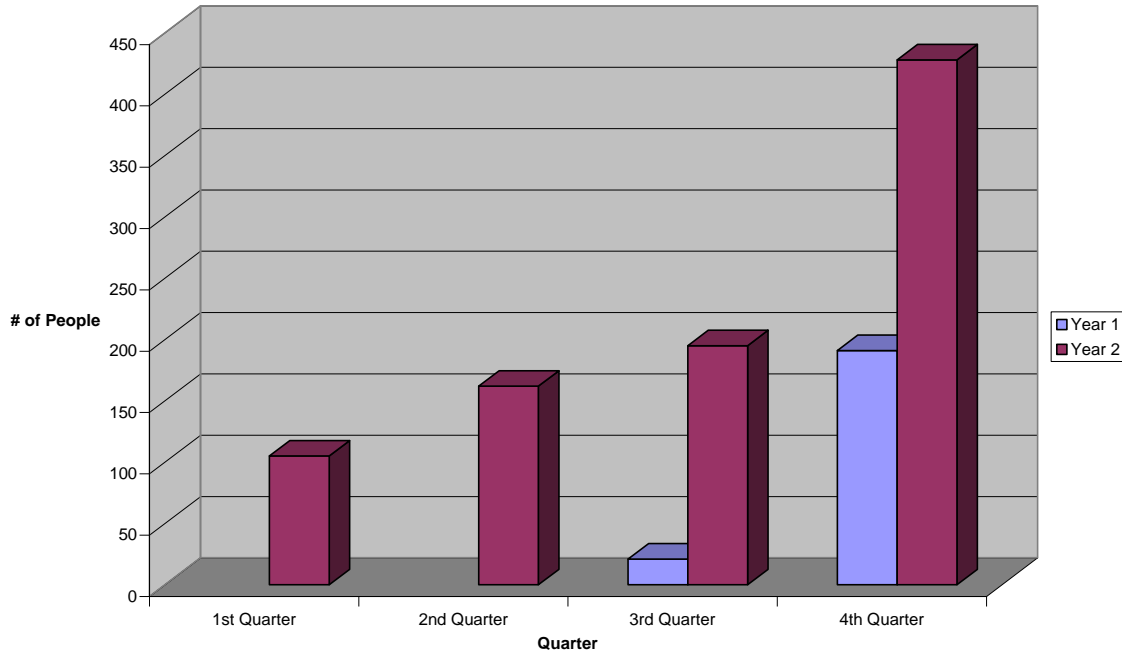
- Forever Earth was scheduled for 18 days and benefited more than 400 individuals.
- Curricula for 5<sup>th</sup>, 6<sup>th</sup>, and 7<sup>th</sup> grades were created for the Forever Earth program; pre- and post-trip activities were also written.
- Activities for 5<sup>th</sup> and 6<sup>th</sup> grades were field tested on 7 Forever Earth trips.
- A 1000-gallon fuel donation was contributed to the Forever Earth program by Overland Petroleum Company, St. George, Utah.
- The Forever Earth marketing plan was completed.
- 12 Discover Mojave Outdoor World events were conducted for 104 participants; the totals for Year 2 include 28 events conducted for 241 participants.
- The SNAP Education Team Charter has been signed by the SNAP Board.
- The Draft Southern Nevada Agency Partnership Conservation Education and Interpretation Strategic Plan was completed.
- Results from a teacher survey have been compiled.

**FOREVER EARTH PROGRAM**

**Year 2 Summary for Forever Earth Operations**

Year 2 represented the first full year of Forever Earth operation under the Public Lands Institute's management (*see attached*). As demonstrated in the table below, use of Forever Earth increased dramatically during Year 2. Almost 900 students, teachers, researchers, agency personnel, and others benefited from using Forever Earth, a 320 percent increase over Year 1 use. A considerable amount of time was spent during Year 1 drafting and implementing agreements as well as working through a number of legal and insurance issues.

Forever Earth Program: Use by Quarter



The two primary uses for Forever Earth during Year 2 were research and education (see table below). Forever Earth was used for research purposes for 31 trip-days, mainly for two projects. Geophysical surveys and lake-bottom mapping were conducted for 11 days during October 2005, by Golder Associates for the Southern Nevada Water Authority. During February 2006, the National Park Service used Forever Earth as a support boat for its underwater cultural resources surveys of the B-29 crash site and Hoover Dam construction areas.

In Year 2, 25 of the 34 user groups (74 percent) scheduled Forever Earth for educational purposes. A total of 327 students participated in programs in Year 2; this is a 626 percent increase over number of students in Year 1. The student groups included 4<sup>th</sup>, 5<sup>th</sup>, and 6<sup>th</sup> graders, as well as high school and university students.

### Year 2 Summary by Quarter – Forever Earth Program

	Group	Group Type	Length of Trip	# of Adults	# of Students	Total Pass.
<b>1<sup>st</sup> Quarter Totals</b>	5 groups	Education - 3 Agency - 1 Research - 1	Education - 20 hrs. Agency - 4 hrs. Research - 1 trip day	<b>105</b>	<b>0</b>	<b>105</b>
<b>2<sup>nd</sup> Quarter Totals</b>	7 groups	Education - 4 Agency - 2 Research - 1	Education - 15 hrs. Agency - 12 hrs. Research - 11 trip days	<b>119</b>	<b>43</b>	<b>162</b>
<b>3<sup>rd</sup> Quarter Totals</b>	4 groups	Education - 2 Agency - 1 Research - 1	Education - 9.5 hrs. Agency - 3 hrs. Research - 19 trip days	<b>186</b>	<b>9</b>	<b>195</b>
<b>4<sup>th</sup> Quarter Totals</b>	18 groups	Education - 16 Agency - 2 Research - 0	Education - 60 hrs. Agency - 7 hrs. Research - 0 trip days	<b>153</b>	<b>275</b>	<b>428</b>
<b>YEAR 2 Totals</b>	<b>34 groups</b>	<b>Education - 25 Agency - 6 Research - 3</b>	<b>Education - 104.5 hrs. Agency - 26 hrs. Research - 31 trip days</b>	<b>563</b>	<b>327</b>	<b>890</b>

In the first two years of operation, Forever Earth has hosted a total of 1,102 individuals for education, research, and agency purposes (see table below).

