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Education in the Environment: A Hands-on Student Research and Outdoor Learning Experience: Final Project Report

Environmental Education Strategy for Nevada

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FINAL PROJECT REPORT

Education in the Environment: A Hands-on Student Research and Outdoor Learning Experience

Cooperative Agreement Number H8R07010001
Task Agreement Number J8R07040005

May 31, 2007
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Education in the Environment: A Hands-on Student Research and Outdoor Learning Experience was funded by the Southern Nevada Public Land Management Act and implemented by the Public Lands Institute at the University of Nevada, Las Vegas on behalf of and in cooperation with the Bureau of Land Management, National Park Service, U.S. Fish & Wildlife Service, and U.S. Forest Service.
EXECUTIVE SUMMARY AND
CONCISE STATEMENT OF ACCOMPLISHMENTS

**Education in the Environment: A Hands-on Student Research and Outdoor Learning Experience** is a Round 4 Southern Nevada Public Land Management Act (SNPLMA)-funded project implemented by the University of Nevada, Las Vegas Public Lands Institute on behalf of and in cooperation with four Federal agencies in Southern Nevada. This project consisted of three components: (1) an Interagency Conservation Education and Interpretation Strategy; (2) Discover Mojave Forever Earth, an environmental laboratory and learning center; and (3) Southern Nevada Discover Mojave Outdoor World program. The following results were achieved:

**Interagency Conservation Education and Interpretation Strategy**

- Developed a Conservation Education and Interpretation (CE&I) Strategy, which includes the following components:
  - Assessment of Existing Agency Programs
  - Analysis of Program Gaps
  - Identification of Best Practices Standards
  - Strategic Priorities
  - Implementation Plan

- Created and conducted the following as off-shoots of the CE&I Strategy:
  - Survey of Clark County School District teachers on use of public lands for field trips
  - Environedexchange.org Web site, an on-line field trip resource guide
  - Education about the Environment Educators’ Listserv
  - *Our Places Tell Stories* Professional Conference
  - Best Practices Summary Series
  - Nevada Certification Program for Environmental Education and Interpretation (conceptualization and initiation)

- Designed, developed, and field tested an Off-Highway Vehicle Responsible Recreation curriculum for the Clark County School District (CCSD) high school driver education classes.

- Conceptualized and initiated diversity initiatives to improve communication with ethnic audiences and improve their connection to the public lands.

- Built and maintained relationships with the educational community through meetings, community outreach presentations, implementation of specialized trainings and conferences, and resource sharing.
Discover Mojave Forever Earth Program

- Developed Discover Mojave Forever Earth operations to include Standard Operating Procedures (SOP), a marketing plan, scheduling database, and Web site.

- Designed and developed Discover Mojave Forever Earth programming to include:
  - Grades 4-7 curriculum encompassing pre-trip, on-site, and post-trip activities, associated materials, and facilitator’s guide
  - High school-level programming framework
  - Curricular Assessment

- Implemented the Discover Mojave Forever Earth program to benefit more than 3,000 students, teachers, researchers, agency personnel, and others.

- Raised funds and donations totaling approximately $7,500 to enhance the program.

- Built and maintained relationships with the public through outreach activities at community events; implemented timely response to inquiries through telephone, electronic, and mail correspondence; and in-person pre-trip visits to participating schools.

- Built and maintained relationships with the educational community through inclusion of CCSD staff in the development of curriculum and formal co-presentation of the project at national professional conferences.

Southern Nevada Discover Mojave Outdoor World

- Designed, developed, and assessed Discover Mojave Outdoor World Programming to include six curriculum modules (1) Wild Bird Safari; (2) Fun with Fishing; (3) Kids in Kayaks; (4) Cool Canoeing; (5) Adventures in Art; and (6) Rock Climbing.

- Implemented the Discover Mojave Outdoor World program to benefit more than 150 underserved children in Clark County.

- Created an informational Web site.

- Built and maintained relationships through inclusion of Nevada State agency personnel in the delivery of the program; integration of school and after-school groups; initiation of partnerships with national after-school programs; participation in outreach activities at community events; and formal presentation of the program at national professional conferences.
Red Rock Desert Learning Center

- Contributed to “Curricular Development for a Desert Learning Center,” which was delivered in December 2006 as part of a SNPLMA Capital Improvement Project.

BACKGROUND AND HISTORY

Four Southern Nevada Federal land management agencies—Bureau of Land Management (BLM), National Park Service (NPS), U.S. Fish and Wildlife Service (USFWS), and U.S. Forest Service (USFS)—manage more than seven million acres in Southern Nevada. Since 1999, these agencies have been working together to develop collaborative programs and projects that enhance services to the public, improve the stewardship of the Federal lands, and increase the efficiency and effectiveness of their management activities.

Outdoor education is one of the highest priority focus areas identified by the four Federal land management agencies. Specifically, the need for conservation education and interpretation is particularly acute in Clark County. Las Vegas has experienced explosive growth in the past 25 years, growing by 83.5% between 1990 and 2000. Such dramatic growth has impacted public lands to the degree that many Las Vegas residents have neither an understanding of the national environment that surrounds the city, nor do they have a sense of responsibility for its condition. Continual increases in litter, desert dumping, graffiti, and the destruction of cultural and natural resources illustrate this lack of understanding and responsibility.

In 2002, the Interagency Conservation Education and Interpretation (CE&I) Team, educators from other place-based education organizations, and community partners formed a working group originally called the Outside Las Vegas Environmental Education Committee (OLVEE Committee). The OLVEE Committee later became known as Partners for Education about the Environment (Partners for EAE). This group continues to meet on a regular basis. In 2004, the four Federal agencies co-nominated a project to support joint CE&I efforts with Southern Nevada Public Land Management funding in the Conservation Initiatives category. Following Secretary of the Interior approval of the nomination, the National Park Service, which serves as the Lead Agency on the project, entered into a Great Basin Cooperative Ecosystems Study Unit (GBCESU) cooperative agreement with the University of Nevada, Las Vegas (UNLV). UNLV’s Public Lands Institute administered the project and hired Program Managers and associated staff to implement it.

An area-wide SNAP CE&I strategy was originally identified as a tool that would help the four Federal agencies make decisions about individual agency CE&I programming and services, and standardize messages about stewardship of the public lands.

Concomitant with strategy creation, the project also provided for the immediate operational, programmatic, and curricular development for three on-the-ground programs. The first was

Discover Mojave Forever Earth, a floating environmental laboratory and learning center at Lake Mead National Recreation Area. The second was Discover Mojave Outdoor World (formerly known as Wonderful Outdoor World on the Water), a unique program that introduces at-risk urban youth (ages 8-10) to outdoor recreational experiences. The third was the Red Rock Desert Learning Center (formerly known as the Oliver Ranch Science School), which was meant to serve as a residential learning center primarily for fifth graders. The first two programs were to be designed, developed, and implemented during the course of this task agreement. Only curricular development was specified for the Red Rock Desert Learning Center. “Curriculum for a Desert Learning Center” was delivered in final form in 2006 as a product of a SNPLMA Capital Improvement Project.

Additional background and history for the programming activities that occurred as part of this project are provided at the beginning of their own sections.

**PRODUCTS**
Bulleted items, indicated throughout this document with the ► symbol will be included in the 3-Year *Education in the Environment* Compilation Volumes, which will be delivered to the agencies on or before August 29, 2007.

**EDUCATION ABOUT THE ENVIRONMENT**

**Detailed Accomplishments: SNAP Conservation Education and Interpretation (CE&I) Strategy**

**SNAP CE&I Strategy Development**
To begin to create an effective SNAP CE&I Strategy, it was necessary first to assess existing agency programs, identify gaps in programming, and identify standards based on best practices. Each component that led to strategy creation is described briefly below.

**Assessment of Existing Agency Programs**
Partners for Education about the Environment, (Partners for EAE), is a community-based committee that includes representatives from Federal agencies and community members who are interested in education about the environment. Partners for EAE recognized that by communicating key messages to shared audiences the strategic cooperative could build upon and reinforce learning experiences throughout Southern Nevada. Thus, four general overarching themes were articulated to reflect distinct aspects of the inherent value of the public lands in Southern Nevada. These statements were envisioned to serve as the common thematic basis for both interagency and individual CE&I programs. It was hoped that Partners for EAE non-agency members would also adopt the themes for future programmatic development. Also
identified were four target audiences and an array of educational programming prescriptions. A Matrix of Desired Future Area-wide Education Programming was created to organize programming by theme and audience.

