

THE PUBLIC LANDS EDUCATION PROJECT: A BENCHMARK  
STUDY TO DETERMINE IF THE PUBLIC LANDS EDUCATION  
PROJECT AFFECTS PARTICIPANTS' TRAJECTORY IN  
PURSUING A CAREER OR EDUCATIONAL TRACK  
IN NATURAL RESOURCES

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A Thesis

Presented

to the Faculty of

California State University, Chico

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In Partial Fulfillment

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Master of Arts

in

Recreation Administration

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by

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Fall 2015

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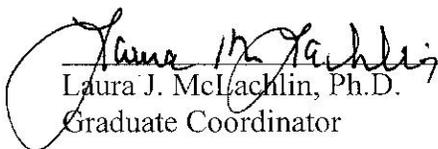
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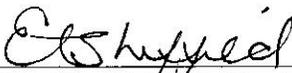
Fall 2015

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## ABSTRACT

THE PUBLIC LANDS EDUCATION PROJECT: A BENCHMARK  
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The purpose of this benchmark study was to determine if inviting underserved youth to participate in short-term natural resources experiential education increased the likelihood participants pursued a career or educational track in natural resources. The project connected communities of color and under resourced groups to federally managed lands. There were two segments to the program. The first was LEARN AND EARN. This portion of the program taught participants how to manage and restore southern California's protected lands and offered stipends to 48 youth who participated in the entire three-day experience. Underserved youth is defined as young people from social groups that have been historically absent in natural resources career fields, youth from

urban populations of color, and veterans under the age of 25. After the program, participants were invited to participate in the second segment of the PLEP. The YOUTH CORPS segment was an add-on to the first segment where participants explored more complex elements of conservation management and learned about environmental career opportunities. Facilitators who identified as Native American or Latino staffed both segments of the program. These are similar ethnic backgrounds as participants in the program. The sponsoring agencies paid all participation costs associated with this project as well as a modest \$125 stipend to all participants for their service in the PLEP-Learn and Earn module.

Results from this study showed three major outcomes. First, the Public Lands Education Project increased participant's interest in a career in natural resources in the short-term one-year trajectory. The second conclusion is PLEP participants learned new information about federal land management agencies and developed skills needed to eventually work in the field of natural resources. The final conclusion from this research study is there are benefits to participating in the Public Lands Education Project, as well as improvements that are necessary to be a more effective program.

## CHAPTER I

### INTRODUCTION

#### Background

The Public Lands Education Project is public-private collaborative effort to educate and employ under-resourced youth from inner city Latino communities and Native American tribes living near the Santa Rosa and San Jacinto National Monument. There were two segments to the program. The first was LEARN AND EARN. This portion of the program taught participants how to manage and restore southern California's protected lands and offered stipends to 48 youth who participated in the entire three-day experience. The second segment of the program was YOUTH CORPS. This was an add-on to the first segment where participants explored more complex elements of conservation management and learned about environmental career opportunities while earning another stipend upon completion of the experience. The Public Lands Education Project came about as a result of two Outdoor Summits for Youth the Bureau of Land Management (BLM) held in September 2012. One purpose of the Summits was to secure viewpoints from all sectors of society about directions the BLM and other federal agencies should pursue to increase young people's involvement with the outdoors. The PLEP builds a bridge from diverse communities to public lands through a three-day Learn and Earn program for youth to earn a stipend while learning how to monitor, restore, and explore natural habitats significant to California's landscape

legacy. The project is staffed by trained leaders from the Diverse Outdoor Leaders Institute (DOLI) with cultural and ethnic backgrounds similar to youth participants. All costs associated with this project were provided through participating agencies and grant funding, including a stipend to all participants.

The PLEP consists of four modules. Module one is a community-based orientation picnic for participants and families. At this picnic youth and their families are introduced to the agencies, the program facilitators, and receive a complete program overview. Also conducted at this event is a series of family-oriented team building activities and a short workshop to define community service. Module two is a two-day camping experience on one of the public lands with youth and their primary caregivers. Participants learn how to camp and spend time outdoors with their families. Outward Bound Adventures facilitates family team building activities, a family goal setting workshop and provides complete instruction on selection and use of camping gear and where and how to camp. Module three is Learn and Earn. Each cohort spends three days on federally managed public lands. Participants spend their time divided equally between learning about the land as a public resource and the managing agency and working on a service project. This thesis collected data from participants in module three-Learn and Earn. Module four is a Youth Conservation Corps experience where participants are engaged in a three-day Conservation Corps work program on federally managed lands. Aside from working on an actual conservation project, the fourth module includes: how a Conservation Corps operates, how to apply for a Corps position, the types of projects Corps work on, and the various agencies who employ Conservation Corps.

Modules are designed to feed into build upon each other so participants experience a program that leverages and integrates previous modules. However, due to complications in the recruiting phase of PLEP, most of the participants took part in one or two of the modules and no one participated in all four modules.

The Public Lands Education Project seeks to engage underserved youth from regions with considerable racial and ethnic diversity. The first Public Lands Education Project involved young people from two communities in the Coachella Valley in Riverside County, California. The Coachella Valley is a center of agriculture and tourism, where over seventy percent of the population self-identifies as Hispanic. The Coachella Valley is part of the 13th largest metropolitan area in the United States, the Inland Empire. This area is one of California's regions most in need of support for its young people. In the rural eastern Coachella Valley communities of Mecca and Oasis, for example, the family poverty rates are about 50 percent (<http://www.city-data.com/city/Coachella-Valley-California.html>). Federal PLEP partners include BLM, the National Park Service (NPS) and the United States Forest Service (USFS). Community-based partners are Outward Bound Adventures, Building Healthy Communities, Friends of the Desert Mountains, and the Urban Conservation Corps.

The reasons for engaging diverse and underserved youth in outdoor education are well articulated, but little research has been conducted on short term programs to encourage young people to choose natural resources as a career or academic pursuit. A comparison of the BLM workforce with the Civilian Labor Force shows an under-representation of white women and minorities in natural resources career fields (U.S. Census Bureau, 2010). Minority populations include African American, Asian, Hispanic

or Latino origin, American Indian and Alaska Natives, and Pacific Islanders. For this research project, data were collected from participants between the ages of 12-19 who participated in the PLEP Learn and Earn program. Research results were compiled to develop a comprehensive understanding of benefits the PLEP had on participants' understanding of natural resources, knowledge about participants' barriers to careers and educational tracks in natural resources management, and desired support for young people once they evidence interest in studying or working in the field of natural resources.

### Statement of the Problem

The BLM and other federal land-management agencies are working to diversify their workforces to better represent the constituents they serve. The changing demographics of California, along with projected retirements and the need to maintain staffing for mission critical occupations points to a business necessity for the BLM in California to actively recruit members from underserved communities into its workforce. However, the number of professionals entering the field of natural resources from underserved and diverse communities is far lower their proportional representation in the civilian workforce. Encouraging more students from underserved and diverse ethno-racial communities to seek educational credentials and careers in natural resources is one promising strategy to close this gap.

### Cultural Views of Natural Resources

There are differing cultural perspectives of natural resources (Ecosystem Management, 2014). The varying beliefs on how one identifies with nature may affect the

way natural resources values are perceived (Ecosystem Management, 2014).

Environmental education programs and land management agencies do not always incorporate cultural viewpoints into natural resource and environmental management (Outdoor Summit for Youth, 2012).

### Employment Pipeline for Natural Resources Careers

Knowledge of employment options in the field of natural resources management and the job application process for these positions are wide-ranging. Even the definition of natural resource can vary (State of Oregon Employment Department, 2014). Youth at the BLM Youth Summit in 2012 emphasized the difficulty of successfully navigating a clear path from college to employment. Youth at the Summit also shared with attendees that in their experience, internships or educational programs often do not include compensation or stipends and this can be a barrier for youth participation (Youth Summit, 2012).

### Youth Exposure to Natural Resources Education

There is a lack of racial and ethnic diversity in natural resources career fields due to a decline in college enrollment in this discipline (Martinez, Lindline, Petronis, & Pilotti, 2012). Recruitment of students into natural resource management has been declining since the late 1990s (Martinez et al., 2012). By 2020, underrepresented minorities will comprise more than 40% of the US college-age population (Martinez, et. al., 2012). More research is needed to determine how exposure to natural resources at a young age impacts attitudes and awareness towards the subject. “To the extent that young people follow the same or similar occupations as their parents, the inequalities linked to

work will be perpetuated from one generation to the next” (Johnson, 2002). If underserved youth are not receiving information from their family or community about natural resource-related careers, minority representation in natural resources management may be effected.

An evaluation of the success of the Public Lands Education Project will provide insights to aid the BLM in its efforts to encourage more diverse young people to consider natural resources as a viable career option. If the pool of interested and qualified applicants is larger, the BLM natural resources workforce may become more diverse over time.

### The Need

The need for the Public Lands Education Project is grounded in a broader body of literature about the lack of employees from diverse racial and ethnic backgrounds in federal natural resources careers. The BLM and other federal agencies are strengthening efforts to ensure diversity of their workforces to better reflect the diversity of the nation they serve. Currently, there is an under representation for women and minorities in natural resources related career fields. Three options have been identified in existing research to increase the proportion of employees from diverse racial, ethnic and cultural backgrounds in natural resources careers. The BLM can pay closer attention to various cultural views of natural resources, work with partners to develop and promote a clear pipeline for natural resources careers, and assist in exposing youth to nature education that is more inclusive of diverse perspectives.

### Cultural Views of Natural Resources

Cultural identity can affect how a person views nature and natural processes. Engaging underserved youth in multiple viewpoints, helping youth figure out their own beliefs, or providing educational and experiential opportunities for youth on public lands may assist diverse young people in connecting to nature.

### Employment Pipeline for Natural Resources Careers

The BLM can create a pipeline from engagement, to education, internship, and career employment. The pipeline can provide opportunities for mentorship experiences that assist youth in making nature connections. Additionally, a stipend for program participants can alleviate a barrier to participation. The term ‘natural resources’ is not a widely understood term and can have various meanings. Part of the pipeline can include clear messaging that is easily understandable by youth and their families.

### Youth Exposure to Natural Resources Education

Supporting underserved youth in outdoor experiences has great value to public and private land-use agencies and educational institutions. It encourages environmental literacy, increases qualified applicants in the field of natural resources, and maintains cultural relevancy on public lands and in the workforce.

The design of a youth program can work to diminish barriers through creative and educational programming, allaying participants’ fears, offering social experiences with peers, providing leadership opportunities for participants, incorporating physical and non-physical engagement with natural resources, providing trained leaders with similar cultural and ethnic backgrounds, encouraging family connections to public lands, and

offering hands-on experience for current environmental careers (NPS Collaborative, 2011).

### Purpose of the Study

The purpose of this benchmark study is to determine if inviting underserved youth to participate in short-term natural resources experiential education through PLEP increases the likelihood participants will pursue a career or educational track in natural resources. This project intends to inform underserved and economically disadvantaged youth about natural resources career opportunities and temporarily employ young people to restore natural and cultural landmarks and monitor critical habitat. All costs associated with this project will be covered through participating agencies. As a result of the PLEP, youth will have a better understanding of natural resources careers and the pathway from education to employment, be familiar with federal natural resources agencies, and have a positive communal experience on public lands.

### Research Questions

#### RQ1

Who participated in the 2014 PLEP in the Coachella Valley?

#### RQ2

What level of interest did participants express about careers in natural resource management after their PLEP experience?

#### RQ3

What components did the participants find most and least enjoyable about their PLEP experiences?

## Definitions

### Bureau of Land Management (BLM)

The Bureau of Land Management (2015) is a federal resource agency that administers over 245 million surface acres” as well as the “sub-surface mineral estate throughout the nation (Bureau of Land Management, 2015). BLM manages “public land resources for a variety of uses, such as energy development, livestock grazing, recreation, and timber harvesting, while protecting a wide array of natural, cultural, and historical resources (Bureau of Land Management, 2015).

### Civilian Labor Force

“A term used by the U.S. Bureau of Labor Statistics (BLS) to describe the subset of Americans who have jobs or are seeking a job, are at least 16 years old, are not serving in the military and are not institutionalized” (Civilian Labor Force, 2014).

### Diversity

For this study, diversity is defined as “the condition of having or being composed of differing elements (Merriam-Webster, 2013).” Dimensions of diversity may be age, educational background, ethnicity, family status, gender, income, military experience, ownership of property and assets, physical and mental ability, race, sexual orientation, social class, spiritual practice, and work experience (Merriam-Webster, 2013).

### Ethnicity

Refers to “traditions, customs, activities, beliefs, and practices that pertain to a particular group of people who see themselves and are seen by others as having distinct

cultural features, a separate history, and a specific socio-cultural identity” (Schelhas, 2002, p. 725).

### Public Lands Education Project

The Public Lands Education Project (PLEP) intends to educate underserved and economically disadvantaged youth about natural resources career opportunities, and employ youth to restore natural and cultural landmarks and monitor critical habitat. The project connected communities of color and under resourced groups to federally managed lands. There were two segments to the program. The first was LEARN AND EARN. This portion of the program taught participants how to manage and restore southern California’s protected lands and offered stipends to 48 youth who participate in the entire three-day experience. The second segment of the program was YOUTH CORPS. This was an add-on to the first segment where participants explored more complex elements of conservation management and learned about environmental career opportunities while earning another stipend upon completion of the experience.

### Natural Resources

“A mineral, waterpower source, forest, or kind of animal that is found in nature and is valuable to humans, as in providing a source of energy, recreation, or scenic beauty” (Word Central, 2014).

### Outdoor Education

Outdoor education is a means of curriculum enrichment, whereby the process of learning takes place out-of-doors. Outdoor education broadly includes environmental education, conservation education, adventure education, school camping, wilderness therapy, and some aspects of outdoor recreation. (Lappin, 2000)

Race

Refers to distinctions made on the basis of the physical attributes of individuals (Schelhas, 2002).

Youth (or Young People)

People between the ages of 15 and 25 years old.

Underserved Youth

Young people from social groups that have been historically absent in natural resources career fields, urban populations of color, veterans, and young people from communities surrounding federal public lands (Outdoor Summit for Youth, 2012).

