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Significant life experiences of naturalists

Kathleen Marie Mitchell

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SIGNIFICANT LIFE EXPERIENCES OF NATURALISTS

A Thesis
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in
Education:
Environmental Education

by
Kathleen Marie Mitchell

June 2005
ABSTRACT

This research study addressed a current topic of interest in the environmental education community: How can people of non-European origin be recruited into the field of outdoor and environmental education? Historically, most applicants and people currently working in the field have a European family background. Continuing the research into Significant Life Experiences (SLE), this qualitative study examined biographies included in applications for naturalist positions. This study found that SLE were shared by many applicants: multiple experiences in nature as a child, travel, a variety of jobs with an outdoor focus, and current outdoor adventures.
ACKNOWLEDGMENTS

Thank you Dr. Stoner for all of your patience, support, and guidance through the years.
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CHAPTER ONE

BACKGROUND

Introduction

For the past 17 years, I have been in charge of hiring naturalists in the Los Angeles (LA) County area. While LA has a high diversity of people, almost all of my most hirable applicants shared a Caucasian, middle class background. It was rare to have applicants from any other group express interest in this type of position. Over the years I have also noticed that most people applying for naturalist positions came to love the outdoors as a child. They were allowed much unstructured time outdoors. My observation is relevant to a new topic of research known as Significant Life Experiences (SLE). SLE is a field of research that studies the experiences that are shared by people who make the environment their life's work.

Currently, organizations in California such as the Golden State Environmental Education Consortium (GSEEC) have been discussing the lack of ethnic diversity in environmental education leadership. In June of 2003, this group gathered to discuss how to involve more minority groups. Another California organization, the Association for Environmental and Outdoor Education (AEOE) had a
stranded of its Spring 2004 statewide conference dedicated to the discussion of diversity issues.

For this study of significant life experiences, I chose to analyze personal biographies submitted as part of the application process for naturalist positions with the Los Angeles County Outdoor Science School during the past 10 years. I chose these biographies as the subject of my research because they were free of researcher bias in what questions were asked, and how they were asked. The biographies were studied to find the common experiences that led the participants to choose a naturalist position. These prior experiences included time spent outdoors, nature explorations, family activities, and college classes.

By studying the patterns and behaviors that led naturalist applicants to choose their profession, I hope to add to the research which identifies the type of experiences children need to become adults who care about the natural, outdoor environment. If these types of identified experiences were offered to ethnically diverse children, someday we might see greater diversity in the people choosing to participate in environmental education. As Tanner (1998a, p. 365) stated, "...if we find that certain kinds of early experience were important in
shaping such adults, perhaps environmental educators can, to the degree feasible, replicate those experiences in the education of the young."

Organization of the Thesis

The thesis portion of the project was divided into four chapters. Chapter One provides an introduction to the context of the problem, purpose of the project, and significance of the project. Chapter Two consists of a review of relevant literature. Chapter Three documents the steps used in developing the project. Chapter Four presents the discussion, recommendations and conclusions from the project. Project references follow Chapter Four. The Appendices for the project consist of: Appendix A, Biography Analysis Rubric, and Appendix B, Quotes from Biographies. Finally, the project references are listed.
CHAPTER TWO

REVIEW OF THE LITERATURE

Introduction

Significant Life Experience (SLE) is a relatively new field of research that has already accumulated a large volume of studies. According to Tanner (1998b) in a retrospective article, the field of SLE study formally began in 1980 when he published a study of the childhood background of conservationists in the United States.

The first section of this literature review highlights the progress in the field by focusing on the work of four prominent researchers: Chawla, Corcoran, Palmer and Tanner.

Their studies were done in many countries, with similar results. All studies have found that people who are involved with environmental work tend to share extensive childhood experiences in natural habitats. The second section discusses how the research has been done. The third section reviews articles about the effect of outdoor experiences on children.
Significant Life Experiences

Research by T. Tanner

In the 1960s, Tanner (1998b) came to the realization that conservationists seemed to share a similar background. In conversations with Tanner, people involved in environmental projects reported that they had spent, "...many hours of childhood and youth spent alone or with a few friends in a relatively pristine area, accessible on a more or less daily basis" (pp. 419-420). In 1973, Tanner unsuccessfully contacted foundations to fund the first SLE study of "informed and responsible environmental activists" (p. 420). Tanner (1980) was finally able to study a small group of 45 members of the National (now North American) Association for Environmental Education (NAAEE). The study confirmed his belief in the importance of childhood experiences in nature.

Research by J. Palmer

Palmer (1993) was interested in continuing and expanding Tanner’s SLE studies in England. Palmer decided to take a slightly different focus for her SLE research:

If a fundamental aim of environmental education is to help children learn about and care for the environment, then those responsible for this subject area must know the types of learning experiences that help to produce active and informed minds. (pp. 26-27)
Another area that Palmer chose to study was the recent increase negative factors such as habitat destruction that have motivated people to become involved in environmental issues. Palmer (1993) quoted one of her respondents who said, "I live in the biggest city of the world, which means terrible air, water, and noise pollution..." (p. 27).

Palmer's (1993) study was mailed to 238 members of the National Association of Environmental Education in the United Kingdom, and returned by an amazing 232 members. The survey asked participants to write about what they considered to be the significant life experiences that led them to develop positive attitudes towards the environment. "The results confirm Tanner's finding that childhood experiences of the outdoors is the single most important factor in developing personal concern for the environment" (p. 29-30). In addition, in a minor but significant finding, 41 respondents mentioned disasters and negative issues as a factor in their concern for the environment. In 1996, Palmer published a further analysis of the same data. The most important factors mentioned by 60 percent of the respondents were the outdoors and education (p. 111). An interesting result was that the percentages of those who mentioned positive experiences in
nature varied widely by age; 62% in the 30-50 year old age group, and 70% of those over the age of 50. In the group of those under 30 years old, only 25% mention these outdoor experiences.

Palmer and Suggate (1998) greatly expanded SLE research in another study by working with 30 researchers in 12 countries on six continents. Her study focused on nine of these countries. Once again, "...it is clear that direct experiences of the natural world affected over half of the respondents and was the most influential group of factors...Clearly the most important single factor by far was childhood experiences of nature" (p. 453).

Palmer (1999) published a further study focusing on the United Kingdom, Australia, and Canada that continued the 1998 work and received similar results.

Research by L. Chawla

Chawla (1990) wrote about the influence of natural places on childhood memory. In 1998, she began to focus on SLE experiences of environmental attitudes. She reviewed the research to that point and came to this conclusion:

By the late 1990s, the field (SLE) can point to a replication of findings across a variety of research settings, a variety of populations, and a variety of research designs. The fact that the same cluster of results emerge under most conditions suggests that, across countries and cultures, people understand the sources of their
environmental attitudes and actions in similar ways. (p. 385)

Chawla (1999) then conducted and published her own research. She studied environmentalists in Kentucky and Norway. In structured but open-ended interviews, she asked them to, "...tell the story of their most important environmental efforts and the sources of their commitment, to share their wisdom regarding how to work most effectively, and to describe their vision for wise development" (p. 16).

In the year 2000 Chawla attended a conference and defended this field of research. The argument against the research centered on the feeling that environmental activism often produced undesirable consequences. Chawla countered this by writing (2001):

My own position...is that the environmental movement needs dedicated activists, dedicated teachers, and a large population of citizens who support the protection of the environment in other ways as well: through their voting records on state and local referenda, through holding politicians accountable for their environmental positions, through recycling, reducing consumption and other day-to-day behaviors. Therefore I believe that it is important for environmental education research to understand what motivates all of these groups. (p. 455)

Chawla (2001) felt that the opposition by educators to SLE research might stem from self-interest. "The salience of special places and special people outside of
school...may be an uncomfortable challenge to
environmental educators' sense of their own significance”
(p. 460). She then extended this warning:

Meanwhile, access to natural areas in the local
environment, friendly urban environments, and
positive experiences in the environment with
parents and other adults appear to be eroding
for more and more children-as parents work
longer hours, electronic media entertain us
indoors, traffic rates increase, neighborhoods
become more dangerous, and asphalt and buildings
cover more and more open spaces. (p. 460)

Research by P. Corcoran

Corcoran (1999) mailed surveys to United State
members of NAAEE. Subjects were asked to indicate their
approximate age and gender, and to provide an
autobiographical statement identifying those experiences
that led to their concern for the environment. They were
asked to state what they considered to be their single
most significant life experience and to write a statement
indicating which, if any, of the years of their lives were
particularly memorable in the development of positive
attitudes and behaviors towards the environment.

Corcoran (1999) mailed out 1500 surveys and received
510 forms back. In this article he selected 34 different
excerpts to share at length. In his conclusion, Corcoran
(1999) shared:
My worry is for the young, who in the brief span of time of this new field of research, have already been limited in the ways of life and the kinds of places so many, across cultures, have previously found so lasting and significant. I am concerned that such landscapes and such environmental education might become increasingly available primarily to the economically privileged. (p. 219)

Qualitative Research

The research into SLE has focused on qualitative research rather than quantitative. Chawla (1998) explained: "...many environmental education programs are constructed on the false premise that knowledge about issues is sufficient, and that knowledge by itself will lead to action" (p. 384). Chawla also quoted another researcher, Marcinkowski, who observed: "that environmental education research has been overwhelmingly quantitative. It has primarily focused on what students know or think, with little attention to the feelings and self-understanding that transforms their knowledge and attitudes into action, or bind them to inaction" (p. 384).

