

WORKING TOWARD EFFECTIVE ENVIRONMENTAL EDUCATION FOR ALL:
A CASE STUDY OF THE FRIENDS OF TRYON CREEK STATE PARK

by
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Abstract

Working Toward Effective Environmental Education for All: A Case study of the Friends of Tryon Creek State Park

Laura Todis

Many people consider environmental education (EE) the most promising solution to globally accelerating environmental problems. However, while many EE programs in the United States have succeeded in serving White, middle-class students, a high percentage of these same programs fail to reach low-income and diverse communities.

The Friends of Tryon Creek State Park is a non-profit organization that conducts EE programs at Tryon Creek State Park, a forested natural area in Portland, Oregon. Like many EE programs, The Friends of Tryon Creek (FTC) is concerned with serving the needs and interests of more diverse audiences, but has achieved limited success. Because of the increasing demographic of Latinos in the area, the Director of FTC expressed particular interest in analyzing FTC's relationship with Latinos. Because I wanted the research to reflect the interests of FTC, and because little research has been conducted in providing effective environmental education to Latinos, I focused my research on this population.

The research combines a variety of qualitative methodologies including eighteen interviews from three groups: EE professionals; staff of FTC and Tryon Creek State Park; and teachers and partner organizations. In addition, my recommendations reflect a literature review of diversity in EE, and quantitative analysis of FTC's financial and attendance data.

My conclusions from this research suggest a spectrum of recommendations of how FTC could improve service to Latinos. These recommendations are applicable not only to FTC, but to many other EE organizations interested in improving their service to diverse audiences, in general.

In addition, my research suggests that if diverse audiences, including Latino communities, are to be provided with EE on a meaningful level, their access to effective EE must be analyzed on a regional scale. While it is important for individual EE organizations such as FTC to strive to make improvements to their service of diverse audiences, it would be most efficient and effective if these efforts could be coordinated within a network of EE organizations.

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Introduction

Environmental education programs for youth have gained popularity throughout the United States in recent decades. Many people have become concerned about the acceleration of environmental problems and the simultaneous lack of environmental literacy amongst the public and have turned to environmental education as a solution. Programs designed for both classroom and non-formal educational environments, such as nature centers, have attempted to provide quality environmental education to youth throughout the country.

As these programs have developed, many programs have succeeded in serving White, middle class students, but a high percentage of these same programs fail to reach low-income and diverse communities. As a result, in recent years, some environmental education practitioners have dedicated their attention to the specific needs of low income and diverse communities. Many programs, particularly urban ones, have focused exclusively on serving these communities. Further, many more general programs have attempted to adapt their organizations and curricula to better serve low-income and racially and ethnically diverse audiences. However, most programs that do not cater explicitly to these audiences have had little success in attracting and serving the needs of low-income and diverse audiences on a meaningful scale. According to environmental education professional Jean MacGregor, “This is an ongoing, and as yet unresolved, serious issue for the environmental education profession, in general” (MacGregor, 2009).

Tryon Creek State Natural Area is a forested, urban state park located in an affluent, mostly White neighborhood in Portland, Oregon (see Figures 1 and 2, following pages). The park was formed in 1970 through a grassroots campaign that succeeded in preventing the area from being developed, so that it could provide a place for the exploration and study of nature for Portland residents. Today, the founding organization, Friends of Tryon Creek State Park (FTC), is a non-profit organization that works in conjunction with the Oregon State Park Service to run programs in the park. The group has developed an array of programs, including environmental education camps and courses, and volunteer and internship positions for people in the Portland area.

While the group has overtly attempted to reach out to diverse communities in its programs, like many similar environmental education programs, it has achieved its greatest success in serving the needs of White, middle- and upper-class audiences who live near the park. When I was employed at the park as an instructor of summer programs in 2008, I became interested in using Tryon Creek as a case study to examine what

changes an environmental education program might want to consider in order to better serve more diverse audiences.

Fig.1. Approximate location of Tryon Creek State Park (indicated by star)



Source: www.googlemaps.com

Fig. 2. Map of Tryon Creek State Park

Tryon Creek State Natural Area

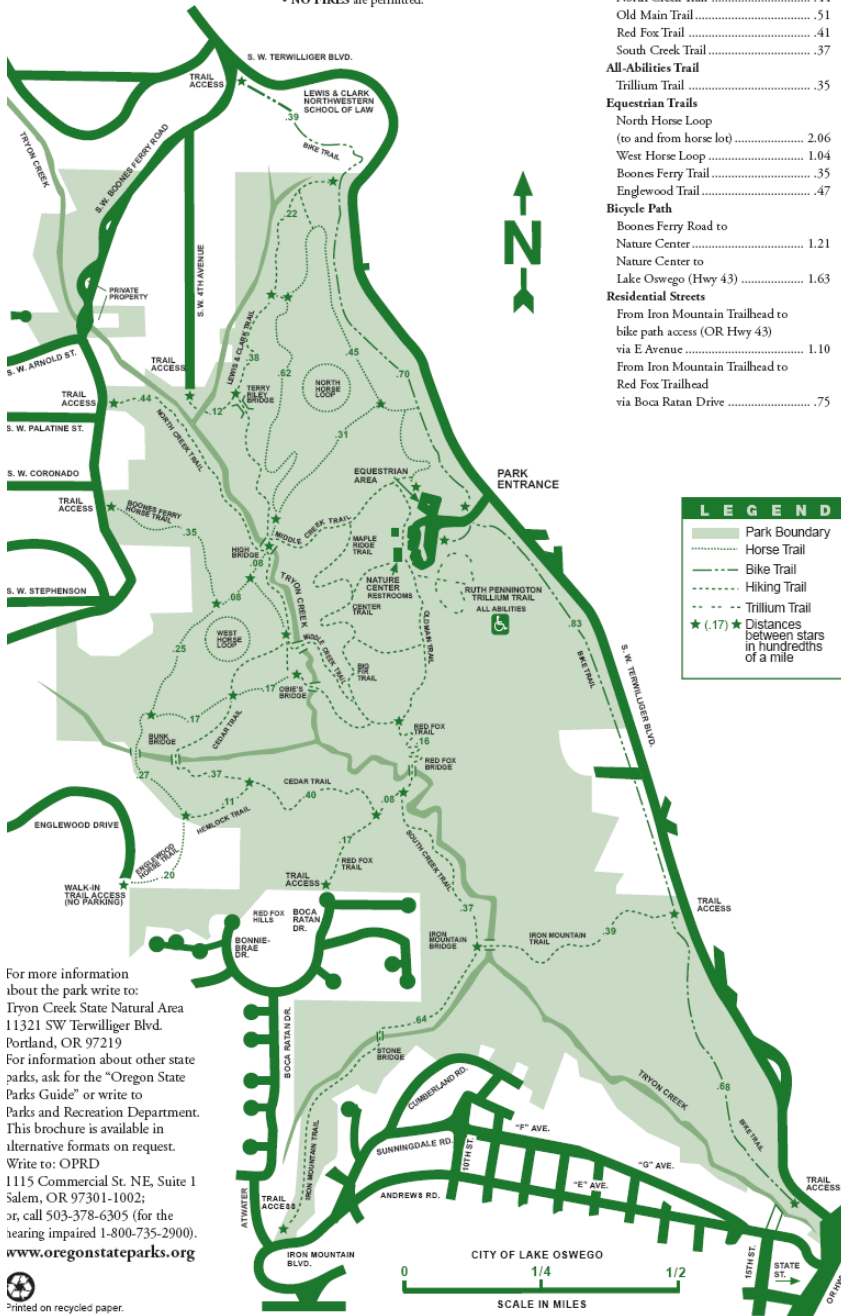
Please! Observe the courtesies of the trail.
Please remember the following:

- **STAY ON THE TRAIL**
Shortcuts cause erosion and increase the cost of trail maintenance.
- **HORSEBACK RIDERS** must stay on horse trails and ride single file.
- **DO NOT REMOVE PLANTS**
- **PETS** must be on leash and under control at all times (maximum 6' leash) and wastes properly removed. Keep pets out of the creek.
- **BIKE RIDERS** are restricted to paved bike paths or parking areas.
- **NO FIRES** are permitted.



TRAIL DISTANCES

Nature Center Trails	
Maple Ridge Loop .....	.62
Center Trail Loop .....	.49
Big Fir Loop .....	.59
Park Trails	
Cedar Trail .....	.96
Fourth Avenue Trail .....	.12
Hemlock Trail .....	.11
Iron Mountain Trail	1.03
Lewis and Clark Trail .....	.60
Middle Creek Trail .....	.56
North Creek Trail .....	.44
Old Main Trail .....	.51
Red Fox Trail .....	.41
South Creek Trail .....	.37
All-Abilities Trail	
Trillium Trail .....	.35
Equestrian Trails	
North Horse Loop (to and from horse lot)	2.06
West Horse Loop	1.04
Boones Ferry Trail .....	.35
Englewood Trail .....	.47
Bicycle Path	
Boones Ferry Road to Nature Center	1.21
Nature Center to Lake Oswego (Hwy 43)	1.63
Residential Streets	
From Iron Mountain Trailhead to bike path access (OR Hwy 43) via E Avenue	1.10
From Iron Mountain Trailhead to Red Fox Trailhead via Boca Ratan Drive .....	.75



For more information about the park write to:
Tryon Creek State Natural Area
11321 SW Terwilliger Blvd.
Portland, OR 97219
For information about other state parks, ask for the "Oregon State Parks Guide" or write to Parks and Recreation Department. This brochure is available in alternative formats on request. Write to: OPRD
1115 Commercial St. NE, Suite 1
Salem, OR 97301-1002;
or, call 503-378-6305 (for the hearing impaired 1-800-735-2900).
www.oregonstateparks.org

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Although I was aware that individuals at the organization were interested in working with diverse populations, and that the organization had a variety of scholarship and partnership arrangements designed to attract low-income students, as an instructor I noticed that the staff and students in the program appeared remarkably homogenous. When I approached the administration of FTC with my interest in evaluating its past and current efforts at serving diverse audiences, I was met with enthusiasm. The leadership of the FTC expressed eagerness for making changes to improve access to its programs, the effectiveness of its education efforts, and the longevity of its relationships with low-income, ethnically and racially diverse audiences.

As I designed my thesis project, my goals were to identify organizational and curricular changes FTC could make to its education programs to better serve the specific needs and interests of more diverse communities, to foster sustained relationships with these communities, and to evaluate the success of its efforts. I hoped that both my research model and my results would be of use not only to FTC, but also to a variety of similar environmental education programs seeking to attract and serve diverse communities.

I based my research on several qualitative research methodologies established for educational research with the desired outcome of useful results. I used case study, a strategy of examining one organization or individual in depth, to be explained on page x (Stake, 1995); utilization-based research, an applied and participatory approach to be explained on page x (Patton, 2002); illuminative evaluation, a technique for progressive focusing, to be explained on page x (Parlett, 1997); and data triangulation from in-depth interviews with three categories of interviewees. The three interview categories were environmental education professionals in the region, people directly associated with Tryon Creek State Park, and current or potential partners or audiences for the park. My research methodologies encouraged me to explore avenues of information as new themes emerged, allowing me to develop my specific research questions as I progressed.

For example, while I originally set out to establish how FTC could better serve diverse audiences in general, I quickly realized the merits of focusing on one target audience for the study. During one of my first interviews with an administrator at FTC, we discussed what she was hoping the organization could get out of my project. Through initial casual conversations setting up the project, we had already established that the project was to focus on improving service to diverse audiences. However, it immediately became clear that she was interested in focusing on improving the organization's service

specifically to Latino communities, as she had noticed an increase in this particular demographic in the immediate vicinity of the park and on the trails. She stated, “There are a lot of myths about how Hispanics recreate – that they like to get together around picnic tables for example. I want us to get beyond the myths.”