### Year 2 Annual Summary – Forever Earth Program

	Group	Group Type	Length of Trip	# of Adults	# of Students	Total Pass.
<b>Year 1 Totals</b>	5 groups	Education - 2 Agency - 2 Research - 1	Education - 10 hrs. Agency - 12 hrs. Research - 16 trip days	<b>167</b>	<b>45</b>	<b>212</b>
<b>Year 2 Totals</b>	34 groups	Education - 25 Agency - 6 Research - 3	Education - 104.5 hrs. Agency - 26 hrs. Research - 31 trip days	<b>563</b>	<b>327</b>	<b>890</b>
<b>GRAND TOTALS</b>	<b>39 groups</b>	<b>Education - 27 Agency - 8 Research - 4</b>	<b>Education - 114.5 hrs. Agency - 38 hrs. Research - 47 trip days</b>	<b>730</b>	<b>372</b>	<b>1102</b>

### Forever Earth Operation Details

The Forever Earth vessel was scheduled and operated for 18 days in the past three months (see table below). Two trips were cancelled due to windy conditions. More than 400 agency personnel, teachers, and students benefited from using Forever Earth. Almost 90 percent (16 of the 18) of the scheduled trips were educational field trips, benefiting 275 students. Two trips were agency functions.

**Forever Earth Bookings – Year 2, 4<sup>th</sup> Quarter**

<b>Date(s)</b>	<b>Group</b>	<b>Group Type</b>	<b>Trip Purpose</b>	<b>Length of Trip</b>	<b># of Adults</b>	<b># of Students</b>	<b>Total Pass.</b>
March 11	Project WET	Education	Teacher workshop	7.5 hrs.	15		15
April 7	CLASS Publications	Agency	Publicity photo shoot	3 hrs.	4	3	7
April 11	Spring Mountain Youth Camp	Education	Outdoor World event -- PLI	3.5 hrs.	4	10	14
April 20	Las Vegas Wash Coord. Committee	Agency	Explore education partnership w/Forever Earth program	4 hrs.	18		18
April 21	FE Curriculum Team	Education	Orientation/ Planning	5 hrs.	12		12
April 22	UNLV Geosciences Dept.	Education	Conference field trip	3 hrs.	14		14
May 5	Mabel Hoggard Elementary (5 <sup>th</sup> grade)	Education	Student field trip	4 hrs. (2 trips)	5 5	11 11	32
May 9	Foothill High School	Education	Student field trip	4.5 hrs.	2	17	19
May 11	Hyde Middle School (6 <sup>th</sup> grade)	Education	Student field trip	4.5 hrs. (3 trips)	5 4 5	20 18 19	71
May 12	Hyde Middle School (6 <sup>th</sup> grade)	Education	Student field trip	3 hrs. (2 trips)	3 3	22 22	50
May 15	Del Sol High School	Education	Student field trip	4 hrs.	4	7	11
May 18	Lunt Ele. (4 <sup>th</sup> grade)	Education	Student field trip	2.5 hrs.	4	21	25
May 19	Lunt Ele. (4 <sup>th</sup> grade)	Education	Student field trip	2.5 hrs.	4	21	25
May 20	Discover Mojave Outdoor World	Education	Outdoor World event - Art Adventure	3 hrs.	5	12	17
May 22	Lunt Ele. (5 <sup>th</sup> grade)	Education	Student field trip	2.5 hrs.	5	14	19
May 23	Lummis Ele. (5 <sup>th</sup> grade)	Education	Student field trip	3.5 hrs. (2 trips)	7 7	17 16	47
May 24	Lunt Ele. (4 <sup>th</sup> & 5 <sup>th</sup> grades)	Education	Student field trip	2.5 hrs.	6	14	20
May 26	Del Sol High School Science Teachers	Education	Teacher training/ workshop	4.5 hrs.	12		12

In March 2006, the Nevada Department of Environmental Protection sponsored a Project WET (Water Education for Teachers) workshop for Clark County School District (CCSD) teachers aboard Forever Earth. Daphne Sewing, Project Manager for the Forever Earth program, was one of the facilitators for the workshop. Workshop outcomes included content knowledge about the Colorado River watershed and examination of water management issues. Ms. Sewing also discussed the Discover Mojave Forever Earth program and the process for scheduling field trips.

Forever Earth was used on five occasions in April 2006. One of the trips included a Discover Mojave Outdoor World activity for 10 youth from Spring Mountain Youth Camp. The boys learned about Lake Mead and then participated in an Art Adventure. On April 20, the Las Vegas Wash Coordinating Committee met with Ms. Sewing on-board Forever Earth to plan the logistics for a May 5 field trip with Mabel Hoggard Elementary School. The annual field trip for Hoggard 5<sup>th</sup> graders focuses on exploring and learning about the Las Vegas Wash, and Forever Earth was to be included in the day's activities. The Coordinating Committee also used the opportunity to conduct their monthly staff meeting. On April 21, the Forever Earth curriculum writing team hosted several CCSD administrative staff members and interested others aboard Forever Earth. Several of the 5<sup>th</sup> and 6<sup>th</sup> grade activities were field tested, and ideas for the 7<sup>th</sup> grade activities were discussed. Forever Earth was also booked for a conference field trip by UNLV's Geosciences Department on April 22. Fourteen conference attendees were able to observe and learn about Lake Mead's geologic landscape during their time aboard Forever Earth.