## CHAPTER II

### LITERATURE REVIEW

#### Introduction

This chapter reviews three theoretical foundations related to the Public Lands Education Project. The first section discusses cultural perspectives of natural resources. This section includes California's demographic information and explores how differing cultural views of natural resources are formed. The second theoretical foundation examines the employment of diverse applicants in natural resources careers. This section includes demographics of youth ages 16-25 working with the Bureau of Land Management (BLM) in California, considers impacts of a diverse applicant pool for the field of natural resources, and addresses the role of science, technology, engineering, and math (STEM) in natural resources careers. The third section is a review of selected research on proven methods for exposing youth from diverse ethno-racial backgrounds, women, and youth from metro areas (hereafter youth from diverse ethno-racial or underserved backgrounds) to natural resources education and careers. This section reviews the rationale for land management agencies playing a role in introducing diverse youth to natural resources careers, effective ways to connect underserved youth to nature, and the necessity for assisting diverse youth in navigating a path toward employment in natural resources management.

## Cultural Perspectives of Natural Resources

### California's Changing Population Demographics

In the year 2000, California's population demographics showed that approximately 47% of the population identified as White, 32% Hispanic, 11% Asian, and 7% Black (US Census Bureau, 2000). Ten years later, the census for California showed an increase in minority populations with a decrease in the White population. In 2010, approximately 40% of California identified as White, 38% Hispanic, 14% Asian, and 7% Black, with the remainder made up of other ethnicities (US Census Bureau, 2012).

California already one of the few states in the country with a majority-minority population, is projected to increase its population by 31 percent between 2000 and 2020. During this period, California's Caucasian population is projected to grow by four percent, while the Hispanic population will be projected to grow by 58 percent, and the Asian/Pacific Islander population is projected to grow by 55 percent. The African American population is projected to increase by 20 percent, and American Indian population is projected to grow by 29 percent (U.S. Census Bureau, 2000).

The rapid change in demographics has heightened existing challenges for outdoor youth providers in terms of cultural relevancy in programming and staffing. Ethnic groups participate in outdoor recreation activities in different ways and there are varying constraints that limit participation. "When programs aren't relevant to the communities they serve, participation decreases, which puts many youth at risk; outdoor activities and time spent in nature are essential to the physical, emotional, and social development of our youth" (Foundation for Youth Investment, 2011).

As the dynamics of California's population change, the field of natural resources and outdoor recreation must continue to change and expand to incorporate viewpoints, diverse staff, and alternative ways to educate and engage diverse youth within California.

### Exploration of Different Cultural Views of Natural Resources

The ethnic diversity of the U.S. population means there are many different ways of valuing and using natural resources. The distinctive cultural perspectives of natural resources and the societal pressures that influenced these viewpoints vary because viewpoints are built on social facets and vary by group and context. Discrimination, historical resource use, land ownership, disenfranchisement, wealth, and residential location (urban vs. rural) play roles in establishing cultural viewpoints of natural resources (Schelhas, 2002). It is important to note there may be numerous viewpoints within each cultural group and to recognize cultural differences within as well as between groups. Additionally, "different groups can come into conflict or even fail to recognize the legitimacy of some of these uses" (Schelhas, 2002, p. 741).

Land management agencies and organizations seek to better connect with and employ people from diverse communities. Therefore, a complete understanding of different viewpoints of natural resource values and how these viewpoints are formed is needed to cross cultural borders and be inclusive to minority populations. As the U.S. population continues to diversify, impacts of differing ethnic and cultural environmental attitudes and knowledge are surfacing but few studies have considered race or ethnicity

as variables when measuring public opinions of natural resources values (Larson, Castleberry, & Green, 2010).

There are many ways a person develops views of nature and natural resources. One method racial and ethnic groups use to teach children environmental values are through stories. For example, “there is evidence of a Hispanic land ethic in ‘cuentos’ or folktales, oral tradition, and customary law, which contain stories of sanctions against greed, the idea of ‘vergüenza’ or shame, and a preference for place and biotic diversity over economic rationality” (Schelhas, 2002, p. 743). This viewpoint is passed down through generations and continues to influence natural resources values of Hispanic communities in the U.S.

Another way to examine natural resources perspectives within diverse communities is through statistics and scholarly research. Research shows that only 37% of African American children ages 6-12 participate in outdoor recreation, compared to 67% of Caucasian children in the same age range (outdoorafro.com). Latino youth are more likely to live in poverty in the United States- approximately 33% of Latino youth live in poverty compared to 12% of White youth and 13% of Asian youth; however, African American rates are higher than Latino youth at 35% (Proctor, & Smith, 2010, as cited in Rodríguez, Larsen, Látková, & Mertel, 2012. p. 86). Recreation facilities, such as parks and public lands are critical resources for physical activity and the promotion of positive health in low-income, minority communities (Cohen et al., 2007; Mitchell & Popham, 2008, as cited in Rodríguez, et. al., 2012). However, there are few opportunities to safely access natural resources for underserved children from low-income diverse urban neighborhoods. This means the young people have few opportunities to access

natural resources and experience little chance for positive reinforcement of ecological concepts and may be less inclined than White youth to change their perspective on environmental issues (Larson, Castleberry, & Green, 2010. p. 97).

The process of immersing underserved youth in multiple viewpoints, asking youth to share their cultural views of nature or helping them determine their own beliefs, and providing educational and experiential opportunities for youth on public lands may assist young people in forming a land ethic and a connection to nature that has many impacts for the future of land management in the U.S.

### Promoting Diversity in the Natural Resources Workforce

#### Impacts of a Diverse Applicant Pool for the Field of Natural Resources

Decisions involving natural resources often bear profound economic and social impacts. Consequently, decision-makers strive to reduce uncertainty and to develop effective policies (Dovers et al., 1996, Pouyat, 1999, Bradshaw and Borchers 2000, as cited in Kroli, 2007, p. 227). To do this, agencies should employ people of diverse race, genders, and ethnicities in natural resources management careers. Organizations that incorporate a broader and more inclusive view of natural resource values, use, and management are well positioned to develop policies that positively influence communities. Furthermore, by hiring and embracing a diverse workforce, organizations better meet the needs of a growing minority-majority population through all-encompassing policies and projects. A diverse workforce benefits the internal functioning of organizations by increasing adaptability, incorporating a variety of

viewpoints, and prompting more effective execution of job responsibilities (Greenberg, 2004).

### Statistics of BLM in California

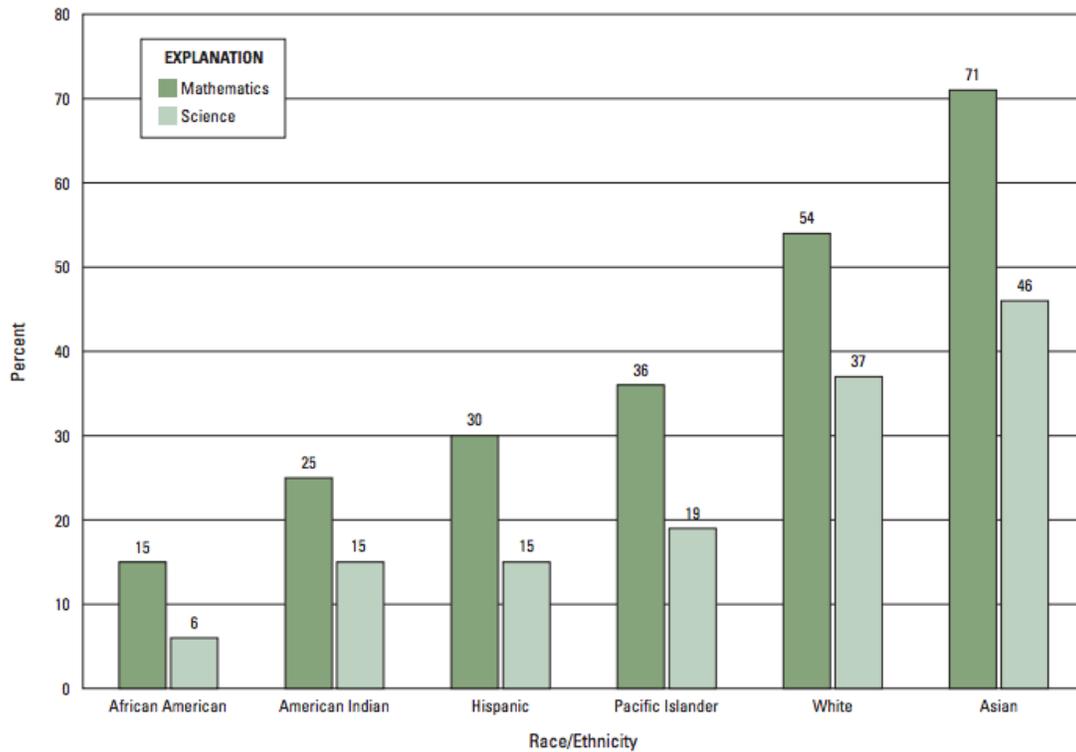
In December 2012, BLM-California conducted a self-assessment focusing on workforce demographics, mission critical occupations and projected retirements. The demographic comparison showed that although the BLM in California has made improvements in employing individuals from underserved communities, there are still areas for improvement for both the student and permanent workforce. Of the 114 students employed by BLM-California in Fiscal Year 2012 (October 1, 2011 - September 30, 2012), approximately 2.6% were Asian, 6.1% were Black, 15.7% were Hispanic, 75% were White and .8% were of 2 or more races. Sixty-three of the students were males and 51 were females (Gipson-Taylor, personal communication, June 20, 2014).

A look at the permanent workforce shows nearly one-third of BLM-California's employees are females, 19.3% are minorities and 5.5% are employees with disabilities. The BLM-California workforce has an under-representation of White females, Black males and females, Hispanic males and females, and Asian males and females. If current hiring trends continue, the BLM will be under-represented in employees from Hispanic, Black, and Asian communities and White females. As of 2012, 16% of the BLM-California workforce is eligible to retire and by September 30, 2018, 35% of the present workforce will be eligible for retirement. The changing demographics of California, along with the projected retirements for the BLM-California workforce and the need to maintain staffing for mission critical occupations points to a business

necessity for the agency to actively recruit members from underserved communities into its workforce.

### STEM in Natural Resources Careers

In order for land management agencies to recruit underserved youth into natural resources management employment, young people need education and training in science, technology, engineering, and math (STEM). The Bureau of Labor Statistics projects an increase in Natural Resource Management jobs within the next 10 years due to retirements and a 12% increase in demand for these occupations. Despite this trend, overall college enrollment in natural resources management disciplines has declined. Perhaps more critical to agencies, like BLM, with a strong western land base, is the under-representation of the soon-to- be-majority Hispanic population in natural resources disciplines. (Martinez, Lindline, Petronis, & Pilotti, 2012, p. 713). In 2011, the BLM revised its list of Mission Critical Occupations (MCOs). The new list of MCOs includes General Biologist and General Physical Scientist – both positions utilize STEM and these two positions have the lowest representation of women and minorities for BLM-California (Gipson-Taylor, personal communication, June 20, 2014). Underserved young people from minority groups who have traditionally been under-represented in natural resources careers may be less likely to be prepared to study natural resources at higher-education academic institutions. Studies show that there is an achievement gap in math and science for diverse populations, although Asian youth show an overall high average in science and math. Figure 1 has results by race and ethnicity for 2011 high school students reported through ACT College Readiness testing in math and science benchmarks for college readiness.



*Figure 1.* Percent of ACT tested high school graduates meeting ACT Readiness Math 7 Science .

Source: Adapted from ACT. (2011). The condition of college and career readiness 2011. p. 5. Retrieved from <http://www.act.org/research/policymakers/cccr11/pdf/ConditionofCollegeandCareerReadiness2011.pdf>

Exposing Diverse Ethno-Racial Youth to  
Natural Resources Education and  
Careers

Statistics show there is an under-representation of diverse young people in natural resources management disciplines. Minorities who are underrepresented in the science and engineering workforce in the United States comprise less than 10% of this workforce (National Science Foundation, 2011). According to the Department of the Interior the unemployment rate among youth in America was 18 percent in July 2009, the

highest since 1982. Youth employment is needed because the unemployment rate for youth is still rising (U.S. Department of Interior, 2009).

Adams and Moreno (1998), conducted a study using a mark-sense questionnaire that was sent to 938 majority-group and 955 minority-group natural resource professionals employed by the member state and federal agencies in the Southeastern Association of Fish and Wildlife Agencies. The study revealed that minority-group respondents became interested in careers in natural resources fairly late in their academic lives and immediate family members, natural resource professionals, counselors, and teachers had little influence on their developing interests in careers in natural resources. However, the types of events that stimulated high levels of interest in natural resources careers were fishing, watching TV programs about nature, and personal concern for the environment. These findings prompted the following recommendations from Adams & Moreno (1998):

Activity-based educational programming that meets the needs of the whole community must become a much higher priority in state and federal agencies and schools of natural resources. Activities that introduce career opportunities in natural resources to minority youth should be introduced at the earliest education levels possible; should instill awareness, appreciation, and inquiry about careers in natural resources; and should target young people and their parents (especially mothers), counselors, and teachers. (p. 977) ...Academically talented diverse students at the high school, college, and graduate levels should be exposed to career opportunities in natural resources. Examples of exposure programs are summer internships for minority students are state agencies' cooperative education programs between Historically Black Colleges and Universities (HBCUs) and U.S. Fish and Wildlife Cooperative Units, centers of excellence in HBCUs...and young scholar programs...At the community level, a higher level of public exposure of minorities to natural resource careers is needed through events (e.g., urban fishing), the media (e.g., print and electronic), and organizations. The goal would be to develop an awareness and knowledge of career opportunities in natural resources for those individuals (e.g., parents and counselors) who had limited influence over the selection of career paths of minority youth. (p. 979)

Another study completed by Larson, Castleberry, & Green (2010) used the Children's Environmental Perceptions Scale to investigate baseline differences in the environmental orientations of 133 six to thirteen year old children from different gender, age, and racial/ethnic groups in Athens-Clarke County, Georgia. The study used a mixed-method, pre-test, post-test methodology to examine the effects of a one-week environmental education summer program. Results showed eco-affinity levels were significantly lower in participants age ten or older. Black children also displayed significantly lower environmental knowledge scores than White children prior to the environmental education program. This environmental education program provided an ideal forum for stimulating positive environmental orientation in a diverse group of children. Public lands agencies can evaluate their programs using the Children's Environmental Perceptions Scale to determine eco-affinity of program participants.

#### Proven Methods for Engaging Underserved Youth

Low percentages of underserved youth enrolled in natural resources higher education programs and in natural resources careers make it clear barriers exist that inhibit the connection between diverse young people and nature, natural resources education and careers. Across California and around the country, young people are spending less time outdoors and more time in front of a screen than ever before. As a result, more and more young people are disconnected from the natural world. "This disturbing trend has implications for their health and well-being, academic success, civic engagement, and their future interest in both public lands and the environment" (NPS Collaborative, 2011. p. 3). By reducing barriers and increasing motivational elements in

outdoor experiences, land management agencies such as the BLM will be more successful in connecting youth to nature and eventually to natural resource careers.