Qualitative research is designed to study the emotional and interpretive side of people's experiences. It answers the question not of just what people do, but why they do so. In order for results to be valid,
questions must be posed in a way that gains the trust of respondents leading to honest and willing cooperation.

Many methods of qualitative research have been used since Tanner’s (1980) original study. Both opened and closed-ended questions have been used. Originally direct interviews and open-ended surveys were used. More recently questionnaires have been mailed.

Corcoran (1999) used the following method in his qualitative study. Subjects were asked to indicate their approximate age and gender, and to provide an autobiographical statement identifying those experiences that led to their concern for the environment. They were asked to state what they considered to be their single most significant life experience and to write a statement indicating which, if any, of the years of their lives were particularly memorable in the development of positive attitudes and behaviors towards the environment.

Why Children Need Wild Places

It appears from the research reviewed above, that in order to become an adult naturalist, childhood experiences in the outdoors are essential. In another line of research, several researchers have studied how all children need the opportunity to play freely in nature for
their proper development (Chawla, 1990; Huttenmoser, 1995; Raymund, 1995; Sobel, 1990).

Sobel (1990) found that it was a common experience for children to find and make special places in the landscape; even urban children found opportunities to create their own places. In his studies, Sobel found that special places had so many characteristics in common that he put together a list of six of them.

1. Special places are found or constructed by children on their own... 2. Special places are secret... 3. Special places are owned by their creators... 4. Special places are safe... 5. Special places are organized worlds...Children like the process of building a small world from scratch, of transforming natural or found materials into systems... 6. Special places empower their builders. Making a special place is one of the first significant, personal acts that children hearken back to. Making and having a special place means that you are someone special. (p. 10)

Chawla (1990, p. 18) used the phrase “ecstatic memories” to give significance to special childhood places. She said of these memories, “We do not need to consciously preserve these memories; we know that we can never lose them. They are like radioactive jewels buried within us, emitting energy across the years of our life” (p. 18). These special memories always seemed to have the same origin:
The environment itself offered freedom in the sense of potentiality—an openness to exploration and discovery in a place that beckoned enthrallingly. In most cases, this quality belonged to the natural environment: gardens, the seashore, a lake, prairie land, forests, and fields. Usually it was open space that the child could move through untiringly. (p. 20)

Kirkby (1989) investigated where pre-school children chose to play when they had a choice between natural and build environments. In a 1/2-acre playground with two natural areas, a built fort, and open space, 47% of the use occurred in settings with an enclosure, which was just 10% of the available space. Kirby hoped that her research would be a counterpoint to the traditional approach when children’s environments were designed.

A typical “play area” in the United States tends to be equipment (designed to promote the development of gross motor skills) set in one side of the park. In many cases, the rest of the park (often far more naturalistic), or the surrounding area, is a far more exciting place to play. (1989, p. 12)

Raymund (1995) did a two-part study that focused on the value of play in the outdoors. The first part studied the memories of favorite childhood places to play of 40 older adults who lived on two street in Champaign, Illinois, who were sorted into groups of 30-50, 51-70, and 71 and older, and concluded, “the home yard and natural environment surrounding it encouraged private, safe places
where children could go and be alone, as well as be adventurous, in control, and imaginative" (p. 371). After studying the value of the outdoors to adults, she sounded the warning, "To deprive persons in middle childhood of places which can invoke special places, especially those in the outdoor landscapes, could be limiting individual development, whether in creativity or overall well being" (p. 371-372).

In a second part of the study, by Raymund (1995), 14 current children between the ages of six to eleven were asked about the places they played. Most of their play opportunities were in formal structured places that they seemed to prefer. Raymund was concerned that, "Missing from these park environments was the encouragement of imaginary play, non-equipment games, and a lack of interest in the informal landscape..." (p. 377). Another cautionary finding, "today’s children were apparently lacking in imaginary games that support imitation and role playing, factors which the literature shows to encourage self-expression as well as adaptation to the environment as the children interact with nature" (p. 378).

Continuing the research on where children play and the effect those places have on a children’s development, Huttenmoser (1995) studied the significance of living
conditions on the development of children in two phases. In the first phase, 20 families with five-year-old children were intensively studied. One group of ten families had perceived safe living conditions (group A). The other group of ten families did not have safe living surroundings (group B). For the second phase both telephone interviews and follow up questionnaires were conducted with 926 participants. Of the group that filled out written surveys, 483 consistently let their children play outside (group A) and 93 consistently did not let their children play outside (group B).

In both phases, the A group children were mostly allowed play unaccompanied outdoors, spending more than 2 hours per day outside. On a nice day, the A group might spend 4-5 hours outside. However, the B group children from both phases were always supervised outside by adults. Group B children were outside for approximately 1-2 hrs per day. Social contact with other children was much reduced in the B group.

Children in the B group were found to be significantly behind in motor skills, friendships, and solving conflicts. Although their parents tried to provide them with playgroups and trips to parks, their time outside was still less than the A group. "Inadequate
living surroundings foster a tight relationship between mother and child. This often leads to tensions: the incessant urge of the child to move gets on the mother’s nerves. The children constantly cling to the mother and pester her” (p. 412).

Nabhan and Trimble (1994) made the case for all children having access to nature, specifically, “small places close by --- with dirt, trees, bushes, and “loose parts” --- to build and dabble in (at their best, within a hundred yards of their homes)” (p. 27). They went on to say,

Experiencing this adventure firsthand is crucial. Piaget himself said, “‘In order for a child to understand something he must construct it for himself, he must reinvent it...if in the future individuals are to be formed who are capable of creativity and not simply repetition’”. (p. 27)
CHAPTER THREE
METHODOLOGY AND RESULTS

Introduction

There has been a concern about the methodology of previous studies. Tanner (1998b, p. 422) asked, "Have some investigators, however inadvertently, asked leading questions which might misdirect their subjects' responses?" In all research, the effect of the researcher needs to be accounted for and minimized in order to be confident about the result. It is unavoidable that the selection of the questions will prompt the recall certain memories.

For this study, a collection of applications for naturalist positions was studied. One hundred applications were selected randomly from applications that included a personal biography. No instructions are given on the application as to the contents of the personal biography.

Population Served

One hundred applications were selected for the study, 66 of the applications from females, 34 applications from males (see Table 1). No racial or ethnic data were asked for or included in the applications. The applicants were determined to be from age 22-43 years of age.
Table 1. Male and Female Applicants

<table>
<thead>
<tr>
<th>Sex</th>
<th>Number (n = 100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>66</td>
</tr>
<tr>
<td>Male</td>
<td>34</td>
</tr>
</tbody>
</table>

Thirty-five applicants were under age 25. Fifty-two applicants were from age 25-30. Eleven applicants were from age 31-39. Two applicants were age 40 and up (see Table 2).

Table 2. Age of Applicants

<table>
<thead>
<tr>
<th>Age</th>
<th>Number (n = 100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 25</td>
<td>35</td>
</tr>
<tr>
<td>25-30</td>
<td>52</td>
</tr>
<tr>
<td>31-39</td>
<td>11</td>
</tr>
<tr>
<td>&gt;40</td>
<td>2</td>
</tr>
</tbody>
</table>

Data Analysis Procedures

One hundred complete applications were randomly chosen from the years 1996 to 2004. In order to be included in the study, the application had to include a biography.

Each application packet was given a three-digit reference code from 001 to 100. To protect the applicant’s privacy, names were not used in this study. Each application was read to determine if the applicant was
from a male or female. Next, the year of the application was established. The age of the person at the time of application was determined. Exact birthdates were available on many included college transcripts. Some applicants listed their age. For a few, age was estimated assuming that they had graduated from college at age 22 unless there was a job history to influence the year of college graduation.

The applications were read for the SLE mentioned by the applicant. The main source was the personal biography; but upon analysis, many applicants mentioned SLE in other places in their application as well. To compile these SLEs, a rubric was written for each life experience with five levels for each category (see Appendix A).

Education

A four-year degree is a requirement for the naturalist position. Fifty percent of the applicants reported more than one degree or major (see Table 3).
Table 3. All Degrees

<table>
<thead>
<tr>
<th>Degree *</th>
<th>Number (n = 100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science</td>
<td>74</td>
</tr>
<tr>
<td>Environmental</td>
<td>40</td>
</tr>
<tr>
<td>Education</td>
<td>12</td>
</tr>
<tr>
<td>Behavioral/Social</td>
<td>6</td>
</tr>
<tr>
<td>Languages</td>
<td>5</td>
</tr>
<tr>
<td>Geography</td>
<td>4</td>
</tr>
<tr>
<td>Recreation</td>
<td>3</td>
</tr>
</tbody>
</table>

Total is more than 100 because 50 applicants held more than one degree.