During the month of May 2006, Forever Earth was used primarily for educational field trips. Several schools participated in multiple-day trips in order to provide the experience to all the students at a particular grade level, resulting in 275 students engaging in hands-on activities on Forever Earth. The following schools and grades participated in the Forever Earth program in May:

- Mabel Hoggard Elementary School – 5<sup>th</sup> grade (22 students)
- Foothill High School – High school science resource students (17 students)
- Hyde Park Middle School – 6<sup>th</sup> grade (101 students)
- Del Sol High School – High school ecology class (7 students)
- Lunt Elementary School – 4<sup>th</sup> and 5<sup>th</sup> grade (70 students)
- Lummis Elementary – 5<sup>th</sup> grade (33 students)

In addition to the schools listed above, a Discover Mojave Outdoor World event was conducted aboard Forever Earth on Saturday, May 20. This was the culminating event for eight members of the Paradise Professional Development Environmental Science Club. Sky McClain, National Park Service interpreter, accompanied the group along with four high school students from the Interagency Student Intake Program.

Forever Earth was also used for staff training by the Del Sol High School science teachers on May 26. Kay Rohde, Chief of Interpretation for Lake Mead National Recreation Area, and Ms. Sewing assisted Mike Brundage, group leader, in the day's activities.

### **Forever Earth Materials and Resources**

Curricula for fifth, sixth, and seventh grades were completed this quarter. The curricula include activities to be conducted aboard Forever Earth as well as pre- and post-trip activities. The fifth grade program focuses on the razorback sucker and other native Colorado River fish and why these species are endangered. The sixth grade program centers on the concept of invasive species and looks at the effects on Lake Mead if zebra mussels are introduced into the lake. Seventh

grade students will learn about the geologic processes of the past and present and how these processes define the landforms they see at Lake Mead. Activities are correlated to Nevada State Science Standards, CCSD Science Standards, and themes identified in the Southern Nevada Agency Partnership Conservation Education and Interpretation Strategy.

The Forever Earth curriculum writing team consisted of the following members:

- Daphne Sewing, Project Manager, Public Lands Institute
- Dr. Allison Brody, Public Lands Institute
- Dr. Jennell Miller, Public Lands Institute
- Ellen Anderson, Lake Mead National Recreation Area, National Park Service
- Dr. Mary Banbury, College of Education
- Cheryl Wagner, Clark County School District
- Mary Weisenmiller, Clark County School District

During the month of May, members of the writing team were able to field test the fifth grade and sixth grade activities with several groups. Adjustments and modifications were made to the activities based on interactions with students and feedback from teachers.

### **Marketing and Community Outreach**

A marketing plan for the Forever Earth program has been finalized (*see attached*). LaNelda Rolley, Marketing and Communications Specialist for the Public Lands Institute, presented the plan to the Interagency Conservation Education Team on April 4, 2006, for review and comment. Target audiences for marketing efforts include CCSD, private schools, home education organizations, agency researchers, and recreational visitors on Lake Mead.

The Forever Earth website was launched this quarter. An overview of the program is provided as well as the scheduling process for teachers, researchers, and other group leaders. A description of the curriculum, correlations to state science standards, and pre- and post-trip activities will be the next components added to the website.

A 1000-gallon fuel donation was contributed by Mr. Stan Snow, owner of Overland Petroleum Company, St. George, Utah. Alan O'Neill, Executive Director of the Outside Las Vegas Foundation, and John Schoppmann, Executive Vice President of Forever Resorts, were instrumental in obtaining this contribution. The fuel donation was used to assist schools using Forever Earth for field trips. To date, six CCSD schools completing 11 Forever Earth field trips have benefited from the contribution.

Ms. Sewing met with Sandra Harris, Las Vegas Wash Coordinating Committee, on March 9, 2006, to explore the possibility of using Forever Earth as part of the Committee's education efforts about the Las Vegas Wash. A planning meeting was held aboard Forever Earth on April 20 with additional members of the Coordinating Committee. Subsequently, Forever Earth was used as part of the Mabel Hoggard Elementary School field trip to study the Las Vegas Wash. Ms. Sewing assisted in facilitating the activities for 22 Hoggard 5<sup>th</sup> graders.

On March 29, Dick Sylwester, Senior Geophysicist with Golder Associates, Seattle, Washington, presented a seminar to geosciences students and faculty on the UNLV campus. The seminar focused on the Lake Mead geophysical surveys and lake-bottom mapping completed in October 2005.

On April 20, 2006, Ms. Sewing participated in Family Science Night at Bailey Middle School. The event was attended by more than 100 parents and students. Ms. Sewing facilitated activities about the Colorado River watershed and highlighted education opportunities provided by the Forever Earth program.

## **DISCOVER MOJAVE OUTDOOR WORLD**

### **Year 2 Events**

During the past quarter, 104 children participated in 12 events (*see attached*). Activities were offered on Saturdays and after school on weekdays. Four groups with the target demographic were involved:

- 1) 5<sup>th</sup> graders at Paradise Professional Development School participating in an after-school environmental science club.

Fifth grade students at Paradise Professional Development School were given the opportunity to apply for membership in the after-school Environmental Science Club. Presentations about the Discover Mojave Outdoor World program were made by Project Manager Daphne Sewing to more than 50 students in two sessions on March 17, 2006. Interested students applied for membership, and eight students were selected for participation. On Wednesday afternoons, beginning April 19, 2006, club members participated in two bird-watching activities; two fishing activities; a canoeing activity; and an art adventure activity. Two high school students participating in the Interagency Student Intake Program assisted group leaders at each event. A culminating program event was conducted on Saturday, May 20, 2006. Club members kayaked on Lake Mead before boarding Forever Earth and participating in an art adventure activity. Also invited for the day's activities were four high school students participating in the Interagency Student Intake Program. The students assisted the activity leaders and worked with the younger children throughout the day. Outside Las Vegas Foundation provided funds to purchase box lunches for participants.