The Program Manager surveyed and compared existing agency program offerings to the Matrix of Desired Future Area-Wide Educational Programming and summarized the results within a Matrix of Current Programs and Experiences. These two documents are included within the SNAP CE&I Strategy.

► Document: Matrix of Current Programs and Experiences

**Identification of Program Gaps**
A survey instrument was created and distributed, in spring and summer of 2005, to Federal agencies, museums, zoos, aquariums, state parks, and others to identify gaps and areas of overlap in existing programs. In all, 31 educational institutions were contacted and asked to analyze their programs by filling out a program-analysis sheet. A total of 24 organizations participated.

The data from these surveys were entered into a database and analyzed by comparing all programs by venue, program type, audience, materials/resources given, program goals, delivery methods, and matrix themes. Programs were correlated with the Matrix of Desired Future Programs. Analysis showed that numerous programs prescribed by the Matrix were not currently being offered. Examples include informational placemats, television spots and programming, training for tour industry staff, targeted media to reach various ethnic groups, slides/shows at movie theaters, traveling exhibits, workshops for county/city/state-elected officials, media “campouts,” and others. Furthermore, only a handful of CE&I programs is being delivered to “Ethnic Populations” and “Business/Agency Staff” audiences (0 to ethnic audiences; 5% to businesses), which are two of the four priority target audiences.

In addition, the analysis revealed the following limitations to conducting an area-wide, multi-organization, gap-analysis study:

- There is a large range in organizational structures and approaches taken to CE&I.
- The lack of a common language emerged; different organizations interpreted questions in different ways.
- Many programs have multiple goals and meet multiple themes.

► Report: Conservation Education and Interpretation Program Gap Analysis

**Assessment of Program Delivery and Best Practices**
The survey (described above) also included questions designed to provide information about who creates and delivers CE&I experiences for each organization.
 Volunteers created about 11% of Southern Nevada’s CE&I programs, while Federal staff created about 32%, and non-Federal staff created about 57% of these programs.

 Volunteers delivered about 24% of all CE&I programs, while Federal staff delivered about 28% and non-Federal staff delivered about 49%.

In regard to Federal agencies, BLM utilizes both volunteers and a contract interpretive association, while NPS utilizes both Federal staff and relies upon other resources, including nationally funded volunteer programs, such as the Student Conservation Association, to create and deliver programs.

The advantages and disadvantages of having volunteers or contract organizations create a program are numerous. An obvious advantage is savings in salary and overhead cost. These savings, however, are realized only if the CE&I experience effectively meets both the needs of the organization and of the audience. Without a well-trained volunteer force that has extensive support, continuous feedback, and positive oversight, savings may be realized but the delivery might not be effective or even a positive experience for the audience.

Valid assessment of program delivery can occur only if agreed-upon standards of best practices are in place. Therefore, before a program delivery assessment could take place, these standards for best practices had to be established. A team of CE&I professionals from across Nevada was assembled to create “Standards of Best Practices for Nevada Environmental Education and Interpretation Professionals.” These standards will also form the basis of the Nevada Certification Program for Environmental Education and Interpretation.

Report: Standards of Best Practices for Nevada Environmental Education and Interpretation Professionals

**SNAP Conservation Education and Interpretation (CE&I) Strategy**

With the support of SNAP, the *Southern Nevada Agency Partnership Conservation Education and Interpretation Strategy* was developed. The document provides recommendations for the best ways to achieve strategic goals and provide desired educational experiences through CE&I products and services such as programs, interpretive media, activities, facilities, and curricula. Specific topic areas covered within the strategy include:

- Introduction, Background, and Rationale
- Program Definitions
- Agency Initiatives and Mandates
- Audience Profiles
- Agency Resources and Programs
- Interpretive Themes
- Gap Analysis
A mission, vision, and goals were created to focus the direction of strategy development.

**Mission**
Through a cooperative effort and a world class approach to interpretation and environmental education, we influence the way people interact with the environment.

**Vision**
Every resident and visitor will understand, appreciate, and take care of southern Nevada’s environment.

**Five Year Goals**
- Foster environmental stewardship in Southern Nevada through CE&I efforts
- Develop and maintain a workforce with exemplary skills and knowledge of CE&I best practices, as well as knowledge about natural, historical, and cultural resources
- Develop standards and assess CE&I efforts
- Promote CE&I efforts that have mutual benefits for SNAP and individual Federal agencies
- Maintain and participate in an area-wide cooperative CE&I effort

The five-year goals reflect the desire of the SNAP Board of Directors and agency CE&I staff to improve upon existing CE&I efforts by adopting best practices, participating in training, and evaluating outcomes. Accomplishing these goals will effectively professionalize and standardize SNAP CE&I, and increase its value to the public it serves. To this end, the SNAP CE&I Strategy recommends the following actions:

- Compare agency CE&I efforts to the documents “Matrix of Desired Future Programs” and “Universal Themes with Experiential Goals” to identify gaps and needs, and to focus agency priorities and point to appropriate desired outcomes.

- Develop successful procedures to systematically identify, create, manage, communicate, and share messages about public lands across (and beyond) agency boundaries.

- Maintain and participate in area-wide cooperative CE&I efforts to leverage resources, share messages, and improve learner-centered Education about the Environment; coordinate and implement area-wide trainings, including the Our Places Tell Stories conference.
• Prioritize the creation of CE&I products, services, and messages to business and ethnic audiences.

• Assess CE&I programs for effectiveness in achieving desired outcomes; continuing relevance of objectives and delivery methods; value; and overall impact on resource protection.

• Adopt the Standards of Best Practices for Nevada EE&I Professionals established by the Nevada Certification Program for Environmental Education and Interpretation. Establish and support processes, such as the Nevada Certification Program for Environmental Education and Interpretation, for assessing delivery methods while tracking and maintaining skill levels of internal agency CE&I staff (above and beyond initial training).

• Establish and support processes, such as the Nevada Certification Program for Environmental Education and Interpretation, for managing external contractors/CE&I providers.

Document: Southern Nevada Agency Partnership Conservation Education and Interpretation Strategy

Changing Priorities and Emerging Tasks
The original tasks as identified within the Conservation Initiative and Great Basin Cooperative Ecosystem Studies Unit (GBCESU) Task Agreement were based upon assumptions and priorities that changed over time. The following impressions became evident over the course of this project:

While NPS and BLM oversee well-developed CE&I programs, two of the four Federal agencies (USFS and USFWS) currently lack formal CE&I programs.

CE&I planning is primarily driven by agency goals and specific audience needs, and secondarily by gaps in area-wide program offerings. As such, an over-arching interagency CE&I Strategy would be less valuable than development of individual CE&I plans by each agency.

It was not clear to agency CE&I staff what the functional outcome of the CE&I Strategy should be. Although the team agreed that an outcome of “coordinated messages” would be desirable, it was not clear to the team how to determine what these specific messages should be or how to achieve them.

In light of the above, SNAP leadership made the decision in October 2006 to suspend the Interagency CE&I Team and make the PLI Program Manager responsible for producing CE&I products and programs in the following four focus areas: Appropriate Off-Highway Vehicle
Use, Restoration, Don’t Trash Nevada, and Wilderness. Additionally, the task agreement was modified at the request of the SNAP Board to include the following tasks, which were to be developed in conjunction with the SNAP CE&I Strategy:

- Understand CCSD needs pertaining to field trips to public lands.
- Foster best practices through shared resources (e.g., listserv, Web site), meetings, workshops, conferences, and a Nevada Certificate Program for Environmental.
- Education and Interpretation, with standards for CE&I professionals in the state of Nevada.
- Develop an Off-Highway Vehicle (OHV) Responsible Recreation curriculum for CCSD high school drivers’ education.
- Initiate diversity initiatives to improve communication with ethnic audiences.

Some of the above tasks were logical offshoots of the SNAP CE&I Strategy. Others were on-the-ground programming determined to be critically needed.