It made sense to me as a researcher to shift my focus to how FTC could better serve the Latino population specifically, as literature indicates that recommendations based on research findings are more often followed if the group being researched is involved in the design and implementation of the research (Patton, 1997). Further, I had noticed that while there is general research about the importance of better reaching diverse audiences in environmental education programs, and even some practical guidelines, little has been done to develop useful recommendations for reaching specific target audiences. The research that has focused on specific target audiences has not, generally, examined Latino communities, although this population is growing rapidly in many areas of the United States.

The result of my research is a spectrum of recommendations, ranging from the simple to the more complex. The recommendations are designed to be of use not only to The Friends of Tryon Creek, but also to other environmental organizations concerned with reaching diverse audiences. In fact, one of my recommendations is that in order for an individual EE organization to effectively serve diverse audiences it must be able to analyze its potential role in providing EE to these audiences on a regional scale. This recommendation implies that networking amongst EE organizations is an essential step in working towards providing effective EE to diverse audiences. Further, through my research I discovered that coming up with a plan to provide better access to quality environmental education for an audience requires not only looking at the issue from this community scale; it also requires confronting systematic inequalities and pervasive patterns on a societal scale. While I have pointed to a few solutions at a community scale, it is overwhelming to imagine trying to address all the complex causes throughout society associated with the lack of quality environmental education for diverse audiences.

When considering these vast issues, I like to keep in mind something one interviewee mentioned: “When you think about diversity, it’s all wound up in bigger problems. The inequalities are tied to these ingrained patterns we can’t even see. It gets overwhelming. You just don’t want to do anything to address things, because you don’t know where to start. I just try to look at baby steps so I don’t shut it all out” (Anonymous EE professional). Providing access to quality environmental education on a

broad scale is a huge task, which will ultimately require the reevaluation of many stereotypes and systematic disparities in our communities, if it is ever to truly be solved. This overwhelming issue, however, can be solved, and one way to approach it is by taking the small step of analyzing how one organization can better serve a specific population, and how one community might consider approaching the issue. I see this case study as a baby step towards providing quality environmental education for all.

Chapter 1: Environmental education for all

1.1 Environmental education

Science fiction writer H.G. Wells is widely quoted in discussions promoting environmental education (hereafter EE) for a statement he made in his 1920 book, *The Outline of History*. He wrote, “Human history becomes more and more a race between education and catastrophe” (Weilbacher, 2008, p.4). This quote resonates in modern times, an era when our planet is facing disturbing and alarmingly palpable environmental changes, including climate change, the encroachment of invasive species, and toxic pollution. As these changes have been increasingly researched and exposed, there has been much speculation as to how to solve these current environmental problems and prevent future catastrophe.

It is tempting to hope that the recent trend of attention to environmental issues will lead to positive changes for the environment. Indeed, the barrage of media attention to environmental issues is encouraging. According to a study conducted by the National Environmental Education and Training Foundation (NEETF), in collaboration with the Roper polling firm, simple knowledge can be associated with some changes in consumer decisions, such as a 10% increase in the likelihood of saving energy in the home and a 50% increase in recycling rate (Coyle, 2005). However, this exposure to facts alone is not linked with developing a positive relationship with the environment, nor the solving of complex environmental problems (Coyle, 2005). In fact, research indicates that “too much environmental knowledge (particularly relating to the various global crises) can be disempowering, without a deeper and broader learning process taking place” (Sterling, 2004, p.19).

Solutions to problems and responsible behavior towards the environment are associated with what is described as environmental literacy, and many believe that it can be achieved on a wide scale only through strategic, deliberate efforts in education that includes the opportunity to gain a sense of involvement and ownership of the environment (Coyle, 2005; Hart, 1997). This idea has been incorporated into formal international statements defending the importance of EE. The conference celebrating the 10th anniversary of the Tbilisi conference opened with the address:

In the long run nothing significant will happen to reduce local and international threats to the environment unless widespread public awareness is aroused concerning the essential links between environmental quality and the continued satisfaction of human needs. Human action

depends upon motivation, which depends upon widespread understanding. This is why we feel it is so important that everyone becomes environmentally conscious through proper environmental education (UNESCO, 1987).

In response to concern over environmental problems and the lack of environmental literacy, there has been a recent surge from the environmental movement, educators, and the public in general, to reevaluate how to provide effective EE to all. This recent interest in the development of effective EE is part of a history that can be traced back several decades.

1.2 The development of environmental education

Literature points to a variety of origins behind modern EE, largely following along with the environmental movement in general. In the United States, the earliest origins of EE are often credited to the nature study craze of the Victorian era and Theodore Roosevelt's presidency. Internationally, many consider Scottish botanist Sir Patrick Geddes (1854-1933) to have pioneered early links between education and the environment through his extensive incorporation of the outdoors in his education strategy. Emerging from this ancestry, the first formal recorded use of the term "environmental education" was documented in Paris in 1948, at a meeting of the International Union for Conservation of Nature and Natural Resources. However, the first wave of interest in EE did not gain momentum until the 1970s when the confluence of events such as the first Earth Day (1970), the publication of shocking books such as Rachel Carson's *Silent Spring* (1962) and Paul Ehrlich's *The Population Bomb* (1968), and several pollution incidences including the dramatic ignition of Cleveland's oil-contaminated Cuyahoga River (1969) stimulated widespread concern for the environment (Palmer and Neal, 1994).

As people considered the possibility of EE as a solution to intimidating environmental problems, several international meetings sought to define and shape the agenda for EE's advancement and propel the idea forward. Three meetings stand out as being particularly influential in the founding of EE. First, at the United Nations Conference on the Human Environment, held in Stockholm in 1972, a declaration was prepared that laid out 7 proclamations and 26 principles of EE. This document was influenced by what is often described as the White, middle-class, environmental movement prevalent in the United States during this period. However, it

also explicitly stated that “education in environmental matters” should give “due consideration to the underprivileged” (Palmer and Neal, 1994, p.12).

In 1975, building from what had been suggested in Stockholm, the International Workshop on Environmental Education, held in Belgrade, prepared the first intergovernmental statement on EE. This formative document, “The Belgrade Charter: A Global Framework for Environmental Education,” established objectives of EE that are maintained today. These objectives were to be understood within the overall agenda to, “develop a world population that is aware of, and concerned about, the environment and its associated problems, and which has the knowledge, skills, attitudes, motivations, and commitment to work individually and collectively toward solutions of current problems and the prevention of new ones” (UNESCO, 1975, p.3). The objectives established (and later formally published) were specifically:

1. To foster awareness of, and concern about, economic, social, political and ecological interdependence in urban and rural areas.
2. To provide every person with opportunities to acquire the knowledge, values, attitudes, commitment and skills needed to protect and improve the environment.
3. To create new patterns of behavior of individuals, groups and society as a whole towards the environment.
(UNESCO 1977, p.26)

Following the creation of the Belgrade charter, a third meeting, the Conference on Environmental Education, held in Tbilisi in 1977, clarified the statements established in Stockholm and Belgrade and further prepared recommendations for the development of formal and non-formal EE throughout the world. The ideas generated at this event have consistently served as the scaffold for EE, as it has developed at national and international levels.

Environmental education was emphasized in many subsequent documents including *Our Common Future*, the influential report from the World Commission on Environment and Development produced in 1987; *The World Conservation Strategy* of 1980; and *Agenda 21*, produced at The Earth Summit in Rio de Janeiro in 1992, which outlined what nations should do to achieve sustainable development in the 21st century (Palmer and Neal, 1994).

While, overall, EE has developed within the general framework laid out in international meetings of the 1970s, in the United States the political and social climates have specifically influenced how it has been shaped. In the late 1970s there was a push to

incorporate more ethical, political, and urban issues into EE; in the 1980s there was a trend towards global issues; and in the 1990s ideas of sustainable development began to be incorporated into EE (Sterling, 2004).

Most recently, in the United States, many practitioners of EE have been disappointed by what EE programs have been able to achieve (Sterling, 2004). In the United States the term “environmental literacy” is widely used to describe responsible attitudes and behaviors towards the environment. Despite decades of effort in the implementation of EE, environmental literacy remains shockingly low (Coyle, 2005). In the face of this perceived crisis of environmental literacy, the overall focus of the development of EE over the past decade has been on how to improve EE’s ability to impart environmental literacy to all Americans.

1.3 Environmental education in the United States: A crisis of environmental literacy

Environmental literacy describes a relationship with the environment beyond simple awareness of environmental issues, and even beyond knowledge that influences personal conduct. “It starts out with framed information, but also involves imparting the subject’s underlying principles, the skills needed to investigate the subject, and an understanding of how to apply that information” (Coyle, 2005, p. x). An environmentally literate person is someone who not only understands and appreciates environmental systems but can think critically about problems and devise solutions (NAAEE, 2004).

Research shows that most people in the United States are far from achieving environmental literacy and, in fact, do not demonstrate even awareness of environmental issues. According to the report by the NEETF, mentioned above, 80% of Americans are heavily influenced by incorrect or outdated environmental myths, according to their poor performance on a basic environmental literacy questionnaire (Coyle, 2005). For example, it is estimated that 130 million Americans believe that hydropower is America’s top energy source (it actually accounts for only about 10%); 120 million people think that disposable diapers fill the bulk of our landfills (actually they take up only about 1% of landfill space); and 45 million believe the ocean is a source of fresh water (Coyle, 2005).

Environmental education aims to provide knowledge to correct these and other shortcomings in environmental knowledge. However, according to the definition of EE developed at Tbilisi, as opposed to media channels or traditional science education, EE also aims to cultivate awareness, skills, attitudes, and participation – all hallmarks of

true environmental literacy (UNESCO, 1977). The Tbilisi declaration of 1977 describes these categories of EE's objectives:

Awareness—to help social groups and individuals acquire an awareness and sensitivity to the total environment and its allied problems.

Knowledge—to help social groups and individuals gain a variety of experience in, and acquire a basic understanding of, the environment and its associated problems.

Attitudes—to help social groups and individuals acquire a set of values and feelings of concern for the environment and the motivation for actively participating in environmental improvement and protection.

Skills—to help social groups and individuals acquire the skills for identifying and solving environmental problems.

Participation—to provide social groups and individuals with an opportunity to be actively involved at all levels in working toward resolution of environmental problems (UNESCO, 1977, p.26-27).

Quality EE can develop these characteristics by providing hands-on opportunities, purposeful exposure to local and international issues, and the encouragement of direct participation and critical thinking.

Although EE is relied upon for its ability to impart the essential qualities and skills associated with environmental literacy, EE has thus far not been as effective in achieving this goal as many believe it could be. Issues preventing the success of EE are internationally debated; however, I will focus on how a few of these issues influence the development of EE in the United States. Of the many issues that are constantly being mulled over in academia and by practitioners, several issues stand out as most important to address if EE is to fulfill its promise as an effective solution in the face of serious environmental issues.

One widely debated issue is how EE should be incorporated into the education process in order to be most effective. A second issue is whether it is more effective to introduce global issues or to focus on local topics. A third issue central to the ability of EE to develop a coherent approach is how EE defines its identity distinctly from other movements and educational strategies such as education for sustainable development, outdoor education, experiential education, and environmental justice. Finally, a matter of

overall importance, if EE hopes to achieve its goal of imparting environmental literacy to all Americans, is the revelation that EE has not served all audiences equally. A conversation has been opened regarding how EE can be more effective in reaching more diverse audiences.

1.4 The current development of environmental education in the United States

The first issue currently attracting attention amongst those interested in EE is the question of how EE should be incorporated into the established educational system. While there are formal and informal, public and private avenues for EE, public schools remain central to the administration of EE on a wide scale. Many people advocate for incorporating EE throughout the traditional public school curriculum; others push for declaring EE a distinct core subject in schools. Currently, EE is far from either of these, although the United States has goals and definitions for environmental literacy and education, which, for the most part, are in alignment with international strategies.