- 2) Rural Recreation, a Clark County Parks and Community Services program that provides recreational programs and activities for children in outlying Clark County communities.

On March 25, 2006, 12 children from Indian Springs participating in the Rural Recreation program attended a fishing clinic held at Floyd Lamb State Park. The youth learned about fish and fish habitat, practiced two different types of casts, and fished in one of the park ponds.

- 3) RecMobile, a Clark County Parks and Community Services program that uses vans, called RecMobiles, to provide recreational programs and activities to children in at-risk Las Vegas neighborhoods.

- 4) Spring Mountain Youth Camp, a detention facility for teenage boys.

On April 11, 2006, 10 boys from Spring Mountain Youth Camp participated in a fishing activity at Saddle Cove on Lake Mead. The boys then took part in an art activity aboard Forever Earth after learning about Lake Mead and the history of the area.



**YEAR 2 Summary – Discover Mojave Outdoor World Program**

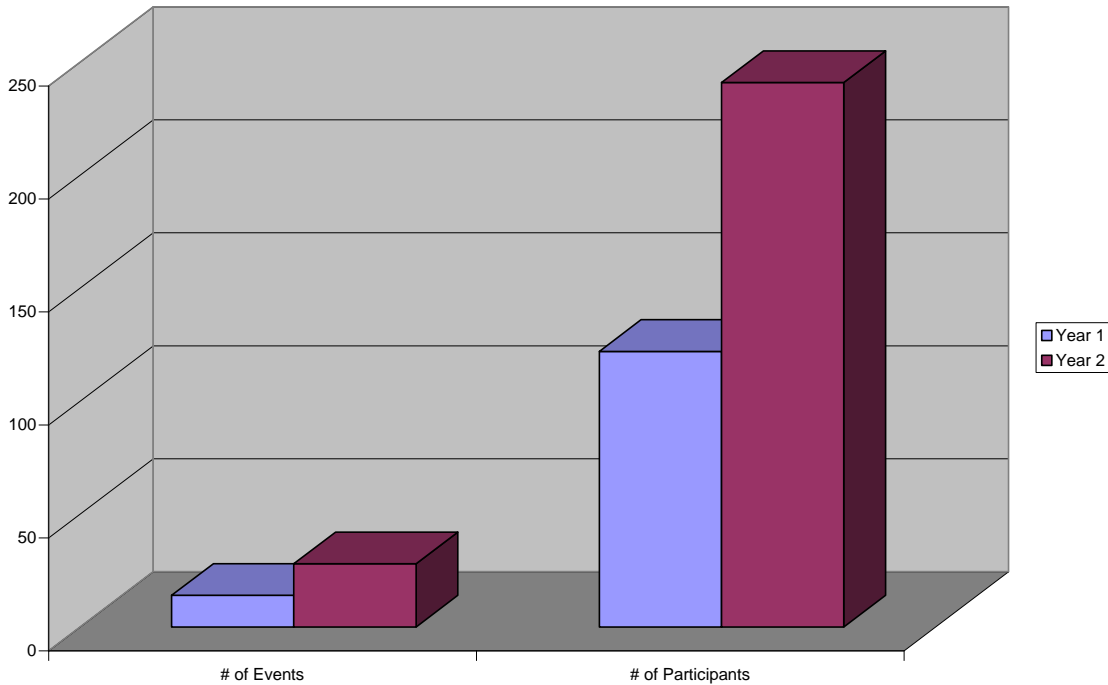
In Year 2, the first full year of operations for the Outdoor World program, 241 children participated in 28 events. The activities included bird watching (5 events); fishing (8 events); canoeing (4 events); kayaking (2 events); and art (9 events). The table below summarizes the events by quarter for Year 2.

**Year 2 Summary by Quarter**

<b>1ST Quarter (June 1 - Aug. 30, 2005)</b>	<b>2ND Quarter (Sept. 1 - Nov. 30, 2005)</b>	<b>3RD Quarter (Dec. 1, 2005 – Feb. 28, 2006)</b>	<b>4TH Quarter (March 1 - May 31, 2006)</b>	<b>TOTALS YEAR TWO</b>
4 activities	12 activities	0 activities	12 activities	<b>28 activities</b>
31 participants	106 participants	0 participants	104 participants	<b>241 participants</b>

To date, 375 Clark County youth have participated in 42 events over Years 1 and 2. The number of activities and participants for Year 1 and Year 2 are displayed below.

**Summary - Discover Mojave Outdoor World**



**Marketing, Partnerships, and Community Outreach**

Ms. Sewing and Dr. Allison Brody were invited to assist Paradise Professional Development School with its annual field day at Sunset Park for 2<sup>nd</sup> and 4<sup>th</sup> graders. Ms. Sewing and Dr. Brody taught 45 students the basics of bird-watching and viewing ethics.

## STATUS OF YEAR 2 DELIVERABLES – FOREVER EARTH & DISCOVER MOJAVE

Year Two Deliverables (June 2005 – May 2006)	Percent Complete as of May 31, 2006	Plan for Completion
Write curricula for Forever Earth and WOW/Discover Mojave	100percent complete.	Forever Earth curriculum activities for Grades 5 and 6 have been completed; activities for Grade 7 have been outlined.
Produce marketing plan for Forever Earth	100 percent complete.	Plan was reviewed by SNAP Conservation Education and Interpretation Team.
Coordinate Forever Earth uses according to operations plan	100 percent complete.	
Revise and update Forever Earth operations plan as needed.	100 percent complete.	
Manage Forever Earth lab; procure and maintain necessary supplies/equipment	100 percent complete.	
Record, preserve, and share data collected from vessel.	100 percent complete.	Data collected by Golder Associates and the National Park Service have been shared in a variety of ways.
Coordinate 10 southern Nevada WOW/Discover Mojave events.	280 percent complete.	28 events were completed in Year 2.
Operate Forever Earth according to the operations plan.	100 percent complete.	