**Understanding the Needs of the Clark County School District Teachers**

A survey instrument was designed to determine what types of science and cultural programming would be most useful to Clark County School District (CCSD) teachers, how to structure and deliver this programming, how teachers use field trips with respect to academic and testing requirements, and how to best develop professional development opportunities. The survey, sponsored by the Clark County School District office of K-12 Math, Science and Instructional Technology, was delivered to Clark County School District teachers between October 2005 and June 2006. A total of 124 teachers participated in this survey.

The survey analysis pointed to specific recommendations for CE&I providers to meet the needs of this audience and address barriers that may be preventing teachers from taking field trips. These findings are summarized in a report titled “Clark County School District Attitudes, Perceptions, Barriers, and Desires for Field Trip Experiences.”

► Report: Clark County School District Attitudes, Perceptions, Barriers, and Desires for Field Trip Experiences

**Fostering Best Practices**

Leveraging resources through cooperative partnerships among those working at the Federal agencies, museums, aquaria, nature preserves, and other informal education institutions is the first step in fostering best practices. Area-wide CE&I providers share audiences, and therefore strategic collaborations among these providers help our collective audiences build upon their learning experiences, reinforcing them. These collaborations focus on activities to coordinate, collaborate, and approach CE&I efforts in strategic ways.
One such collaboration is Partners for Education about the Environment (Partners for EAE), which has been supported by agency CE&I staff since 2002. This partnership helps agency CE&I educators understand the relationship between educational offerings and the messages they give, while avoiding unnecessary duplication of programs and messages. The mission, vision, and goals of Partners for EAE are:

**Mission**
To strengthen collaborations and support integrated, effective environmental and heritage education efforts.

**Vision**
Every resident and visitor will understand, appreciate, and take care of Southern Nevada’s environment.

**Goals**
1. Develop and implement a strategy for sustainable EAE in Southern Nevada.
2. Foster environmental stewardship in Southern Nevada.
3. Maximize effectiveness of EAE efforts by coordinating support resources.
4. Improve skill and knowledge of providers of EAE.
5. Celebrate successes with the Southern Nevada community.

The tasks described below were initiated and will continue to be developed for and/or in cooperation with Partners for EAE.

*Enviroedexchange.org Web site, an on-line field trip resource guide*
Enviroedexchange.org is a Web site for teachers and CE&I providers, which was launched in August 2006. For teachers, the Web site offers a searchable Field Trip Resource Guide to help find the best field trip program for a specific grade level or to meet specific standards and/or subject. Cost, services available, and other criteria are also included. This easily accessible information helps teachers provide well-planned, structured field trips that can result in rich authentic learning experiences that excite and motivate students. The Web site includes information on fourteen CE&I organizations offering some thirty-four different learning adventures. For community CE&I providers, the Web site provides information from current and past EAEInterchange Listserv postings (see below). There have been 29,197 successful server requests and 5,401 successful page requests through May 15, 2007.

*Education About the Environment Interchange (EAE Interchange) Listserv*
A listserve is an electronic mailing list similar to, but with more functionality than the traditional e-mailing list. It typically includes a list of e-mail addresses, names of people ("subscribers") receiving mail at those addresses, the publications (e-mail messages) sent to those addresses, and a “reflector,” which is a single e-mail address that, when designated as the recipient of a message, will send a copy of that message to all of the subscribers. The EAE
Interchange Listserv addresses CE&I efforts in Southern Nevada. Subscribers include area educators. Each posting provides content in the following areas:

- Updates (e.g., upcoming trainings, meetings, events)
- Grant and funding opportunities
- Links to Web sites, resources
- Information on stakeholders, management, resources, programs, etc.
- Professional development, including literature reviews, training opportunities, Best Practices review series
- Employment and volunteer opportunities.

Our Places Tell Stories Professional Conference
Once educators make effective connections with their audiences, then children and adults will be inspired to understand, appreciate, and take care of Southern Nevada’s desert environment. This innovative conference for educators and others working at nature- and heritage-rich places was designed to increase and improve participants’ ability to make effective connections. It was held January 24-27, 2006, at UNLV. A total of 120 participants and presenters from Nevada, Arizona, Utah, California, Washington, and Idaho participated in conference sessions that examined the best methods for using tools such as exhibits, publications, Web sites, videos, guided hikes. The conference keynote speaker was Dr. Sam Ham, Director of the Center for International Training and Outreach and Professor of Communication Psychology in the University of Idaho’s Department of Conservation Social Sciences.

Materials: Our Places Tell Stories Conference Program and Proceedings

Off-Highway Vehicle Recreation Curriculum
The Program Manager assembled and led an interagency team of professionals to create a curriculum manual and activities titled “Explorations in Off-Highway Vehicle Recreation.” The manual was designed to be used by CCSD high school teachers, responsible for teaching driver education to approximately 20,000 sophomores during the 2006-2007 school year. The program was designed to spark interest in the Mojave Desert ecosystem, promote skills that will minimize the impact of OHV recreation, and encourage value of responsible recreation on public lands. This curriculum is an excellent example of targeted audience-centered education about the environment.

Program activities were piloted during three teacher workshops delivered during the summer of 2006. The workshops were designed to provide teachers with content knowledge and direction in facilitating the activities. Importantly, because teachers are not required to use this curriculum extension, the workshops allowed the facilitators to present a compelling case for inclusion of the Explorations in OHV Recreation curriculum in the driver education program. After each workshop, teachers completed questionnaires about the program and activities. Teachers gave constructive feedback for each activity, resulting in materials refinement over the course of the piloting program.
Although a majority of teachers reacted favorably to the curriculum and many indicated an intention to use it during the CCSD Driver Education course, there is evidence that only one teacher actually did use activities from the Explorations in OHV Recreation curriculum manual during the 2006-2007 school year.

► Explorations in Off-Highway Vehicle (OHV) Recreation Curriculum Manual and Supplemental CD

**Nevada State Certificate Program for Environmental Education and Interpretation**
Highly qualified environmental educators and interpreters in Southern Nevada should have the content knowledge, skills, and experience to deliver programs efficiently and effectively. Previously a standardized professional assessment in the area of environmental education and interpretation did not exist in Southern Nevada. The future Nevada Environmental Education and Interpretation Certificate (NEEIC) Program will fill this need. This program will foster the professional development of EE&I providers as individuals and elevate the Southern Nevada professional community of environmental educators and interpreters as a whole.

The NEEIC Program is being designed for those who have some experience in the field. The certification process will consist of two major components: structured coursework and a supervised internship with a certified mentor to demonstrate that he or she has the experience, knowledge, and skills required for certification.

The NEEIC Program is being developed by a diverse team of experienced environmental educators, interpreters, tourism professionals, and other representatives of the EE&I profession from across the state. This development team has created the guidelines, standards, and core competencies representing the specific knowledge and skills a certified environmental educator should possess. The NEEIC Program is on schedule to accept the first cohort of participants in winter 2008. This program will provide more qualified environmental educators to work or volunteer on public lands for both Federal agencies and contractors.

**Best Practices Review Series**
Partners for EAE has tasked a subcommittee with reviewing best practices in creating and delivering educational programs. Beginning Spring 2007, this subcommittee began producing a series of “Best Practices Reviews.” The series comprises brief documents that address topics pertinent to CE&I practices. Reviews produced in 2007 are *Age Appropriate Programs*, *Experiential Programs*, and *Multiple Intelligences*. Upcoming reviews include *Goals and Objectives*, *Decision-Making and Improvement*, and *Working with English Language Learners*.

► Best Practices Review Series: Age Appropriate Programs; Experiential Programs; Multiple Intelligences
**Diversity Initiatives**

The SNAP CE&I Strategy identified the need to develop CE&I efforts for ethnic audiences. In fact, effective connection with Hispanic audiences was noted as a priority by six SNAP Interagency Teams (Education, Law Enforcement, Recreation, Anti-Litter, Volunteer, and Public Affairs) as well as a number of community partners.

Two workshops exploring real-world multi-cultural issues within environmental education and interpretation were held in January 2007. The workshops were designed to provide a forum for CE&I professionals and others to examine the changes needed to work more effectively with this significant segment of the Southern Nevada community.