Proven methods exist for effectively connecting underserved youth to nature and outdoor experiences. These experiences can have positive effects on participants' academic pursuits and career aspirations. The University of California, Berkeley, in partnership with the National Park Service and Naturebridge, did a study in 2011 that explains motivations and barriers for diverse young people when participating in outdoor experiences. The study compiled qualitative data from six facilitated listening sessions in California to identify common attitudes and values among youth in the Central Valley about participating in outdoor recreation.

The study shared effective methods for engaging underserved young people in outdoor participation. According to the report, the most popular nature-based or adventure activities that youth like to engage in include: fishing, camping, hiking, and snowboarding. The biggest motivators for underserved youth to connect with the outdoors are family and cultural connections. Other engagers include community – friends and social connections, and emotional reasons – connection, peace, and stress relief (NPS Collaborative, 2011, p. 6).

Another motivator to encourage learning and retention is to have mentors and teachers with similar racial and ethnic backgrounds as program participants. In many youth organizations, the ethnic makeup of staff does not mirror the diversity of the state's youth. "Organizations across the state have cited this demographic disconnect between staff and youth as a major barrier to achieving their missions" (Foundation for Youth, 2011). "The key to full comprehension, however, is the fact that it takes high quality

programs and solid adult mentors to make a lasting impact on youth” (Foundation for Youth, 2011, p. 3).

The NPS Collaborative report (2011) asked participants to share barriers that hinder participation in outdoor pursuits. Three principal barriers were identified: fears associated with crowds, animals, the unknown, and concern about safety; individual priorities deemed more valuable than spending time outside in nature; and lack of means or absence of resources such as money, transportation, gear, companionship, and information (p. 7). In addition, minorities may have had less socialization and exposure to outdoor recreation and parks, a self-reinforcing cycle. This may reflect the absence of parental or other role models and support for engaging in outdoor recreation.

Organizations, agencies, and academic institutions striving to connect underserved youth to natural resources should reduce barriers and include motivational factors into learning and recreational programs.

#### Navigating a Clear Path to Employment

In September 2012, the BLM hosted two Outdoor Summits for Youth. The purpose of the summits was to encourage and strengthen partnerships on public lands that educate, engage, and employ underserved minority youth with the overall goal of encouraging environmental literacy and increasing qualified applicants in the field of natural resources. A diverse workforce would incorporate under-represented perspectives, ideas, and skills, and would ensure that BLM staff better reflect the diversity of the nation it serves. Throughout the Outdoor Summits for Youth, qualitative data were collected from comments made by diverse youth participants. Most of the youth expressed the need for more effective and clear communication networks to increase overall awareness about

current programs, jobs, trainings, and events in the field of natural resources. Even if a young person cares about the environment, it is not clear what steps are needed to learn more or where and how to get a job in this field. Employment pipelines that include outreach with consistent messaging should be developed. This will ensure success for youth who have an interest in the environment and who want to pursue education and training in natural resources career tracks.

Along with developing clear education and employment pipelines, another theme that emerged from the Outdoor Summit for Youth was that partnership collaboration is an effective strategy for promoting racial and ethnic diversity in park and open space planning, outdoor recreation, and environmental conservation education (Makopondo, 2006). Partners include local, state, and federal land management agencies, community efforts such as those from local schools, households and families, churches, nonprofit initiatives, and some private services in the local community (Benson et al., 2007, as seen in Larson et. al., 2010, p. 97). A study completed by Makopondo (2006) offered four recommendations for creating racially and ethnically inclusive collaboration and partnerships. First, the key to inclusive partnerships is to recognize minorities as legitimate stakeholders and to invite all relevant minority-based community organizations and community leaders to participate in forming partnerships. Second, inclusive collaboration and partnerships with public land management agencies should interpret their missions and goals broadly and get involved with issues that are important to local racial and ethnic communities. Third, public land management agencies should make their activities and programs relevant and demonstrate their relevance to the lives of racial and ethnic minorities. Fourth, collaborative partnerships with racial and ethnic

minorities require establishing genuine personal relationships between key representatives of partner agencies and organizations.

### Summary

To ensure more underserved youth pursue educational opportunities and careers in natural resources management, cultural views of natural resources should become more mainstream. Additionally, the number of racially and ethnically diverse youth working as BLM interns and the number of young people engaged in STEM do not reflect the changing demographics of California so more work is needed to encourage minorities to value and be aware of careers in natural resources. The research studies reviewed in this chapter indicated that young people do not feel that clear education and employment pipelines exist in the field of natural resources management and one way to combat this is to establish partnerships between diverse community-based organizations and local, state, and federal land management agencies.

This current study will contribute to the existing research literature by determining if engaging young people in short-term natural resources education using informal learning experiences and skill building sparks interest in natural resources. This study is unique because PLEP represents a partnership between several federal land management agencies and community-based organizations from within a culturally diverse community.

## CHAPTER III

### METHODS

#### Introduction

The BLM and other federal land management agencies are working to diversify their workforces to better represent the constituents they serve. The changing demographics of California, along with the projected retirements and the need to maintain staffing for mission critical occupations points to a business necessity for the BLM in California to actively recruit members from underserved communities into its workforce. However, the number of professionals entering the field of natural resources from underserved and diverse communities is far lower their proportional representation in the civilian workforce. Encouraging more students from underserved and diverse ethno-racial communities to seek educational credentials and careers in natural resources is one promising strategy to close this gap.

This research evaluates a portion of a yearlong pilot project to introduce and educate youth and families on how to access outdoor recreation opportunities and career options in natural resources with three federal land management agencies. The PLEP informs culturally diverse and economically disadvantaged youth about natural resources career opportunities and temporarily employs young people to restore natural and cultural landmarks and monitor critical habitat. This study contributes to existing research by evaluating if natural resources education using informal learning experiences and skill

building sparks participants' interest in natural resources careers and higher education pursuits for ethnically and racially diverse participants. This study is unique because PLEP represents a non-traditional partnership between several federal land management agencies and community-based organizations from within a culturally diverse community. PLEP is grounded in the national need to make natural resource careers a viable education and employment pipeline for underserved youth.

The following research questions were addressed in this study:

RQ1: Who participated in the 2014 PLEP in the Coachella Valley?

RQ2: What level of interest did participants express about careers in natural resource management after their PLEP experience?

RQ3: What components did the participants find most and least enjoyable about their PLEP experiences?

This thesis is a comprehensive case study on the Public Lands Education Project. The study employed a mixed-method, quasi-experimental post-test approach involving a sample of 48 young people ( $n=48$ ), ages twelve to nineteen years old who reside in the Coachella Valley in California. The quantitative evaluations were collected at the conclusion of several three-day informal environmental education programs taking place in July and August of 2014. Each program day lasted approximately 10 hours (9 a.m. to 7 p.m.) for a total of 30 instructional hours per session. These were convenience samples whereby all individuals who partook were asked to complete the respective survey. This thesis assessed participating youth offsite using a written evaluation after the program to check for increases in understanding about public lands and natural resources job skills, and to determine the benefits of the program from a participant viewpoint.

Independent variables of interest included gender, age, and race/ethnicity. The survey population was characterized by a relatively equal gender ratio, although more men participated than women. The measurement instrument utilized several Likert scales and multiple-choice questions to collect descriptive statistics.

The results aided in assessing the overall progress of participants and the benefits of the Public Lands Education Project, including the likelihood that participation in the three-day program positively influences participants' interests in pursuing a career or educational track in natural resources.

### Setting

This study took place at the commencement of a three-day PLEP program (Learn and Earn) directly after lunch in an outdoor setting on Bureau of Land Management property. The first day of PLEP, participants in groups of sixteen along with three instructors got into vans and drove to go on a three-hour nature hike in the Santa Rosa and San Jacinto National Monument. In the evening participants drove to a campground to sleep and do evening programs around a campfire. On day two, the group ate, cleaned up, and then drove into the mountains to participate in a day of conservation projects such as invasive species removal, campsite rehabilitation, and trail restoration. Again, participants had dinner, a campfire and slept at a campground. On the third day, the group completed the conservation work and went through a graduation ceremony. Lunch was at noon, and participants were given the Outcomes Evaluation Form after eating while sitting outside. Participants were told they had to complete the survey before they would receive their paycheck from the PLEP-Learn and Earn Program. Most

participants opted to take the survey home and they brought it back to their trip leader a week later along with the signed consent form.

### Participant Sample

The Public Lands Education Project targets underserved youth from regions with considerable racial and ethnic diversity. The first Public Lands Education Project involved young people from communities in the Coachella Valley in Riverside County, California. The Coachella Valley is a center of agriculture and tourism, where over seventy percent of the population identifies itself as Hispanic. In some of the areas where participants come from in rural eastern Coachella Valley, for example, the family poverty rates are about 50 percent (<http://www.city-data.com/city/Coachella-ValleyCalifornia.html>).

The sampling procedure for this thesis utilized a nonrandom convenience sample. The participant sample was restricted to those engaging in the Public Lands Education Project-Learn and Earn program. Participants of this research study included 38 people, ages 12-20. The participants were selected for the program because they were from diverse cultural backgrounds, lived in the Coachella Valley, were involved in a youth group program such as Esperanza Center, Raices Cultura, and the Torres Martinez Tribe, and were willing to participate in the program. All of the participants were either Hispanic, Native American, or Black. There were 12 males and 9 females who filled out the final Outcomes Evaluation Form and there were slightly more males than females overall who participated in the program. The primary residence for the people who participated in this program resided in the zip codes of 92236 in the city of Coachella,

92254 in Mecca, and 92274 in Thousand Palms (directly adjacent to the Agua Caliente Indian Reservation).

### Measurement Instruments

This thesis used a post-hoc survey of PLEP – Learn and Earn participants. The questionnaire was designed for participants' self-reporting of knowledge, skills, and interests of PLEP-Learn and Earn, natural resources careers and education. The PLEP-Learn and Earn instructors administered the 17-item survey, entitled Outcomes Evaluation Form, on the final day of the program. Instructors handed out the paper survey and a writing instrument to all participants and explained the importance and value in the requested information. The PLEP instructors were available for questions throughout the program evaluation period. Once participants completed the survey, they handed it in to a designated instructor. The participants were not required to fill out the Outcomes Evaluation Form at the end of the program, but they were told they would not be paid for their work unless the survey was turned in. Twenty surveys were completed and turned in for evaluation a week after PLEP-Learn and Earn was completed. The PLEP was run over the course of two different weekends with 16 different youth participants each time. All participants rotated through identical program curriculum and conservation projects to ensure validity and reliability in the evaluation results. All participants were asked to sign a waiver that stated they were willing to fill out the evaluation form. If the participant was under 18 years old, her or his parent or legal guardian was asked to sign the waiver form. All participants were told in the waiver and again verbally before receiving the Outcomes Evaluation Form that participation in completing the form was

not mandatory and they had the right to refuse to answer any or all questions. The waiver was written in both English and Spanish to ensure all participants and their families understood the intent of the Outcomes Evaluation Form.

The Outcomes Evaluation Form consists of two sections: 1) Introductions and 2) Knowledge, Skills, and Interest in Natural Resources. The Introduction section had six questions, and the Knowledge, Skills and Interest section had 11 questions. Data were collected using multiple scales and response formats, including: Likert Scales, multiple-choice, fill-in-the-blank, and force-choice questions. The survey elicited responses about the following outcomes: improved understanding of public land management agencies, increased interest in natural resources related career fields or higher education, new knowledge of environmental principles, and increased skills in natural resources management.

An outcomes evaluation model for measuring the success of environmental education programs, as cited in Thomas and Hoffman (2003), was used to design the evaluation instrument. The researcher designed the actual instrument because the program being evaluated was unique. According to Thomas and Hoffman (2003), outcome-based evaluations examine direct effects of a program on participants and should provide insight into how to improve the program. Common desired outcomes of environmental education programs include benefits to individuals and groups in the following five areas. The first four of these are typically seen as prerequisites for the ultimate outcome of behavior change (MEERA, 2013):

1. Knowledge: Participants gain knowledge about the environment and its associated problems, can recall it from memory, comprehend its meaning, and/or are able to explain it.
2. Skills: Participants gain the verbal, mental, or physical abilities needed to engage in targeted behaviors.
3. Attitudes: Participants develop emotional tendencies and beliefs that are in line with environmental responsibility.
4. Intention to act: Participants intend to act in a specific way or accomplish a goal that fosters environmental protection or improvement.
5. Behavior change: Participants act in ways that benefit the environment. (para 3)

Based on the outcomes evaluations model, only knowledge and skills should be evaluated in a program lasting 0-6 months. Therefore, all measurable outcomes for the short-term PLEP Learn and Earn program focused on knowledge, skills, and interests rather than attitudes, intent to act, or behaviors (MEERA, 2013).

A pilot study was conducted to evaluate the effectiveness of the instrument before it was used in the PLEP study. PLEP curriculum designers filled out the Outcomes Evaluation Form and then the group discussed each question and answer option. The survey instrument was edited based on the group discussion. The Outcomes Evaluation Form can be found in this thesis in Appendix A.

### Data Collection and Analysis

The data was collected through an in-person written posttest evaluation. Once all evaluations were collected, the researcher coded and entered the data into Microsoft Excel 2011. Data was analyzed using descriptive statistics (Babbie, 2007) and reported in Chapter IV.

## CHAPTER IV

### FINDINGS AND RESULTS

#### Introduction

The purpose of this benchmark study is to determine if inviting underserved youth to participate in the Public Lands Education Project – Learn and Earn module, a natural resources experiential education program, increases participants knowledge about natural resources careers and educational opportunities. All participants in the Public Lands Education Project – Learn and Earn program were administered an Outcomes Evaluation Form that was completed using pen and paper within the week following the Learn and Earn module of the Public Lands Education Project. The questionnaire was developed using field notes, recommendations from professionals in public lands management, and the long-term employment goals as defined by the Bureau of Land Management’s Equal Employment Office. A face validity check was performed on the questionnaire by PLEP curriculum designers. Descriptive statistics and research questions analysis are detailed as follows.