Of the 74 science degrees about half were in the field of biology (see Table 4).

Table 4. Science Degrees

<table>
<thead>
<tr>
<th>Degree</th>
<th>Number (n = 74)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology</td>
<td>36</td>
</tr>
<tr>
<td>Natural Resources</td>
<td>9</td>
</tr>
<tr>
<td>Ecology</td>
<td>6</td>
</tr>
<tr>
<td>Geology</td>
<td>6</td>
</tr>
<tr>
<td>Wildlife Science</td>
<td>4</td>
</tr>
<tr>
<td>Zoology</td>
<td>3</td>
</tr>
<tr>
<td>Life Science</td>
<td>2</td>
</tr>
<tr>
<td>Natural Science</td>
<td>2</td>
</tr>
<tr>
<td>Anatomy</td>
<td>1</td>
</tr>
<tr>
<td>Earth Science</td>
<td>1</td>
</tr>
<tr>
<td>Fisheries and Wildlife</td>
<td>1</td>
</tr>
<tr>
<td>Forestry</td>
<td>1</td>
</tr>
<tr>
<td>Marine Biology</td>
<td>1</td>
</tr>
<tr>
<td>Physics</td>
<td>1</td>
</tr>
</tbody>
</table>
Of the 40 environmental related degrees almost a third (13) were in environmental studies. Almost as many (12) were in a closely related field of environmental science (see Table 5).

Table 5. Environmental Related Degrees

<table>
<thead>
<tr>
<th>Degree</th>
<th>Number (n = 40)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Studies</td>
<td>13</td>
</tr>
<tr>
<td>Environmental Science</td>
<td>12</td>
</tr>
<tr>
<td>Environmental Education</td>
<td>9</td>
</tr>
<tr>
<td>Outdoor Education</td>
<td>2</td>
</tr>
<tr>
<td>Environmental Biology</td>
<td>1</td>
</tr>
<tr>
<td>Experiential Education</td>
<td>1</td>
</tr>
<tr>
<td>Outdoor Environmental Education</td>
<td>1</td>
</tr>
<tr>
<td>Social Ecology</td>
<td>1</td>
</tr>
</tbody>
</table>

Work Experience

To be qualified for a naturalist position, one year of experience at an Outdoor Science School was necessary. It was possible for other experience to qualify as well.

In reviewing the applications, 69 applicants reported previous experience working in the field of outdoor / environmental education. Ten of these described their experience as an internship. Twenty-three had limited experience of one year or less in the environmental education field. Forty-one had a year or more of
experience at an outdoor science school or the equivalent. Eighteen applicants had two or more years of experience at an outdoor science school (see Table 6).

Table 6. Work Experience

<table>
<thead>
<tr>
<th>Position</th>
<th>Number (n = 100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous experience in outdoor/environmental education</td>
<td>69</td>
</tr>
<tr>
<td>Internship</td>
<td>10</td>
</tr>
<tr>
<td>One year or less</td>
<td>23</td>
</tr>
<tr>
<td>More than one year</td>
<td>41</td>
</tr>
<tr>
<td>Two or more years</td>
<td>18</td>
</tr>
<tr>
<td>Jobs with Parks</td>
<td>37</td>
</tr>
<tr>
<td>Summer Camp Counselor</td>
<td>59</td>
</tr>
</tbody>
</table>

*Results total 165 because many applicants held more than one position.

Park Experience: National, State, or Local

Thirty-seven applicants reported working in some type of parks position (see Table 6). They had worked in national parks, national forests, state parks and regional parks. Some worked in park nature centers or in a wildlife refuge. One applicant did wildlife research in a park. It is this researcher's opinion that it is not unusual for someone who enjoys working in the outdoors to have worked in a variety of jobs.

As a result, I pursued a degree in Wildlife Science...and have used my education to take on several outdoor-related jobs; from performing
bird banding surveys, to park ranger, to environmental educator. These jobs have enhanced my knowledge of nature and the environment and have also made me discover my love for birds. (Appendix B, #77)

**Summer Camp Counselor**

A very popular job that 59 applicants had held was being a summer camp counselor (see table 6). Thirty-six of these applicants spent two or more summers working at camps.

As a child, the only time I really felt comfortable was outside. I continually wondered why the stars moved from season to season, why the face of the moon always looked the same, why frogs liked water and toads didn’t. Growing up on a farm provided plenty to wonder about. I spent my summers at Girl Scout camp asking the counselors my questions, but often came home with more questions than I got answers!

Every summer I worked at Girl Scout Camp; every weekend I spent outside. I worked with Girl Scout troops, went hiking, skiing, canoeing, horseback riding, anything outside. I found I was spending more and more time on trail, more and more time pursuing personal challenges like solo trekking for a month at a time, or covering twenty and thirty mile days to pack distance into a weekend. Finally, I realized that city living and “real” jobs in traditional school settings can wait. Kids need to explore the out of doors, and they need someone to answer their questions. (Appendix B, #22)

**Significant Life Experience as a Child**

Childhood experiences were not specifically asked for on the application. Many applicants chose to include these experiences in their biography. From this researcher’s
personal experience interviewing applicants, it could be concluded that, if the applicants were directly asked, a large majority would relate experiences similar to those listed in this section.

Exposure to Nature as a Child

Seventy-three applicants mentioned having significant and frequent experiences in nature as a child. Without prompting, they enthusiastically wrote about playing in trees, streams, and forests. Just about any natural area was a wonderful, inspiring playground. Many families went out into nature with their children. They had family cabin in the mountains, visited relatives in rural areas, or just packed up the car and visited the national parks (see Table 7).

Table 7. Significant Life Experiences as a Child

<table>
<thead>
<tr>
<th>Experience</th>
<th>Number (n = 100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Involvement in Nature</td>
<td>29</td>
</tr>
<tr>
<td>Good Access to Natural Areas</td>
<td>23</td>
</tr>
<tr>
<td>Rural Experience</td>
<td>13</td>
</tr>
<tr>
<td>Summer Camp</td>
<td>11</td>
</tr>
<tr>
<td>School or a Teacher connect w/ nature</td>
<td>15</td>
</tr>
<tr>
<td>Witnessing Habitat Destruction</td>
<td>10</td>
</tr>
</tbody>
</table>

*Results total 101 because some applicants reported more than one experience.
Eleven applicants did not mention childhood experiences, but started their biography with college. From their descriptions of outdoor activities, travel, and jobs held, it seems very likely that they also had extensive experiences in nature as a child.

Only two applicants, who did not mention childhood experiences, also did not show any evidence of childhood experiences in nature.

**Discovering Nature at College Age**

Fourteen applicants discussed in their biography how they had never connected with nature as a child. It wasn't until they finally left home for college that the connection with nature happened that impacted their lives. Some had an experience with a class, a teacher, or just found friends who liked outdoor activities.

I enrolled in the University of Colorado...after having spent a year at...Los Angeles: a school and environment for which I was extremely unsuited. Once completing a year at Boulder, I spent my first summer in the Sierras, and from this moment on, my life and dreams were altered entirely...I believe my love of working with children in the outdoors budded on a lake just south of Yosemite and blossomed in to my present career. I drank up life that summer, soaking in the laughter and enlightenment children bring and quenching my adventurous spirit with trips to the high country. (Appendix B, # 20)
Summer Camp

Eleven applicants mentioned going to summer camp and the influence it had on them as a child.

I grew up in the outdoors. I was (still am, actually) a Girl Scout, so I went camping twice a year with my troop and went to camp every summer. I loved camp so much that I worked as a camp counselor for the two summers that I did not take classes in college. I also went camping a lot with my family. When we lived in...my parents bought some property in the mountains and we went there every summer for six years. (Appendix B, #15)

Rural Experience

Thirteen applicants mentioned spending significant time in rural areas. Rural children seem to be allowed more unsupervised time in nature than their city counterparts. The advantage for these children was being able to go by themselves to a natural area and not having to wait for a parent or adult.

I was raised on a farm outside...a rural community, population 335. I spent most of my time outside on the farm, in the woods or at the river - where my parents and grandparents taught me to respect and appreciate nature and wildlife. I still prefer to spend my time outdoors - camping, fishing, breathing. (Appendix B, #43)

Access to Natural Areas

Twenty-three applicants discussed having good access to natural areas as a child.
I have always had a curiosity and love for natural things and the systems which they are a part of. As far back as I can remember I have always loved being outside, getting wet and muddy in the stream, creating ant farms, building forts with forest debris, and catching critters of all kinds. This driving curiosity for the natural world has led me to excel in science courses and to study Ecology in college. (Appendix B, #23)

Family Involvement in Nature

Twenty-nine applicants mention their family’s interest and involvement in nature explorations, family vacations, and camping.

Unlike many other families, vacation time for our family did not mean a trip to Disney World or to the packed beaches of tourist cities. It meant trips to the Great Smokey Mountains or old growth forests. Being the eldest of six and the daughter of a naturalist, I have lead many family outings. My time with the family was spent hiking climbing or just simply observing the wilderness. My father was an avid naturalist and athlete, and my personal mentor. His guidance and knowledge of the natural world have lead me to my life of science. (Appendix B, #32)

Habitat Destruction

Ten applicants discussed seeing habitats destroyed as a motivation for being involved in environmental education.