A working group known as Partners for Environmental Cultural Connectedness was formed to take steps to develop and deliver programs and services for Hispanic audiences. Collectively, this group seeks to communicate a sense of place and inter-connectedness – while fostering a sense of community, ownership, and belonging across cultures -- bridging values to benefit present and future generations. The committee developed the following mission and goals:

**Mission**
To foster a cross-cultural connection between the Southern Nevada community and their environment through education and outreach.

**Goals**
1. To promote respectful inclusion of Hispanic people in the nearby environment
2. To create a welcoming and inviting atmosphere
3. To increase effectiveness of education and outreach for Hispanic audiences

The first task of Partners for Environmental Connectedness will be to survey the Las Vegas Hispanic community to identify:

- interest in using public lands, museums, and natural places by this population;
- types of events and/or programs that would be most appropriate;
- messages that would engage and inspire this population;
- training content and methods to train staff in welcoming this audience.

Once CE&I products and services are successfully created for the Hispanic audience, the process will be repeated to create products and services for additional ethnic audiences.

**Future Recommendations for the SNAP CE&I Strategy**

CE&I is an important mechanism by which SNAP can achieve its goals of community connection, resource protection, and science and research. Round 6 SNPLMA Conservation Initiatives funding has already been approved for the continuation of this project.
The primary purpose of the Round 6 project is to provide community leadership, a strategic focus, ability to connect with diverse audiences, and standards of quality by which success can be measured. Specific objectives of CE&I program continuation are as follows:

- Implement CE&I projects, especially those directed to Hispanic and business audiences.
- Evaluate effectiveness and scope of CE&I projects.
- Maintain relationships and ensure strategic directions for area-wide cooperative CE&I efforts.

The CE&I Program Manager is in a position to understand and respond to the needs of a variety of CI teams. For example, the Restoration Team expressed a need for volunteers to help with projects. While the Get Outdoors Nevada/Interagency Volunteer Program has interested volunteers, it was clear that specialized training and educational materials would be required to fill these needs.

The result is the initial conceptualization of the Restoration, Education, and Volunteerism program (REV). It is recommended that this program continue, and that other such inter-team efforts are identified and developed to focus on Don’t Trash Nevada, appropriate off-highway vehicle use, and wilderness.
Discover Mojave Forever Earth Program

Background
Lake Mead, formed by the Hoover Dam, is part of the Colorado River system. It is the largest reservoir in the United States and is located about 30 miles southeast of Las Vegas, Nevada, between the states of Nevada and Arizona. Lake Mead is the primary water source for Southern Nevada communities and a major water source for California-based agriculture. Furthermore, three of America’s four desert ecosystems—the Mojave, the Great Basin, and the Sonoran deserts—converge within Lake Mead National Recreation Area (NRA). As a result, this seemingly barren area contains a surprising diversity of plants and animals, some of which are found nowhere else on earth. The significant water and other natural resources found within Lake Mead NRA provide extraordinary material for learning about science and the environment, in the environment.

The Forever Earth Program was brought about through the efforts of numerous partners including Forever Resorts, a division of Forever Living, LLC; the National Park Service, Lake Mead National Recreation Area; Outside Las Vegas Foundation; and UNLV’s Public Lands Institute. Forever Resorts donated the use of the Forever Earth houseboat for the purposes of education and research. John Schoppmann, Forever Resorts senior vice president of resort operations, recognized the opportunity to build public awareness about water quality issues at Lake Mead by providing hands-on science experiences. He was instrumental in developing a project approximately 10 years ago at Lake Powell in Arizona and Utah in which a houseboat was used in anti-litter strategies. Mr. Schoppmann worked with Fun Country Marine Industries, a division of Forever Living, LLC, to customize a houseboat and first donated its use to the Outside Las Vegas Foundation. In 2005, a formal written agreement was reached between Fun Country Marine Industries and UNLV’s Public Lands Institute to operate and manage the vessel for the purpose of enhancing outdoor environmental education efforts in Southern Nevada.

Throughout the development process, it was important to incorporate the organizational visions and missions of these key stakeholder groups. Table 1 on the next page demonstrates how the Discover Mojave Forever Earth program is aligned to address the missions and goals of the individual partners and cooperators.
<table>
<thead>
<tr>
<th>PARTNER/COOPERATOR</th>
<th>MISSION OR GOALS</th>
<th>FOREVER EARTH PROGRAM ALIGNMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clark County School District</td>
<td>The district’s mission states that students will have the knowledge, skills, attitudes, and ethics necessary to succeed academically and will practice responsible citizenship.</td>
<td>Forever Earth activities correlate with national, state, and school district science standards as well as other appropriate subject standards. Students are provided opportunities to practice problem-solving and higher level thinking skills through experiential science activities. Activities aboard Forever Earth complement traditional classroom studies by giving students real world learning experiences.</td>
</tr>
<tr>
<td>Forever Resorts</td>
<td>Corporate philosophy promotes the protection of the precious natural environments in which it operates as a high priority. Every Forever Resort property has earned the International Organization for Standards (ISO) 14001:2004 certification for environmental management systems to protect the environment.</td>
<td>The Forever Earth vessel has the latest “green” technology on board. Program participants are asked to recycle, conserve water and other materials, and exhibit other environmentally friendly behaviors. Programs highlight water conservation and protection of water quality and Lake Mead.</td>
</tr>
<tr>
<td>Lake Mead National Recreation Area, National Park Service</td>
<td>The National Park Service is dedicated to conserving, unimpaired, the natural and cultural resources and values of the National Park System for the enjoyment, education, and inspiration of this and future generations (National Park Service Mission, 1997 Strategic Plan, Washington, D.C.).</td>
<td>Participants learn about the importance of the lake and public land to the desert’s flora and fauna as well as to its human inhabitants.</td>
</tr>
<tr>
<td>Outside Las Vegas Foundation</td>
<td>The mission of the Outside Las Vegas Foundation is to connect people to the public lands surrounding Las Vegas.</td>
<td>Through the diversity of activities associated with the Forever Earth program, participants (adults as well as youth) are connected to the recreational, scenic, historic, scientific, and other important features of the Lake Mead area.</td>
</tr>
<tr>
<td>Partners for Education about the Environment</td>
<td>The vision for this collaborative group of informal educators states that “every resident and visitor will understand, appreciate, and take care of Southern Nevada’s environment.”</td>
<td>Participants in Forever Earth programs explore the Lake Mead aquatic environment and its interrelationships with the surrounding desert. Water conservation and protection of water quality and Lake Mead are also highlighted in experiential programs.</td>
</tr>
<tr>
<td>Public Lands Institute</td>
<td>The Public Lands Institute is committed to facilitating and conducting high quality research, education, and outreach that promotes greater stewardship of public lands.</td>
<td>Experiential programs for students promote increased knowledge about ecological principles, positive attitudes about science, and stewardship behaviors in regard to public lands. Forever Earth is also utilized by researchers and agencies that are responsible for Lake Mead’s water quality.</td>
</tr>
<tr>
<td>Southern Nevada Agency Partnership (SNAP)</td>
<td>SNAP works with one other, communities, and partners to conserve and enhance the Federal lands of Southern Nevada for current and future generations.</td>
<td>By their experiential nature, Forever Earth programs promote conservation and stewardship of public lands. The vessel is also available to researchers and agencies that are responsible for Lake Mead’s water quality and management.</td>
</tr>
<tr>
<td>University of Nevada, Las Vegas (UNLV)</td>
<td>UNLV’s mission is to assist students in meeting the intellectual and ethical challenges of responsible citizenship and a full and productive life through opportunities to acquire the knowledge and common experiences that enhance critical thinking.</td>
<td>UNLV faculty, staff, and students are involved in the Forever Earth program on many levels. Forever Earth is utilized for field trip purposes as well as for research and other educational uses.</td>
</tr>
</tbody>
</table>

Table 1 illustrates how partner missions or goals are aligned with the Discover Mojave Forever Earth Program.
Discover Mojave Forever Earth Implementation

Standard Operating Procedures
A number of administrative issues need to be resolved prior to implementation of the Discover Mojave Forever Earth Program. These were resolved in Year 1 and in the first quarter of Year 2 and included the following:

1. A signed cooperative agreement between Fun Country Marine Industries, Inc., the houseboat manufacturer for Forever Resorts, and UNLV. This agreement established the responsibilities of each party in the implementation of the program.