The Environmental Protection Agency (EPA), which administers the National Environmental Education Act of 1990, states, “A primary desired outcome of EE programs is environmental literacy...Environmental education provides the capability and skills over time to analyze environmental issues, engage in problem solving, and take action to sustain and improve the environment. As a result, individuals are more capable of weighing various sides of an environmental issue to make informed and responsible decisions” (EPA, 2009, webpage). In response to public concern that EE is infused with political values and messages, the EPA specifically emphasizes that EE does not advocate a particular viewpoint or course of action (EPA, 2009; Coyle, 2005). “Rather, environmental education teaches individuals how to weigh various sides of an issue through critical thinking and it enhances their own problem-solving and decision-making skills” (EPA, 2009, webpage).

While EE, in the United States, has become more visible in public schools, partly as a result of programs sponsored by the EPA, EE is generally offered as distinct electives as opposed to integrated into other subjects. Many critics take issue with this division, as separating EE from other subjects is associated with poor results at building environmental literacy (Coyle, 2005; Palmer and Neal, 1996). According to an evaluation of EE in the United States public school system conducted by the National Environmental Education Teaching Foundation (NEETF), “Although environmental education is a popular elective and supplemental effort in more than half our schools, too

little of it actually gets delivered and then it is poorly sequenced so that environmental learning does not effectively accumulate” (Coyle, 2005, p. xiv). Separating environmental issues from other subjects creates a dichotomy, which implies that the environment is distinct from everyday life. While making EE a core subject might ensure adequate attention to content and continuity, the issue of a false dichotomy would still remain with this strategy.

Another strategy advocated for the implementation of EE is its incorporation into the existing curriculum. This strategy has already been experimented with widely outside the United States, especially in the United Kingdom. In this strategy, environmental skills and topics would be introduced through established core topics. Advocates of this approach insist, “*An environmental dimension can be found in most aspects of education – thus environmental education may be considered to be an approach to education which incorporates considerations of the environment, rather than being a separate part of education*” (Palmer and Neal, 1994, p.18) (italics in original). This strategy is also popular amongst environmentally themed private and charter schools in the United States.

While over half of public schools in the United States may be experimenting with the introduction of some environmental curriculum, the environment has yet to achieve consistent attention in these schools. There are several reasons why EE has not gotten more attention within public schools. First, many teachers lack knowledge, resources, and the flexibility in the classroom to introduce environmental curriculum either as a part of established subject areas or as a distinct subject (Coyle, 2005). Another reason teachers and schools might be hesitant to introduce environmental curriculum is fear that introducing local environmental issues into the curriculum might elicit accusations of political indoctrination (Hart 1997; Coyle, 2005).

Despite obstacles, the integration of EE into the school curriculum has many advocates pushing for core subject status or integration. In the United States the political environment, public demand, and the continued development of this conversation within the education community will influence the direction of how EE is treated within the educational system.

A second contemporary issue in the development of EE is whether EE should focus on local or global environmental issues. In the United States, much EE has traditionally focused on catastrophic problems of a global nature, such as deforestation in the Amazon region. However, within the past decade there has been a movement to focus

EE on more local issues. While, unfortunately, little research has been done on how people develop concern for the natural environment, what research does exist suggests that people develop care for the environment from becoming familiar with their local environment, from direct contact with it, and from becoming directly involved in taking responsibility for environmental conflicts and problems (Palmer and Neal, 1994; Hart 1997).

Further, according to Swiss psychologist Jean Piaget, different educational approaches are appropriate for different stages of cognitive development (Piaget, 1954). According to this philosophy, developmentally appropriate activities that involve the local environmental are the most effective way of approaching EE. For example, “An eight year old child who has once studied in detail the life of a pond and the many forces impacting this ecosystem will be better prepared to understand large-scale ecological issues than a child of the same age who has seen many films and read dozens of books on the Amazon region” (Hart 1997, p.21).

In conjunction with the movement to localize environmental curriculum, there has been particular attention in recent years on the educational advantages of providing children with direct contact with their local environment. According to a review of recent research, “...there is considerable theoretical reason to believe that concern for the environment is based on an affection that can come only from autonomous, unmediated contact with it” (Hart, 1997, p.20). According to a study at the University of Durham, of formative experiences that developed an attitude of personal concern for the environment, “without a doubt the single most important category of response at all levels of data analysis in the present project is experience outdoors, and particularly at a young age” (Palmer and Neal, 1994, p.3). Another study conducted by Wells and Leikes corroborated that childhood experiences in the natural world are associated with adult environmentalism (Wells and Leikes, 2006). Conversely a direct link has been established between a lack of experience with the natural world and alienation, apathy, and inaction towards it (Gruenewald and Smith, 2008).

American children’s lack of contact with the natural world gained widespread attention in 2005 with the publication of Richard Louv’s book, *Last Child in the Woods: Saving our Children from Nature Deficit Disorder*. Louv directed attention to the correlation between less time spent in contact with the outdoors and the failure to develop environmental literacy, amongst other problems. This association has also been tracked by a number of other studies (Karsten and Vliet, 2006). According to the National

Environmental Education Training Foundation, “The average 7 year old can name up to 200 corporate logos but cannot name the type of tree in front of his or her home” (Coyle, 2005, p.97).

While providing the opportunity for direct contact with nature has been emphasized in recent years, most advocates of encouraging direct contact with the environment do not support the elimination of classroom-based study. “We cannot rely entirely upon an EE that reduces the complexity of ecosystems in an analytic way and presents itself in texts or films (or even single field trips), and then expect children mentally to reconstruct this beautiful complexity. Neither can we rely entirely upon field trips or environmental action projects to compensate totally for this lack of an experience of place in childhood” (Hart 1997, p.19). Research indicates that while direct contact with the outdoors can be valuable, one-time field trips or sporadic contact is not necessarily beneficial. However, it has been established that sustained direct contact with the outdoors is an important factor in building environmental literacy and concern for the environment (Palmer and Neal, 1994; Karsten and Vliet, 2006; Wells and Leikes, 2006). Having this contact in a frequently visited local community is regarded by many to be particularly effective (Sobel, 2004; Gruenewald and Smith, 2008).

While localizing EE and providing opportunities for direct contact with the outdoors have been widely accepted as developments in EE, the related strategy of providing the opportunity to be directly involved in environmental problem-solving has received less attention (Hart, 1997). The approach of involving citizen action projects within environmental education has been particularly advocated for older children (Hart, 1997). Within the definitions and objectives of EE laid out in international documents, there is language that describes the benefits of citizen involvement in environmental issues as a way of achieving the goals of EE. However, political tension and the traditional boundaries of how EE has been implemented in the United States have prevented environmental problem investigation and citizen action from becoming a central part of EE.

A third topic of recent interest in the development of EE in the United States is how EE distinguishes itself from other educational strategies, and from movements such as the environmental movement and the related environmental justice movement. While many of these distinctions create tension in academic arenas, the tensions also play out in practice. Some educational strategies that EE has had to distinguish itself from are outdoor education, education for sustainable development, and nature study. While there

is overlap between EE and these approaches, they have some distinct objectives, which can confuse the goals of some EE practitioners, if not properly understood. There has also been some tension between EE and both the environmental movement and the environmental justice movement. EE is not necessarily affiliated with either, but has in many specific instances, clashed with or been subsumed into one or the other (Running-Grass and Agyeman, 2002).

A final concern that has been identified as standing in the way of EE's success in reaching all Americans is the lack of access to programmatically effective EE opportunities for diverse audiences. As increasing attention has been paid to diversity within the general environmental movement, in parallel, attention has been increasingly focused on how to make EE relevant to all communities. "The environmental movement" that began at the end of the 1960s in North America and Europe remained for more than 25 years a largely middle-class movement of the industrialized countries. Finally, it is maturing into a movement with central relevance to all communities, rich and poor, in both hemispheres" (Hart 1997, p.3). While EE is likewise developing to include diverse audiences, in practice little research has been conducted to determine what effective EE looks like for these communities.

1.5 Environmental education for diverse audiences

A productive analysis of the state of diversity within EE requires, first, establishing definitions for several terms that are central to this conversation but are rarely explicitly defined. First, any conversation regarding diversity and EE demands a working definition of diversity. Most references to diversity and EE amongst EE practitioners imply racial diversity. "For the most part, the code word diversity is simply the safer substitute for the word race, although it also sometimes means class, gender or sexual orientation" (Gruenewald and Smith 2008, p.139). Most literature on EE deals almost exclusively with race and ethnicity. While the focus of attention to diversity may be on race and ethnicity, I prefer a more deliberately inclusive definition, which includes consciousness of class, gender, sexual orientation, a range of abilities and learning styles, and the interaction of these categories.

As both race and ethnicity remain critical to conversations about diversity and EE, it is important to understand the meaning and use of these terms. Both race and ethnicity can be considered social constructs. Race is based on perceptions of physical differences, such as skin color, whereas ethnicity is based on perception of cultural

differences. Cultural differences can include defining factors such as language, religion, and family customs or traditions as well as political and economic differences (Chavez, 2000; Kato, 2004). One consequence of the social process of dividing groups of people based on race and/or ethnicity is the implication that within each group, individual members represent a homogenous group. This can lead to the perpetuation of harmful stereotypes (Running-Grass, 2009). Although racial and ethnic divisions simplify conversations regarding diversity, it is important not to form assumptions of homogeneity within any of these groups.

Within the past decade researchers and EE professionals have recognized that access to effective EE has been severely limited among non-Whites and people of low-income. In addition, studies have shown that Latinos and African Americans are less likely than Caucasians to use outdoor recreation areas, local parks and nature centers (Hong, 2006; Chavez, 2000). Further, diverse populations also have demonstrably less access to careers in environmental fields (Lewis and James, 1995).

Several myths have been perpetuated regarding this disparity of participation in EE and environmental recreation. Seven major misconceptions standing in the way of inclusiveness were identified in a study by Lewis and James (1995). They are:

1. People of color aren't interested in environmental issues.
2. Historically, people of color have not been involved in environmental issues, resulting in a dearth of people of color who can serve as role models in EE.
3. The issues receiving primary attention in the environmental education curriculum have universal appeal.
4. People of color aren't interested in environmental education.
5. The needs of people of color are recognized and addressed by those setting the environmental education agenda.
6. Environmental education programs are presented in ways that appeal to all audiences.
7. Environmental educators should initiate and facilitate a discussion of the environmental education agenda by people of color (Lewis and James, 1995).

Each of these misconceptions has been carefully deconstructed and none can be validly associated with disparities in participation in EE (Lewis and James, 1995). Beyond myths, several hypotheses have been put forward in attempts to explain the disparity of involvement in environmentally related leisure activities among diverse

audiences. These hypotheses apply to participation in non-formal EE, such as voluntary visits to nature centers. One hypothesis is the “marginality hypothesis,” which states that the under-participation of ethnic and racial groups is the result of the relatively limited economic resources of these groups. Another hypothesis, the “ethnicity hypothesis,” suggests that ethnic and racial participation patterns result from culturally based differences in value systems, norms, and leisure-socialization patterns. Other hypotheses include selective acculturation, which refers to selective participation in activities outside one’s traditional culture, and perceived discrimination, which suggests that some people might not participate in activities if they do not feel welcome. Research supports all of these explanations to some degree, and all of them probably contribute to lack of participation in some environmental programming (Chavez, 2000).

Underlying all of these hypotheses, but less referenced in academic literature and conversations, is an explanation that points to institutionalized racism and stereotypes (particularly as they are embedded in the mainstream environmental movement), as contributors to the disparity of involvement in EE (Running-Grass, 2009). Several authors have criticized conversations about race, ethnicity, gender, sexuality, and class in general for failing to address the root causes of inequalities we see in society.

Instead of talking about diversity in race, class, gender and sexual orientation, we should critique White supremacy, economic inequality in capitalism, patriarchy, and heterosexism. We should talk about systems and structures of power, about ideologies of domination and subordination – and about the injuries done to those in subordinate groups, and the benefits and privileges that accrue to those in dominant groups (Jensen, 2005, p.78).