#### Descriptive Statistics

Analyses of three research questions were completed by calculating statistics of a four-page Outcomes Evaluation Form. This study examines the results of participant responses of 20 questionnaires out of 38 administered surveys (53.6% response rate)

from the PLEP-Learn and Earn participants. The original intent was to have 48 participants in the Learn and Earn module, however one group canceled at the last minute so the total number of participants was 38. The timeframe for participants to complete the evaluation form was anytime within one week following the end of the Learn and Earn module. Learn and Earn participants completed the evaluation forms and returned them to the trip leader. The trip leader forwarded the forms to the researcher. Respondents who completed the survey came from one of the three groups who participated in PLEP-Learn and Earn. These organizations include the Torres Martinez Tribe, Esperanza Center, and Raices Cultura. All groups were located in the Coachella Valley in southern California. With the three represented groups, response rates included 65% from Torres Martinez Tribe ( $n = 13$ ), 35% from Raices Cultura ( $n = 7$ ), and 0% from Esperanza Center ( $n = 0$ ).

The Outcomes Evaluation Form was designed to deepen the level of understanding about three research questions (RQ). These include:

RQ1: Who participated in the 2014 PLEP-Learn and Earn in the Coachella Valley?

RQ2: What level of interest did participants express about careers in natural resource management after their PLEP experience?

RQ3: What components did the participants find most and least enjoyable about their PLEP experiences?

Research question one analyzed who participated in the 2014 PLEP-Learn and Earn in the Coachella Valley and looked at what respondents knew before taking part in the program. The first part of this research question was measured by determining the participant demographics of PLEP-Learn and Earn. The mean age of respondents were 15.1 years old with the oldest participants being 18 years old ( $n = 2$ ) and the youngest

being 12 years old ( $n = 2$ ). The majority of respondents, or 60% were male ( $n = 12$ ) and 40% were female ( $n = 8$ ). Eleven participants self identified as Hispanic, eight people identified as Native American/Alaskan Native, and one person identified as Black. In addition, the primary residence for the people who participated in this program resided in the zip codes of 92236 in the city of Coachella, 92254 in Mecca, and 92274 in Thousand Palms (directly adjacent to the Agua Caliente Indian Reservation). Almost all of the respondents (75%) had at least some high school education. The people who responded in the ‘other’ category for this question were still in middle school and this was not a category on the evaluation form (See Table 1).

Table 1

*Descriptive Statistics of PLEP-Learn and Earn Participant Demographics*

Variable	Category	Frequency	Percentage
Age	12-14	5	25%
	15-17	13	65%
	18-20	2	10%
Gender	Male	12	60%
	Female	8	40%
Race/Ethnicity	Asian or Pacific Islander	0	0%
	Native American or Alaska Native	8	40%
	Hispanic	11	55%
	Black or African-American	1	5%
	Multi-Racial/Other	0	0%
	White	0	0%
Highest Level of Education Completed	Some High School	15	75%
	High School or G.E.D	2	10%
	Some College	0	0%
	Other	3	15%
Primary Zip Code	92236 (City of Coachella)	10	50%
	92254 (Mecca)	2	10%
	92274 (Thousand Palms)	6	30%

*Note:* Total number of respondents = 20

The questionnaire asked what experiences participants had before PLEP. All of the experiences were a part of the PLEP curriculum so the purpose of the question was to assess if these were new experiences for participants or activities that were familiar. The majority of respondents (80%) had used hand tools and 95% had sat by a campfire. Only 25% of people visited the Bureau of Land Management's Santa Rosa and San Jacinto National Monument before participating in the program and half had visited Joshua Tree National Park. PLEP exposed participants to the monument and Joshua Tree National Park-two federally managed lands within 50 miles of PLEP participants' homes (see Table 2).

The Outcomes Evaluation Form compared respondents' pre-PLEP experiences with outdoor recreation and natural resources careers. Question 11 on the form asked participants if they had ever heard of the National Park Service (NPS), the Bureau of Land Management (BLM), and the United States Forest Service (USFS). Only two out of twenty respondents had ever heard of BLM, 10 people had heard of USFS, and 13 people were familiar with NPS (See Table 2).

When respondents were asked if they had family members who worked in natural resources career fields, only three people did while nine people did not and eight people were not sure. Therefore, 17 people in total reported no familial connection to resources or were unsure. There may be relevance in outreaching to families because natural resources is not a prevalent career choice for the majority of this group of PLEP-Learn and Earn participants.

Table 2

Variable	Category	Yes	No	I Don't Know
Activities before PLEP:	Used hand tools	80%	10%	10%
	Removed plants that are invasive	35%	50%	15%
	Slept in a tent	70%	25%	5%
	Sat by a campfire	95%	5%	0%
	Planted seeds in the ground	65%	20%	10%
	Gone hiking on a trail	70%	30%	0%
	Visited Joshua Tree National Park	40%	50%	10%
	Visited the Santa Rosa-San Jacinto National Monument	25%	55%	20%
Before PLEP Had You Heard of:	BLM	10%	60%	30%
	USFS	50%	20%	30%
	NPS	65%	15%	20%
Family Connection to Natural Resources	Does Any of Your Family Members Work in the Field of Natural Resources?	15%	45%	40%

*Note:* Total number of respondents = 20

Five questions provide insight into research question two. Research question two asked what level of interest participants expressed about careers in natural resource management after their PLEP experience. This question is examined by using the level of interest in a job title at the completion of the Public Lands Education Project-Learn and Earn module. The data revealed that most respondents shared at least a neutral, somewhat interested, or very interested level of interest in eight natural resources career fields. In particular, 90% of respondents gave a neutral or higher response in interest to a career as

a scientist who studies plants, animals, soils, water, or other natural sciences. The mapmaker and engineer career field had a 35% or more response rate of somewhat interested in these jobs; however, no respondents said they were very interested in these positions (Table 3). The career fields that showed the highest mean level of interest are Scientist (Mean 3.45), Renewable Energy Specialist (Mean 3.15), Park Ranger (Mean 2.95), and Outdoor Recreation Specialist (Mean 2.95).

Table 3

*Descriptive Statistics of Interest in Natural Resources Career Fields*

Job Title	Very interested	Somewhat interested	Neutral	Not very interested	Not at all interested	I don't know what this job is
Park Ranger	15%	25%	30%	10%	10%	10%
Map Maker	0%	35%	25%	10%	15%	15%
Scientist who studies plants, animals, soils, water, or other natural sciences	15%	40%	35%	0%	5%	5%
Outdoor Recreation Specialist	10%	25%	45%	0%	10%	10%
Engineer	0%	40%	35%	5%	10%	10%
Human Resources Specialist	10%	25%	25%	15%	15%	10%
Graphic Designer	15%	25%	30%	10%	5%	15%
Renewable Energy Specialist	25%	20%	30%	5%	10%	10%

*Note:* Total number of respondents = 20

Another question PLEP participants were asked is if they were more or less interested in a career in natural resources now that they have completed PLEP – Learn and Earn. The results of this question show that 50% of those surveyed said they are now more interested in a natural resources career than before they participated in the program

( $n = 10$ ) (see Table 4). At the same time, 20% of respondents said they are less interested in a career in natural resources ( $n = 4$ ). Future research may help to determine exactly how this program changed participants' career trajectory.

Table 4

*Descriptive Statistics of Education and Career Interests*

Variable	More interested	Less interested	No difference
Interest in studying natural resources in college	60%	10%	30%
Interest in a natural resources career	45%	20%	35%

*Note:* Total number of respondents = 20

To further understand if PLEP participants were interested in careers in natural resources, they answered whether or not they wanted to participate in the next PLEP module; PLEP-Youth Corps. Ten people said yes (50%) while eight people (40%) said maybe. Only two people stated they would need additional information and no one said no. In addition, respondents were asked if they would recommend PLEP-Learn and Earn to someone else. Nineteen people (95%) said yes, one person said no, and no one said maybe.

Research question three determined what components of PLEP-Learn and Earn participants found most and least enjoyable about their experience. When respondents were asked to identify the one thing they most enjoyed about the Public Lands Education Project, four out of twenty people answered that team building and leadership were most enjoyable. Other responses included: meeting new people (15%)

and experiencing new things (15%). Four respondents (20%) circled more than one response. Of these four, three people cited all answer options and one person felt experiencing new things and hiking and physical challenges were the favorite activities. One participant declined to answer. Respondents were also asked which one experience was their least enjoyable. The majority of people ( $n=8$ ) were classified in the ‘other’ category. Of these eight people, three cited there were no parts they did not enjoy and five people declined to respond. Two people found that experiencing new things was least enjoyable. No one responded that camping outdoors was least enjoyable (see Table 5).

Table 5

*Descriptive Statistics of Most and Least Enjoyable Experience During PLEP*

Variable	Least enjoyable PLEP experience (# of respondents)	Most enjoyable PLEP experience (# of respondents)
Conservation projects	1	2
Experiencing new things	2	3
Team building and leadership activities	1	4
Evening programs	1	1
Hiking and physical challenges	1	1
Meeting new people	1	3
Camping outside	0	1
Other*	8	5

*Note:* Total number of respondents = 20

\* Most enjoyable experience: Four people circled more than one answer and one person declined to respond.

\* Least enjoyable experience: Three people cited that there were no parts they did not enjoy and five people declined to respond.

Several other questions were asked in the Outcomes Evaluation Form that defined what respondents found most and least enjoyable about PLEP-Learn and Earn. A forced-choice Likert scale was used to examine seven questions. The findings showed seventy percent or more of respondents agreed or strongly agreed that upon completion of PLEP-Learn and Earn they had a better understanding about the value of volunteering, were happy they participated in the program, made new friends, and were willing to camp outside again. Only seven out of 20 people agreed or strongly agreed they got a chance to share stories about their family's culture and history. See table six for more information.

Table 6

*Descriptive Statistics of PLEP-Learn and Earn Program Satisfaction*

Variable	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The amount of physical exercise in PLEP was too strenuous for me	2	4	5	4	2
I got a chance to share stories about my family's culture and history	1	6	6	3	1
I have a better understanding about the value of volunteering	6	12	1	1	0
Overall, I felt supported by my leaders from Outward Bound Adventures	8	10	2	0	0
I'm happy I participated in this program	13	6	1	0	0
I made new friends that I will stay in touch with	8	6	4	2	8
I would be willing to camp outside again	11	4	4	1	0

*Note:* Total number of respondents = 20

## Summary of Results

The BLM and other federal land-management agencies are working to diversify the federal workforce to better represent the constituents it serves. The changing demographics of California, along with the projected retirements and the need to maintain staffing for mission critical occupations points to a business necessity for the BLM in California to actively recruit members from underserved communities into its workforce. However, the number of professionals entering the field of natural resources from underserved and diverse communities is far lower their proportional representation in the civilian workforce. Encouraging more students from underserved and diverse ethno-racial communities to seek educational credentials and careers in natural resources is one promising strategy to close this gap. The Public Lands Education Project targets underserved youth from regions with considerable racial and ethnic diversity. The purpose of this study is to determine if the Public Lands Education Project – Learn and Earn program provided a pipeline for participants to pursue higher education or career paths in the field of natural resources. Descriptive statistics in Chapter III described what was learned during the first PLEP and how the information can be used to enhance future PLEP efforts. The data set showed a general overview of the sample population and a baseline for further analysis. Conclusions, limitations, and recommendations are discussed in Chapter V.

## CHAPTER V

### CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

#### Introduction

The BLM aims to diversify its workforce to better reflect the population it serves. However, there is a gap in the number of educationally and experientially qualified applicants from social groups that have been historically absent in natural resources career fields including youth from urban populations of color, women, and veterans under the age of 25. The PLEP is a program designed by federal land management agencies and community-based organizations to build a bridge from diverse communities to public lands. Youth earn a stipend while learning how to monitor, restore, and explore natural habitats significant to California's landscape legacy. The BLM is using the PLEP to better connect with youth from non-traditional communities, to increase the diverse applicant pool in natural resources-related careers, and to have a more involved public constituency. PLEP is one avenue for agencies to educate, engage, and employ youth and the program is built on existing research that addresses how to connect with underserved youth including the incorporation of various cultural viewpoints of natural resources, offering employment pipelines for participants, and inviting youth to participate who otherwise might not get a chance to spend time in the outdoors.

This thesis study evaluates if inviting underserved youth to participate in PLEP increases the likelihood participants will pursue a career or educational track in natural resources. Of the 48 PLEP program participants, 38 participated in PLEP- Learn and Earn, and 20 participants completed the Outcomes Evaluation Form approximately one week after the completion of the program. The Outcomes Evaluation Form analyzes three research questions: Who participated in the 2014 PLEP-Learn and Earn in the Coachella Valley; what level of interest did participants express about careers in natural resource management after their PLEP experience; and what components did the participants find most and least enjoyable about their PLEP experiences. An examination of the data yielded from the Outcomes Evaluation Form revealed findings within the areas of the research questions. This chapter also includes the limitations of the study findings and provides recommendations for future research.

### Conclusions

Various studies have sought to identify the reasons why there is a lack of individuals from diverse communities of color working in the field of natural resources and PLEP builds its programmatic framework upon this research. The final outcomes of this research study conform to prior research in several ways. According to the NPS Collaborative (2011), the biggest motivators for underserved youth to connect with the outdoors are family and cultural connections. For this reason staff from the Diverse Outdoor Leadership Institute who are Hispanic, Black, or Native American were selected to facilitate the PLEP. Also, partnership collaboration has been shown through research to be an effective strategy for promoting racial and ethnic diversity in park and open space

planning, outdoor recreation, and environmental conservation education (Makopondo, 2006). Therefore three federal agencies came together to increase participants' awareness about public lands and teach skills needed to qualify for jobs in natural resources management. Youth from communities near public lands who had limited exposure to natural resources were able to explore the outdoors by participating in the program.

Responses gathered from the Outcomes Evaluation Form provide information about the experience of participants. Research question one assessed who participated in the 2014 PLEP. Most of the respondents were between 15-17 years old but five of the PLEP participants were under 14 years old. The organizations recruiting for the program had difficulty finding participants so they accepted younger applicants to PLEP. PLEP was originally designed for participants considering college or who were in their late teens. The program was not designed for middle school aged children. This may have affected the intended goal of PLEP, which was to help youth get connected to natural resources and become informed about higher education and career opportunities in the field of natural resources. In addition, this program served 11 people who identified as Hispanic, eight people who were Native American and one person who identified as Black. The demographics of California are changing and there are currently more people who identify as Hispanic than who consider themselves White. The PLEP aimed to connect with diverse communities of color and based on the demographics captured in the Outcomes Evaluation Form the PELP accomplished this. In addition, the evaluation assessed what skills participants had acquired before the start of PLEP-Learn and Earn. The majority of respondents had some experience in at several of the skills listed in this question. The skills include using hand tools, removing invasive species, sleeping in a

tent, sitting by a campfire, planting seeds in the ground, and hiking on a trail. Because so many respondents were familiar with these skills, the Learn and Earn program may be able to offer more advanced conservation projects or ask future participants to take a leadership role and show others some of the skill basics. This may lead to higher satisfaction rate at the end of the program. Of the respondents who completed the questionnaire, only 25% of people visited the Bureau of Land Management's Santa Rosa and San Jacinto National Monument. BLM has the opportunity to reach a broader audience by better connecting with youth and families involved in PLEP.