2. Risk management and health and safety issues were resolved so that hull insurance and protection and indemnity insurance could be purchased for Forever Earth. A marine survey of Forever Earth was also completed as a requirement of the insurance company.

3. Procedures for hiring qualified captains and deckhands were established, including finalizing legal documents relating to the Jones Act that serve as contract addendums.

Program activities and progress toward completing deliverables proceeded on schedule as these key issues were addressed and resolved.

The Forever Earth Vessel Standard Operating Procedures (SOP) provides detailed, written instructions to achieve operational uniformity, but is dynamic in nature. Future reviews and updates are necessary in order to ensure compliance with university and agency policy and programs, and to maximize efficiency as changes occur. The document, “Forever Earth Vessel Standard Operating Procedures” has been revised and updated to reflect knowledge and experience gained through implementation of the program. Specific topic areas detailed within the SOP include: safety protocols, boat operations, use requirements for different group types, captain and deckhand duties, and scheduling procedures.

► Manual: Forever Earth Vessel Standard Operating Procedures

Forever Earth Program Implementation
More than 3,000 students, teachers, researchers, agency personnel, and others have benefited from the Discover Mojave Forever Earth Program since Spring 2005. Each subsequent year saw increased use of Forever Earth, especially by students. The Year 3 target deliverable of 32 trips was exceeded by more than double that number. From Year 2 to Year 3, there was a 112% increase in the number of groups scheduling Forever Earth and a 276% increase in the number of students participating in Forever Earth programs. All trips were conducted in accordance with the Forever Earth’s standard operating procedures. Table 2 provides a summary of use; Figure 1 and Figure 2 display the information graphically to illustrate the increased use and the type of groups scheduling Forever Earth. A detailed listing of scheduled trips for all three years can be found in the report titled “Forever Earth Trips: February 1, 2005 – May 31, 2007.”
(NOTE: Statistics are summarized through May 9, 2007; there are an additional 10 scheduled trips to be completed before May 31, 2007, the end of the funding period.)

Program supplies and laboratory equipment needs were identified and procured based on the curriculum developed. An inventory of major equipment is maintained, and replacement materials and supplies are purchased as needed.


<table>
<thead>
<tr>
<th>Year 1 Totals (partial year)</th>
<th># of Groups</th>
<th>Group Type</th>
<th>Length of Trip</th>
<th>Adults</th>
<th>Students</th>
<th>Total Passengers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5</td>
<td>Education: 2</td>
<td>Education – 10 hrs.</td>
<td>167</td>
<td>45</td>
<td>212</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Agency: 2</td>
<td>Agency – 12 hrs.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Research: 1</td>
<td>Research – 16 trip days</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Year 2 Totals               | 34          | Education: 25 | Education – 104.5 hrs. | 564    | 327       | 891             |
|                             |             | Research: 3   | Research – 31 trip days |       |           |                 |

| Year 3 Totals* (as of 5/9/07) | 72          | Education: 58 | Education – 269.5 hrs. | 765    | 1228      | 1993            |
|                              |             | Agency: 13    | Agency – 87.75 hrs.    |         |           |                 |
|                              |             | Research: 1   | Research – 13 trip days |       |           |                 |

| GRAND TOTALS* (as of 5/9/07) | 111         | Education: 85 | Education – 384 hrs. | 1496   | 1600      | 3096            |
|                             |             | Agency: 21    | Agency – 125.75 hrs.  |         |           |                 |
|                             |             | Research: 5   | Research – 60 trip days |       |           |                 |

*10 additional trips scheduled through May 31, 2007.

Table 2 summarizes the use of the Forever Earth Vessel during the funding period.
Fig. 1 below illustrates the number of people who participated in the Discover Mojave Forever Earth Program.

![Bar chart showing the number of participants in the Discover Mojave Forever Earth Program by year and category.](chart)

Fig. 1. Participants by number of adults, students, and total participants in each funding year.
Fig. 2 below illustrates type of groups that participated in the Forever Earth Program.

![Group Types Participating in Forever Earth Program](image)

Figure 2. Group types scheduling Forever Earth per funding year.

**Discover Mojave Forever Earth Curriculum**

Curriculum for Grades 5, 6, and 7 were created, developed, field tested, and delivered. A curriculum manual, “Discover Mojave Forever Earth Curriculum (Grades 5-7): 2006/2007 Edition” was created with the following components:

- Detailed descriptions and facilitator’s guides for the activities conducted on Forever Earth and on shore.
- On-site activity support materials.
- Pre-trip and post-trip classroom activities with accompanying support materials.

Curriculum for Grade 4 was developed separately and is detailed within “Discover Mojave Forever Earth Grade 4 Curriculum: 2006/2007 Draft.” This draft, which will continue to be developed, field tested, and revised during the next phase of the project (Round 6) provides activity descriptions and support materials for Grade 4. An outline for high school curriculum has been created.

A development team consisting of formal science educators from Clark County School District (CCSD) and informal educators from UNLV’s Public Lands Institute and Lake Mead National Recreation Area was formed to create the Forever Earth curriculum. The Curriculum Team was
led by the PLI Program Manager, Daphne Sewing, and included the following additional members:

Ellen Anderson, Lake Mead National Recreation Area, National Park Service
Dr. Mary Banbury, Public Lands Institute, UNLV
Dr. Allison Brody, Public Lands Institute, UNLV
Dr. Jennell Miller, Public Lands Institute, UNLV
Amanda Rowland, Lake Mead National Recreation Area, National Park Service
Cheryl Wagner, Curriculum Development and Instruction, CCSD
Mary Weisenmiller, Curriculum Development and Instruction, CCSD

Curriculum was designed to complement traditional classroom studies with engaging, participatory, on-site activities and support lessons based upon a solid framework for inquiry and discovery. On-site activities and the supporting lessons align with Clark County School District curriculum and are correlated to Nevada State Science Standards and Clark County School District Curriculum Essentials Framework and Science Objectives. In addition, each lesson is correlated with the themes identified by the Southern Nevada Agency Partnership Conservation Education and Interpretation Team (SNAP CE&I Team).

The Discover Mojave Forever Earth philosophy of program delivery is that personnel facilitate rather than lecture. Within a structured yet invisible framework of active and engaging programming, students participate in activities, perform investigations, and use scientific equipment to discover the answers to key questions.

Pre-visit lessons were created to prepare students for their trip and introduce important background concepts, key questions, and themes. Post-visit lessons follow up on and reinforce the on-site learning, and more importantly, encourage “big-picture” synthesis and provide options for stewardship.

A facilitators’ training was conducted on November 20, 2006 for National Park Service and Public Lands Institute personnel involved in delivering programs to students. Throughout Years 2 and 3, activities and support materials were revised as feedback was received from facilitators and teachers whose students participated in the programs.

In March 2007, a presentation titled, “Learning Science at the Lake: The Forever Earth Program,” was conducted at the 2007 Annual Conference of the National Science Teachers Association by Cheryl Wagner and Mary Weisenmiller, CCSD, and Daphne Sewing, Public Lands Institute. The session focused on the effectiveness of utilizing both formal and informal educators in the development process of the Forever Earth curriculum.

► PowerPoint: Learning Science at the Lake: The Forever Earth Program
**Curriculum Assessment**
An important component of the Forever Earth program was the development of assessment instruments and administering the instruments to program participants. Dr. Lori Olafson and Dr. Gregory Schraw, UNLV Center for Assessment and Evaluation, and Michelle Weibel, Graduate Assistant, Public Lands Institute, developed the assessment tools and protocols. Ms. Weibel conducted pre-trip classroom visits to scheduled schools to administer pre-assessments to students and teachers. Post-assessments were then administered at the conclusion of the Forever Earth activities. Ms. Weibel also conducted post-trip interviews of participating teachers. Data, results, analysis, and recommendations are provided by Dr. Olafson, Dr. Schraw, and Ms. Weibel in a report titled, “Assessment of Forever Earth Curriculum 2006/2007.”