I grew up in northwest Oregon, splashing around in waterfalls...My love for nature first took flight there - where I was able to run around and play in the grass and the rain. This love then turned into a genuine interest and concern when I began my environmental issues classes in high school. I became aware of how closely
ecosystems were interrelated and how much destruction was taking place. This concern drove me to involve myself in various international summits and to develop museum displays to educate the public. (Appendix B, #76)

Influence from Teachers and Schools

Fifteen applicants mentioned teachers and schools as being an influence in their interest in the environment.

Five years ago, I was an astrophysics major...Now I am a marine biology graduate student, seeking an outdoor school teaching position. What happened? After the...maritime studies semester in 1996 I found, not in the distant stars but in the wet and rocky shores of Connecticut and California, that the beauty of life was all around us and that there was more to life than astrophysics. The spring of the year brought about a personal "métamorphosis" as I strove to learn as much as possible about the natural world. It was in many ways the first spring for me; all the world was new and, for the first time, I paid attention to the rebirth and welcomed it with enthusiasm. In that spring, I joined a group of students who were organizing an outdoor environmental education program for the local youth center. The metamorphosis was complete: I was emerging from the shell of the observatory dome and making a difference in the lives of a dozen children. (Appendix B, #62)

Travel

One hundred percent of the subjects of this study mentioned activities or jobs that involved traveling around the United States and beyond. By applying to the Outdoor Science School program, successful applicants
my excitement for our natural environment with my thrill for watching children learn. (Appendix B, #4)

Outdoor Activities

Ninety-one applicants mentioned involvement in outdoor activities. Most were involved in multiple activities. Four people mention just one activity. Eleven people had two activities. Thirty-one people had three different activities. Eighteen people had four activities. Thirteen people had five. Seven had six activities, and four listed seven activities (see Table 9). Hiking, backpacking and camping were listed 140 times. There were 13 mentions of sport activities such as sports involving a ball, gymnastics, skateboarding, and running. Outdoor adventures such as snow sports, scuba diving, rock climbing, kayaking, skydiving, and spelunking were noted 59 times. Outdoor activities such as birding, bicycling, fishing, horseback riding, mountain biking, and various water sports were listed 83 times. There were seven other mentions of various activities such as folk dancing and photography.
Table 9. Outdoor Activities

<table>
<thead>
<tr>
<th>Activity *</th>
<th>Number n = 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travel</td>
<td>100</td>
</tr>
<tr>
<td>Hiking</td>
<td>57</td>
</tr>
<tr>
<td>Backpacking</td>
<td>44</td>
</tr>
<tr>
<td>Camping</td>
<td>38</td>
</tr>
<tr>
<td>Water Sports</td>
<td>32</td>
</tr>
<tr>
<td>Skiing/Snowboarding</td>
<td>23</td>
</tr>
<tr>
<td>Cycling</td>
<td>19</td>
</tr>
<tr>
<td>Rock climbing</td>
<td>16</td>
</tr>
<tr>
<td>Birding</td>
<td>12</td>
</tr>
<tr>
<td>Ball sports</td>
<td>10</td>
</tr>
<tr>
<td>Kayaking</td>
<td>10</td>
</tr>
<tr>
<td>Fishing</td>
<td>9</td>
</tr>
<tr>
<td>Horses</td>
<td>7</td>
</tr>
<tr>
<td>Photography</td>
<td>6</td>
</tr>
<tr>
<td>Scuba</td>
<td>5</td>
</tr>
<tr>
<td>Mountain Biking</td>
<td>4</td>
</tr>
<tr>
<td>Spelunking</td>
<td>4</td>
</tr>
<tr>
<td>Folk Dancing</td>
<td>1</td>
</tr>
<tr>
<td>Gymnastics</td>
<td>1</td>
</tr>
<tr>
<td>Running</td>
<td>1</td>
</tr>
<tr>
<td>Skateboarding</td>
<td>1</td>
</tr>
<tr>
<td>Sky Diving</td>
<td>1</td>
</tr>
</tbody>
</table>

*Results total 401 because more than one activity was selected by most applicants.

Summary

The population of this study was a very well traveled, well-educated group who enjoyed a wide variety
of outdoor activities. Most were female under the age of 30 who already had work experience at an Outdoor Education Center or Outdoor Science School.
CHAPTER FOUR
DISCUSSION, RECOMMENDATIONS AND CONCLUSIONS

Introduction
This study and the other studies from the literature review found similar results even though different techniques were used. Influences mentioned in these independently written biographies were compared with other studies that asked subjects directly for their thoughts.

Presentation of the Findings
Concerning what factor most influenced a person to pursue a career as a naturalist this study found that 73% of subjects discussed discovering their love of nature and being outside as a child, and 14% wrote about becoming interested in nature at college age. From reading the applications it is likely that an additional 11% spent much of their childhood in natural areas as well. From these numbers it is safe to say that 87-99% of people in this study became interested in nature through direct experience as a child or young adult. This finding is similar to Chawla’s 1998 study that found that 88% of the respondents named outdoor experiences as an influence on their attitude toward the environment. However, in Palmer’s 1998 study of significant influences and
formative experience on environmental awareness, it was found that approximately 60% mentioned the experiences of nature as an influence.

The largest contrast found was between Palmer’s youngest applicants and youngest groups of this study. In Palmer and Suggate’s 1998 study, 25% of participants under 30 years old mentioned nature as an influence. In this study, 87% of the applicants were 22-30 years old. Although the results were not separated by age, a total of 87-99% reported being influenced directly by experiences in nature.

In consideration of environmental (habitat) destruction, Chawla’s (1998) review of SLE research found a study that found 41% of respondents listed habitat destruction as an influence on their attitude toward the environment. In this study, 10% mentioned that as an influence.

A difference between the population in this study and the respondents in the other studies regarding habitat destruction is that the biographies analyzed were composed for a specific employer. Some may not have included their thoughts on habitat destruction because it is a negative topic. They may have been motivated to portray themselves in a positive light.
It is this researcher's opinion that a difference between the population of naturalists in this study and those discussed in the review of literature is that they were applying for a very specialized job in the field of environmental education. The job involves being outside with children all day most days. Not every job in this field requires spending as much time outside. It is not then surprising that almost all of the applicants in this study had been introduced to nature as children and currently spend a lot of time in the outdoors.

Something to consider as to why people in the field of environmental education are mostly of European descent is found in re-visiting Corcoran (1999). He wrote, "I am concerned that such landscapes and such environmental education might become increasingly available primarily to the economically privileged" (p. 219). As more formally wild places are developed, and more people live in cities, children's easy access to neighborhood natural areas decreases.

In looking at the people of this research project, it appears that are most of at least middle class. They all have 4-year college degrees, with half having more than one degree or major. All have traveled. Most related extensive explorations around the United States. Many told
tales of trips to Africa and other exotic locations. Although 57% reported hiking as a favorite outdoor activity, many discussed outdoor hobbies that involve expensive equipment such as snow and water sports.

Conclusions

Based on this study and the review of literature this researcher has come to the following conclusions.

1. The people seeking positions as a naturalist share a common background of extensive of time spent in natural areas. Seventy-one percent wrote about this experience as a child. Fourteen percent mentioned these experiences starting at college age.

2. To be interested in a career in environmental and outdoor education, a personal connection must be made with the natural environment. This connection appears to be associated with multiple experiences in the out-of-doors as a child, but was also found to occur for some people with experiences in college.

3. Many of the applicants in this study had access to natural areas without adult guidance. It may not be necessary for the critical outdoor
experiences to be structured by adults for the connection to nature to occur. If natural areas are limited to non-existent, family and school opportunities may be the best way to link the child to the environment.

Recommendations

Based on this study and review of literature this researcher has four recommendations.

1. All children need to be allowed free play opportunities in natural areas.
2. Society as a whole benefits when children develop their imagination and creativity. Children who spend all their time inside are at a disadvantage socially and developmentally compared to those able to go outside.
3. Families should be encouraged to take their children to natural areas.
4. Educators should take students on field trips to study natural areas.

Summary

At the conclusion of this research, it is this researchers opinion that people introduced to nature during their childhood or while a young adult in college,
and who have had multiple opportunities to be in natural environments are most likely to be interested in applying for an outdoor science school naturalist teaching position. Thus, in order to have a wider segment of society participate in this career choice, opportunities need to be provided for all children and young adults to engage with natural environments. These natural areas must be preserved, or open nature space created for children to explore. Society needs to be informed as to the value of children connecting with nature.

The people best able to teach others about the value of nature for children are those who have experienced it themselves. If a more diverse group connected with nature as children, a more diverse group would seek jobs to teach outdoor and environmental education.