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## EDUCATION IN THE ENVIRONMENT STRATEGY

### **Strategic Planning and Collaboration**

Sustainable Conservation Education and Interpretation (E&I) services and programs can be an important means by which SNAP can achieve its goals of community connection, resource protection, and complementary public use. To capitalize on the potential of Conservation E&I to benefit SNAP goals, and to help the interagency team achieve its vision that every resident and visitor will understand, appreciate, and take care of southern Nevada’s environment, the Conservation E&I team this quarter concentrated efforts in two areas. First, the team formalized a way of working together by creating a team charter. Second, Project Manager Allison Brody worked with the team to draft the Southern Nevada Agency Conservation Education and Interpretation Strategy. Details are described below.

Several meetings were held throughout the months of March and April 2006 to create the Conservation E&I team charter (*see attachment*). Goals were proposed, discussed and agreed upon during a team meeting held on April 4, 2006. SNAP Board Chair Stephanie Phillips and Executive Director Jennifer Haley facilitated this process. Team Lead Kay Rohde and Allison Brody met with the SNAP Board on April 18, 2006 (*see attachment*) to present a context for the work the SNAP Conservation E&I team proposes to do and how it proposes to do it. Some key input from the Board included the need for the team to be able to measure and show success in quantifiable terms. A final version of the charter was submitted to the Board and signed on May 12, 2006.

Additional team meetings were held on April 24, 2006, and May 22, 2006 (*see attached notes*) to provide key components of the second phase of the draft Southern Nevada Agency Partnership Conservation Education and Interpretation Strategy. During the course of these team meetings, four strategic issues emerged that need to be addressed in order to attain the team's goals. In all, the strategy documents the current achievements of Conservation E&I programs while providing concrete and actionable goals and the strategies to solve the key issues (*see attached draft strategic plan*).

As outlined in the Strategy, the Conservation E&I team's goals are to:

1. Foster environmental stewardship in southern Nevada.
  - a. Common messages are used by cooperating agencies and area-wide educators and trainers.
  - b. Collaborative planning and projects are happening.
  - c. Programs use best education and interpretation practices for each of our audiences.
2. Develop and maintain a workforce with exemplary skills and knowledge of Education & Interpretive (E&I) practices, as well as knowledge about natural, historical, and cultural resources.
3. Develop and implement assessment and evaluation of program effectiveness.

*Strategic Issue: SNAP Conservation E&I team defines, measures and shares success.*
4. EE efforts have mutual benefits for SNAP and individual federal agencies.

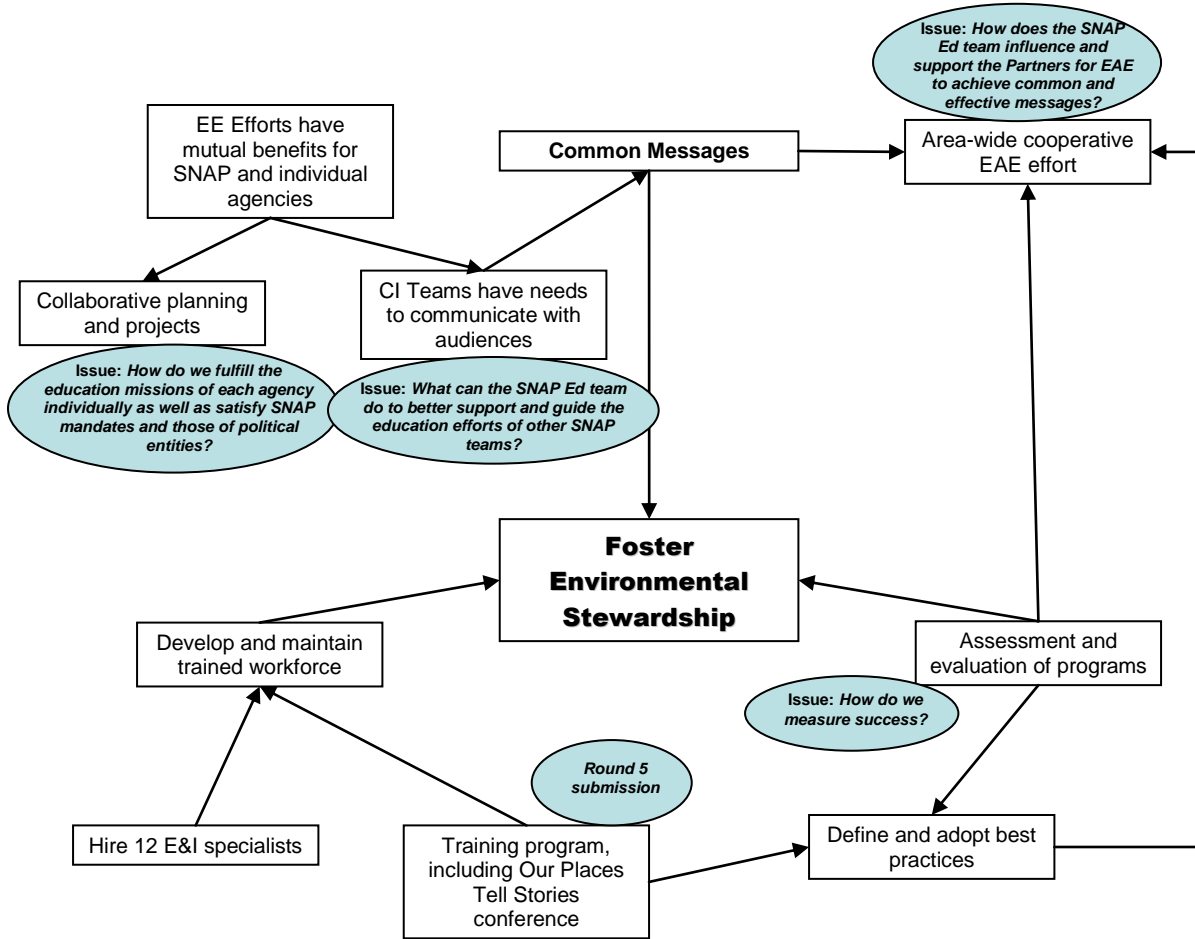
*Strategic Issue: How does the SNAP Conservation Education team support and guide the education efforts of other SNAP teams?*

*Strategic Issue: How do we fulfill the education missions of each agency individually as well as satisfy SNAP mandates and those of political entities?*
5. Maintain and participate in an area-wide cooperative E&I effort.