**Fundraising**
Donation opportunities materialized monetary and in-kind support to the Discover Mojave Outdoor World totaled approximately $14,500.00 and included the following:

- Golder Associates ($3,000, unrestricted funds)
- Outside Las Vegas Foundation ($7,500 through a grant of the Nevada Community Foundation)
- Overland Petroleum Company (1,000 gallons of fuel, equivalent to approximately $3,000)
- Southern Nevada Conservancy (up to $7,000 that is split among PLI projects*)

* The estimated portion of this award that will be dedicated to Discover Mojave Forever Earth Programs is $1,000.

**Feasibility of Distance Education**
At the request of Lake Mead NRA Superintendent William K. Dickinson, the Program Manager researched the feasibility of conducting distance education broadcasts from the Forever Earth vessel to reach more students in Clark County as well as to schools throughout the United States and other countries. Ms. Sewing worked with teachers from CCSD’s Virtual High School to test equipment and determine technology requirements and needs. During the last trial conducted on April 26, 2007, students in five Clark County schools and one school in Canada, approximately 1000 students in all, participated in a session where water and air quality measurements were taken and discussed. Conclusions and recommendations are outlined in “Feasibility of Distance Education Broadcasts from Forever Earth.”

► Report: Feasibility of Distance Education Broadcasts from Forever Earth

**Discover Mojave Forever Earth Program Database**
A database backed portion of the Web site was created for scheduling Forever Earth trips. The Web site, which is served from the National Supercomputing Center for Energy and the Environment (NSCEE) at UNLV, allows the public to view and schedule trips using the Forever
Earth vessel. Data entered via the Web site is stored in a MySQL database at the NSCEE and is accessible to the Forever Earth Program Manager via a Microsoft Access front end to the database. The front end allows one to view and edit schedule information entered by persons wanting to reserve the vessel; enter details about the trip including post-trip reports, vessel maintenance needed, and vessel status (e.g., broken items); and print reports and schedules. A detailed userguide has been created to accompany the application. The database is adaptable and expandable, and can be modified to fulfill other needs. A developer’s guide provides the required information for an application developer to understand the existing system design and software components, where they reside, and how to access those components.

- Manual: Forever Earth Database Userguide by Laurie Klevgard
- Manual: Forever Earth Database Developers’ Guide by Laurie Klevgard

**Data Collection**
Scientific data were collected, preserved, and shared on several occasions:

- In October, 2005, Forever Earth was used by Golder Associates to complete a lake bottom mapping project for the Southern Nevada Water Authority. Results and data were shared among the water management agencies. In addition, Dick Sylwester, project manager, conducted a graduate seminar for UNLV’s Geoscience Department and discussed methods, techniques, and project findings.

- Data collected by Del Sol High School students in May, 2005 and in May, 2006 were saved to a CD-ROM and made available to interested groups.

- Data sheets completed by students during Forever Earth programs were distributed to their respective teachers.

**Marketing Plan and Marketing Materials**
The 2006 Discover Mojave Forever Earth Marketing Plan provides strategies for reaching the desired target audiences: educational groups, research scientists, water management staff, Lake Mead NRA recreational visitors, and emergency preparedness crews. Marketing materials subsequently developed and produced included:

- The Discover Mojave Forever Earth Web site (www.discovermojave.org/forever_earth/) provides program information to teachers, researchers, and other group leaders. A reservation calendar and procedures for making on-line reservations have been established and have proven to be efficient and effective.

- A one-page information sheet, “Forever Earth” was developed to communicate a basic description of the program, group requirements, and contact information. This sheet was distributed on numerous occasions as formal and informal presentations were made to a variety of audiences.
• The “Discover Mojave Forever Earth Program: An Overview,” PowerPoint presentation was developed to provide information about the Forever Earth program. The presentation is easily modified for a particular audience type.

Numerous presentations about the Forever Earth program were made to a variety of audiences, including: National Science Teachers Association, 2007 Annual Conference; Clark County School District teachers; Girl Scout and Boy Scout leaders; Southern Nevada Agency Partnership Board; Forever Resorts personnel; Lake Las Vegas hotel and public relations personnel; Clark County Parks and Recreation; and Spring Mountains Youth Camp.

Outreach and advertisement for both Discover Mojave Programs, Forever Earth and Outdoor World, has occurred at numerous community events, including:

• Clark County Fair and Rodeo
• Clark County Farm Festival
• Harvest Fest/Joshua Jubilee at Red Rock Canyon National Conservation Area
• HSBC World Environment Day
• National Trails Day at Henderson Equestrian Park
• St. Rose Dominican Hospital Earth Day event
• Spring Fling at Red Rock Canyon National Conservation Area
• Summerlin Earthfaire
• UNLV Fall Connection Carnival
• UNLV Volunteer Service Fair

► Web site: www.discovermojave.org/forever_earth
► Information Sheet: Forever Earth
► PowerPoint: The Discover Mojave Forever Earth Program: An Overview

**Pilot Mobile Visitor Center**
During the summer months in 2006, National Park Service interpretive staff conducted a pilot program using the Forever Earth vessel as a mobile visitor center. More than 1,600 contacts were made with recreational users on Lake Mead on six different days. Water safety programs and National Park Service Junior Ranger Program activities also were conducted.

**Recommendations for Future of Discover Mojave Forever Earth**
Discover Mojave Forever Earth is a well-received program that helps Southern Nevada Agency Partnership (SNAP) meet its common goals of community connection and complementary public use. Round 6 SNPLMA Conservation Initiatives funding has already been approved for the continuation of this project to:
Coordinate and schedule Forever Earth uses according to the Forever Earth Standard Operating Procedures Plan.

- Schedule and deliver K-12 and university educational programming for a minimum of 25 trips per year.
- Schedule a minimum of three trips per year for scientific research purposes.
- Collaborate with the National Park Service-Lake Mead National Recreation Area to schedule Forever Earth as a mobile visitor center during high visitation months.
- Provide Forever Earth for Federal agency purposes for a minimum of six trips per year.

Additional specific recommendations for advancement and improvement of the Discover Mojave Forever Earth Program include the following:

- Develop additional avenues for program delivery. The large increase in reservation requests from CCSD schools from Year 2 to Year 3 demonstrates that teachers will use this field trip opportunity.
- Provide funding assistance to schools for bus transportation. Costs associated with bus transportation appear to be the main challenge for school groups wishing to use Forever Earth.
- Develop curriculum for a set number of distance education broadcasts; schedule and deliver broadcasts on a regular basis. Use of distance broadcast technology will broaden the impact of the Forever Earth program. Assess effectiveness of this type of educational delivery.
- Continue assessment of the program to formulate improvements in the curriculum and delivery; present assessment results at professional conferences.
Discover Mojave Outdoor World Program

Background
The Discover Mojave Outdoor World program introduces urban youth, ages 8-12, to outdoor recreation and environmental education. The program promotes the belief that outdoor recreation plays an important and positive role in the health and fitness of America’s youth. The program is patterned after the national Wonderful Outdoor World (WOW) program. WOW introduces urban youth and families to the outdoors and outdoor recreation through overnight camping experiences within the heart of their own community. With this approach, the program seeks to bring the excitement of camping and the environment directly into the neighborhoods and communities of the children most in need.

WOW began in 1995 as leaders of the outdoor recreation community reviewed data demonstrating that despite a wide range of outdoor recreational opportunities across the nation, American youth were participating at a markedly lower rate than youth 10 and 20 years prior. Recently, there has been a growing awareness of the physical and mental benefits associated with connecting with nature and participating in fun outdoor activities. This wave of mounting awareness and concern has been fueled by Richard Louv’s recently published book, Last Child in the Woods: Nature Deficit Disorder.

Because the Las Vegas metropolitan area has been the fastest growing urban area in the country for the past decade, residents are increasingly disconnected from nature and the out-of-doors. This “disconnect” also means less understanding and stewardship of the public lands surrounding the urban sprawl. The dramatic increase in litter, desert dumping, graffiti, and the destruction of cultural and natural resources illustrate the lack of understanding and personal responsibility. Furthermore, research substantiates that regular contact with and recreation in the natural world as a child is critical to establishing an ethic of environmental stewardship as an adult.