In this researchers opinion it is an environmental justice issue that people of non-european origin are more likely to live in areas with limited access to parks and open spaces. Children who grow up without access to natural areas are being denied a choice of career options and recreational pursuits. This might be a good topic for further research.
APPENDIX A

BIOGRAPHY ANALYSIS RUBRIC
Previous experience at Outdoor Science Schools

1. Some experience at an Outdoor Education Center
2. One year of experience at an OEC
3. One year at an Outdoor Science School
4. Two years at an OSS
5. More than two years OSS experience

Parks previous employment in Parks

1. Mentions working for a town, county, state, or national park
2. Had a park job that mentioned interpretation
3. Worked for at least a year at park education job
4. Two years experience
5. More than two years interpretive experienced

Camp as a child

1. Mentions going to a summer camp
2. Went to summer camp more than once
3. Attended summer camp more than twice
4. Summer camp a major influence in life, attended throughout childhood
5. Spent most of every summer at camp

Working at a Summer Camp

1. Some experience at a camp
2. One summer of experience at a camp
3. Two summers at camp
4. Three summers at a camp
5. More than three years camp experience

Backyard

1. Mentions spending time outside the house as an influence
2. Good description of spending quality time outside around the house
3. Describes a favorite / special spot
4. More at home outside than inside
5. Outside almost all the time
Access to natural areas from home

1. Mentions spending time outside in natural areas within walking distance,
2. Good description of spending quality time outside
3. Describes a favorite / special spot
4. More at home outside than inside
5. Outside almost all the time

Rural Experiences

1. Mentions time spent in a rural setting
2. Good description of spending quality time in a rural setting
3. Spend a lot of time visiting relatives with a farm
4. Lived on a farm for a time
5. Grew up in a rural setting

Solo Nature Experiences

1. Mentions spending time outside by self
2. Good description of spending quality time outside by self
3. Describes a favorite / special spot
4. More in solo nature experience than in house
5. Outside by self almost all the time

Family interest in nature

1. Mentions family interest in nature
2. Good descriptions of quality time in nature with family
3. Multiple family vacations in nature
4. Family the major influence in spending major quality time in nature
5. Family main activity in nature throughout the years

International Travel

1. Mentioned
2. Time spent in more than one country
3. Worked in nature education in another country
4. Peace Corps or similar program
5. More than 2 years with environmental emphasis
Habitat destruction as motivation

1. Habitat destruction is mentioned as an influence
2. Habitat destruction is a concern
3. Emotional about habitat destruction
4. A childhood place was destroyed
5. Active in habitat destruction issues

Influential books

1. A book was mentioned
2. A book was mentioned as a strong influence
3. Much time is spent reading from various authors
4. Reading about the environment was a major influence in life
5. Reading about the environment was the major influence in life

Major influence from a teacher or school

1. A teacher or school was mentioned
2. A teacher or school was mentioned as a strong influence
3. Much time was spent with teacher or school
4. A teacher or school was a major influence in life
5. A teacher or school was the major influence in life
APPENDIX B

EXCERPTS FROM BIOGRAPHIES
As part of the application process to the Los Angeles County Outdoor Science School, each applicant is asked to write a personal biography. No instructions are given in regard to the contents of the biography; the applicant decides what to include. Most biographies explained exactly how the life experiences led them to apply for a position with the Los Angeles County Outdoor Science School.

A passage from every applicant’s personal biography is presented here with the writer’s original grammar and spelling. They were edited for relevance and to protect the writer’s identity.

1 One thread that weaves through my professional work life is a deep compassion for children especially those who lack a sense of their value and belonging...I worked with disadvantaged youth at a summer camp...I decided at this point that I wanted to teach in the inner city...I enrolled in a bilingual teaching program...I took a position teaching third grade to bilingual students at a school in South Central Los Angeles. I took acting courses...I found this experience exhilarating and have since incorporated drama and storytelling into my teaching. I took a position as a teacher’s aide teaching marine biology at day camps.

2 I grew up on an Oregon farm learning how to raise cows, sheep and horses. While growing up on the farm I realized that I liked my science classes and in the future wanted to do something in...
the sciences. So in high school I started working in labs to get experience...Since graduation, only three years ago, I feel like my life has started over. I began as the “nature lady” at camp...I learned that I loved this hands-on-can’t-do-it-in-a-classroom kind of teaching.

3 After graduation I learned that a very effective way to protect the Earth is to teach its’ children to understand and appreciate it. It has been my pleasure for the past four years to do just this. Working with children has given me countless hours of pleasure and endless satisfaction. When I hear a kid say “I CAN do it! or “OHH.. I get it!” It makes my time worthwhile. Children leave my program if not excited about science, then a little less apprehensive about it.

4 ...during the summer time my family...would go on some sort of camping trip. We would spend time hiking, fishing, and swimming throughout the northeast. I always enjoyed being in the outdoors and the family trips were safe, fun, and positive so a strong connection was made early on. Curiosity seemed to always lead me into exploring the adjacent woodlands nearby before they were unfortunately transformed into new housing developments.
I have always had a curiosity and love for natural things and the systems which they are a part of. As far back as I can remember I have always loved being outside, getting wet and muddy in the stream, creating ant farms, building forts with forest debris, and catching critters of all kinds. This driving curiosity for the natural world has led me to excel in science courses and to study Ecology in college.

In the winter of...I left my city life and moved to a remote retreat community in the North Cascades...It was here, living in a remote, isolated community of less than one hundred people that I developed my sense of community...as well as my love of and connection with wilderness. In the two years I spent in this community I became a mountaineer, a backcountry skier, a lover of the dark and wildness, and ultimately an environmental science instructor. It was here, in the...Wilderness, that I became who I am.

During my last two years of high school and first two years of college, I was youth group leader for my local church youth group. My primary responsibilities included outdoor/natural history education and recreation/leisure activity planning for school age children (5th-8th graders).
I grew up a country bumpkin wandering the cornfields and wooded prairieland of southern Minnesota. As a child, my father and grandfather were big influences on me and taught much about the outdoors through fishing and berry picking expeditions. I was intrigued by nature at an early age. I wanted to be a Naturalist.

Without the array of exceptional teacher's I had throughout my public school experience I would not have made it to college as a science student. I gained a passion for teaching young students about the natural world in which they live.

I have just finished working...Environmental Education Program which involved teaching school groups the wonder of the natural world based around the ocean environment. Watching a captivated young audience marvel at the magnificence of a baby loggerhead sea turtle scrambling towards the ocean gives me an opportunity to share my great love of the sea's beauty with children who have often never even seen the beach before. I share in their excitement, knowing that they will hold a picture of that special event forever, giving me great pleasure to know that in some way I could play a part in that.

For three months...I participated in...Southwest Field Studies Program, where I was reintroduced to my first love, the outdoors.
There was a comfort and a sense of strength and confidence that built inside of me each day of the journey. I became more knowledgeable and aware of the importance of wild places and the need to care for them.

As a youth growing up in rural areas in the Pacific Northwest, I often took for granted the beauty and potential of my surroundings. A desire for the "exotic" and "real adventure" led me to want to be an anthropologist and travel abroad. One of my first summers in college, I took a job working in a remote state park...I became reacquainted with and fell in love with my surrounding and thus backpacking, hiking, and beginning naturalism began to play a huge role in my life...I had already figured out by then that environmental education was where it was at...Out of all the settings I have worked with people in, I've never seen people as moved or changed as in the outdoors and nature.

In the fall of my sophomore year I began volunteering for the...Outdoor School program as a Junior Counselor. Students were allowed to volunteer up to two weeks per year...I volunteered at eleven, one week, sessions while in high school and Jr. college.
I spent the summer between my Freshman and Sophomore years working in Idaho clearing trails...in a remote backcountry setting...The summer between my Sophomore and Junior year was spent volunteering at the...Wildlife Refuge...I helped on several studies, including bird nesting monitoring, insect surveys,...the summer between my Junior and Senior year at school was spent...working for a field research specialist on riparian vegetation study...After graduation...I started working for...Outdoor School...I have lived in California since last September and have enjoyed my time working in the Angeles NF, getting to know the mountain community and working with kids. I am presently seeking a new job opportunity to stay in these mountains doing what I love...

I grew up in the outdoors. I was (still am, actually) a Girl Scout, so I went camping twice a year with my troop and went to camp every summer. I loved camp so much that I worked as a camp counselor for the two summers that I did not take classes in college. I also went camping a lot with my family. When we lived in...my parents bought some property in the mountains and we went there every summer for six years. Once I was in Peru, I fell in love with the country and the rainforest. I wanted to go back, so I did six months later. When I
returned to the US, all I could think about was how to get back to Peru...So a year later, I was in Lima...working at the American school...During the school holidays, I would go back to the research center...and guide tourists...We also worked with school groups that would come for a 5-day “rain forest camp.”

I have a passion to teach and learn about the outdoors, to interpret and share it with people so they can share my passion. This passion stems from reading works by John Muir, Freemen Tilden, Sigurd Olson, and John Dewey to name a few...The summer after my senior year in high school, I went on the...Voyageur trip. Typically five Voyageurs and their leader paddle rivers, lakes, and even oceans north of the Arctic Circle. This was the ultimate trip of my whole existence on this earth.