*Strategic Issue: How does the SNAP Conservation Education team influence and support the cooperative partnerships to achieve common and effective messages?*

The relationship among these goals, and the strategic issues associated with them, are displayed in the following diagram.

**Diagram of Goals and Strategic Issues for SNAP CE&I Team**



This quarter, the Conservation E&I team made progress toward several of the goals. For example, Goal 2 emphasizes the importance of training Conservation E&I staffs to build exemplary skills and knowledge of Conservation E&I practices, as well as knowledge about natural, historical, and cultural resources. The approved Round 5 nomination titled “Take Pride in America in southern Nevada – Increasing community understanding of our public lands and providing place-based learning opportunities for improved student achievement” calls for implementation of a project titled “Teachers Toolbox,” which is designed to provide the curriculum and delivery of expanded teacher workshop offerings and field trips for Southern Nevada schoolchildren. As the Interagency Environmental Education Team began to discuss the implementation of a pending task agreement for this Round 5 initiative, discussion centered around the need, first, for adequate training of staff who are providing Education and Interpretive (E&I) services within the four federal land agencies. The team believes it will be premature to add new teacher workshops without focusing initially on staff training, particularly in light of the addition of 12 new interpretive specialists through Round 5 SNPLMA funding. Second, the team agrees that evaluation and assessment of current E&I offerings will also be a critical component. Having assessment data available prior to the implementation of future expanded teacher workshop offerings will ensure that the design of these workshops is relevant and targeted to the needs of the agencies and schoolteachers. As a result, the Conservation E&I team is in process of

submitting a modification which proposes to replace the Teachers Toolbox project with a project titled Interagency Conservation Education & Interpretation Training Program.

Goal 5 is another goal the team has made progress toward this quarter. The Conservation E&I team continues to work with a cooperative partnership of area-wide place-based educators, Partners for Education about the Environment (formerly known as the Outside Las Vegas Foundation Environmental Education Committee). This group functions as a cooperative network of place-based educators that will help guide and implement the team's strategic goals.

Of critical importance is the idea of creating and using common messages, thus helping the federal agencies increase the public value of Conservation E&I programs. Several tools are being employed to accomplish this partnership, including a bi-monthly listserve, which was launched in February 2006 (*see attached notes from these listings*). Following a survey of participants, it was decided to move meeting times to a bi-monthly basis on the third Friday of every other month. A meeting was held on March 8, 2006, to demonstrate and get feedback for the searchable database called the Teacher Field Trip Resource Guide. This database, housed on a new website, will be functional by the end of June 2006. The next partnership meeting is scheduled June 16, 2006.

Project Manager Allison Brody has also been networking with other place-based education organizations, attending CHOLLA meetings, and working on program initiatives with the Nevada Natural Resource Education Council. Additionally, Dr. Brody attended the Association for Environmental and Outdoor Education annual in Malibu, Calif., April 28-30, 2006, to discover methods, strategies, and lessons learned for developing an area-wide strategic collaboration. (<http://www.aeoe.org/conference/spring/2006/workshops/index.html>).

### **Survey of Clark County School District Teachers**

As noted in the last quarterly report, a survey has been launched to investigate the use of public lands as field trip destinations by CCSD teachers. Project Manager Allison Brody worked with staff from the K-12 Math, Science & Instructional Technology department of the CCSD Curriculum and Professional Development division to obtain surveys from 52 teachers.

The majority of the teachers that have participated in the survey teach in the upper grade levels (see Table 1). This provides results that are minimally useful, as the primary field trip audience for the interagency education team is grades 3-5. Among other issues, middle and high school teachers tend to be responsible for entire grade levels when they go on field trips (see Table 2) rather than single classes. This limits the type of field trip experience the federal agencies can provide.

**Table 1 – Field Trip Survey Results**

<b>GRADE LEVEL TAUGHT</b>	<b>NUMBER OF TEACHERS RESPONDING</b>
<b>ELEMENTARY</b>	12
<b>MIDDLE SCHOOL</b>	15
<b>HIGH SCHOOL</b>	20
<b>ALL</b>	5
<b>TOTAL</b>	52

**Table 2: Number of students, on average, a teacher must plan for**

<b>NO. TEACHERS RESPONDING</b>	<b>NUMBER OF STUDENTS TO PLAN FOR A FIELD TRIP</b>
<b>25</b>	<b>50 STUDENTS OR FEWER</b>
<b>25</b>	<b>51-200 STUDENTS</b>
<b>4</b>	<b>GREATER THAN 200</b>
<b>AVERAGE</b>	<b>100</b>