As the Discover Mojave Outdoor World program was created and implemented in Southern Nevada, the initial guidance from the nomination and subsequent task agreement was to focus on water-based recreational activities (e.g., a WOW on the Water pilot). As the program was implemented, the Conservation Education and Interpretation Team recognized that other popular outdoor recreational activities such as rock climbing, mountain biking, and camping should also be included in the Outdoor World program. It should also be noted that the original
nomination called for implementing a “WOW on the Water” program. At this time, obtaining a “WOW” franchise and trademark permissions have not been a priority. Although the current program adheres to the same philosophy as the national program, the determination was made that the national curriculum lacks relevancy to a Southern Nevada program.

Program Implementation

Discover Mojave Outdoor World Curriculum

Few adults participate in recreational activities that they did not enjoy as children. Participation in activities in natural settings impacts children in several ways; it:

- Provides a positive outlet for the alleviation of stress,
- Promotes physical exercise and activity,
- Stimulates an appreciation of and connection to nature, and
- Encourages the responsible use of recreational areas.

Providing recreational activities for children who lack such opportunities promotes equitable access and utilization of public recreational venues. This rationale guided development of Outdoor World activities. Initial event plans were based upon research of age-appropriate curriculum for the target audience, review of the national WOW curriculum, and discussions with Kay Rohde, Chief of Interpretation, Lake Mead National Recreation Area. A general framework and typical schedule were developed for five modules:

- Wild Bird Safari
- Fun with Fishing
- Kids in Kayaks
- Cool Canoeing
- Adventures in Art

The curriculum was designed to ensure that participants have a successful, positive experience as they are exposed to outdoor activities to which they have access but are unlikely to participate in otherwise. Additionally each module was correlated with one or more of the themes identified by the interagency Conservation Education and Interpretation Team.

A sixth module, Rock Star Rock Climbing, was developed and field tested during Year 3. Details of each module and program materials are found in the document, “Discover Mojave Outdoor World Program Curriculum.” Materials, teaching aids, and certificates were also developed to enhance facilitation and delivery of the modules. Examples of these support materials are included in a sample set of Discover Mojave Outdoor World support materials.

► Sample Set: Discover Mojave Outdoor World Support Materials
Participation
A key element to program implementation was identifying organized groups that provided access to the target audience of economically disadvantaged youth. These groups included:

- Clark County Parks and Recreation, specifically the county’s RecMobile program, Rural Recreation program, and individual community recreation centers;
- Environmental Science Club, Paradise Professional Development School; and
- Spring Mountains Youth Camp.

Other groups participating in events included the Blind Center of Nevada and Girl Scout troops.

The Environmental Science Club at Paradise Professional Development School was originally created to field test the activity modules. The test program was highly regarded by the school’s principal and teachers and considered highly successful. A subsequent request was made of the Public Lands Institute to continue the program with Grade 5 students.

Table 3 below provides a summary of the number of events delivered each year and the number of participants in each event. The targeted deliverables of 10 events in Year 1 and Year 2 and 15 events in Year 3 were all exceeded. Through May 31, 2007, more than 500 youth have participated in Outdoor World events.

Table 3 summarizes Discover Mojave Outdoor World Events and Participation.
Tables 4, 5, and 6 below and on the upcoming pages provide details of each year’s activity schedule and display the number of participants, the targeted group, the type of activity; and the locations for each activity.

<table>
<thead>
<tr>
<th>Date</th>
<th>Group</th>
<th>Activity</th>
<th>No. of Participants</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 23</td>
<td>RecMobile</td>
<td>Bird Watching</td>
<td>12</td>
<td>Sunset Park and Wetlands Park</td>
</tr>
<tr>
<td>April 19 &amp; 21 (2 activities)</td>
<td>RecMobile</td>
<td>Fishing Art Adventure</td>
<td>$12 \times 2 = 24$</td>
<td>Sunset Park</td>
</tr>
<tr>
<td>April 30</td>
<td>Kit Fox Group Paradise Elementary</td>
<td>Bird Watching</td>
<td>10</td>
<td>Sunset Park</td>
</tr>
<tr>
<td>May 3</td>
<td>Desert Tortoise Group Paradise Elementary</td>
<td>Bird Watching</td>
<td>9</td>
<td>Sunset Park</td>
</tr>
<tr>
<td>May 5</td>
<td>Roadrunner Group Paradise Elementary</td>
<td>Bird Watching</td>
<td>7</td>
<td>Sunset Park</td>
</tr>
<tr>
<td>May 11</td>
<td>Kit Fox Group Paradise Elementary</td>
<td>Canoeing</td>
<td>10</td>
<td>Sunset Park</td>
</tr>
<tr>
<td>May 14</td>
<td>RecMobile</td>
<td>Bird Watching</td>
<td>11</td>
<td>Floyd Lamb State Park Corn Creek Field Station</td>
</tr>
<tr>
<td>May 17</td>
<td>Desert Tortoise Group Paradise Elementary</td>
<td>Fishing</td>
<td>8</td>
<td>Sunset Park</td>
</tr>
<tr>
<td>May 18</td>
<td>RecMobile</td>
<td>Art Adventure – RRDLC Mojave Playground</td>
<td>10</td>
<td>Wetlands Park</td>
</tr>
<tr>
<td>May 19</td>
<td>Roadrunner Group Paradise Elementary</td>
<td>Fishing</td>
<td>8</td>
<td>Sunset Park</td>
</tr>
<tr>
<td>May 25</td>
<td>Kit Fox Group Paradise Elementary</td>
<td>Art Adventure – RRDLC Mojave Playground</td>
<td>10</td>
<td>UNLV campus</td>
</tr>
<tr>
<td>May 26</td>
<td>Roadrunner Group Paradise Elementary</td>
<td>Canoeing</td>
<td>8</td>
<td>Sunset Park</td>
</tr>
<tr>
<td>May 31</td>
<td>Desert Tortoise Group Paradise Elementary</td>
<td>Canoeing</td>
<td>7</td>
<td>Sunset Park</td>
</tr>
<tr>
<td><strong>Year Totals</strong></td>
<td><strong>2 programs targeted</strong></td>
<td><strong>14 events</strong></td>
<td><strong>134 participants</strong></td>
<td></td>
</tr>
</tbody>
</table>