Within the past decade, increasing attention has been paid to the discrepancies in effective participation of diverse audiences in EE. There are several explanations for this increased attention. One prominent reason is census numbers. Another reason is that members of diverse communities are demanding that this issue be addressed (Running-Grass, 2002; Running-Grass and Agyeman, 2002; Taylor, 1996). People of color are disproportionately likely to be exposed to environmental hazards and many communities are demanding inclusion in mainstream conversations regarding the environment. This demand was propelled forward significantly after the First National People of Color Environmental Leadership Summit drew global attention to the environmental justice

movement, and instigated a critique of EE (Lewis and James, 1995; Running-Grass and Agyeman, 2002).

With recently growing recognition that there is a lack of available and effective EE opportunities for diverse audiences in the United States, some attention has been paid to developing programs specifically for these audiences. In fact, many EE programs created specifically for low-income, urban audiences have achieved impressive results. Addressing the issue of diversity in EE on a broad scale is not as simple as just creating programs that these communities can have access to, however. If the goal of EE is indeed to improve environmental literacy for all, then EE must critically examine how it specifically addresses the needs of diverse communities (Gruenewald and Smith 2008; Gigliotti, 1990; Lewis and James, 1995). Fortunately, in general, EE is in the process of examining how it could develop to improve service to diverse communities. In practice, however, few programs have carefully evaluated their relationships with diverse audiences. Still, research has pointed to several developments of EE generally, and many specific changes that programs could make, to improve their relationships with diverse audiences (Agyeman, Newhall-Smith and Ringelheim, 2005).

1.6 Effective environmental education for diverse audiences

Several changes to overall established norms of EE have been identified as being in need of reevaluation if EE is to be effective for diverse audiences. First, is a reevaluation of the definition of “environment,” to include material directly relevant to diverse communities. Second, is a reevaluation of EE’s relationship with the environmental justice movement. Third, is purposeful analysis of and attention to learning styles of the intended audiences. Fourth, is deliberate analysis of the inclusion of role models from diverse communities in EE and the openness of the general environmental field to employment of people from outside an affluent, White background. Fifth, is the development of cultural competency for multicultural EE. Finally, sixth, is the development of an effective means of evaluating the progress of EE with regard to diversity.

Arguably the change most central to the efficacy of an EE program for a diverse audience is the development of a curriculum that includes material directly relevant to diverse audiences. Many authors recognize that, in order to be most effective, EE curricula should focus on the issues directly affecting the intended audience (Lewis and James, 1995). For the past 25 years, most EE has focused on nature-based education,

using the same definition of “environment” that has been standard in the wider environmental movement (Taylor, 1996, p.3; Hart, 1997). “Environment and environmentalism were defined as the antithesis to urban life, the answer, the antidote for what was wrong with civilization, industrialization, urbanization, resource exploitation and environmental degradation” (Taylor, 1996). This definition of environment excluded topics of the urban environment relevant to many diverse audiences. “Students of color or poor students wanting to learn about the environment have had to divorce themselves from their surroundings and familiar experiences to do so” (Taylor, 1996).

Broadening the definition of “environment” in EE curricula allows audiences previously excluded to have a place within EE. It does not imply removing nature education from EE, but, rather, including social, political and economic elements previously excluded from the understanding of the environment (Jacobson, Arana and McDuff 1997). “Students of all backgrounds can become interested in this field if they are introduced to it in a way that is sensitive to the environments from which they come” (Taylor, 1996, p.5; Hart, 1997).

Further, developing contextual questions that help students relate topics typically covered in EE programs to issues directly relevant to their lives can be useful (Clark, 1997). For example, students who might not engage with a curriculum about the habitat of animals they have never seen, might be interested in considering questions such as “How do animals adapt to an urban environment?” or, “How does my habitat affect me?” (Clark, 1997).

A second related issue, which must be considered as EE strives to improve its relationship with diverse audiences, is EE’s relationship with the environmental justice movement. Generally, there has been significant tension between EE and the environmental justice movement. According to some in the environmental justice movement, since its inception EE has excluded people of color and issues that concern them. Many EE educators, however, have responded that topics related to environmental justice are outside the scope of EE (Running-Grass and Agyman, 2002). EE and environmental justice need not be seen as dichotomous, however (Lewis and James, 1995). While EE has failed to reach diverse audiences, programs associated with the environmental justice movement have contributed to the development of environmental literacy for many members of these communities. “These programs taught in community centers, homes, churches, union halls and the offices of environmental justice organizations serve to educate environmental justice activists and others about

environmental issues, challenges and problems” (Taylor, 1996, p.5). The outreach efforts of many EE programs to diverse communities could be facilitated by partnering with established environmental justice programs in these communities.

A third way in which EE is challenged to stretch, in order to be more effective in reaching a wider variety of audiences, is by paying attention to the variety of learning styles prevalent amongst diverse audiences. Although, in the field of education in general, attention to learning styles has been an important trend of interest, it has not had as much attention within the field of EE. “Appropriate content cannot be effective unless it is presented in a manner that is compatible with the learning styles of the intended audience. Although some EE literature addresses variations in learning styles relative to seeing, hearing, and doing, discussions of variations in learning styles relative to racial background have not been addressed in previous EE literature” (Lewis and James, 1995, p.9).

Related to developing sensitivity to learning styles is developing sensitivity to differences in culture. A fourth strategy suggested for adapting to better reach diverse audiences is the development of cultural competency in programs and teachers. This cultural competency is “an ongoing process of developing awareness, behavior, structures and practices that allow an organization program and its members to reach or engage diverse groups and communities in relating to the natural and built environment and in environmental stewardship (Barr, 2006, p.4). The importance of developing cultural competence has been noted by many educators:

A key reason for attempting to train teachers for cultural competence in the United States is that while the teaching force remains overwhelmingly White, students are increasingly diverse in terms of race, culture, ethnicity nationality, and language. Without teachers who are sensitive to and knowledgeable about differences among individuals and groups, “other people’s children” can be marginalized, neglected, undervalued, poorly served, and even greatly damaged by their experience of school. (Gruenewald and Smith, 2008, p.139)

It is important to emphasize that cultural competency does not refer only to bringing content to diverse audiences, but rather developing a content that is “conscious of its own cultural perspectives and of the function that it has with the work and in the lives of diverse students and communities” (Running-Grass, 1996, p.1; McIntosh, 1990). The development of cultural competency must involve being prepared to continually

assess and adapt services. It is meant to be considered as an ongoing process as opposed to an end goal (Olsen, Bhattacharya and Scharf, 2006).

A fifth issue identified as in need of consideration is the current lack of inclusion of role models and teachers from diverse communities in the environmental field. Contact with role models has been acknowledged as a significant factor leading to developing interest in the environment and in choosing an environmental career. According to the National Environmental Education and Training Foundation, EE programs that provide exposures to role models from diverse communities can become a significant doorway for minorities to enter environment-based professions” (Coyle, 2005, p.82). Many of the changes described above might need to become further grounded before a significant influx of role models from diverse communities become prominent in EE. “Until EE is more visible within communities of color as a field that addresses issues pertinent to the community, people of color interested in addressing “environmental issues” may pursue careers in fields such as public health or urban planning rather than EE per se” (Lewis and James, 1995, p.5).

A sixth, and final, important factor in developing quality EE programs for diverse audiences is the simultaneous development of reliable ways of analyzing effectiveness and progress. Evaluation can ensure that including diversity in EE goes beyond tokenism (Lewis and James, 1995) and is meeting the needs identified by the target audiences themselves. A variety of assessment materials, including frameworks for evaluation and suggestions of questions to reflect on are now available (Barr, 2006; Matusumoto, 2005; Madges, 2004; Agyeman, Newhall-Smith and Ringelheim, 2005).

While the above overall changes to EE have gradually been working their way into mainstream understanding of EE, putting these ideas into practice has been a slower process. Still, some concrete methods of incorporating these ideas into EE have been identified. These practical applications are in the slow process of integrating themselves into public school curricula. As noted above, however, many public schools are limited in their flexibility when it comes to implementing EE programs. Other venues for EE, however, may be candidates for more rapid adaptation and can influence how EE is delivered in public schools, since many of these programs partner with schools.

In fact, many non-school EE programs designed specifically for diverse audiences have achieved impressive results in serving these audiences. For example, in urban areas and regions with large populations of minorities, many EE organizations, such as nature centers, zoos, and aquariums, have focused their efforts towards serving

diverse communities. One organization that has been lauded for its efforts in reaching Latino communities is the organization Multicultural Education for Resource Issues Threatening Oceans (MERITO) in Monterey, California. The organization specifically strives to educate Latinos about the marine environment, although it plans to expand its outreach to other communities as it gains resources.

Like other EE organizations who have achieved success in serving minority populations, MERITO dedicated significant time and effort to researching the needs and interests of the Latino community in the region before designing and implementing its programs.

Development of the MERITO Plan took place from October 2000 to March 2001. Sanctuary staff collected need assessment information during thirty individual meetings with community leaders representing local community groups, school districts, universities, non-profit organizations, city, state and federal agencies, and the farm industry. The personal interviews resulted in a list of critical needs that needed to be addressed in order for the MERITO Plan to provide effective multicultural education. (MERITO, 2009)

The majority of programs not designed specifically for diverse audiences, however, have not considered the specific needs and interests of diverse communities. As a result, the majority of EE organizations that do not cater explicitly to diverse audiences have served them poorly. Still, EE organizations, such as nature centers, play an essential role in providing EE education, and an increasing number have expressed interest in improving their service to diverse audiences.

1.7 The role of nature centers in providing environmental education to diverse audiences

The conversation regarding EE and diversity has been particularly focused on EE within the context of the public school system, which is in the process of generally reevaluating how to reach diverse audiences of children. Significant attention has also been paid to diversity and organizations that offer EE locally, as the importance of connecting EE to the local community has been increasingly recognized. “For environmental education to be successful in reaching a wider variety of people (in terms of gender, race, and social class), it must be extended beyond the formal institutionalized

settings that characterize the venues for most of these programs. That is, the content of the message and the location of the message has to be expanded to meet the needs of people” (Taylor, 1996, p.5).

Nature centers, including zoos and parks, offer important opportunities for EE, particularly for urban and diverse youth (Palmer and Neal, 1994). “Nature centers can develop action-oriented environmental programs relevant to minorities and other groups that may not have had long-term interaction with natural areas, early childhood experiences in nature, or the indulgence of adult role models involved in environmental activities – all factors that traditionally play a major role in developing an interest in environmental issues” (Jacobson, Arana and McDuff, 1997, p.28).

Based on samples of data from several states, there are at least 3000 established public and private nature centers in the US (Coyle, 2005). These centers have the potential to provide effective education by connecting youth to direct experience in the outdoors, and by providing an opportunity to learn about and become involved in the community. Unfortunately, most nature centers have not considered what audiences they are reaching effectively with their programs, with the consequence that diverse audiences fail to be served by most nature centers (Jacobson, Arana and McDuff, 1997). Further, in most communities, there has been little coordination between schools and nature centers to consider how EE is being provided to audiences on regional scales.

Still, some nature centers have attempted to address issues of diversity within their organizations, and, in pioneering this territory, have highlighted a few notable struggles. One struggle, paralleling that encountered by many public schools, is a resistance to adjusting the curriculum to include locally relevant issues that may be politically charged. A survey of 1225 nature centers in the United States revealed that less than 15% of nature centers considered providing information about local environmental issues a major goal (Jacobson, Arana and McDuff, 1997; Gruenewald and Smith, 2008). While it has been demonstrated that engaging communities with environmental topics to which they can relate locally is critical to the development of environmental literacy, many nature centers resist introducing this type of curriculum, often with the defense that it would create conflicts of interest with their funding sources. However, deliberate restructuring of curriculum that includes reaching out to diverse audiences may actually open opportunities for funding sources (Jacobson, Arana and McDuff, 1997).

Another challenge for nature centers striving to reach diverse audiences is to involve teachers and role models from diverse audiences. Solutions include training teachers in cultural competency and integrating members from diverse audiences into the staff. Multiple ways have been suggested to recruit staff and volunteers from diverse communities. Strategies include developing long term partnerships with diverse organizations, creating opportunities for paid internships (particularly important for high school and college students), reevaluating what qualifies someone for a job, broadening job recruitment strategies, and generally increasing outreach into diverse communities (Barr, 2006).