The Outcomes Evaluation Form asked respondents if they had ever heard of the National Park Service (NPS), the Bureau of Land Management (BLM), and the United States Forest Service (USFS). The data showed that all federal agencies benefited from PLEP because at the completion of the program all participants knew the names of these agencies. Before PLEP, only two out of twenty respondents had ever heard of BLM, 10 people had heard of USFS, and 13 people were familiar with NPS.

Research question two asked participants if they are more or less interested in a career in natural resources now that they have completed PLEP – Learn and Earn. The results of this question showed that 50% of those surveyed said they are now more interested in a natural resources career than before they participated in the program ( $n = 10$ ). At the same time, 20% of respondents said they are less interested in a career in natural resources ( $n = 4$ ). One goal of the program is to spark interest in natural resources career fields. A 50% positive change in interest is statistically significant and shows the intended outcomes of PLEP are in fact the end result of the program.

Another question on the Outcomes Evaluation Form asked PLEP participants how interested they are in studying natural resources in college now that the PLEP is completed. Eleven people (60%) of those surveyed said they are more interested in studying natural resources compared with two people who reported they are now less interested in studying natural resources. Further analysis is needed to understand why participants do or do not feel compelled to pursue natural resources through higher education institutions. It is possible so many respondents are more interested in natural resources education because PLEP had just concluded when the Outcomes Evaluation Form was filled out. A positive experience in PLEP may have short-term effects on participants. If this question were asked two years after the PLEP-Learn and Earn program commenced there may be a different result. Another potential explanation for the increase in interest in pursuing additional education is PLEP provides mentors to help participants finish G.E.D and explains how to apply for other training programs in their region. Mentorship can greatly affect the success of a program for underserved youth. “The key to full comprehension, however, is the fact that it takes high quality programs and solid adult mentors to make a lasting impact on youth” (NPS Collaborative, 2011, p. 3).

The Outcomes Evaluation Form analyzed the level of interest in a job title at the completion of the Public Lands Education Project-Learn and Earn module. Job titles assessed were park ranger, mapmaker, scientist, outdoor recreation specialist, engineer, human resources specialist, graphic designer, and renewable energy specialist. Both the map maker and engineer career field had a 35% or more response rate of somewhat interested in these jobs; however, 0% of respondents said they were very interested in

these positions. This is interesting because these are two positions the BLM wants to do a better job of hiring applicants who come from communities of color. A pre-test to assess participant's interest and knowledge of these positions before their participation in PLEP may have offered deeper insight into the respondents answers. All of the job titles had at least two people who responded that they did not know what the position was. Although two responses out of twenty may not be a large enough sample, it is enough to let federal land management agencies know that more outreach should be done to better explain the positions and the work done by the agency.

The final research question assessed what components of the PLEP experience participants found most and least enjoyable. Respondents spread their answers across all of the answer choices for this question, although the most common response was team building and leadership. Four people circled more than one answer choice, however the directions clearly stated for respondents to choose only one response. The question on the Outcomes Evaluation Form did not have a response rate that allows for an accurate analysis of this question. Additional qualitative interviews with respondents may reveal further information about exactly how PLEP benefits participants and what they most and least enjoyed about the program.

### Limitations

Several limitations impacted the formation and evaluation of this exploratory study, which used a convenience sample. The two biggest challenges were the small sample size and inability of the researcher to be present during the evaluation phase of the third, Learn and Earn, module of the Public Land Information Project. The intended

sample size for PLEP-Learn and Earn was 48 people. There were challenges in working with underserved youth because many of participant's schedules were unpredictable and several potential participants did not show up on the day of the program. Another entire group canceled at the last minute. In general, PLEP leaders had difficulty in recruiting participants for the PLEP program. Another reason for the small sample size was respondents were asked to take the Outcomes Evaluation Form home and return it to the program leader. Even with a significant incentive, only 20 of the 38 Learn and Earn participants returned completed evaluation forms. It is possible, though not likely since most forms were returned within a week of distribution, too much time passed and participants forgot to return the form. Another possible explanation is participants may have had reading or writing challenges and were thus unable to complete and return the form.

The researcher was not present during the final day of PLEP and entrusted the distribution of the Outcomes Evaluation Form to the trip leaders. The trip leaders also collected the completed forms and only once all forms were returned did the researcher receive the data. Initially, the distribution protocol was to receive completed forms before participants went home at the end of PLEP, but the trip leaders changed the distribution strategy at the last minute without informing the researcher.

Other limitations to the study include:

1. The research instrument was designed and implemented with maximum care.

However, the amount of funding for this research was limited. It is possible that conducting in-person interviews instead of asking PLEP participants to

complete a printed survey would have captured more accurate or different responses to research questions.

2. The sample for this study was limited to the participants recruited for the first PLEP program. The sample size may affect the power of the study and the results would be more accurate if the sample size was larger.
3. The research instrument included an evaluation form that participants filled out after the PLEP. Depending on the mood of participants and other situational factors, participants may have fully or accurately completed the forms. No PLEP staff, for example, were available to answer participants' questions.
4. There was a large range in ages for PLEP participants and this may have influenced the findings.
5. A DOLI instructor handed out and collected the Outcomes Evaluation Form. The researcher was not able to distribute the survey directly to the participants.
6. Findings may have been more meaningful if a pre/post test protocol had been feasible. Only a limited amount of information was collected in the Outcomes Evaluation Form and additional assessment opportunities might allow the researcher to collect more data.
7. The PLEP-Learn and Earn was done in very hot weather in Southern California. The heat was over 100 degrees Fahrenheit and the high temperatures may have influenced participants' experiences during the program.

### Recommendations for Future Research

Based on the results of this study, guidance for future PLEP programs and research emerged after analysis of the Outcomes Evaluation Form. First some of the limitations outlined in this study may be minimized or eliminated in a revised implementation of the PLEP-Learn and Earn module. In order to improve or verify the accuracy of the data collection, the Outcomes Evaluation Form should have different questions added that ask more in-depth detail about participants' experiences with the program. Additional qualitative data can be collected during informal interviews to determine if PLEP effects participants' trajectories in pursuing a career or educational track in natural resources are influenced or informed by participation in the PLEP program. Future studies might also reevaluate PLEP participants 1, 5, and 10 years after the program to determine the program's long-term success.

Second it is necessary to increase the sample size to increase the value of the data. Not enough participants completed the Outcomes Evaluation Form for this study. PLEP-Learn and Earn participation was smaller than expected. Future PLEP programs may benefit from earlier scheduling as well as stronger recruitment and retention techniques thereby gaining more and more consistent participation. The program was designed for participants to complete all four modules of PLEP. Most participants only completed one or two modules.

Finally this study measured data from participants that included a very wide age range (12-19 years old). When the Outcomes Evaluation Form was written, it was anticipated that participants in PLEP would range in age from 15-21 years old. The PLEP organizational partners changed the age range due to recruitment issues and therefore

some of the questions on the form might not be relevant to PLEP participants. For example, many 12-13 year old may not have thought about their future pursuits in education or career.

### Summary

Three major conclusions can be made from this study. First, is the Public Lands Education Project did increase participant's interest in a career in natural resources in the short-term. Participants shared in the Outcomes Evaluation Form the specific natural resources careers they would consider after completing PLEP. In addition, there were at least two participants in every job category who did not know what the job entailed. For example, five participants reported that they did not know what a renewable energy specialist did. Additional education and training may be needed to help participants become more informed about employment options. Further research should be done to determine if respondents follow through on their career interests in the long-term.

The second conclusion is PLEP participants learned new information about federal land management agencies and developed skills needed to eventually work in the field of natural resources. All PLEP participants spent time hiking, using hand tools, sleeping in a tent, and pulling invasive species or weeds. Overall, there was a lack of awareness about land management agencies that own land within a 50-mile radius of respondent's primary residences. This is especially important for BLM because they own the most land near participant's homes. If participants are unaware of the BLM, NPS, and USFS, it may mean their families are also not familiar with these agencies. Outreach

programs for the entire family are needed if agencies want to be relevant for diverse communities of color in the future.

The final conclusion from this research study is there are benefits to participating in the Public Lands Education Project, as well as improvements that are necessary to be a more effective program. Benefits include doing team building and leadership activities, experiencing new things, and meeting new people, as well as general exposure to natural resources and land management agencies. Improvements that will strengthen the program are ensuring more people participate in all of the PLEP modules, having the program plan developed well before participants arrive as this helps with recruitment of participants. Moving PLEP-Learn and Earn to the fall or winter will eliminate most of the weather related issues (three participants indicated they did not enjoy the bugs and hot weather). Overall, the data showed that PLEP sparks many participants' interests in exploring further natural resources education opportunities or careers in natural resources. Participants need mentorship, constant and clear communication before the program begins, and a clear pipeline to get from PLEP to a career with land management agencies. This program sets a strong foundation to help underserved youth begin exploring the outdoors in a way that is safe, compelling, and potentially life changing.

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## APPENDIX A

## OUTCOMES EVALUATION FORM

The purpose of this evaluation is to understand how the Public Lands Education Project (PLEP) you attended has impacted you, if at all. You can help us by giving honest answers to the questions on this evaluation. We are grateful for your willingness to participate in this survey. All answers will be confidential - your name is not included in the evaluation. It should take you no more than 10 minutes to complete.

THANK YOU!

### Introductions

1. What is your age?

2. What is your gender (circle the correct answer):      Male      Female

3. Circle the race or ethnicity you identify with:

Asian or Pacific Islander	Native American or Alaska Native	Hispanic
Black or African-American	Multi-Racial	White
	Other (Please explain):	Decline to respond

4. Circle the highest level of education you have completed:

- a. Some high school
- b. High school or G.E.D
- c. Some college
- d. Trade or other technical school
- e. Associate's degree
- f. Bachelor's degree
- g. Master's degree

5. If you have not been to college, do you want to go?

Yes      No      Not Sure      Not Applicable

6. What is the zip code of your primary home?

## Knowledge, Skills, and Interest in Natural Resources

7. For each job title below, please put an 'X' under 0, 1, 2, 3, 4, OR, 5 to show your interest in each job:

Job Title	Very interested	Somewhat Interested	Neutral	Not Very Interested	Not At All Interested	I Don't Know What This Job Is
Park Ranger						
Map Maker						
Scientist who studies plants, animals, soils, water, or other natural sciences						
Outdoor Recreation Specialist						
Engineer						
Human Resources Specialist						
Graphic Designer						
Renewable Energy Specialist						

8. Circle the best answer for each question below.

Before PLEP, had you ever:

Used hand tools?	Yes	No	Not Sure
Removed plants that are invasive?	Yes	No	Not Sure
Slept in a tent?	Yes	No	Not Sure
Sat by a campfire?	Yes	No	Not Sure
Planted seeds in the ground?	Yes	No	Not Sure
Gone hiking on a trail?	Yes	No	Not Sure
Visited Joshua Tree National Park?	Yes	No	Not Sure
Visited the Santa Rosa-San Jacinto National Monument?	Yes	No	Not Sure

9. Circle one thing that you *most* enjoyed about PLEP?

Participating in conservation projects	Experiencing new things	Participating in team building and leadership activities
Evening programs	Hiking and physical challenges	Other (please explain):
Meeting new people	Camping outside	

10. Circle one thing that you *least* enjoyed about PLEP?

Participating in conservation projects	Experiencing new things	Participating in team building and leadership activities
Evening programs	Hiking and physical challenges	Other (please explain):

9. Before PLEP, had you ever heard of:

The National Park Service-

Yes      No      I don't know  
           

The Bureau of Land Management-

Yes      No      I don't know  
           

The United States Forest Service-

Yes      No      I don't know  
           

10. Now that you have completed PLEP, how interested are you in studying natural resources in college?

More Interested      Less Interested      No Difference  
           

11. Now that you have completed PLEP, how interested are you in a career in natural resources?

More Interested      Less Interested      No Difference  
           

12. Do any of your family members work in the field of natural resources:

Yes      No      I don't know  
           

13. Do you want to participate in the PLEP-Youth Corps program?

Yes      No      Maybe      I need more information

14. Would you recommend this program to someone else?

Yes      No

15. Put an 'X' in the boxes under 5,4,3,2, or 1 that best describes your experiences:

<b>Question</b>	<b>Strongly Agree</b>	<b>Agree</b>	<b>Neutral</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
The amount of physical exercise in PLEP was too strenuous for me					
I got a chance to share stories about my family's culture and history					
I have a better understanding about the value of volunteering					
Overall, I felt supported by my leaders from Outward Bound Adventures					
I'm happy I participated in this program					
I made new friends that I will stay in touch with					
I would be willing to camp outside again					

*Thank you!*

## APPENDIX B

**Consent Form:  
Questionnaire for Public Lands Education Project**

Dear Participant,

You are invited to fill out a questionnaire after you participate in the Public Lands Education Project. The purpose of the questionnaire is to determine if young people who participate in this program are likely to pursue a career or educational track that focuses on the environment. The information collected may not benefit you directly, but it will provide more general information to natural resources agencies that support young people in the United States.

The questionnaire will take approximately 10 minutes. Your participation in this study is voluntary. Your answers will be completely anonymous. You are free to decline to answer any question you do not wish to answer, and you may stop taking the questionnaire at any time with no consequences.

The Chico State University -Human Subjects in Research Committee has reviewed the proposal to conduct this study. If you have any concerns about your rights, please contact Human Subjects at Chico State University (530)898-6880.

Your signature means that you have read and understand the information provided above, that you agree to participate, and that you may discontinue participation without penalty.

Participant's first and last name (please print): \_\_\_\_\_ Date:

Parental Signature (if participant is under 18): \_\_\_\_\_ Date:

Participant Signature (if participant is over 18): \_\_\_\_\_ Date:

## **Formulario de Consentimiento: Cuestionario para el Proyecto de Educación de Tierras Públicas**

Estimado participante,

Le invitamos a rellenar el cuestionario tras participar en el Tierras de Educación Pública Proyecto. El objetivo del cuestionario es determinar si los jóvenes que participan en breve experiencias de educación en la naturaleza tienden a seguir una carrera profesional o educativa que se centra en el medio ambiente. La información recopilada puede no beneficiarse directamente, sino que proporcionará información más general a las agencias de recursos naturales que apoyan a los jóvenes en los Estados Unidos.