I lived in a fairly typical suburban setting on a busy road with few trees or parks to play in...My parents were not “outdoorsy” folks...One of my favorite places as a child, though, was the top of the tree in my front yard...I knew the angle of every leaf, the twist of every limb on that old box elder...the thing I loved most was perching at the top of it. a little “seat” - a crook in the top where four branches jutted out - I called this Eagle’s Nest Point...I would sit for hours, reading a book or doing nothing more than listening to the wind rustle the leaves in a cadence
with the rumbling cars passing down below.

I was the nature director at camp...That is where I developed my
passion for teaching about the environment and the outdoors,
and working with children. After that summer, I had great
difficulty going back into the fisheries lab and examining fish
scales every day.

My early experiences in the out-of-doors came in several ways. I
spent my summers and some weekends at a cooperative
outdoor residential camp in Michigan, and my family also did
camping whenever possible on vacations. My love of the
out-of-doors led me to pursue environmental studies as one of
my majors.

As part of my science requirements I took ecology - the class
and the professor changed my life. By the end of the semester I
was a biology major...and set my sights on science.

I enrolled in the University of Colorado...after having spent a
year at...Los Angeles: a school and environment for which I was
extremely unsuited. Once completing a year at Boulder, I spent
my first summer in the Sierras, and from this moment on, my life
and dreams were altered entirely...I believe my love of working
with children in the outdoors budded on a lake just south of
Yosemite and blossomed in to my present career. I drank up life
that summer, soaking in the laughter and enlightenment children bring and quenching my adventurous spirit with trips to the high country.

I have always had a great deal of interest in how things connect in nature and the world. This interest has lead me into a career as a scientist and eventually sharing this interest as a teacher. I had the support of teachers and family in obtaining a good education through discovery and experiential learning.

I decided to join the Peace Corps in Environmental Education to make my career change...Living in Morocco was an incredible existence which offered a multicultural experience that gave me a broad perspective on world environmental issues.

As a child, the only time I really felt comfortable was outside. I continually wondered why the stars moved from season to season, why the face of the moon always looked the same, why frogs liked water and toads didn’t. Growing up on a farm provided plenty to wonder about. I spent my summers at Girl Scout camp asking the counselors my questions, but often came home with more questions than I got answers!

Every summer I worked at Girl Scout Camp; every weekend I spent outside. I worked with Girl Scout troops, went hiking, skiing, canoeing, horseback riding, anything outside. I found I
was spending more and more time on trail, more and more time pursuing personal challenges like solo trekking for a month at a time, or covering twenty and thirty mile days to pack distance into a weekend. Finally, I realized that city living and "real" jobs in traditional school settings can wait. Kids need to explore the out of doors, and they need someone to answer their questions.

23 When I graduated from high school in 1990, I worked for a summer camp and helped run a guide service...Each summer while studying ecology and systematic biology...I directed and taught archery and mountain biking, led backpacking trips...The summer camp and guide service ignited my desire to teach and to become a better teacher.

24 Ever since I began working on my Bachelor's Degree in Environmental Education I have wanted to work with children and eventually operate my own environmental education center. This feeling started when I enrolled in an environmental education seminar my junior year...This seminar required me to volunteer four hours a week in an elementary school teaching basic environmental concepts...I was encouraged by my professor to apply for a summer position as an Interpretive Naturalist...That was a very influential experience for me. I
presented interpretive talks and conducted hikes for large groups.

25 My birthplace and home...was south Florida. As a child and teenager, my...sisters and I spent a great deal of time in the Keys swimming, camping, and playing outside. My love for travel began as a child and continues to this day; I've made my way across the United States and western Europe. I was raised as a lover and protector of nature. My mom worked to instill conservationist ways in all of us.

26 I have been an outdoor person my entire life...I spent most of my early summers at camps...I learned orienteering, hiking, archery, and canoeing. I learned about the native flora and fauna. I learned to love it. This love of nature, whether a product of nurturing or environment has stayed with me always.

27 Early on my parents would take my brother...camping, fishing, and would encourage us to get outside and do things. This meant going exploring in nearby woods and fields, sledding in the winter, and a host of other activities. This is probably where I began my appreciation and love of the outdoors.

28 Growing up in Oklahoma, I gave little thought to the natural world or how different other places might be. I knew my backyard and the ditch that ran behind it. It was a fun world for
me, I knew no different and loved it. When I got older...I discovered a love for the mountains - opportunities for exploration and learning through recreation and experience. I have been captivated by this ever since.

29 I was born and raised...surround by woods and mountains. My father is a former science teacher who made me his primary pupil. Throughout my youth I was surrounded by nature and scientific teaching. My favorite childhood memories involve the outdoors. I spent hours in my best friend’s backyard eating wintergreen berries.

30 Since the time I was ten years old, when asked what I wanted to do when I grew up, I answered that I wanted to study animals and nature.

31 My college years were probably the period of the most growth in my life. I learned quite a lot about the environment and biology...The highlight was a senior year abroad to study conservation and natural history in New Zealand (for 9 weeks)

32 My interest to find and live a life as a naturalist started very early in my youth. I was born...within the deepest parts of the swamp. Much of my time was devoted to canoeing, fishing, and camping in some of the richest land and water of the United States. My peace was found within the beauty of that secluded landscape.
Unlike many other families, vacation time for our family did not mean a trip to Disney World or to the packed beaches of tourist cities. It meant trips to the Great Smokey Mountains or old growth forests. Being the eldest of six and the daughter of a naturalist, I have lead many family outings. My time with the family was spent hiking climbing or just simply observing the wilderness. My father was an avid naturalist and athlete, and my personal mentor. His guidance and knowledge of the natural world have lead me to my life of science. The professors and naturalists that I had encountered...influenced me to such an extent that I cannot abstain myself from becoming a teacher myself.

I was born in...a city engulfed by the magnificent beauty of the pacific northwestern forests, mountains, islands, and surrounding waters. An innate love and curiosity for the natural world filled my sole at an early age and I spent the hours when I was away from school catching bugs in discarded glass jars whose lids were pierced with nail holes for air circulation...I fell in love with zoos and aquariums and viewed them as the Holy Grails of traveling destinations.

I grew up in San Francisco...I spent countless hours in the gym and numerous weekends camping and exploring nature with my
Girl Scout troop. Although the aspirations of a career in gymnastics faded by fifth grade, my interest in the outdoors never waned...Bringing nature home to students is important to me. I enjoyed working with urban youth because I believe that they are the population that needs it the most. I know if I had not been involved in scouting with the ability to explore nature, I would not be doing what I am today. It is my goal to give other students a similar opportunity.

I really enjoy teaching because it allows me to express my feelings about the environment and how we can change our attitudes towards it's sustainability.

Having spent much of my early life in the countryside, I have always had a strong love of the natural world. This has continued through my education, my strongest subjects being biology and related areas. In my leisure time I pursue various activities such as wildlife photography, boating and scuba diving as well as caravanning.

I am a confident and independent person who is committed to environmental education, especially with young people. My interest was sparked off by a particularly inspiring primary school teacher...My last holiday was a two week camping and hiking
adventure in Ireland...I love being out in wide open spaces and
woodlands in different seasons and at different hours of the day.

It took millions of years for this planet to create an environment
suitable for our kind of life and many more millions for our kind of
life to evolve. And we, as humans, through basic ignorance and
incredible technological capacity, are destroying that
environment in what is essentially a geological eye-blink. The
world and life as we know it is changing irrevocably...I love this
Earth (we do have such a "beautiful mother!" and I have
dedicated my life to working for it and teaching us humans how
to live sustainably on it.

During my first year in college, I went through the largest identity
change of my life. I began to have a real concern for
environmental issues and went vegetarian. I joined Students for
a Sustainable Earth, the campus environmental group...SSE
turned out to be the major turning point in my life. It gave me my
world view and my three very best friends.

Having had the experience to work abroad in several countries
and under different situations the one thing that holds true are
the smiles and curiosity that come with being in the outdoors. My
time at the...Outdoor Education Center...has given me the
chance to share my enthusiasm, wonder, and knowledge about nature and its crazy ways.

41 As a girl growing up...I had a love of being outdoors. After school, I was always outside hiking in the woods, bicycling in the villages or playing in farmers’ fields with my friends. Camping throughout Europe with my family was the beginning of my outdoor experiences. Since then, I have expanded my adventures to traveling, backpacking, climbing, bicycling and mountaineering.

42 I knew I enjoyed research but found that I was not passionate enough about it. I thus took an internship at the Marine Institute in the hope of exploring a new avenue. All of the sudden things fell into place. It was as if I was always meant to be a teacher. It felt natural.

43 I was raised on a farm outside...a rural community, population 335. I spent most of my time outside on the farm, in the woods or at the river - where my parents and grandparents taught me to respect and appreciate nature and wildlife. I still prefer to spend my time outdoors - camping, fishing, breathing.