Another common problem for nature centers attempting to address issues of diversity is that their efforts fail to address issues of diversity on a deep level. Diversity is often addressed superficially, with token or short-term involvement of diverse audiences, instead of the development of sustained relationships with these audiences. This can be the result of not having enough staff time or resources dedicated to addressing diversity. Several frameworks and lists of questions have been developed for organizations to use if they are serious about addressing issues of diversity within their organizations and would like to avoid these pitfalls (Barr, 2006; Matsumoto, 2005).

Finally, an important consideration for nature centers is evaluating how the services they provide fit into the bigger picture of EE opportunities in the broader community. While a nature center might attempt to improve its service to diverse communities in isolation, it is important to consider how the experiences it provides fit into EE on an expanded scale. Research shows that one-time experiences at nature centers may be exciting for children, but do not contribute to the development of environmental literacy. This applies especially to many urban children, who have little direct experience with the outdoors outside of fieldtrip opportunities. Linking experiences provided at a nature center to other learning and experiences is therefore essential. Further, parental reinforcement of messages can be an important component of building environmental literacy. If parents are not connected to messages being learned by students at field sites, they may not be able to relate to or reinforce messages students bring home. Finally, an individual nature center can most efficiently allocate its resources to underserved audiences if it is aware of how these audiences are served by other EE programs on a regional scale.

Nature centers have the potential to be an important resource for providing quality EE to diverse audiences. In order to create effective programming, however, it is

not enough just to provide access. Nature centers must provide a relevant curriculum, deliver it appropriately, and consider how the education provided fits into wider environmental education opportunities provided to the audience. Unfortunately, although many nature centers are interested in better serving diverse communities, few programs that do not focus on serving diverse populations have achieved impressive results. One reason is that few organizations have the resources to conduct research into how to best serve these communities, to conduct outreach, or to increase volunteer and staff recruitment and training (such as MERITO was able to do in Monterey). Unfortunately, while there are isolated examples of successes, the majority of EE programs have fallen short of meeting the needs of diverse audiences. As a result, these audiences fail to have access to effective EE.

1.8 Latino communities and environmental education

As the field of environmental education evaluates how it can better serve the needs of diverse audiences, the conversation rarely ventures to consider what specific considerations might be necessary depending on the particular target audience. Some research has been done on urban populations and on African American populations (Kahn, Peter and Friedman, 1998). Little research, however, has been conducted on the needs and relevant access points for providing effective EE to Latino communities. Considering that Latinos represent the fastest growing ethnic group in the United States, it is of particularly timely importance to consider this population.

To begin to look at the relationship of Latino communities with EE, it is first important to define this community. While there has been significant debate regarding the meaning and use of the term “Latino,” colloquially it is a term that refers to any person of Hispanic origin, regardless of race. The term “Latino” and “Hispanic” are often used interchangeably; although the “Latino” is more commonly used in the western United States, and “Hispanic” is more common in the East (Office of Management and Budget, 1997). In the United States, the Latino population has steadily increased since World War II, as immigrants from Mexico, the Caribbean, and Central and South America have entered the country (Gonzalez, 2001). According to the 2000 United States Census, the Latino population in the United States includes 35.3 million people, or 12.5% of the total population (US Census Bureau, 2000). This population is not evenly dispersed throughout the country. Rather, 60% of the nation’s Latinos live in California, New York, Texas, and Florida, concentrated in urban areas. This population is also younger and

reproducing more quickly than either Black or White populations in the United States, and is predicted to become the largest minority group in the United States (Gonzales, 2001).

As the demographic shift has become more apparent within the past decade, tensions have arisen surrounding this transformation of ethnic composition, as accepted aspects of the country's "national identity, language, culture and official history have been challenged" (Gonzales, 2001, p. xii). This cultural shift is more complicated than the addition of a large homogenous group, however. Latino communities include people from a variety of nationalities and cultures, races, and classes. Further, this group includes individuals who have spent different amounts of time in the United States. Some research indicates that amount of time in the US could be of greater influence on environmental attitudes than race or ethnicity (Caro and Ewert, 1995). This study suggests that it is important to at least acknowledge the multiplicity of communities within the Latino population, including groups with different levels of acculturation, when attempting to consider the Latino population as a whole.

Research on EE and Latino communities as a whole indicates some participation patterns and recreational preferences for this group. One study examined barriers to participation of Latino communities to nature centers in Florida. Lack of familiarity with the programs, general atmosphere, language, and cost of programs were identified as barriers to participation (Hong, 2006). To address these concerns, the study recommended improving outreach by exploring alternative methods of advertisement, such as connecting with mothers and grandmothers (because they are usually the ones most active in their children's lives), offering programs and materials in Spanish, and providing financial assistance for low income families (Hong, 2006). Further research has explored outreach methods that work well for Latino communities. "Agencies typically use persuasion and mass media to communicate. Both of these represent communication to, not with, the public ethnic groups ... Hispanics have other preferred methods of communication such as primarily interpersonal channels – family and friends" (Chavez, 2000, p.188).

I did not encounter any studies that focused on activities or subjects Latino communities might be particularly interested in, with direct regards to EE. However, I did find several references to environmental leisure use patterns of Latino communities. For the most part these references support commonly held stereotypes about these communities. One trend commonly referred to in literature is that Latinos tend to

participate in outdoor recreation activities in large groups (see references in Chavez, 2000). This pattern was identified as rooted in cultural beliefs about the importance of extended family. Another recreational activity commonly associated with Latino communities is barbecuing, or sharing food in general (Chavez, 2000).

While little literature is available with regards to the Latino population and EE nationally, even less research has been conducted at the local level. In Monterey, California, MERITO conducted a local study to determine the current needs and interests of Latino communities with regards to EE, focused on marine issues. This type of inquiry is rare, however. In Portland, Oregon, although many programs are interested in serving diverse audiences, few programs have deeply analyzed their current service to specific audiences or developed plans for improved service.

The Friends of Tryon Creek State Park (FTC) is a non-profit organization that conducts EE programs in Tryon Creek State Park. The organization expressed interest in analyzing its current service to Latino populations and developing a plan for improving service to this community. Before introducing the case study of this organization, however, it is imperative to place the organization within the wider regional context of EE programs in the Portland Metropolitan region. Ultimately, to make recommendations to FTC regarding its service to Latino communities, it is essential to consider the role that FTC plays in providing EE to the region.

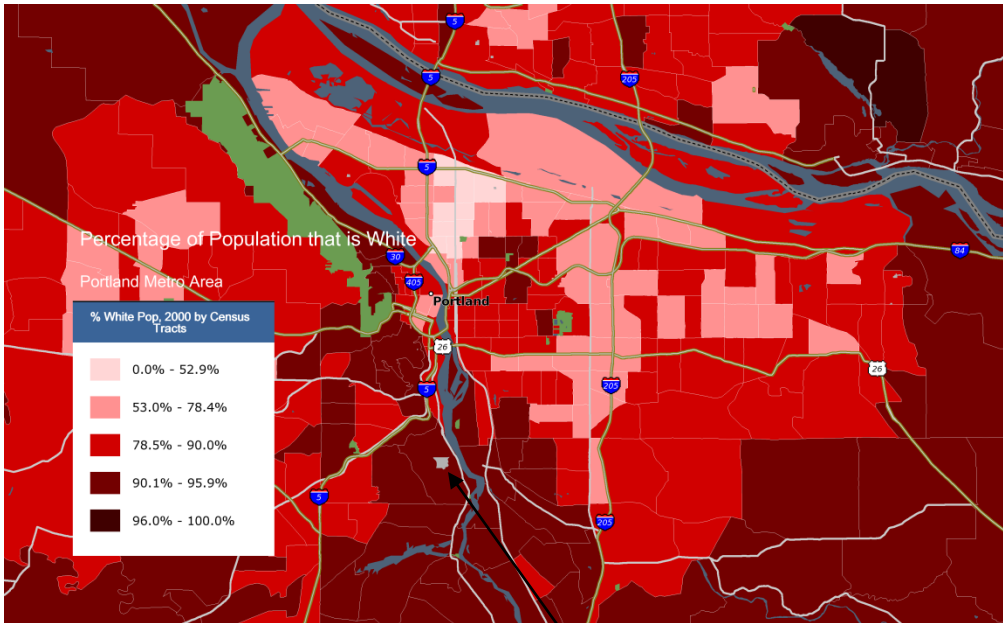
Chapter 2: Environmental education for all in Portland, Oregon: A background to the case study of The Friends of Tryon Creek

Portland, Oregon has been nationally recognized for its emphasis on issues of sustainability and the environment. In 2008 it was rated the nation's greenest city by *Popular Science* magazine, because, "America's top green city has it all: Half its power comes from renewable sources, a quarter of the workforce commutes by bike, carpool or public transportation, and it has 35 buildings certified by the U.S. Green Building Council" (Popular Science, 2009, p. x). Complementing the city's focus on environmental issues, Portland hosts a large number of EE programs, ranging from small after-school programs, conducted at single schools, to programs such as Outdoor School, a week-long curriculum taught at facilities in a nearby forest, attended by most of the metro area's 6th grade students. However, little research has been conducted into how the region as a whole is served by this variety of programs. Although the overall function of the regions' EE programs has been poorly studied, available information regarding the region's demographics and current EE programs still provides valuable background information to understand the role of a single EE organization, FTC, within this network.

2.1 Demographics of Portland

Portland is the largest city in Oregon, with 540,000 people (US Bureau of the Census, 2000a). While most cities in the United States concentrate minority populations in urban areas, in Portland, the central areas of the city are overwhelmingly White, while outlying areas include more minority populations (see Fig. 3-5). Around Portland, areas in the north and east, including neighboring cities of Gresham, Beaverton, and Hillsboro, have much higher populations of racial and ethnic minorities than the city's central area. For example, while the Latino population of Portland is 6.8%, the Latino population in Hillsboro is 18.9% and growing. (The Latino population in Hillsboro grew at a rate of 450% between 1990 and 2005). (US Bureau of the Census, 2000b; Hillsboro Community Profile, 2007). The overall Whiteness and segregation of Portland has been examined in a series of popular media articles. According to a recent article in *The Oregonian*, "Among the nation's 40 largest metro areas, only four – none of them in the West – are whiter than Portland" (The city is 77.6% White.) (Hammond, 2009).