El cuestionario tomará aproximadamente 10 minutos. Su participación en este estudio es voluntaria. Sus respuestas serán completamente anónimas. Usted es libre de negarse a contestar cualquier pregunta que no desea contestar, y es posible que deje de tomar el cuestionario en cualquier momento sin consecuencias.

El Chico State Temas University-humanos en el Comité de Investigación ha revisado la propuesta de para llevar a cabo este estudio. Si tiene alguna duda acerca de sus derechos, por favor póngase en contacto con Sujetos Humanos de la Universidad Estatal de Chico (530) 898-6880.

Su firma significa que usted ha leído y comprendido la información proporcionada anteriormente, que usted está de acuerdo en participar, y que usted puede dejar de participar sin cargo.

Nombre y apellido del participante (en letra de imprenta): \_\_\_\_\_ Fecha:

Firma del Padre (si el participante es menor de 18 años): \_\_\_\_\_ Fecha:

Firma del participante (si el participante es mayor de 18 años): \_\_\_\_\_ Fecha:

## APPENDIX C

PUBLIC LANDS EDUCATION PROJECT VIGNETTE

# Public Lands Education Project:

*Connecting urban youth to outdoor experiences and careers*



BLM California is working with the National Park Service, U.S. Forest Service, and partner organizations to deliver the first of a three-year pilot project that will connect 48 young people from low-income communities of color in the Coachella Valley to outdoor experiences and careers with federal land management agencies.

The program consists of:

- an *Orientation Picnic* with participants and their families in their own community;
- a two-day *Teach Me to Camp* experience where participants and their families learn

how to camp, explore natural resources, and spend time recreating together;

- a *Learn and Earn* event where youth spend three days on public lands learning about natural resources and management agencies, working on a conservation project, and exploring related career tracks; and
- a *Conservation Corps Experience* where youth participants engage in a four-day work experience program on federally-managed lands with the Urban Conservation Corps.



BLM

California



## APPENDIX D

## HUMAN SUBJECTS APPROVAL FORM

California State University, Chico  
Chico, California 95929-0875  
Office of Graduate Studies  
530-898-6880  
Fax: 530-898-3342  
[www.csuchico.edu/graduatestudies](http://www.csuchico.edu/graduatestudies)



October 7, 2013

Sara Kaner  
156 Circle Drive  
Auburn, CA 95803



Dear Sara Kaner,

As the Chair of the Campus Institutional Review Board, I have determined that following your Full Board review, no further modifications are needed in your research proposal entitled "AN EVALUATION OF THE PUBLIC LANDS EDUCATION PROJECT (PLEP) - DO WEEKEND OUTDOOR FIELD EXPERIENCES INFLUENCE PARTICIPANTS INTEREST IN A CAREER OR EDUCATIONAL TRACK IN NATURAL RESOURCES MANAGEMENT?". This clearance allows you to proceed with your study.

I do ask that you notify our office should there be any further modifications to, or complications arising from or within, the study. In addition, should this project continue longer than the authorized date, you will need to apply for an extension from our office. When your data collection is complete, you will need to turn in the attached Post Data Collection Report for final approval. Students should be aware that failure to comply with any HSRC requirements will delay graduation. If you should have any questions regarding this clearance, please do not hesitate to contact me.

Sincerely,

John Mahoney, Ph.D., Chair  
Human Subjects in Research Committee

Attachment: Post Data Collection Report

## APPENDIX E

# DESCRIPTIVE STATISTICS

Alpha value (for confidence interval) 0.02

Variable #1 (Age)			
Count	20	Skewness	-0.22847
Mean	15.1	Skewness Standard Error	0.48582
Mean LCL	14.14447	Kurtosis	2.64531
Mean UCL	16.05553	Kurtosis Standard Error	0.84119
Variance	2.83158	Alternative Skewness (Fisher's)	-0.24743
Standard Deviation	1.68273	Alternative Kurtosis (Fisher's)	-0.08994
Mean Standard Error	0.37627	Coefficient of Variation	0.11144
Minimum	12.	Mean Deviation	1.22
Maximum	18.	Second Moment	2.69
Range	6.	Third Moment	-1.008
Sum	302.	Fourth Moment	19.1417
Sum Standard Error	7.5254	Median	15.
Total Sum Squares	4.614.	Median Error	0.10545
Adjusted Sum Squares	53.8	Percentile 25% (Q1)	15.
Geometric Mean	15.00827	Percentile 75% (Q2)	16.
Harmonic Mean	14.91377	IQR	1.
Mode	15.	MAD	1.

Variable #2 (Gender)			
Count	20	Skewness	0.40825
Mean	1.4	Skewness Standard Error	0.48582
Mean LCL	1.11459	Kurtosis	1.16667
Mean UCL	1.68541	Kurtosis Standard Error	0.84119
Variance	0.25263	Alternative Skewness (Fisher's)	0.44212
Standard Deviation	0.50262	Alternative Kurtosis (Fisher's)	-2.01797
Mean Standard Error	0.11239	Coefficient of Variation	0.35902
Minimum	1.	Mean Deviation	0.48
Maximum	2.	Second Moment	0.24
Range	1.	Third Moment	0.048
Sum	28.	Fourth Moment	0.0672
Sum Standard Error	2.24781	Median	1.
Total Sum Squares	44.	Median Error	0.0315
Adjusted Sum Squares	4.8	Percentile 25% (Q1)	1.
Geometric Mean	1.31951	Percentile 75% (Q2)	2.
Harmonic Mean	1.25	IQR	1.
Mode	1.	MAD	0.E+0

Variable #3 (Race)			
Count	20	Skewness	0.19608
Mean	2.65	Skewness Standard Error	0.48582
Mean LCL	2.31659	Kurtosis	2.29107
Mean UCL	2.98341	Kurtosis Standard Error	0.84119
Variance	0.34474	Alternative Skewness (Fisher's)	0.21235
Standard Deviation	0.58714	Alternative Kurtosis (Fisher's)	-0.55184
Mean Standard Error	0.13129	Coefficient of Variation	0.22156
Minimum	2.	Mean Deviation	0.52

Variable #20 (Hiked on a Trail)			
Count	20	Skewness	0.87287
Mean	1.3	Skewness Standard Error	0.48582
Mean LCL	1.03302	Kurtosis	1.7619
Mean UCL	1.56698	Kurtosis Standard Error	0.84119
Variance	0.22105	Alternative Skewness (Fisher's)	0.9453
Standard Deviation	0.47016	Alternative Kurtosis (Fisher's)	-1.24183
Mean Standard Error	0.10513	Coefficient of Variation	0.36166
Minimum	1.	Mean Deviation	0.42
Maximum	2.	Second Moment	0.21
Range	1.	Third Moment	0.084
Sum	26.	Fourth Moment	0.0777
Sum Standard Error	2.10263	Median	1.
Total Sum Squares	38.	Median Error	0.02946
Adjusted Sum Squares	4.2	Percentile 25% (Q1)	1.
Geometric Mean	1.23114	Percentile 75% (Q2)	2.
Harmonic Mean	1.17647	IQR	1.
Mode	1.	MAD	0.E+0

Variable #21 (Visited Jtree)			
Count	20	Skewness	0.36568
Mean	1.7	Skewness Standard Error	0.48582
Mean LCL	1.32696	Kurtosis	2.29447
Mean UCL	2.07304	Kurtosis Standard Error	0.84119
Variance	0.43158	Alternative Skewness (Fisher's)	0.39602
Standard Deviation	0.65695	Alternative Kurtosis (Fisher's)	-0.54741
Mean Standard Error	0.1469	Coefficient of Variation	0.38644
Minimum	1.	Mean Deviation	0.56
Maximum	3.	Second Moment	0.41
Range	2.	Third Moment	0.096
Sum	34.	Fourth Moment	0.3857
Sum Standard Error	2.93795	Median	2.
Total Sum Squares	66.	Median Error	0.04117
Adjusted Sum Squares	8.2	Percentile 25% (Q1)	1.
Geometric Mean	1.57844	Percentile 75% (Q2)	2.
Harmonic Mean	1.46341	IQR	1.
Mode	2.	MAD	0.5

Variable #22 (Visited SRSJM)			
Count	20	Skewness	0.05762
Mean	1.95	Skewness Standard Error	0.48582
Mean LCL	1.56027	Kurtosis	2.2308
Mean UCL	2.33973	Kurtosis Standard Error	0.84119
Variance	0.47105	Alternative Skewness (Fisher's)	0.0624
Standard Deviation	0.68633	Alternative Kurtosis (Fisher's)	-0.63043
Mean Standard Error	0.15347	Coefficient of Variation	0.35197
Minimum	1.	Mean Deviation	0.475

Maximum	4. Second Moment	0.3275
Range	2. Third Moment	0.03675
Sum	53. Fourth Moment	0.24573
Sum Standard Error	2.62578 Median	3.
Total Sum Squares	147. Median Error	0.03679
Adjusted Sum Squares	6.55 Percentile 25% (Q1)	2.
Geometric Mean	2.58781 Percentile 75% (Q2)	3.
Harmonic Mean	2.52632 IQR	1.
Mode	3. MAD	0.E+0

**Variable #4 (Education)**

Count	20 Skewness	-0.10355
Mean	0.95 Skewness Standard Error	0.48582
Mean LCL	0.66016 Kurtosis	3.97888
Mean UCL	1.23984 Kurtosis Standard Error	0.84119
Variance	0.26053 Alternative Skewness (Fisher's)	-0.11214
Standard Deviation	0.51042 Alternative Kurtosis (Fisher's)	1.64893
Mean Standard Error	0.11413 Coefficient of Variation	0.53728
Minimum	0.E+0 Mean Deviation	0.285
Maximum	2. Second Moment	0.2475
Range	2. Third Moment	-0.01275
Sum	19. Fourth Moment	0.24373
Sum Standard Error	2.28266 Median	1.
Total Sum Squares	23. Median Error	0.03199
Adjusted Sum Squares	4.95 Percentile 25% (Q1)	1.
Geometric Mean	1.07177 Percentile 75% (Q2)	1.
Harmonic Mean	1.25 IQR	0.E+0
Mode	1. MAD	0.E+0

**Variable #5 (Interest in college)**

Count	20 Skewness	1.00615
Mean	1.55 Skewness Standard Error	0.48582
Mean LCL	1.0463 Kurtosis	2.09614
Mean UCL	2.0537 Kurtosis Standard Error	0.84119
Variance	0.78684 Alternative Skewness (Fisher's)	1.08964
Standard Deviation	0.88704 Alternative Kurtosis (Fisher's)	-0.80601
Mean Standard Error	0.19835 Coefficient of Variation	0.57228
Minimum	1. Mean Deviation	0.77
Maximum	3. Second Moment	0.7475
Range	2. Third Moment	0.65025
Sum	31. Fourth Moment	1.17123
Sum Standard Error	3.96697 Median	1.
Total Sum Squares	63. Median Error	0.05559
Adjusted Sum Squares	14.95 Percentile 25% (Q1)	1.
Geometric Mean	1.36249 Percentile 75% (Q2)	3.
Harmonic Mean	1.23711 IQR	2.
Mode	1. MAD	0.E+0

**Variable #6 (Zip Code)**

Count	20 Skewness	-2.66666
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Maximum	3. Second Moment	0.4475
Range	2. Third Moment	0.01725
Sum	39. Fourth Moment	0.44673
Sum Standard Error	3.06937 Median	2.
Total Sum Squares	85. Median Error	0.04301
Adjusted Sum Squares	8.95 Percentile 25% (Q1)	2.
Geometric Mean	1.82386 Percentile 75% (Q2)	2.
Harmonic Mean	1.69014 IQR	0.E+0
Mode	2. MAD	0.E+0

**Variable #23 (Most Enjoyed about PLEP)**

Count	20 Skewness	0.11702
Mean	4.3 Skewness Standard Error	0.48582
Mean LCL	2.79086 Kurtosis	1.66861
Mean UCL	5.80914 Kurtosis Standard Error	0.84119
Variance	7.06316 Alternative Skewness (Fisher's)	0.12673
Standard Deviation	2.65766 Alternative Kurtosis (Fisher's)	-1.36348
Mean Standard Error	0.59427 Coefficient of Variation	0.61806
Minimum	0.E+0 Mean Deviation	2.33
Maximum	8. Second Moment	6.71
Range	8. Third Moment	2.034
Sum	86. Fourth Moment	75.1277
Sum Standard Error	11.88542 Median	3.5
Total Sum Squares	504. Median Error	0.16654
Adjusted Sum Squares	134.2 Percentile 25% (Q1)	2.
Geometric Mean	3.50934 Percentile 75% (Q2)	7.
Harmonic Mean	3.11226 IQR	5.
Mode	#N/A MAD	2.5

**Variable #24 (Least Enjoyed about PLEP)**

Count	20 Skewness	0.47362
Mean	3.15 Skewness Standard Error	0.48582
Mean LCL	1.23295 Kurtosis	1.5598
Mean UCL	5.06705 Kurtosis Standard Error	0.84119
Variance	11.39737 Alternative Skewness (Fisher's)	0.51292
Standard Deviation	3.376 Alternative Kurtosis (Fisher's)	-1.50535
Mean Standard Error	0.7549 Coefficient of Variation	1.07175
Minimum	0.E+0 Mean Deviation	2.98
Maximum	8. Second Moment	10.8275
Range	8. Third Moment	16.87425
Sum	63. Fourth Moment	182.86323
Sum Standard Error	15.09793 Median	2.
Total Sum Squares	415. Median Error	0.21156
Adjusted Sum Squares	216.55 Percentile 25% (Q1)	0.E+0
Geometric Mean	2.4193 Percentile 75% (Q2)	8.
Harmonic Mean	5.59441 IQR	8.
Mode	0.E+0 MAD	2.