44 My grandfather used to take me out as a youngster...We always stopped work to look at the birds and flowers, and if we found monarch caterpillars, we would always put them in a special
cage we had made, along with milkweed, to watch them grow and spin their chrysalises...Ever since then, I have been enthralled by the natural world which surrounds us, and I credit my grandfather for being my first teacher in the outdoors. My earliest interest in the natural world is directly related to my passion of fishing as a six year old...As I became older, I realized that I could catch more and bigger fish if I began turning over rocks to see what types of “fish food” was underneath...As a junior in college I traded in my fishing pole for binoculars...and took a trip to the Everglades...I was also lucky enough to see a manatee and calf at a range of ten feet...These experiences were important to my evolution as a naturalist, a process I continue with enthusiasm.

I grew up in the wilds of the asphalt jungle of New York City, where I admit to surrounding myself with as many plants and animals as my mother would allow...Living in New York taught me many things...that I was not meant to live in a city. Wild places called, and we would escape to upstate Wisconsin during the summer...to fish and swim and canoe to our heart’s content until fall came and we had to go back to school. So I knew two worlds, and had my choice between them. I am quite happy with
my choice... nature is what I truly love, and I have made up my mind to work there.

I developed my love of nature at a very early age on long walks with my dad and my older brother... At that time, a pine forest was the only place where I felt truly alive and happy... At age twelve... I stumbled upon "Craters on Fire" the book would change my life... My fascination with volcanos (and my curiosity about the limestones upon which I walked) led me to study geology and paleontology.

I graduated... with a B.S. in Ecology and Evolutionary Biology. Since graduating, I worked on a sea turtle conservation project in... Mexico. I helped to educate tourists and local residents about sea turtle ecology... Back in Arizona, I led hiking groups through the deserts and mountains... I then spent a year as a field biologist... I am currently finishing my internship with... Outdoor Education... Now I continue to look forward to helping children increase their awareness and appreciation of the incredible world which surrounds us all.

I always figured I'd graduate from college and do field biology; that was the dream anyway. But while I was in college I became involved in working with high school kids... I realized I loved working with kids; high school kids, younger kids, it didn't really
matter...I would still love to do the field work, but right now I'm not ready to give up that time with kids.

50 Someone asked me once at what moment in my life did I realize that I wanted to work in the field of environmental education. I sat there for a long time trying to think of the moment of realization, but I came up blank. What I did realize was that there was never any question with what I wanted to do with my life. Ever since I can remember I have loved the outdoors and spending time with kids.

51 I enjoy working with nature enthusiasts of all ages and hope to promote earth stewardship through education.

52 My SCUBA adventures created my passion for environmental advocacy. I witnessed much environmental degradation of coastal areas and waters and felt the need to learn more about the various environmental problems plaguing the planet.

53 My bond with the natural world began at a young age with the solitary exploration of my large backyard. This connection was strengthened by my parents who encouraged me to explore my interests in my natural surroundings. As a family, we went bird watching and on adventures through a nearby forest. They instilled in me a reverence for the natural world and promoted my never-ending curiosity with it.
For the past ten years I have lived off and on in Yellowstone National Park...During this time I developed a real appreciation for other people and their needs. Yellowstone provided me with ample opportunity to experience many backpacking trips, canoe trips, and cross country ski trips including winter camping.

I grew up in San Francisco and spent many Sundays walking through Golden Gate Park with my parents. Their love of nature also took us to the...zoo and...aquarium. My love of nature and animals deepened with nature programs we watched on television.

I was born in the Sierra Foothills...Growing up, my older brother...and I spent a lot of time outside building forts and climbing trees.

I went to a smaller University...which is located...at the foot of the Appalachians. This was a good choice as my curiosity and wonder of the natural world would truly take off. This happened at first through rock climbing, backpacking, fishing, and going on day hikes in the area around my school and quickly took off with trips to other parts of the region and Canada to camp, canoe, and fish. My interest in protecting the natural world grew in college, so much so that I picked a major that had me learn
more about the natural world through an ecological perspective based in geography.

58  I have always enjoyed working with an educating youth. In high school, I spent 3 summers working at...day camp...The following three summers I...ran children's programs, guided hikes and evening programs on topics such as astronomy, endangered species, edible plants, ecosystems and plant and animal adaptations.

59  When friends would ask me, “What are you going to do with your degree?” I'd say, “I want to get a job that will pay me to go camping or work outside sometimes.” No one really believed me. Then, last summer I went on a three-week class in Field and Desert Biology. We lived in tents, did different experiments and wrote abstracts. I loved it! I knew I wanted to be in the hands-on environment.

60  My parents encouraged my brother and me to get good grades and play sports. I hiked and camped, read books and played basketball...

I love outdoor education because I get to work outside and guide the natural curiosity of children. Kids are excited about outdoor school and I respond to their energy. I get to share my love and concern for nature.
Growing up in...Maryland surrounded by beautiful natural areas undoubtedly created my great appreciation of the outdoors. Very early on I decided that working in the open air would be the only way I could spend my future, so upon entering college environmental science was the perfect and only route for my studies. Through my first two years of college I saw myself headed toward field research, but thankfully things changed and I found the joy of sharing nature with children.

Five years ago, I was an astrophysics major...Now I am a marine biology graduate student, seeking an outdoor school teaching position. What happened? After the...maritime studies semester in 1996 I found, not in the distant stars but in the wet and rocky shores of Connecticut and California, that the beauty of life was all around us and that there was more to life than astrophysics. The spring of the year brought about a personal "metamorphosis" as I strove to learn as much as possible about the natural world. It was in many ways the first spring for me; all the world was new and, for the first time, I paid attention to the rebirth and welcomed it with enthusiasm. In that spring, I joined a group of students who were organizing an outdoor environmental education program for the local youth center. The metamorphosis was complete: I was
emerging from the shell of the observatory dome and making a
difference in the lives of a dozen children.

Growing up in...Oregon has everything to do with I’ve become
today. My home was in a rural part of the valley and I was in the
heart of nature and the outdoors. Whether I was aware of it or
not, nature was becoming part of me.

My family and I enjoyed camping and went quite often. My dad
and I would take it farther with more camping, hiking, fishing,
and hunting. All these experiences allowed me to see many
different kinds of environments and I began to see how these
different environments could be related.

In fifth grade, my whole class spent five days at an
environmental learning center. For the first time in my life, my
natural love of the outdoors was noticed by a teacher and
encouraged. Somehow this validation of my natural abilities
relating to the outdoors and science helped make junior high
and high school a lot more enjoyable.

I grew up and lived in Wisconsin for 18 years. Wisconsin is
where I learned about farming on my grandfather’s farm. We
always had animals around our home which was nothing out of
the ordinary...Always being outside, cutting wood, sledding,
walking through the woods, or simply playing outside has given
me the love for the outdoors which hasn't wavered over the years.

I have always been a lover of the outdoors. My reverence for wild places and my hunger to know and understand them more intimately is highly contagious. In the past few years, I have seen my passion for the natural world ignited in the field of teaching. Working in wilderness leadership and in environmental education. I have often witnessed my students developing a distinct appreciation for nature and I have never felt more rewarded by my work. I believe that I am an energetic and effective educator.

My senior year of college I...volunteered as a docent at the Science Museum. My senior thesis looked at the environmental movement where it began, where it was at the moment and how it could continue to advance with art...I found myself striving to be more involved with the community and thus began working with ArtStart. Hired as an artist, I taught environmental concepts through art in...community centers.

I'm not sure where my passion for the environment came from. It certainly wasn't from my parents; my father was in construction, pro-growth, and I can remember at a very young age admonishing him for building on the land where "the deer lived."
My vacations have been spent almost entirely outdoors, backpacking and hiking in the wilderness of California. This has reawakened the environmentalist in me and I always find myself in the visitor's center of any park, learning all I can about the ecology of the area.

He taught Science and Math with a unique high school, Student Travel and Research School. The school's focus on experiential learning and travel led him through extensive travels domestically and throughout Africa and China. He recently helped launch nature education programs at...Nature Center.

I grew up in a relatively small town...with my parents, two older brothers and always a variety of pets. My love for nature stems from lots of family vacations to natural areas. We camped, hiked, bird watched, and whale watched in beautiful places all along the East Coast. While earning my degree in Environmental Interpretation...I began to put my love for the outdoors to work by volunteering and working at various nature centers.

As a child, I spent every summer camping with my family, learning about the flora, fauna, geology and history of nearly every national park and scenic area west of the Mississippi River. I feel very privileged to have had this unusual opportunity,
and feel it has impacted my life in many positive ways. Because of this, I am interested in bringing children closer to nature and giving them the first spark of interest and knowledge that will encourage them to spend future weeks or months learning and exploring.

Have you ever swam at night in a sea of glitter as the light of the stars reflects in the water, or earned a Southern California sunset on top of the mountain you just climbed on your bike, or recognized the beauty in a child’s simple act of stepping around a bug because he has realized, as a result of your instruction, that all life is precious and connected? I have been extremely fortunate to have grown through experiences just like these in my education, work, and travels.

While growing up on the shores of the Chesapeake Bay I participated in a number of environmental education programs as a student. When I was a senior in High School I went to...an environmental education site...It was there on that island, while watching the sun rise over the Bay that I knew I wanted to teach environmental education.

I grew up...near Acadia National Park. I have always been an “outdoors person” - skiing, iceskating, and snoeshawing in the winter, and biking, hiking, swimming, canoeing and kayaking in
the summer. In high school and the beginning of college I worked...as a park ranger.