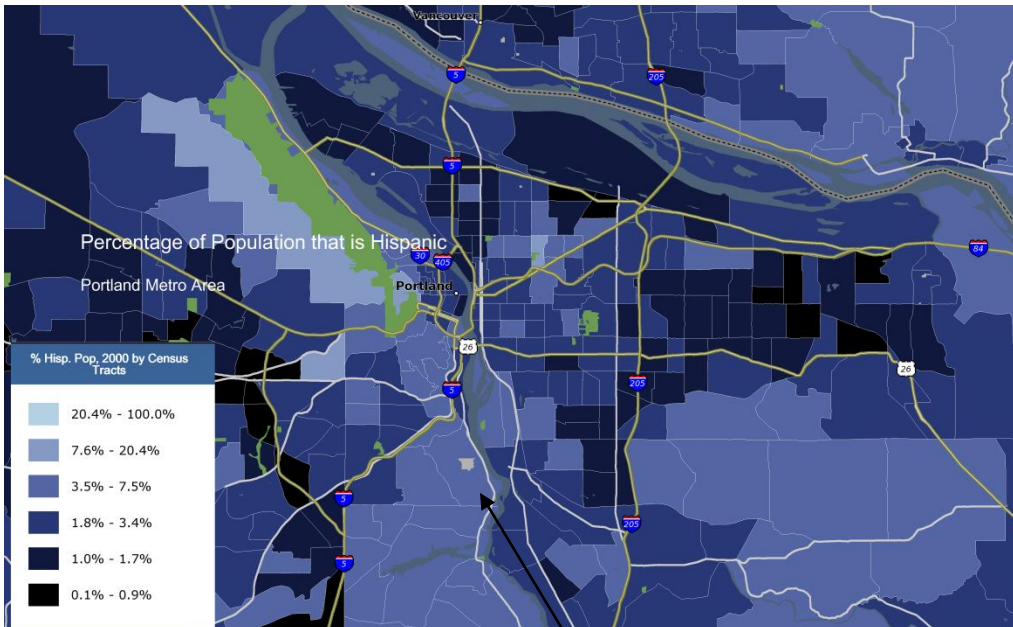
Fig. 3. Percentage of population that is White by 2000 census



Approximate location of Tryon Creek State Park

Data source: US Bureau of the Census, 2000c

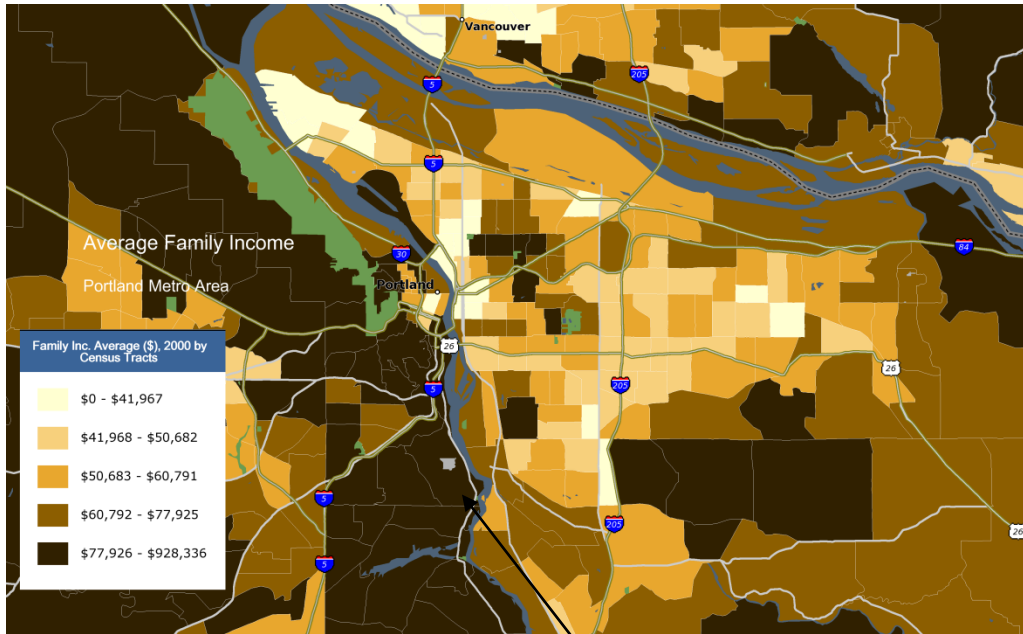
Fig. 4. Percentage of population that is Hispanic by 2000 census



Approximate location of Tryon Creek State Park

Data source: US Bureau of the Census, 2000c

Fig.5. Average income by 2000 census



Approximate location of Tryon Creek State Park

Data source: US Bureau of the Census, 2000c

The segregation of Portland is also evident in an examination of public school demographics. For example, in Oregon overall, one in five students is Latino (Hammond, 2009). In the Portland public school district, however, Latino students are not uniformly spread throughout schools. According to data from the Portland Public School District, Latinos are concentrated in relatively few schools. While Latinos make up 13.7% of enrollment overall, 56% of schools have less than 10% Latino enrollment, while 10% of schools have Latino enrollment of over 30%, including 52% at the Clarendon-Portsmouth school in North Portland (Portland Public School, 2009). In neighboring cities, minority populations make up a larger percentage of students overall. For example, in Beaverton, 44% of elementary students are Latino (Washington County Commission on Children and Families, 2007). It is important to note that these racial and ethnic disparities between schools are closely tied to economic separations between neighborhoods (Portland Public Schools, 2009).

2.2 Environmental education in Portland

Portland has been associated with the forefront of the environmental movement and, in parallel, has demonstrated a commitment to the development of EE programming.

Portland public schools have demonstrated a dedication to providing EE through the implementation of many programs. There are several environmental charter schools in the Portland area, including Sunnyside Environmental School and the Rachel Carson Middle School. Portland also offers an Outdoor School experience to all 6th grade students, which includes a several-night stay at a research facility. Further, many individual teachers have been nationally recognized for achievements in incorporating EE into their curricula.

Outside-of-classroom EE in Portland includes multiple types of programming. Some programming is provided by the city, through the Parks and Recreation Department. Other programming is offered at nature centers and state parks. Further, there are many small informal programs, often offered as after-school programs in conjunction with specific schools. There is no available analysis of which programs are being offered and utilized by schools on a citywide scale, or of the efficacy of programming provided. Consequently, there has been no analysis of how well diverse audiences are being served by EE programs. (For in-school programs there is legislation requiring that children of migrant families have access to the same programs as traditional students, meaning that there is some official monitoring of their access to EE programs, such as Outdoor School). The Environmental Education Association of Oregon (EEAO) does plan to make available a comprehensive list of programs; however, this was not posted as of May, 2009. The most recent attempt to compile information of available EE programs is the 2005 Portland Metropolitan Area Natural Resource Education Directory (Zenn, 2005).

Likewise, few EE programs in the Portland area have examined how they serve diverse communities or Latino communities in particular. One program that is interested in addressing its service to diverse communities, and specifically Latino communities, is The Friends of Tryon Creek State Park.

2.3 An Introduction to Tryon Creek State Natural Area and The Friends of Tryon Creek

Tryon Creek State Natural Area is a state park owned by the State of Oregon and managed by the Parks and Recreation Department. It is located in the hills of southwest Portland, Oregon, placing it within 10 miles of almost one-fifth of the population of Oregon (Friends of Tryon Creek State Park, 1994). Although the demographics of the immediate neighborhood are overwhelmingly upper-middle class and White, the

populations of neighboring Beaverton and Hillsboro have some of the fastest growing minority populations in the state. Conversely, the community of Lake Oswego, in the immediate vicinity, has one of the most homogeneously White and affluent populations in the region (91.1% White) (Bureau of the Census, 1997).

Unlike other Oregon State Parks, whose main objective is recreation, the mission of Tryon Creek State Natural Area is to preserve Tryon Creek as a natural area. The management of the park reflects this mission: “Only those recreational uses compatible with this natural area, such as hiking, running, horseback and bicycle riding, and nature study are permitted. Development in the park is limited to a 14-mile trail system, nature center, covered shelter, parking areas and maintenance facilities. Unlike other state parks there are no campgrounds, picnic areas, or playgrounds” (Friends of Tryon Creek State Park, 1994, p.1–2).

2.3.1 Natural History of Tryon Creek State Park

Today the 635-acre natural area of Tryon Creek State Park includes a dense second-growth forest dominated by Douglas-fir (*Pseudotsuga menziesii*), western red cedar (*Thuja plicata*), big leaf maple (*Acer macrophyllum*), and red alder (*Alnus rubra*) trees with a perennial stream, Tryon Creek, flowing through it. What visitors see today, as they walk the trails of the park, is the result of millions of years of geological, biological, climatic and human history. The geological history of the park can be seen contemporarily by careful examination of the land and soil formations in and around the park. An astute observer can decipher evidence of the dynamic volcanic, tectonic, glacial, and hydrological history of the area.

The park encompasses a unique geological area, including an exposed formation of the Waverly Heights, a small island of basalt jutting out from surrounding flows of Columbia River basalts that did not flow over the park and surrounding area. The geological history of the area has also left other traces in the park, such as evidence of lava flows from the eruption of nearby volcanoes, including Mount Sylvania. Further examination of the rocks and soils of the park suggests the dynamic glacial and hydrological history of the area. Glaciers expanded and retreated across the area from 3 million years ago until about 10,000 years ago, depositing sediments and eroding the region (Friends of Tryon Creek State Park, 1994).

This geological history continues to influence the biology of the park in many ways. For example, Tryon Creek State Park is underlain by a layer of hard clay, about 23

inches under the surface. The layer, called fragipan, prevents even thick tree roots from penetrating, causing the ground to be wet and unstable, particularly during winter storms. A strong wind or severe storm season usually causes the fall of a number of trees in the park (Friends of Tryon Creek State Park, 1994).

More recent hydrological and climatic conditions further affect what visitors experience in the park today. Tryon Creek, for instance, is a perennially flowing stream beginning in a series of seeps and springs near the park. Just before entering the park, Tryon Creek is joined by Arnold Creek, flows through the park and continues on to empty into the Willamette River. Although the 10-mile stream is perennial, its water level fluctuates severely throughout the seasons (70% of the park's precipitation falls November–March, while only 5% falls June–August). This fluctuation of water level affects the surrounding habitat of the park. For example, high water levels during winter storms deposit silt and large debris across the flood plain and along stream banks. Every year the stream demonstrates its active influence on the Tryon Creek ecosystem (Friends of Tryon Creek State Park, 1994).

The climate of Tryon Creek State Park also continually influences the conditions in the park. Although the park's overall climate is generally the same as the surrounding urban area, the forest canopy and the water sources create a microclimate of slightly different conditions in the park. For example, visitors note the cooler temperatures in the summer (Friends of Tryon Creek State Park, 1994).

2.3.2 Social history of Tryon Creek State Park

Just as geological, hydrological, biological and climatic conditions have influenced the park, so has the history of humans in the area. It is critical to understand the history of Tryon Creek State Park in order to comprehend the distinctive character of the park today. The park land was used by Native Americans as hunting and gathering grounds for centuries, before its resources were capitalized on by a series of White settlers. In 1849, pioneer Socrates Hotchkiss Tryon came to Oregon with his wife and children and built a small farm, sawmill and, in 1855, a house on the property. In 1874, the Oregon Iron Company bought the land from the Tryon family and logged it for cedar and fir through the 1890s. The timber was used to make charcoal to fire the pig iron foundry in Lake Oswego. During this period the huge and ancient Douglas-fir and western red cedar forest that the pioneers first encountered in the area was transformed into open fields. As different areas of what is now the park cycled in and out of active

logging, continual successional stages progressed throughout the park. The evidence and progression of this patchy succession is still evident in the park today (Friends of Tryon Creek State Park, 1994).

According to historians, a formal suggestion to form a park in the Tryon Creek area appeared on planning maps as far back as the 1920s but the idea was not seriously considered, and the land was continually logged until the early 20th century (Friends of Tryon Creek State Park, 1994). By the late 1950s, as residential development in the surrounding areas was increasing, there began to be community interest in the creation of a park.

As people increasingly settled near the area, local government met to discuss the park's formation. However, financial and legal constraints prevented any plan from moving forward. In 1960, the City of Portland built a major trunk sewer alongside Tryon Creek down to Lake Oswego, which alerted community members that timely action was necessary to create a park before the area was developed. In 1969, Multnomah County jumpstarted what became a grassroots community campaign to form the park, through the purchase of 45 acres of land in the area. From an original public meeting of 40 supporters came a steering committee directed at developing a non-profit organization to promote the park and help coordinate efforts between the local governments to stave off development (Friends of Tryon Creek State Park, 1994).

The organization Friends of Tryon Creek State Park (hereafter FTC), was incorporated in December 1969 to shape the effort to create a park in the area, and immediately became engaged in confronting developers and in motivating the community to action. In 1970, the hope of securing a park was threatened by a Seattle-based developer who optioned 200 acres around the creek and planned to acquire and develop the entire area. FTC directed a campaign of volunteers to fundraise to purchase lands, in order to prevent this development. The campaigns were able to raise \$27,000 and a tide of community interest in the creation of a park (Friends of Tryon Creek State Park, 1994).