Table 4 shows Year 1 of Discover Mojave Outdoor World’s Schedule of Activities for the period Feb. 1, 2005 through May 31, 2005.
<table>
<thead>
<tr>
<th>Date</th>
<th>Group</th>
<th>Activity</th>
<th>No. of Participants</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 1</td>
<td>Kit Fox Group</td>
<td>Fishing</td>
<td>9</td>
<td>Sunset Park</td>
</tr>
<tr>
<td>June 2</td>
<td>Roadrunner Group</td>
<td>Art Adventure – RRDLC Mojave Playground</td>
<td>7</td>
<td>UNLV campus</td>
</tr>
<tr>
<td>June 7</td>
<td>Desert Tortoise Group</td>
<td>Art Adventure – RRDLC Mojave Playground</td>
<td>5</td>
<td>UNLV campus</td>
</tr>
<tr>
<td>June 15</td>
<td>RecMobile</td>
<td>Canoeing</td>
<td>10</td>
<td>Sunset Park</td>
</tr>
<tr>
<td>October 5</td>
<td>Scorpions Group</td>
<td>Birding I</td>
<td>8</td>
<td>Sunset Park</td>
</tr>
<tr>
<td>October 12</td>
<td>Scorpions Group</td>
<td>Canoeing I</td>
<td>8</td>
<td>Sunset Park</td>
</tr>
<tr>
<td>October 19</td>
<td>Scorpions Group</td>
<td>Fishing I</td>
<td>8</td>
<td>Sunset Park</td>
</tr>
<tr>
<td>October 26</td>
<td>Scorpions Group</td>
<td>Fishing II/Art Adventure II</td>
<td>7 x 2 = 14</td>
<td>Sunset Park</td>
</tr>
<tr>
<td>November 2</td>
<td>Scorpions Group</td>
<td>Birding II</td>
<td>6</td>
<td>Wetlands Park</td>
</tr>
<tr>
<td>November 5</td>
<td>Rural Recreation – Blue Diamond Clark Co. Parks</td>
<td>Birding Canoeing</td>
<td>14 x 2 = 28</td>
<td>Sunset Park</td>
</tr>
<tr>
<td>November 10</td>
<td>Spring Mountains Youth Camp</td>
<td>Fishing Art Adventure</td>
<td>8 x 2 = 16</td>
<td>Fishing/Lake Mead</td>
</tr>
<tr>
<td>November 19</td>
<td>Scorpions Group</td>
<td>Kayaking I Art Adventure I</td>
<td>9 x 2 = 18</td>
<td>Lake Las Vegas Forever Earth/ Lake Mead</td>
</tr>
<tr>
<td>March 25</td>
<td>Rural Recreation – Indian Springs Clark Co. Parks</td>
<td>Fishing Art Adventure</td>
<td>12 x 2 = 24</td>
<td>Floyd Lamb State Park</td>
</tr>
<tr>
<td>April 11</td>
<td>Spring Mountains Youth Camp</td>
<td>Fishing Art Adventure</td>
<td>10 x 2 = 20</td>
<td>Lake Mead NRA</td>
</tr>
<tr>
<td>April 19</td>
<td>Burrowing Owls Group</td>
<td>Birding I</td>
<td>7</td>
<td>Sunset Park</td>
</tr>
<tr>
<td>April 26</td>
<td>Burrowing Owls Group</td>
<td>Birding II</td>
<td>8</td>
<td>Wetlands Park</td>
</tr>
<tr>
<td>May 3</td>
<td>Burrowing Owls Group</td>
<td>Fishing I</td>
<td>7</td>
<td>Sunset Park</td>
</tr>
<tr>
<td>May 10</td>
<td>Burrowing Owls Group</td>
<td>Fishing II Art Adventure II</td>
<td>8 x 2 = 16</td>
<td>Sunset Park</td>
</tr>
<tr>
<td>May 17</td>
<td>Burrowing Owls Group</td>
<td>Canoeing I</td>
<td>6</td>
<td>Sunset Park</td>
</tr>
<tr>
<td>May 20</td>
<td>Burrowing Owls Group</td>
<td>Kayaking Art Adventure</td>
<td>8 x 2 = 16</td>
<td>Lake Mead</td>
</tr>
<tr>
<td>Year Totals</td>
<td>4 programs targeted</td>
<td>28 events</td>
<td>241 participants</td>
<td></td>
</tr>
</tbody>
</table>

Table 5 shows Year 2 of Discover Mojave Outdoor World’s Schedule of Activities for the period June 1, 2005 through May 31, 2006.
<table>
<thead>
<tr>
<th>Date</th>
<th>Group</th>
<th>Activity</th>
<th>No. of Participants</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>November 1</td>
<td>Tarantulas – Paradise Environmental Science Club</td>
<td>Birdwatching I</td>
<td>10</td>
<td>Sunset Park</td>
</tr>
<tr>
<td>November 8</td>
<td>Tarantulas – Paradise Environmental Science Club</td>
<td>Birdwatching II</td>
<td>10</td>
<td>Wetlands County Park</td>
</tr>
<tr>
<td>November 18</td>
<td>Tarantulas – Paradise Environmental Science Club</td>
<td>Science and Art Adventure</td>
<td>6</td>
<td>Forever Earth – Lake Mead</td>
</tr>
<tr>
<td>November 29</td>
<td>Tarantulas – Paradise Environmental Science Club</td>
<td>Rock Climbing</td>
<td>8</td>
<td>Nevada Climbing Centers</td>
</tr>
<tr>
<td>December 6</td>
<td>Tarantulas – Paradise Environmental Science Club</td>
<td>Fishing I</td>
<td>9</td>
<td>Sunset Park</td>
</tr>
<tr>
<td>December 7</td>
<td>Tarantulas – Paradise Environmental Science Club (2 activities)</td>
<td>Fishing II and Art Adventure</td>
<td>9 x 2 = 18</td>
<td>Sunset Park</td>
</tr>
<tr>
<td>March 15</td>
<td>Scorpions – Environmental Science Club</td>
<td>Rock Climbing</td>
<td>7</td>
<td>Nevada Climbing Center</td>
</tr>
<tr>
<td>March 22</td>
<td>Scorpions – Environmental Science Club</td>
<td>Fishing I</td>
<td>6</td>
<td>Sunset Park</td>
</tr>
<tr>
<td>March 29</td>
<td>Scorpions – Environmental Science Club (2 activities)</td>
<td>Fishing II and Art Adventure</td>
<td>6 x 2 = 12</td>
<td>Sunset Park</td>
</tr>
<tr>
<td>April 12</td>
<td>Scorpions – Environmental Science Club</td>
<td>Birdwatching I</td>
<td>4</td>
<td>Sunset Park</td>
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<tr>
<td>April 14</td>
<td>Nevada Blind Center</td>
<td>Science and Art Adventure</td>
<td>21</td>
<td>Forever Earth – Lake Mead</td>
</tr>
<tr>
<td>April 26</td>
<td>Scorpions – Environmental Science Club</td>
<td>Birdwatching II</td>
<td>3</td>
<td>Wetlands Park</td>
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<td>April 28</td>
<td>Girl Scout Troop 615</td>
<td>Science and Art Adventure</td>
<td>13</td>
<td>Forever Earth – Lake Mead</td>
</tr>
<tr>
<td>May 5</td>
<td>Scorpions – Environmental Science Club (2 activities)</td>
<td>Kayaking Science and Art Adventure</td>
<td>6 x 2 = 12</td>
<td>Forever Earth – Lake Mead</td>
</tr>
<tr>
<td>May 15</td>
<td>Walnut and Whitney Community Centers, Clark County Parks and Recreation</td>
<td>Rock Climbing</td>
<td>13</td>
<td>Nevada Climbing Center</td>
</tr>
</tbody>
</table>

| Year Totals  | 4 programs targeted | 18 events | 152 participants |

Table 6 shows Year 2 of Discover Mojave Outdoor World’s Schedule of Activities for the period June 1, 2006 through May 31, 2007.
Program Effectiveness
To determine program effectiveness, an assessment was conducted. Dr. Gregory Schraw, Dr. Lori Olafson, and Michelle Weibel, UNLV Center for Evaluation and Assessment, developed and refined assessment tools during the first year of program implementation. They have also produced three reports to document program effectiveness and to provide recommendations for improvements.

► Report: Assessing ‘Discover Mojave’ Year 2
► Report: Assessing ‘Discover Mojave’ Year 3

Marketing and Outreach
A DVD, “Discover Mojave Outdoor World Program Mission, Goals, and Successes,” was produced to document program activities and provide background information, including program mission and goals. Results from the program assessment are also presented to demonstrate increased knowledge, attitude, and skill performance among participants. The target audiences for the documentary are the Federal agency managers and potential partners for the program.

Numerous presentations about the Outdoor World program were made to a variety of audiences, including those at national professional conferences. Examples include: Clark County Parks and Recreation managers, Outside Las Vegas Foundation Board, National Association for Interpretation – 2006 Annual Conference, Spring Mountains Youth Camp counselors and managers, National Association for Interpretation – Region 8 Workshop, 2006 Our Places Tell Conference, and many others.

► DVD: Discover Mojave Outdoor World Program Mission, Goals, and Successes

Recommendations for the Future of Discover Mojave Forever Earth
Discover Mojave Outdoor World, like Discover Mojave Forever Earth, is another on-the-ground program that helps Southern Nevada Agency Partnership (SNAP) meet its common goals of community connection and complementary public use. Round 6 SNPLMA Conservation Initiatives funding has already been approved for the continuation of this project and accomplishment of the following actions:

• Conduct a minimum of 25 Discover Mojave Outdoor World events annually.
• Develop a minimum of one new Discover Mojave Outdoor World activity each year.
• Develop a minimum of two partnerships to assist in conducting events.
Additional specific recommendations for advancement and improvement of the Discover Mojave Outdoor World Program include the following:

- Develop additional avenues for program delivery to increase the impact of the program within Clark County.
- Continue to link the Discover Mojave Outdoor World program to larger national initiatives to connect children to nature.
- Continue assessment of the program to document successes and drive further improvements and refinements of activities.