75 I grew up in the suburban forests and meadows of...Massachusetts. When it came time for college I was drawn to Vermont. I fell in love with the Green Mountains and the rolling streams. I became an elementary education major by instinct and later chose a concentration in environmental studies.

76 I grew up in northwest Oregon, splashing around in waterfalls...My love for nature first took flight there - where I was able to run around and play in the grass and the rain. This love then turned into a genuine interest and concern when I began my environmental issues classes in high school. I became aware of how closely ecosystems were interrelated and how much destruction was taking place. This concern drove me to involve myself in various international summits and to develop museum displays to educate the public.

77 Growing up in a rural part of...Oregon, I was always around the outdoors and always saw the plants and animals one would never see in a city. I have always been exposed to the outdoors and this is why I believe nature is so important to me. My family and I often went camping and fishing, and my dad and I would enjoy hunting and hiking.
As a result, I pursued a degree in Wildlife Science...and have used my education to take on several outdoor-related jobs; from performing bird banding surveys, to park ranger, to environmental educator. These jobs have enhanced my knowledge of nature and the environment and have also made me discover my love for birds.

One of my favorite things about working for...was working with the high school counselors who were former participants. Whatever the reason, the experience was influential and continual because they remembered and came back! I can remember going to outdoor education when I was nine years old and again at age twelve. My experiences made me what to be a scientist.

My family first introduced me to nature...My Grandmother would push me in my stroller when she hiked on the trails behind my home...When I was older I would disappear on trips with my grandfather. I would race to keep up with his long legs as we cut straight through the woods...my uncle used me as weight to train his husky team in the winter...When I was old enough it became my forest alone. I played there every moment possible. I went into the shadows beneath the trees and played like any young mammal and learned about the world around me, my
world...Soon I brought my friends and we explored the whole forest behind my house.

Of course, just as I was becoming old enough to explore on my own, New Hampshire went through a burst in population growth and subsequent development. The first victims were my trees. For weeks, skiders and chainsaws ripped them apart...When the booming crashes finally ceased, the construction crews began to dig foundation holes. it was at this point my friends and I began to fight back. We slipped in...and pushed soil and rocks back into the holes...the houses went up despite our heroics...

I grew up in western Nebraska, in a small rural community. I spent much of my summers in northern Colorado at my grandparent’s cabin, discovering all that the mountains had to offer...my parents made sure that my sister and I saw other parts of the country also...my first semester of my senior year, I headed to the rainforests of Australia. This was a truly amazing and eye-opening experience in my life, and I was able to gain an even greater love for the natural world.

My first taste of the mysteries and uniqueness of nature came in fourth grade. I had enjoyed our fourth grade residential excursion to “science camp” so much that during the next summer I was allowed to go to “night camp” at the same science center. It was
an amazing experience. We slept during the day and explored the night...I didn't recognize at the time how a week at night camp would begin to shift my life, but it did. It actually took me another five years to realize my love of wildlands. When I turned fourteen I had the opportunity to go on an "Outward Bound" adventure...I can easily say that this trip, combined with the seeds of learning that were planted earlier in fourth grade, changed my life. Being in the woods, canoeing on hundreds of different lakes, dipping my cup into the fresh lake water and drinking its coolness, changed how I looked at the world. It gave me great energy and leadership skills that I had not found in other places. I was only fourteen, but I knew in my heart that this was the type of teaching that I would eventually want to do.

I was raised on Vancouver Island...I have a very active family and while I was growing up we would spend our free time traveling, hiking, camping, and skiing together. I was also a member of the Junior Forest Wardens, an organization that taught multiple-use, forestry-oriented programs. It was my love for the outdoors that led me to follow in my father's footsteps and study forestry.
As I grew older my experiences also grew. High school was a very busy time. This is also when I started to gain my great appreciation for the outdoors. Most of our vacations had always consisted of outdoor recreation, but this is when I really started to love being outside, and what better place than the Idaho wilderness to experience this. My family began whitewater rafting, and I was on junior ski patrol.

In high school I traveled to Africa on a Safari that sparked a light that leads me down the path I travel. I gazed upon many species of animals and witnessed young Masi children learning to sing, smile and speak in a school with no walls and branches of a tree for their roof. I returned to the United States with a perfect picture of my future. I knew I wanted to combine my excitement for our natural environment with my thrill for watching children learn.

I was fortunate enough to attend schools based on experiential education from the 5th through 8th grades. It was during this time that I developed my love for nature and learning. I went on backpacking trips in Colorado during the summers after the 6th and 7th grades. All through middle school, we went on various field trips, including the eighth grade Field Ecology trip to the Smoky Mountains, the Okefenokee Swamp, and an island off
the coast of Georgia. My mother's family lives in the hills of Missouri, so I spent a lot of my young life exploring the Ozark Mountains. It was through all of these experiences that I really began to love learning, and specifically to love learning about the world around me.

I grew up...alongside the San Gabriel Mountains. I was an adventuresome kid, always playing in the mud and climbing down ravines...capturing lizards, climbing trees and finding birds to rescue. Not surprisingly, I am still an adventuresome adult! As I grew older, I became increasingly more alarmed by the pollution and waste that was occurring around me, and developed into a conscientious person wanting to do something important for the world, by educating people about the environment.

My earliest memories are of camping...with my family. We spent summers and school breaks traveling...frequently to my favorite camping destination, Yosemite.

I was born in New Jersey and...graduated with a Bachelor of Arts in Environmental Studies in 1996...I helped to coordinate an environmental conference which focused on Starting Sustainable Communities. I taught college students about the
Alternative Energy Center, a facility built...entirely out of recycled materials, that was completely self sustaining.

I can truthfully say that I have been drawn to the water from an early age. I grew up in...Missouri so my exposure to free flowing water was the murky Mississippi...What I think did it were the early exposures I had at the Current River. We used to camp there at least twice a year until I was 16 years old.

I went on a month long Outward Bound trip, and my world spun. I put away the "no thanks" "not me," and "I can't" and I did...I began to lead groups, share ideas, try everything, and really grab onto life.

In the 6th grade I went to Camp KEEP...I loved it!...Later, I went to Camp KEEP as a counselor and it was great. I learned so much, and enjoyed it more than being a counselor at the various recreational camps I had been to.

My love for the environment and the appreciation of the outdoors developed during my scouting career as a youth. I soon spent my summers on staff at...Catalina Island. Here I began to teach nature-orientated subjects such as environmental science...

Outside of academia, I'm fairly busy exploring the outdoors. I love to run and bike weekly. I also enjoy photography, hiking, backpacking, snowboarding, kayaking, and sailing.
As the daughter of an artist, I spent the summers traveling all around in search of beauty in nature. I found it over and over again. I especially enjoyed the times spent camping in the wilderness of the southwest.

Following graduation, I served with the Peace Corps in Guatemala...During this time, I realized how much I enjoy teaching. Upon return from Guatemala I searched for the opportunity to combine my love of nature and my desire to become a more experienced educator. I ended up working in experiential outdoor education...I found an experiential approach toward learning to be invaluable.

I attended a private school in a suburb of Philadelphia where I attended a private school that spent fifth and sixth grade preparing us for outdoor education. Both years we attended a different residential program and both years I loved it. But those were very isolated experiences. That summer I spent living and working in Yellowstone National Park, where I absolutely, unconditionally fell in love with the outdoors...and the west. I spent all my off time hiking, backpacking, and exploring miles and miles of my two million-acre back yard.
I grew up in Wisconsin. From an early age I was drawn to nature, and birds especially. The first books I read were about birds. I knew from an early age that I wanted to work in nature. I really wanted to be a wildlife biologist...I found out that I had a way with people and can teach. So I became a Naturalist or Environmental Educator.

Growing up on Long Island I was a black sheep of sorts...My idea of fun were the beach, camping, or photography...Things really changed for me when I moved south to attend college. Suddenly all around me were others who appreciated the outdoors, especially water. Everywhere around me people snorkeled, SCUBA dove, windsurfed, and sailed, plus I met tons of people who loved to hike and camp.

Long before I was toilet trained, I was wilderness camping with my family...My love of nature and the outdoors stems from this hands-on experience with my family. By the time I could carry a backpack with all my gear, my family was off to hike in the Alps...By age six, I was enrolled in a...Audubon spring camp. I have fond memories of mucking in the vernal pools, running through the large meadows, building leaf shelters and making paper...I thrived with the experiential education and being outside.
While I was in high school I was a camp counselor at {LACOSS}...I love teaching kids in an outdoor classroom. Nature can be such a powerful teacher, if one is taught how to listen to it. There is not reason why all children shouldn't have this opportunity. I was lucky to be able to participate in many outdoor education programs and camps as a kid, and I always admired my counselors and wanted to be cool as them. Now, I actually have the chance to be that person for another generation of kids, and I'd love to be that kind of role model for them.

I often went on remote camping trips into northern Ontario by pontoon plane with my family...My enthusiasm for outdoor education let me to search for a graduate program in natural resources, so I enrolled in the...forestry program.
REFERENCES