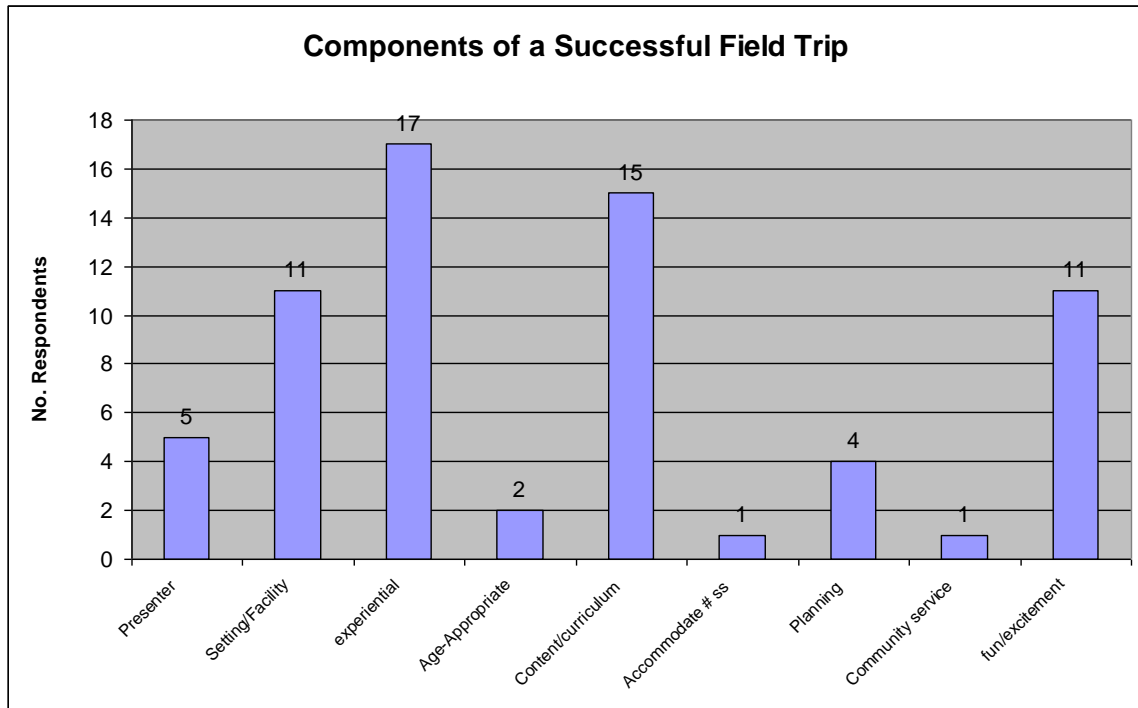
As shown in Table 3, most teachers surveyed take one or fewer field trips per year. This is probably due to two primary factors: 1) the large numbers of students each teacher is responsible for; and 2) the No Child Left Behind Act. One by-product of this legislation is the emphasis that schools place on testing, especially in the subjects of English and Math. This directly affects how teachers and administrators make choices about field trips and other informal learning experiences.

**Table 3: Number of field trips, on average, a teacher takes per year**

<b>NO. TEACHERS RESPONDING</b>	<b>HOW MANY FIELD TRIPS PER YEAR?</b>
<b>21</b>	<b>0</b>
<b>19</b>	<b>1</b>
<b>12</b>	<b>2-3</b>
<b>1</b>	<b>4-5</b>

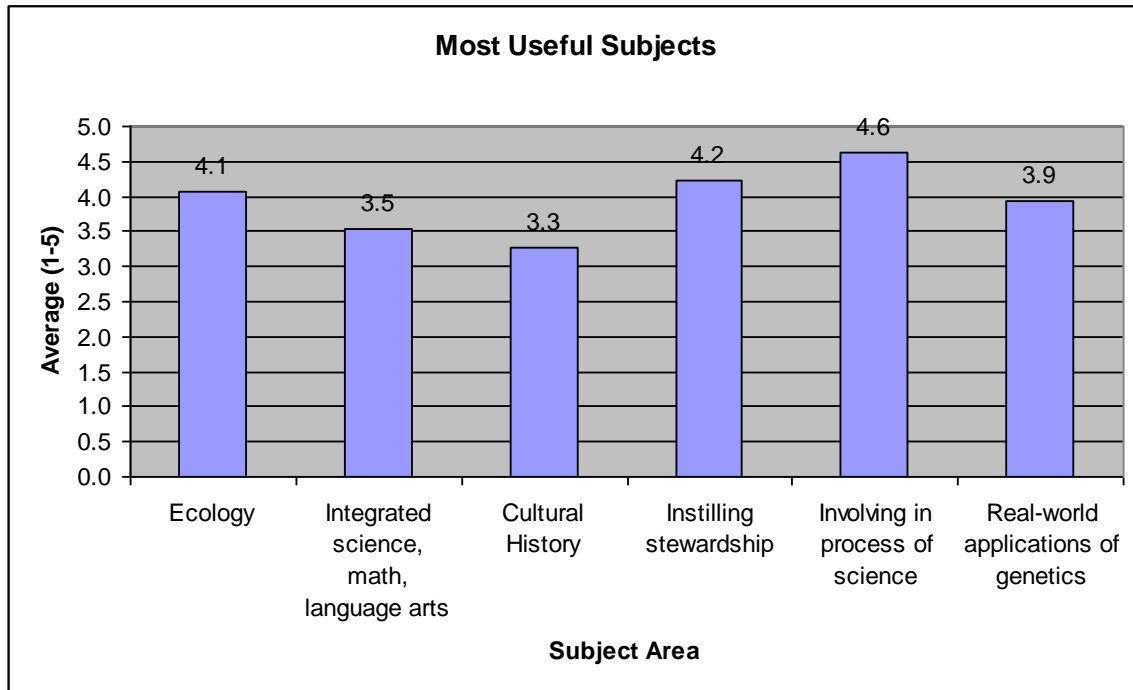
Teachers were asked to reflect on past field trip experiences and to identify exactly what components make a successful field trip (Figure 2, next page). Three primary success factors emerged: the experiential nature of the trip; the content related during the course of the trip; and the level of fun and excitement provided by the trip.

**FIGURE 2**



A major goal of the survey was to discover program components that will be most useful and desirable for teachers that the interagency team can incorporate into Conservation E&I programs. When asked the most useful subject for a field trip program, teachers ranked the desire to involve their students in the process of science highest (avg. 4.6 out of a 5-point Likert scale). The second most desired component is to use the field trip experience to instill a sense of stewardship (Figure 3, next page). The latter is good news for the federal agencies, as this precisely aligns with the Conservation E&I team’s number one goal to foster environmental stewardship in southern Nevada.