Although the community was able to raise considerable funds and enthusiasm, significantly more financial help was needed within a short time frame, if the land was to be secured from development. FTC turned to Glen Jackson for help; Jackson was in charge of the Oregon State Park budget. Under the influence of FTC, Jackson made an exceptional decision to create an urban state park from the area. His decision was based on the facts that, "The canyon was a large area still intact, it was where people live,

and... the project had enormous community support” (Friends of Tryon Creek State Park, 1994, p.9). In 1971–2 the State of Oregon purchased the remaining available properties in the area bringing the total size of the park to 620 acres (Friends of Tryon Creek State Park, 1994).

As soon as the park land was secured, the state created a master plan for the park. Central to the master plan was a nature center, to serve as a focal point for educational programs at the park. FTC planned and built the center as a gift to the park from the community. The partnership in the creation of the nature center began the unique relationship between FTC and the state in managing the park. “Though it was a new experience for the state to work with a citizen group, the value of such a partnership was recognized and set the stage for similar arrangements to be developed in other state parks” (Friends of Tryon Creek State Park, 1994, p. 9). Tryon Creek State Natural Area was officially dedicated in 1975, with both FTC and State Park officials maintaining an important presence (Friends of Tryon Creek State Park, 1994).

Currently, the state owns, manages, and maintains the park and facilities. Although FTC was largely responsible for construction of buildings, it does not retain ownership. The state provides a park manager and support personnel including a naturalist, who works closely with FTC to plan activities. FTC is responsible for many of the park’s educational activities, classes and camps (Friends of Tryon Creek State Park, 1994).

2.4 Programs Offered by Friends of Tryon Creek

FTC’s mission is, “to conserve and enhance the natural resources, and promote the educational, interpretive and recreational programs of Tryon Creek State Park.” FTC has gradually built an array of programs that support this mission and take advantage of the distinctive natural and social history of the area. For example, programs integrate a variety of themes related to the social history of the area, including elements of ethnobotany, succession due to human (and natural) disturbance, watershed and riparian health, and invasive species.

Further, FTC’s programs take advantage of the opportunity to expose urban visitors to a variety of plant and animal species that are native to the region, but which have been pushed out of the urban environment. Visitors can encounter trilliums (*Trillium ovatum*) in the spring, smell lantern-like skunk cabbage (*Lysichitum americanum*), hear the tapping sound of Pileated Woodpeckers (*Dryocopus pileatus*), and

taste delicate thimbleberries (*Rubus parviflorus*). The park also provides an opportunity for visitors to observe plants and animals they are familiar with in a non-urban environment, including Douglas squirrels (*Tamiasciurus douglasi*), raccoons (*Procyon lotor*) and familiar flowers, such as wood violets (*Viola glabella*).

Visitors can also learn to recognize many familiar species as invasive to the park. As neighborhoods have encroached on the area, they brought with them a variety of non-native plants, which continue to proliferate in the park today. English ivy (*Hedera helix*), garlic mustard (*Alliaria petiolata*), daffodils (*Narcissus pseudonarcissus*) and apple trees (*Malus domestica*) are now established in the area, despite eradication efforts.

Programs are designed and implemented by the Executive Director, Education Director, Nature Day Camp Director, plus other FTC and state park employees, volunteers, and interns. FTC also has an active board that has ongoing input into projects and events. FTC's financial-support comes from private donations, fundraising events, the Oregon Lottery, corporate donors, and program revenue.

Programs offered by FTC are designed for many audiences including children, adults, students, families and teachers. These programs include overnight, full-day and half-day camps in the summer and during winter and spring breaks; weekly, guided nature hikes and adult- family- and child-oriented hikes and workshops; and an ongoing Junior Ranger program. FTC also has a variety of programs designed for schools, including a travelling curriculum that it brings to classrooms, field trip programs, and teacher training sessions. In addition, FTC hosts other events, including a weekly summer music series, an outdoor art gallery, seasonal celebrations and fundraisers, special events with partner organizations such as ivy-pulls, and "Let's Go Camping," an assisted camping program for families who have not previously had camping experience. In addition, FTC runs a nature center at the park, complete with a library and educational displays. FTC also coordinates volunteer and internship opportunities for both youth and adults. In 2008, hundreds of volunteers contributed a total of 12,032 hours of service to FTC.

FTC is currently in the process of reevaluating all of its educational programming, to determine whether it is consistent with the organization's mission statement. Originally FTC had funding to conduct a survey of its programming over one year. However, funding has been cut so that it currently has 6 months to conduct a review of programs. So far the review has suggested that FTC should focus its future efforts on

innovative programs that are uncommon to the region, such as service learning opportunities and school programs for pre-school children.

While individual staff and administrators at FTC have been concerned about the organization's relationship with diverse audiences for many years, FTC has dedicated little time to formally assessing its service to diverse communities. For example, as a part of the review of its current programs, FTC is informally interested in evaluating its service to diverse audiences, but this is not an explicit goal of the review, and therefore might not be a priority, as time and funding for the review are at risk. Similarly, when casually asked about FTC's service to diverse audiences, several staff members were quick to propose translating materials into Spanish, but mentioned that this was not a current project.

FTC does reach out to low-income audiences through a variety of scholarship and partnership programs (see page 52 for information on current service to diverse audiences), however the organization has not evaluated the success of these individual programs in serving diverse audiences, nor has it formally reflected on the organization's overall service to these groups. The intention of my research has been to help FTC evaluate its current service to Latinos, and to provide the organization guidance for future improvements. The following section explains the methods I employed throughout this process.

Chapter 3: Methods

I became interested in questions related to service to diverse communities in EE programming after working for several years as an EE educator in a variety of settings throughout the Pacific Northwest. I noticed that, in all my positions, little training was provided regarding adapting curriculum for different audiences, and, frankly, that the audiences I encountered represented little racial, ethnic, economic or other diversity.

In the summer of 2008, I was employed as an instructor for summer EE programming at The Friends of Tryon Creek State Park's Nature Day Camp. While I was aware that FTC had a scholarship program, I particularly noted that there seemed to be little diversity among the staff or students at the park, and wondered whether this had to do with the location of the park (limiting access), or whether there were other factors contributing to the relative lack of diversity. Through casual conversations with coworkers I learned that there was interest within the administration to address the service of FTC programs to diverse communities. FTC's interest in evaluating its service to diverse communities made it an ideal candidate for a case study to identify barriers to reaching diverse audiences, and to develop a series of recommendations for improving service to diverse audiences that would be applicable to other programs as well.

FTC has much in common with a number of other EE organizations that are interested in serving more diverse audiences, but which have, so far, not met their goals. One important factor that FTC has in common with many of these organizations is that it is not located in a community convenient for many diverse communities, but is, in fact, located in one of the most White and affluent sections of the city. Still, FTC and many similar EE organizations have a number of unique resources to potentially provide effective EE education to many communities. For example, FTC presents one of the closest opportunities for urban residents to explore a forest through high quality interpretive programs.

I approached the executive director of FTC and proposed doing a project to come up with a series of recommendations for improving FTC service to diverse communities, with the idea that many of these recommendations would be applicable to many other EE organizations, as well. After we agreed to go forward with the project, it quickly developed and grew more focused. In the design of my methods, I drew on several established qualitative research designs appropriate for educational research. First, I used

a case study framework. Second, I used a utilization-focused evaluation model. Third, I used a research design of illuminative evaluation.

Qualitative research in education is a well established research standard, which holds several advantages over purely quantitative studies in some situations. While quantitative analysis can be useful to decision making, qualitative data allow for examining and evaluating aspects of educational programs that elude quantitative techniques (Mrazek, 1993). For example, although a demographic survey of the users of Tryon Creek State Natural Area would provide useful information, such quantitative data would not necessarily reveal information that the survey did not anticipate the importance of measuring. In-depth interviews, however, can uncover these themes.

Another advantage of qualitative research methods for some projects is that they allow for an open-ended research question. In qualitative research, "Research questions are not framed by operationalizing variables; rather they are formulated to investigate topics in all their complexity, in context" (Biklen, Knopp and Bogdan 1992, p.2). This is opposed to quantitative research, which generally requires testing a specific hypothesis. Qualitative researchers do not necessarily "search out data or evidence to prove or disprove hypotheses they hold before entering the study," but, rather, can be free to develop hypotheses as they gather information (Biklen, Knopp and Bogdan, 1992, p.31).

Further, I used a phenomenological approach, which allowed me to design a study that would not test the veracity of a single hypothesis, but rather attempt to discern a variety of perspectives from those involved. "Phenomenologists believe that multiple ways of interpreting experiences are available to each of us through interacting with others, and that it is the meaning of our experiences that constitutes reality" (Biklen, Knopp and Bogdan, 1992, p.23). This is not to say that phenomenological research denies a reality that "stands over and against human beings" (Biklen, Knopp and Bogdan, 1992, p.23). Rather, phenomenologists believe that "reality comes to be understood to human beings only in the form in which it is perceived," so it is the multiple perceptions of all people involved in a common situation that are of interest, more than a single concrete reality (Biklen, Knopp and Bogdan, 1992, p.24).

In my study I am concerned with understanding the variety of perspectives held by multiple parties regarding access and effectiveness of EE for Latinos at Tryon Creek. Both quantitative and qualitative methods could have contributed relevant information to this study. Because I was concerned with exploring the complex interplay of multiple parties, however, I chose to focus on a qualitative, phenomenological approach which

would allow me to uncover a variety of perspectives and issues that I could not predict. Some quantitative methods were also appropriate for my research, such as analyzing the demographic records of FTC. Although it might have been valuable for me to include additional quantitative methods in my research, such as surveys that could be statistically analyzed, a predominantly qualitative study was appropriate for the scope and research goals of this project. I drew from several specific qualitative methodologies in my research design.

3.1 Case Study

First, I approached this project as a case study. “Case study is the study of the particularity and complexity of a single case, coming to understand its activity within important circumstances” (Stake, 1995, p. xi). Case study research is appropriate when there is a need for a general understanding but insight into the question can be arrived at by studying a particular case (Stake, 1995). A case might be chosen either for its commonality with other cases, or for its uniqueness. However,

The real business of case study is particularization, not generalization. We take a particular case and come to know it well, not primarily as to how it is different from others but what it is, what it does. There is emphasis on uniqueness, and that implies knowledge of others that the case is different from, but the first emphasis is on understanding the case itself. (Stake, 1995, p. 4)

When conducting a case study, a researcher must first decide on a case (a program, or an individual, for example) to focus on. As mentioned above, the researcher might choose a case based on its commonality with other cases, or based on its uniqueness, but the researcher usually attempts to pick a case that will lead to generalizable findings. Once the researcher has chosen a case, the first step is often to identify issues and issue questions. “Issues” and “issue questions” can be understood similarly to hypotheses and goal statements. However, the terms suggest more of a focus on “complexity and contextuality” as well as on “problems and concerns” (Stake, 1995, p.18). During the course of research these questions are allowed to continually “emerge, grow, and die, however identifying them early helps to organize the case study” (Stake, 1995, p.21).

A case study researcher can gather data through a variety of means including interviews, observation, and surveys. As key themes emerge from research, issues are continually redefined, and additional data are gathered to replicate or triangulate key

observations. Data are analyzed by searching for patterns and linkages within the data, and conclusions are organized according to themes. Finally, the researcher must communicate her findings, which includes helping “the reader discern the typicality and relevance of a situation as a base for generalization” (Stake, 1995, p.53).

I chose to use a case study design because I felt that understanding the complexities of a particular case, in depth, would help identify useful generalizations, applicable to general research regarding diversity in environmental education. While, as with any case, there are factors unique to FTC, I chose FTC as a case because of its commonality with many other EE programs. For example, like other EE providers, FTC offers programs that are not specifically designed to serve underserved populations, even though it would like to improve its service to those populations. As I became familiar with FTC, I was able to determine which of my conclusions might have external relevance and which might be specific to FTC.

3.2 Utilization-focused evaluation

Another methodology I used in my research was utilization-focused evaluation. This methodology is similar to participatory action research, or action research (Schwandt, 1997; Freire, 1970). Action research seeks to shape solutions to social injustices and issues through research that involves the input of people involved, particularly those people who have been traditionally marginalized or oppressed (Schwandt, 1997).