**Variable #25 (Heard of NPS)**

Count	20 Skewness	0.98891
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Mean	83,025.6	Skewness Standard Error	0.48582	Mean	1.55	Skewness Standard Error	0.48582
Mean LCL	#####	Kurtosis	8.11111	Mean LCL	1.0812	Kurtosis	2.26528
Mean UCL	#####	Kurtosis Standard Error	0.84119	Mean UCL	2.0188	Kurtosis Standard Error	0.84119
Variance	#####	Alternative Skewness (Fisher's)	-2.88794	Variance	0.68158	Alternative Skewness (Fisher's)	1.07097
Standard Deviation	#####	Alternative Kurtosis (Fisher's)	7.03703	Standard Deviation	0.82558	Alternative Kurtosis (Fisher's)	-0.58547
Mean Standard Error	#####	Coefficient of Variation	0.34199	Mean Standard Error	0.1846	Coefficient of Variation	0.53263
Minimum	0.E+0	Mean Deviation	16,805.12	Minimum	1.	Mean Deviation	0.715
Maximum	92,274.	Second Moment	#####	Maximum	3.	Second Moment	0.6475
Range	92,274.	Third Moment	#####	Range	2.	Third Moment	0.51525
Sum	1,660,512.	Fourth Moment	#####	Sum	31.	Fourth Moment	0.94973
Sum Standard Error	#####	Median	92,236.	Sum Standard Error	3.6921	Median	1.
Total Sum Squares	#####	Median Error	#####	Total Sum Squares	81.	Median Error	0.05174
Adjusted Sum Squares	#####	Percentile 25% (Q1)	92,236.	Adjusted Sum Squares	12.95	Percentile 25% (Q1)	1.
Geometric Mean	#####	Percentile 75% (Q2)	92,274.	Geometric Mean	1.38223	Percentile 75% (Q2)	2.
Harmonic Mean	#####	IQR	38.	Harmonic Mean	1.26316	IQR	1.
Mode	92,236.	MAD	9.	Mode	1.	MAD	0.E+0
<b>Variable #7 (Park Ranger)</b>				<b>Variable #26 (Heard of BLM)</b>			
Count	20	Skewness	-0.53801	Count	20	Skewness	-0.11111
Mean	2.95	Skewness Standard Error	0.48582	Mean	2.2	Skewness Standard Error	0.48582
Mean LCL	2.07659	Kurtosis	2.38628	Mean LCL	1.85044	Kurtosis	2.55556
Mean UCL	3.82341	Kurtosis Standard Error	0.84119	Mean UCL	2.54956	Kurtosis Standard Error	0.84119
Variance	2.36579	Alternative Skewness (Fisher's)	-0.58265	Variance	0.37895	Alternative Skewness (Fisher's)	-0.12033
Standard Deviation	1.53811	Alternative Kurtosis (Fisher's)	-0.42769	Standard Deviation	0.61559	Alternative Kurtosis (Fisher's)	-0.20697
Mean Standard Error	0.34393	Coefficient of Variation	0.52139	Mean Standard Error	0.13765	Coefficient of Variation	0.27981
Minimum	0.E+0	Mean Deviation	1.17	Minimum	1.	Mean Deviation	0.48
Maximum	5.	Second Moment	2.2475	Maximum	3.	Second Moment	0.36
Range	5.	Third Moment	-1.81275	Range	2.	Third Moment	-0.024
Sum	59.	Fourth Moment	12.05373	Sum	44.	Fourth Moment	0.3312
Sum Standard Error	6.87865	Median	3.	Sum Standard Error	2.75299	Median	2.
Total Sum Squares	219.	Median Error	0.09639	Total Sum Squares	104.	Median Error	0.03858
Adjusted Sum Squares	44.95	Percentile 25% (Q1)	2.	Adjusted Sum Squares	7.2	Percentile 25% (Q1)	2.
Geometric Mean	2.68287	Percentile 75% (Q2)	4.	Geometric Mean	2.10744	Percentile 75% (Q2)	3.
Harmonic Mean	2.91971	IQR	2.	Harmonic Mean	2.	IQR	1.
Mode	3.	MAD	1.	Mode	2.	MAD	0.E+0
<b>Variable #8 (Map Maker)</b>				<b>Variable #27 (Heard of USFS)</b>			
Count	20	Skewness	-0.52339	Count	20	Skewness	0.39846
Mean	2.5	Skewness Standard Error	0.48582	Mean	1.8	Skewness Standard Error	0.48582
Mean LCL	1.64574	Kurtosis	1.8199	Mean LCL	1.2921	Kurtosis	1.43213
Mean UCL	3.35426	Kurtosis Standard Error	0.84119	Mean UCL	2.3079	Kurtosis Standard Error	0.84119
Variance	2.26316	Alternative Skewness (Fisher's)	-0.56682	Variance	0.8	Alternative Skewness (Fisher's)	0.43152
Standard Deviation	1.50438	Alternative Kurtosis (Fisher's)	-1.16621	Standard Deviation	0.89443	Alternative Kurtosis (Fisher's)	-1.67183
Mean Standard Error	0.33639	Coefficient of Variation	0.60175	Mean Standard Error	0.2	Coefficient of Variation	0.4969
Minimum	0.E+0	Mean Deviation	1.3	Minimum	1.	Mean Deviation	0.8
Maximum	4.	Second Moment	2.15	Maximum	3.	Second Moment	0.76
Range	4.	Third Moment	-1.65	Range	2.	Third Moment	0.264
Sum	50.	Fourth Moment	8.4125	Sum	36.	Fourth Moment	0.8272
Sum Standard Error	6.72779	Median	3.	Sum Standard Error	4.	Median	1.5

Total Sum Squares	168. Median Error	0.09427
Adj. Go to next page	43. Percentile 25% (Q1)	1.
Geometric Mean	2.29142 Percentile 75% (Q2)	4.
Harmonic Mean	2.69663 IQR	3.
Mode	4. MAD	1.

Variable #9 (Scientist)		
Count	20 Skewness	-1.26054
Mean	3.45 Skewness Standard Error	0.48582
Mean LCL	2.74906 Kurtosis	4.67806
Mean UCL	4.15094 Kurtosis Standard Error	0.84119
Variance	1.52368 Alternative Skewness (Fisher's)	-1.36513
Standard Deviation	1.23438 Alternative Kurtosis (Fisher's)	2.56061
Mean Standard Error	0.27601 Coefficient of Variation	0.35779
Minimum	0.E+0 Mean Deviation	0.905
Maximum	5. Second Moment	1.4475
Range	5. Third Moment	-2.19525
Sum	69. Fourth Moment	9.80173
Sum Standard Error	5.5203 Median	4.
Total Sum Squares	267. Median Error	0.07735
Adjusted Sum Squares	28.95 Percentile 25% (Q1)	3.
Geometric Mean	3.25583 Percentile 75% (Q2)	4.
Harmonic Mean	3.37079 IQR	1.
Mode	4. MAD	1.

Variable #10 (Outdoor Recreation Specialist)		
Count	20 Skewness	-0.79393
Mean	2.95 Skewness Standard Error	0.48582
Mean LCL	2.13697 Kurtosis	2.92379
Mean UCL	3.76303 Kurtosis Standard Error	0.84119
Variance	2.05 Alternative Skewness (Fisher's)	-0.85981
Standard Deviation	1.43178 Alternative Kurtosis (Fisher's)	0.27318
Mean Standard Error	0.32016 Coefficient of Variation	0.48535
Minimum	0.E+0 Mean Deviation	0.98
Maximum	5. Second Moment	1.9475
Range	5. Third Moment	-2.15775
Sum	59. Fourth Moment	11.08923
Sum Standard Error	6.40312 Median	3.
Total Sum Squares	213. Median Error	0.08972
Adjusted Sum Squares	38.95 Percentile 25% (Q1)	3.
Geometric Mean	2.72343 Percentile 75% (Q2)	4.
Harmonic Mean	3.00752 IQR	1.
Mode	3. MAD	1.

Variable #11 (Engineer)		
Count	20 Skewness	-1.04348
Mean	2.85 Skewness Standard Error	0.48582
Mean LCL	2.08427 Kurtosis	2.84652
Mean UCL	3.61573 Kurtosis Standard Error	0.84119
Variance	1.81842 Alternative Skewness (Fisher's)	-1.13006

Total Sum Squares	80. Median Error	0.05605
Adjusted Sum Squares	15.2 Percentile 25% (Q1)	1.
Geometric Mean	1.59714 Percentile 75% (Q2)	3.
Harmonic Mean	1.42857 IQR	2.
Mode	1. MAD	0.5

Variable #28 (Interest in studying NR in College)		
Count	20 Skewness	0.62551
Mean	1.7 Skewness Standard Error	0.48582
Mean LCL	1.17566 Kurtosis	1.52675
Mean UCL	2.22434 Kurtosis Standard Error	0.84119
Variance	0.85263 Alternative Skewness (Fisher's)	0.67742
Standard Deviation	0.92338 Alternative Kurtosis (Fisher's)	-1.54845
Mean Standard Error	0.20647 Coefficient of Variation	0.54317
Minimum	1. Mean Deviation	0.84
Maximum	3. Second Moment	0.81
Range	2. Third Moment	0.456
Sum	34. Fourth Moment	1.0017
Sum Standard Error	4.12948 Median	1.
Total Sum Squares	74. Median Error	0.05786
Adjusted Sum Squares	16.2 Percentile 25% (Q1)	1.
Geometric Mean	1.49018 Percentile 75% (Q2)	3.
Harmonic Mean	1.33333 IQR	2.
Mode	1. MAD	0.E+0

Variable #29 (Interest in NR Career)		
Count	20 Skewness	0.19653
Mean	1.9 Skewness Standard Error	0.48582
Mean LCL	1.38218 Kurtosis	1.29418
Mean UCL	2.41782 Kurtosis Standard Error	0.84119
Variance	0.83158 Alternative Skewness (Fisher's)	0.21284
Standard Deviation	0.91191 Alternative Kurtosis (Fisher's)	-1.8517
Mean Standard Error	0.20391 Coefficient of Variation	0.47995
Minimum	1. Mean Deviation	0.81
Maximum	3. Second Moment	0.79
Range	2. Third Moment	0.138
Sum	38. Fourth Moment	0.8077
Sum Standard Error	4.07818 Median	2.
Total Sum Squares	88. Median Error	0.05715
Adjusted Sum Squares	15.8 Percentile 25% (Q1)	1.
Geometric Mean	1.68732 Percentile 75% (Q2)	3.
Harmonic Mean	1.5 IQR	2.
Mode	1. MAD	1.

Variable #30 (Family in NR)		
Count	20 Skewness	-0.3856
Mean	2.25 Skewness Standard Error	0.48582
Mean LCL	1.84322 Kurtosis	2.08087
Mean UCL	2.65678 Kurtosis Standard Error	0.84119
Variance	0.51316 Alternative Skewness (Fisher's)	-0.4176

Standard Deviation	1.34849	Alternative Kurtosis (Fisher's)	0.17242
Mean Standard Error	0.30153	Coefficient of Variation	0.47315
Minimum	0.E+0	Mean Deviation	1.025
Maximum	4.	Second Moment	1.7275
Range	4.	Third Moment	-2.36925
Sum	57.	Fourth Moment	8.49473
Sum Standard Error	6.03062	Median	3.
Total Sum Squares	197.	Median Error	0.0845
Adjusted Sum Squares	34.55	Percentile 25% (Q1)	3.
Geometric Mean	2.64769	Percentile 75% (Q2)	4.
Harmonic Mean	2.92683	IQR	1.
Mode	4.	MAD	1.

**Variable #12 (Human Resources Specialist)**

Count	20	Skewness	-0.29951
Mean	2.7	Skewness Standard Error	0.48582
Mean LCL	1.83391	Kurtosis	2.07156
Mean UCL	3.56609	Kurtosis Standard Error	0.84119
Variance	2.32632	Alternative Skewness (Fisher's)	-0.32436
Standard Deviation	1.52523	Alternative Kurtosis (Fisher's)	-0.83807
Mean Standard Error	0.34105	Coefficient of Variation	0.5649
Minimum	0.E+0	Mean Deviation	1.26
Maximum	5.	Second Moment	2.21
Range	5.	Third Moment	-0.984
Sum	54.	Fourth Moment	10.1177
Sum Standard Error	6.82102	Median	3.
Total Sum Squares	190.	Median Error	0.09558
Adjusted Sum Squares	44.2	Percentile 25% (Q1)	2.
Geometric Mean	2.42575	Percentile 75% (Q2)	4.
Harmonic Mean	2.55864	IQR	2.
Mode	#N/A	MAD	1.

**Variable #13 (Graphic Designer)**

Count	20	Skewness	-0.5986
Mean	2.9	Skewness Standard Error	0.48582
Mean LCL	1.98068	Kurtosis	2.35637
Mean UCL	3.81932	Kurtosis Standard Error	0.84119
Variance	2.62105	Alternative Skewness (Fisher's)	-0.64827
Standard Deviation	1.61897	Alternative Kurtosis (Fisher's)	-0.4667
Mean Standard Error	0.36201	Coefficient of Variation	0.55826
Minimum	0.E+0	Mean Deviation	1.24
Maximum	5.	Second Moment	2.49
Range	5.	Third Moment	-2.352
Sum	58.	Fourth Moment	14.6097
Sum Standard Error	7.24024	Median	3.
Total Sum Squares	218.	Median Error	0.10145
Adjusted Sum Squares	49.8	Percentile 25% (Q1)	2.
Geometric Mean	2.68267	Percentile 75% (Q2)	4.
Harmonic Mean	3.4188	IQR	2.

Standard Deviation	0.71635	Alternative Kurtosis (Fisher's)	-0.82593
Mean Standard Error	0.16018	Coefficient of Variation	0.31838
Minimum	1.	Mean Deviation	0.6
Maximum	3.	Second Moment	0.4875
Range	2.	Third Moment	-0.13125
Sum	45.	Fourth Moment	0.49453
Sum Standard Error	3.20362	Median	2.
Total Sum Squares	111.	Median Error	0.04489
Adjusted Sum Squares	9.75	Percentile 25% (Q1)	2.
Geometric Mean	2.11988	Percentile 75% (Q2)	3.
Harmonic Mean	1.96721	IQR	1.
Mode	2.	MAD	1.

**Variable #31 (Interest in PLEP Youth Corps )**

Count	20	Skewness	0.21295
Mean	2.1	Skewness Standard Error	0.48582
Mean LCL	1.4383	Kurtosis	1.38075
Mean UCL	2.7617	Kurtosis Standard Error	0.84119
Variance	1.35789	Alternative Skewness (Fisher's)	0.23062
Standard Deviation	1.16529	Alternative Kurtosis (Fisher's)	-1.73883
Mean Standard Error	0.26057	Coefficient of Variation	0.5549
Minimum	1.	Mean Deviation	1.1
Maximum	4.	Second Moment	1.29
Range	3.	Third Moment	0.312
Sum	42.	Fourth Moment	2.2977
Sum Standard Error	5.21132	Median	2.
Total Sum Squares	114.	Median Error	0.07302
Adjusted Sum Squares	25.8	Percentile 25% (Q1)	1.
Geometric Mean	1.7826	Percentile 75% (Q2)	3.
Harmonic Mean	1.51899	IQR	2.
Mode	1.	MAD	1.