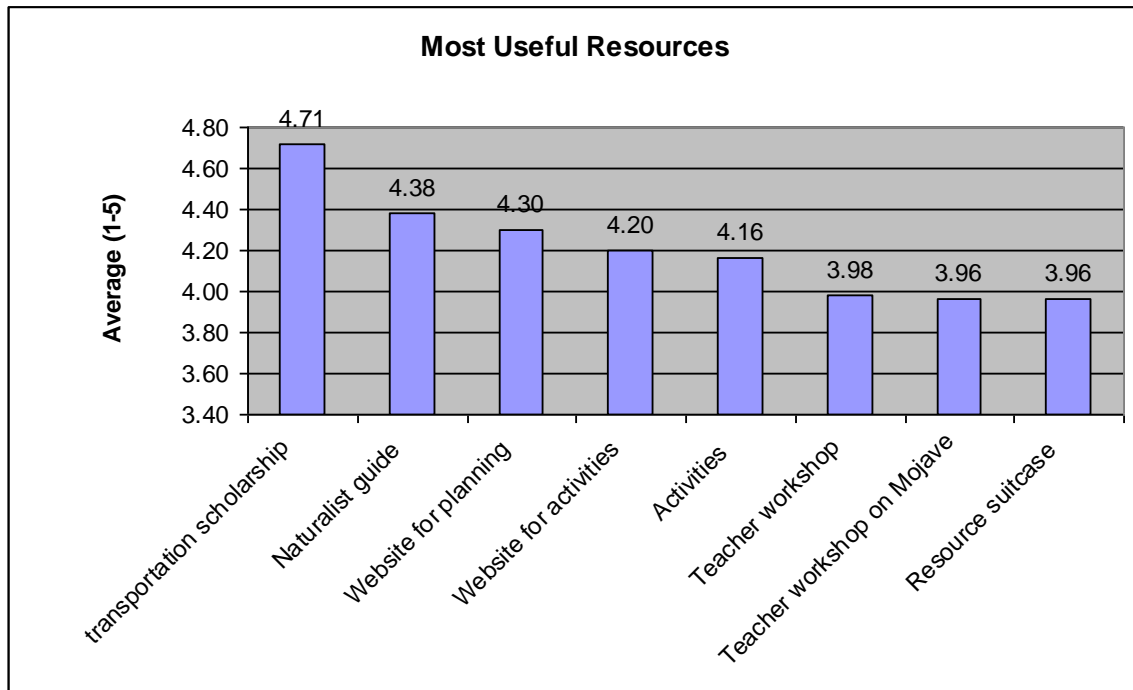
**FIGURE 3**



The results shown in Figure 4 indicate that one of the most important barriers the Conservation E&I team can address is to provide transportation scholarships. Importantly, these scholarships will be allowed through submissions in Round 5. An in-depth study of transportation issues has also been proposed for Round 5, enabling the interagency team to determine long-lasting solutions to this issue.



**FIGURE 4**



### **Place-based Education Master's Degree**

Program Manager Allison Brody has been working with a variety of individuals, including place-based education stakeholders and personnel from UNLV, to create a program concentration in place-based or informal science education at the master's degree level. This concentration will help sustain the Education Strategy by creating a new pipeline of skilled educators who can deliver innovative and effective place-based education programs.

A curricular framework has been created (*see attached*). This includes existing courses that are currently being offered by a variety of UNLV departments as well as new courses that need to be developed. Allison Brody is working closely with the Department of Curriculum and Instruction in the College of Education to approve this emphasis program. Primary contacts there include Dr. Emily Lin, Assistant Professor, and Dr. Marilyn Ford, Assistant Department Chair. As well, Dr. David Hassenzahl, Assistant Professor for Environmental Studies, will help develop several courses.

### **Support of Other Conservation Initiative Efforts**

As detailed in the Strategy, the Conservation E&I team will continue to work with other SNAP teams to support and guide education efforts. Project Manager Allison Brody facilitated a meeting with the Interagency Resource Protection Team on March 28, 2006, to discuss the creation of a law enforcement brochure. During the course of this meeting, it was determined that a brochure will not meet the team's needs. This is a successful outcome, as otherwise the team would have completed a brochure that would not have been the best use of time, resources, and money.

During February and March 2006, Allison Brody also facilitated three community stakeholder meetings for the Interagency Anti-Litter Team as part of the process for developing an area-wide strategic plan to reduce dumping and littering. During the course of these meetings, stakeholders

suggested major goals that need to be addressed in order to solve the litter and dumping problems in southern Nevada. The group also listed potential strategies and actions to achieve these goals.

**Community Outreach**

During the past quarter, Allison Brody provided support and help to Exhibit Design Associates (EDA), contracted by the U.S. Forest Service to create the interpretive plan for the Middle Kyle Canyon complex. Dr. Brody shared information, expertise, and advice with EDA to ensure its work is consistent with the Strategy. She also co-facilitated a stakeholder meeting on March 31 and participated in another meeting on May 18, 2006.

**SUMMARY OF YEAR 2 DELIVERABLES – EE STRATEGY**

<b>Year Two Deliverables (June 2005 – May 2006)</b>	<b>Percent Complete as of May 31, 2006</b>	<b>Plan for Completion</b>
Develop a five-year strategic plan to include, but not limited to, goals, objectives and desired future conditions, which becomes Section II of the area-wide Outdoor Environmental Education Strategy.	Draft plan 100% complete	Team members will review and modify draft plan during two planning meetings in June and July, 2006. Implementation plan will be developed for Strategic Issues and additional objectives that emerge through the process.

Submitted by:

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Margaret N. Rees  
Principal Investigator

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May 31, 2006  
Date