**Variable #32 (Recommend Program)**

Count	20	Skewness	4.12948
Mean	1.05	Skewness Standard Error	0.48582
Mean LCL	0.92303	Kurtosis	18.05263
Mean UCL	1.17697	Kurtosis Standard Error	0.84119
Variance	0.05	Alternative Skewness (Fisher's)	4.47214
Standard Deviation	0.22361	Alternative Kurtosis (Fisher's)	20.
Mean Standard Error	0.05	Coefficient of Variation	0.21296
Minimum	1.	Mean Deviation	0.095
Maximum	2.	Second Moment	0.0475
Range	1.	Third Moment	0.04275
Sum	21.	Fourth Moment	0.04073
Sum Standard Error	1.	Median	1.
Total Sum Squares	23.	Median Error	0.01401
Adjusted Sum Squares	0.95	Percentile 25% (Q1)	1.
Geometric Mean	1.03526	Percentile 75% (Q2)	1.
Harmonic Mean	1.02564	IQR	0.E+0

Mode	3. MAD	1.
<b>Variable #14 (Renewable Energy Specialist)</b>		
Count	20 Skewness	-0.61986
Mean	3.15 Skewness Standard Error	0.48582
Mean LCL	2.22378 Kurtosis	2.36414
Mean UCL	4.07622 Kurtosis Standard Error	0.84119
Variance	2.66053 Alternative Skewness (Fisher's)	-0.67129
Standard Deviation	1.63111 Alternative Kurtosis (Fisher's)	-0.45656
Mean Standard Error	0.36473 Coefficient of Variation	0.51781
Minimum	0.E+0 Mean Deviation	1.265
Maximum	5. Second Moment	2.5275
Range	5. Third Moment	-2.49075
Sum	63. Fourth Moment	15.10273
Sum Standard Error	7.29455 Median	3.
Total Sum Squares	249. Median Error	0.10221
Adjusted Sum Squares	50.55 Percentile 25% (Q1)	3.
Geometric Mean	2.84016 Percentile 75% (Q2)	5.
Harmonic Mean	3.07692 IQR	2.
Mode	3. MAD	1.
<b>Variable #15 (Used Hand Tools)</b>		
Count	20 Skewness	1.91979
Mean	1.3 Skewness Standard Error	0.48582
Mean LCL	0.92696 Kurtosis	5.14991
Mean UCL	1.67304 Kurtosis Standard Error	0.84119
Variance	0.43158 Alternative Skewness (Fisher's)	2.07909
Standard Deviation	0.65695 Alternative Kurtosis (Fisher's)	3.17586
Mean Standard Error	0.1469 Coefficient of Variation	0.50534
Minimum	1. Mean Deviation	0.48
Maximum	3. Second Moment	0.41
Range	2. Third Moment	0.504
Sum	26. Fourth Moment	0.8657
Sum Standard Error	2.93795 Median	1.
Total Sum Squares	42. Median Error	0.04117
Adjusted Sum Squares	8.2 Percentile 25% (Q1)	1.
Geometric Mean	1.19623 Percentile 75% (Q2)	1.
Harmonic Mean	1.13208 IQR	0.E+0
Mode	1. MAD	0.E+0
<b>Variable #16 (Removed Invasive Species)</b>		
Count	20 Skewness	0.26924
Mean	1.8 Skewness Standard Error	0.48582
Mean LCL	1.40486 Kurtosis	2.15123
Mean UCL	2.19514 Kurtosis Standard Error	0.84119
Variance	0.48421 Alternative Skewness (Fisher's)	0.29158
Standard Deviation	0.69585 Alternative Kurtosis (Fisher's)	-0.73418
Mean Standard Error	0.1556 Coefficient of Variation	0.38658
Minimum	1. Mean Deviation	0.56
Maximum	3. Second Moment	0.46

Mode	1. MAD	0.E+0
<b>Variable #33 (Physical Exercise was too strenuous )</b>		
Count	20 Skewness	0.17811
Mean	2.75 Skewness Standard Error	0.48582
Mean LCL	2.01595 Kurtosis	1.98679
Mean UCL	3.48405 Kurtosis Standard Error	0.84119
Variance	1.67105 Alternative Skewness (Fisher's)	0.19289
Standard Deviation	1.29269 Alternative Kurtosis (Fisher's)	-0.94859
Mean Standard Error	0.28905 Coefficient of Variation	0.47007
Minimum	1. Mean Deviation	1.075
Maximum	5. Second Moment	1.5875
Range	4. Third Moment	0.35625
Sum	55. Fourth Moment	5.00703
Sum Standard Error	5.78109 Median	3.
Total Sum Squares	183. Median Error	0.08101
Adjusted Sum Squares	31.75 Percentile 25% (Q1)	2.
Geometric Mean	2.42575 Percentile 75% (Q2)	4.
Harmonic Mean	2.09059 IQR	2.
Mode	#N/A MAD	1.
<b>Variable #34 (Shared Family Culture and History)</b>		
Count	20 Skewness	-0.56219
Mean	3.05 Skewness Standard Error	0.48582
Mean LCL	2.32526 Kurtosis	2.98286
Mean UCL	3.77474 Kurtosis Standard Error	0.84119
Variance	1.62895 Alternative Skewness (Fisher's)	-0.60884
Standard Deviation	1.2763 Alternative Kurtosis (Fisher's)	0.3502
Mean Standard Error	0.28539 Coefficient of Variation	0.41846
Minimum	0.E+0 Mean Deviation	0.96
Maximum	5. Second Moment	1.5475
Range	5. Third Moment	-1.08225
Sum	61. Fourth Moment	7.14323
Sum Standard Error	5.7078 Median	3.
Total Sum Squares	217. Median Error	0.07998
Adjusted Sum Squares	30.95 Percentile 25% (Q1)	2.
Geometric Mean	2.84353 Percentile 75% (Q2)	4.
Harmonic Mean	2.89855 IQR	2.
Mode	#N/A MAD	1.
<b>Variable #35 (Have a better Understanding of Volunteering)</b>		
Count	20 Skewness	-1.01992
Mean	4.15 Skewness Standard Error	0.48582
Mean LCL	3.72686 Kurtosis	4.71771
Mean UCL	4.57314 Kurtosis Standard Error	0.84119
Variance	0.55526 Alternative Skewness (Fisher's)	-1.10455
Standard Deviation	0.74516 Alternative Kurtosis (Fisher's)	2.6123
Mean Standard Error	0.16662 Coefficient of Variation	0.17956
Minimum	2. Mean Deviation	0.51
Maximum	5. Second Moment	0.5275

Range	2. Third Moment	0.084	Range	3. Third Moment	-0.39075
Sum	36. Fourth Moment	0.4552	Sum	83. Fourth Moment	1.31273
Sum Standard Error	3.11195 Median	2.	Sum Standard Error	3.33246 Median	4.
Total Sum Squares	74. Median Error	0.04361	Total Sum Squares	355. Median Error	0.0467
Adjusted Sum Squares	9.2 Percentile 25% (Q1)	1.	Adjusted Sum Squares	10.55 Percentile 25% (Q1)	4.
Geometric Mean	1.66757 Percentile 75% (Q2)	2.	Geometric Mean	4.07225 Percentile 75% (Q2)	5.
Harmonic Mean	1.53846 IQR	1.	Harmonic Mean	3.97351 IQR	1.
Mode	2. MAD	0.5	Mode	4. MAD	0.E+0
<b>Variable #17 (Slept in a Tent)</b>			<b>Variable #36 (Felt Supported by OBA)</b>		
Count	20 Skewness	1.4046	Count	20 Skewness	-0.36568
Mean	1.35 Skewness Standard Error	0.48582	Mean	4.3 Skewness Standard Error	0.48582
Mean LCL	1.01659 Kurtosis	3.96929	Mean LCL	3.92696 Kurtosis	2.29447
Mean UCL	1.68341 Kurtosis Standard Error	0.84119	Mean UCL	4.67304 Kurtosis Standard Error	0.84119
Variance	0.34474 Alternative Skewness (Fisher's)	1.52115	Variance	0.43158 Alternative Skewness (Fisher's)	-0.39602
Standard Deviation	0.58714 Alternative Kurtosis (Fisher's)	1.63643	Standard Deviation	0.65695 Alternative Kurtosis (Fisher's)	-0.54741
Mean Standard Error	0.13129 Coefficient of Variation	0.43492	Mean Standard Error	0.1469 Coefficient of Variation	0.15278
Minimum	1. Mean Deviation	0.49	Minimum	3. Mean Deviation	0.56
Maximum	3. Second Moment	0.3275	Maximum	5. Second Moment	0.41
Range	2. Third Moment	0.26325	Range	2. Third Moment	-0.096
Sum	27. Fourth Moment	0.42573	Sum	86. Fourth Moment	0.3857
Sum Standard Error	2.62578 Median	1.	Sum Standard Error	2.93795 Median	4.
Total Sum Squares	43. Median Error	0.03679	Total Sum Squares	378. Median Error	0.04117
Adjusted Sum Squares	6.55 Percentile 25% (Q1)	1.	Adjusted Sum Squares	8.2 Percentile 25% (Q1)	4.
Geometric Mean	1.25636 Percentile 75% (Q2)	2.	Geometric Mean	4.24942 Percentile 75% (Q2)	5.
Harmonic Mean	1.18812 IQR	1.	Harmonic Mean	4.1958 IQR	1.
Mode	1. MAD	0.E+0	Mode	4. MAD	0.5
<b>Variable #18 (Sat by a campfire)</b>			<b>Variable #37 (Happy to Participate in Program)</b>		
Count	20 Skewness	4.12948	Count	20 Skewness	-1.15005
Mean	1.05 Skewness Standard Error	0.48582	Mean	4.6 Skewness Standard Error	0.48582
Mean LCL	0.92303 Kurtosis	18.05263	Mean LCL	4.26029 Kurtosis	3.31488
Mean UCL	1.17697 Kurtosis Standard Error	0.84119	Mean UCL	4.93971 Kurtosis Standard Error	0.84119
Variance	0.05 Alternative Skewness (Fisher's)	4.47214	Variance	0.35789 Alternative Skewness (Fisher's)	-1.24548
Standard Deviation	0.22361 Alternative Kurtosis (Fisher's)	20.	Standard Deviation	0.59824 Alternative Kurtosis (Fisher's)	0.78313

Mean Standard Error	0.05 Coefficient of Variation	0.21296
Minimum	1. Mean Deviation	0.095
Maximum	2. Second Moment	0.0475
Range	1. Third Moment	0.04275
Sum	21. Fourth Moment	0.04073
Sum Standard Error	1. Median	1.
Total Sum Squares	23. Median Error	0.01401
Adjusted Sum Squares	0.95 Percentile 25% (Q1)	1.
Geometric Mean	1.03526 Percentile 75% (Q2)	1.
Harmonic Mean	1.02564 IQR	0.E+0
Mode	1. MAD	0.E+0

**Variable #19 (Planted Seeds in the Ground)**

Count	20 Skewness	1.39792
Mean	1.4 Skewness Standard Error	0.48582
Mean LCL	1.01355 Kurtosis	3.61157
Mean UCL	1.78645 Kurtosis Standard Error	0.84119
Variance	0.46316 Alternative Skewness (Fisher's)	1.51391
Standard Deviation	0.68056 Alternative Kurtosis (Fisher's)	1.16999
Mean Standard Error	0.15218 Coefficient of Variation	0.48611
Minimum	1. Mean Deviation	0.56
Maximum	3. Second Moment	0.44
Range	2. Third Moment	0.408
Sum	28. Fourth Moment	0.6992
Sum Standard Error	3.04354 Median	1.
Total Sum Squares	48. Median Error	0.04265
Adjusted Sum Squares	8.8 Percentile 25% (Q1)	1.
Geometric Mean	1.28209 Percentile 75% (Q2)	2.
Harmonic Mean	1.2 IQR	1.
Mode	1. MAD	0.E+0

Mean Standard Error	0.13377 Coefficient of Variation	0.13005
Minimum	3. Mean Deviation	0.52
Maximum	5. Second Moment	0.34
Range	2. Third Moment	-0.228
Sum	92. Fourth Moment	0.3832
Sum Standard Error	2.67542 Median	5.
Total Sum Squares	430. Median Error	0.03749
Adjusted Sum Squares	6.8 Percentile 25% (Q1)	4.
Geometric Mean	4.55832 Percentile 75% (Q2)	5.
Harmonic Mean	4.51128 IQR	1.
Mode	5. MAD	0.E+0

**Variable #38 (Made New Friends)**

Count	20 Skewness	-0.6
Mean	4. Skewness Standard Error	0.48582
Mean LCL	3.4174 Kurtosis	2.2
Mean UCL	4.5826 Kurtosis Standard Error	0.84119
Variance	1.05263 Alternative Skewness (Fisher's)	-0.64979
Standard Deviation	1.02598 Alternative Kurtosis (Fisher's)	-0.67059
Mean Standard Error	0.22942 Coefficient of Variation	0.25649
Minimum	2. Mean Deviation	0.8
Maximum	5. Second Moment	1.
Range	3. Third Moment	-0.6
Sum	80. Fourth Moment	2.2
Sum Standard Error	4.58831 Median	4.
Total Sum Squares	340. Median Error	0.06429
Adjusted Sum Squares	20. Percentile 25% (Q1)	3.
Geometric Mean	3.85242 Percentile 75% (Q2)	5.
Harmonic Mean	3.68098 IQR	2.
Mode	5. MAD	1.

**Variable #39 (Willing to Camp Outside Again)**

Count	20 Skewness	-0.87461
Mean	4.25 Skewness Standard Error	0.48582
Mean LCL	3.70115 Kurtosis	2.46876
Mean UCL	4.79885 Kurtosis Standard Error	0.84119
Variance	0.93421 Alternative Skewness (Fisher's)	-0.94718
Standard Deviation	0.96655 Alternative Kurtosis (Fisher's)	-0.32015
Mean Standard Error	0.21613 Coefficient of Variation	0.22742
Minimum	2. Mean Deviation	0.825
Maximum	5. Second Moment	0.8875
Range	3. Third Moment	-0.73125
Sum	85. Fourth Moment	1.94453
Sum Standard Error	4.32252 Median	5.
Total Sum Squares	379. Median Error	0.06057
Adjusted Sum Squares	17.75 Percentile 25% (Q1)	4.
Geometric Mean	4.12402 Percentile 75% (Q2)	5.
Harmonic Mean	3.97351 IQR	1.
Mode	5. MAD	0.E+0