Like action research, utilization-focused evaluation sets out to produce a result that can be applied by an identified user. As opposed to research that aims to produce “knowledge and truth,” utilization-focused research “supports action.” “Utilization-focused evaluation is highly personal and situational. The evaluation facilitator [researcher] develops a working relationship with intended users to help them determine what kind of evaluation they need” (Patton, 1997, p.37). While utilization-focused evaluation does not “advocate any particular evaluation content, model, method, theory or even use,” it does suggest that decisions about these processes should be made in collaboration with the intended user group. It is critical for the intended user to be involved in the research from the beginning of the process so that results are produced that the user is invested in using (Patton, 2002, p.37).

Practically, a researcher conducting utilization-focused evaluation must first identify an appropriate organization and “relevant decision makers and information

users” (Patton, 2002, p.284). It is important for the researcher to work with an organization that can use the information generated, is interested in this information, and that can share the responsibility for the evaluation and its utilization. Once the organization is identified, the researcher ideally works with the organization to develop evaluation questions, a plan for gathering data, and ultimately a projection of how findings emerging from the study will be analyzed, interpreted and used (Patton, 2002, p.289).

I chose to use a utilization-focused methodology for my study, as it was important to me that my research would lead to relevant and useful results for an organization interested in making improvements in EE for underserved populations. I identified FTC as an organization with both the interest and the resources to devote to examining this issue and to following through with the findings. From the beginning of my study, I involved the leadership and staff of FTC in my research process, discussing with them what they were particularly interested in learning about FTC’s relationship with diverse audiences, and how they hoped to use my results. As my research progressed I found that, while there was continuous interest in my project, it was difficult to maintain consistent contact with key staff, as they all had very busy schedules. However, as much as possible, I sought input from FTC, and I have worked with staff to determine how my research will be applied.

3.3 Illuminative evaluation

A third methodology I employed is illuminative evaluation. Illuminative evaluation is a general research strategy that stands in contrast to research methodologies that follow a fixed and rigid research design. In illuminative evaluation “investigators observe, inquire further, and then seek to explain” (Parlett, 1997, p.17). Admittedly, this strategy makes research steps somewhat unpredictable, as the researcher’s inquiry is constantly being redefined by emerging issues. “Beginning with an extensive research base, the researchers systematically reduce the breadth of their enquiry to give more concentrated attention to the emerging issues. This ‘progressive focusing’ permits unique and unpredicted phenomena to be given due weight” (Parlett, 1997, p.18).

Illuminative evaluation is particularly useful when studying previously unexamined topics, complex situations, and potentially uncomfortable situations, because it allows the researcher to use interviews to explore a variety of topics. For example,

illuminative interviews will often draw out ideas that the interviewee may not have previously had the opportunity to consider or express.

While illuminative evaluation is not necessarily associated with any specific methodologies, but is rather a general strategy, there are still some general steps common to researchers conducting illuminative evaluation. First, a researcher using an illuminative approach must familiarize himself or herself with the subject of the study. Next, the researcher will develop focused questions, might change emphasis and will generally narrow observations to be “more directed, systematic and selective” (Parlett, 1977, p.18). The third stage of illuminative research is seeking “general principles underlying the organization of the program, spotting patterns of cause and effect within its operation and placing individual findings within a broader explanatory context” (Parlett, 1977, p.18). While these stages overlap, the “progressive focusing permits unique and unpredicted phenomena to be given due weight” (Parlett, 1977, p.18).

Throughout this process, a researcher using an illuminative approach must pay particular attention to the introduction of bias into the research. Illuminative evaluation has been criticized because the open-ended technique leaves room for subjective or prejudiced progression of the research. While all research leaves room for subjective interpretation, illuminative research demands a researcher’s particular attention to the risk of the introduction of personal bias.

I decided to use an illuminative approach to my study because the issue of diversity and EE is both relatively unexplored and also potentially uncomfortable to discuss. I found the approach useful starting with the beginning stages of my study. For example, while I initially set out to explore FTC’s relationship with diversity in general, some of my initial conversations with FTC and EE professionals revealed a particular interest in EE and Latino communities, so I decided to focus my study on this population. Illuminative evaluation also continually allowed unexplored topics to develop in interviews. My questions frequently elicited responses such as, “Oh, I hadn’t thought of that before,” or “nobody has asked me to consider that” from interviewees.

In one instance, when I was interviewing two Portland Public School administrators, in different departments, about specific considerations for the Latino population, one employee commented “I haven’t ever considered specific considerations for those kids, it would be great to get some ideas from somewhere.” Before my eyes the other employee reacted, “Oh, I’ll send some people I have to do a presentation for you.” The employees simply had not had the opportunity to discuss this topic previously.

3.2 Literature review and interviews:

My research was divided into an extensive literature review of current and past literature regarding diversity in EE, the gathering of new qualitative data from three groups, and the analysis of these data. The three groups included in the new data gathered were (1) environmental educators concerned with diversity in EE; (2) employees of Tryon State Park; and (3) current and potential partners of Tryon Creek and other community members who work with the audiences that FTC is hoping to serve. As stated on page 4, my goals for these interviews were to identify organizational and curricular changes FTC could make to its youth education programs to better serve the specific needs and interests of more diverse communities, to determine how FTC could foster sustained relationships with these communities, and to determine how to evaluate the success of its efforts. In addition, I hoped the results of the interviews would have implications for not only FTC, but for similar organizations, as well.

The first group I interviewed, EE professionals, consisted of the directors of education and general directors at a variety of nature centers, including small non-profits and large institutions such as aquariums. I identified EE educators for the first group I interviewed based on recommendations from networking amongst environmental educators in the Pacific Northwest. I particularly targeted those people who were identified to me as interested in issues of diversity in EE, who were from ethnic or racial minorities themselves, or who had significant experience working with diverse communities. About half of those people I interviewed were from an ethnic and/or racial minority themselves. I interviewed a total of 8 people in this group in the Seattle and Portland areas.

The second group of interviews I conducted was with individuals associated directly the Tryon Creek State Park. This group included staff members of FTC, staff of the state park, and volunteers with both organizations. My first interview with FTC was with the Executive Director, in which we agreed on goals and methods for the study and a long-term plan of how the results would be used. I identified other critical individuals to interview based on recommendations from the Director, who provided helpful advice about individuals who had interactions with the public, and who were interested in issues of diversity and/or who played a part in the design or implementation of programs. I completed 5 interviews in this category.

The third group of people I interviewed was comprised of representatives from groups that work in conjunction with FTC, are clients of FTC, or have the potential to

become either. I identified these individuals based on reports from FTC and based on my own research into audiences that FTC indicated an interest in reaching in the community. I interviewed 5 people in this category, including teachers, community leaders and directors of organizations.

For all interviews I used a standardized method. All subjects were asked to sign a human subjects review form that explained to them that the interviews would be kept anonymous, but would be recorded both with a tape recorder and written notes. Subjects were given the option of having the recording and note taking stopped for any section of the interview they did not want a record of. Most interviews lasted about one hour, and some subjects were interviewed on more than one occasion. While I approached every interview with a list of questions, all interviews took on a relatively loose format where the interviewee was encouraged to steer the conversation towards topics that they found relevant. As mentioned above, this illuminative technique is associated with opening the research up to previously unidentified, but critical themes. “The open ended nature of the approach allows the subjects to answer from their own frame of reference rather than from one structured by prearranged questions,” and thus allows them to introduce perspectives that hadn’t been anticipated (Bogdan, 1992, p.3).

Content from all the interviews was transcribed and analyzed for references related to specific themes (Silverman, 2006). In total, my sample size of interviewees was relatively small (total of 18 interviews). In general, interview-based qualitative research involves small sample sizes because of the amount of detail sought, as opposed to breadth of responses (Bogdan, 1992). As a result of small sample size, I was unable to offer statistically significant information on the relative strengths of themes and responses; however I have tried to give an impression of relative frequencies of responses as precisely as possible. All quotes have been anonymously attributed (anonymous teacher, Director of Education, State Park staff, etc).

For the group of EE professionals, the interviews were analyzed for references to (1) current problems and successes in working with diverse audiences in EE, (2) ideas for improving EE for diverse audiences, and (3) specific references to working with Latino communities in EE. For the group of interviews with FTC and state park employees, the interviews were analyzed for references to (1) current problems and successes in working with diverse audiences in EE, (2) ideas for improving EE for diverse audiences, (3) specific references to working with Latino communities in EE, and (4) willingness or resistance to accommodating diverse audiences. These interviews were supplemented by

a review of relevant documents related to programs available and program attendance records. For the group of teachers and current or potential partners for FTC, the interviews were analyzed for references to (1) current problems and successes in working with FTC, (2) goals or interests in pursuing relationships with FTC, and (3) general ideas related to improving EE service to diverse communities.

My final recommendations and conclusions are the result of combining and synthesizing information obtained from the literature review and all sets of interviews.

Chapter 4: Interview and research data

4.1 Interviews with environmental education professionals about environmental education and diversity in general

The ideas that emerged from my conversations with EE professionals in the Seattle and Portland areas can be categorized into two themes. The first theme relates to patterns of challenge and failure of EE for diverse audiences. The second theme relates to past and current successes in serving diverse audiences, and what these individuals have learned about improving service to diverse audiences in EE programs. All interviews with EE professionals opened with a general conversation about the definition of diversity, particularly within the context of EE. For the majority of EE professionals, Latino communities were central to their concerns about effective EE programming for diverse audiences; this population came up consistently in anecdotes throughout the interviews.

4.1.1 Challenges, failures and barriers to serving diverse audiences

All EE professionals interviewed referenced the failure of EE programs to effectively reach diverse audiences. The themes that related to this failure were the lack of diversity amongst EE professionals, the fact that much lip service is paid to diversity but few practical advances have been made to actually improve EE for diverse audiences, and the lack of involvement of diverse communities in planning EE programming. One EE professional additionally blamed the failure of EE programs to reach diverse audiences on factors embedded in society at large.

About three-fourths of the EE professionals interviewed referenced the overwhelming homogeneity amongst EE practitioners. They noted that EE remains a field dominated by Whites. One EE professional noted, “I recently went to a national EE conference, and I know it can be problematic to size up a group just by looking at them, but my first impression was that this group was overwhelmingly, homogenously, White. It was, wow, really striking to me” (Anonymous Director of an EE program).

About three-fourths of the EE professionals also indicated that many programs only cursorily address issues of diversity. “A lot of programs say they want ‘diversity’ in their organization, but they don’t make the effort to really consider what changes this would mean” (Anonymous Director of an EE program). About half of the EE professionals specifically indicated that if an organization is interested in addressing

issues of diversity it is important to examine it at all levels, from within its audience to amongst members of its board. In addition, about one-fourth of the EE professionals mentioned that involvement of members from diverse communities in EE was often perfunctory, even if the involvement of diverse individuals was actively sought. “People of color get cynical because they feel like an afterthought,” noted one EE professional. “You can tell when your input is really being included. It really keeps people from coming back to participate when they don’t feel like their stake in decisions is as important as everyone else’s” (Anonymous Director of an EE program).

Only one EE professional pointed to more fundamental, societal failures related to EE and diversity. “Most of us aren’t consciously prejudiced, but it’s ingrained in the societal framework so subtly it’s automatic. We need to become more conscious of it, mindful and self-aware, and make it less of a taboo topic. Until we address this on a societal level we will still have problems” (Anonymous Director of an EE program). This EE professional also stated a need to reconsider fundamental approaches to EE, such as the need to broaden the definition of environment to include urban considerations. Additionally, this individual suggested partnering with other groups, such as environmental justice groups, to reach diverse communities, but mentioned that these groups often don’t get involved because they receive little notice from mainstream groups. “Many groups doing EE for diverse audiences aren’t on the radar because they are not traditional programs” (Anonymous Director of an EE program).

4.1.2 Recommendations for improved outreach

While all EE professionals identified ways in which they perceive EE as failing diverse audiences, they also all identified successes they had had in reaching diverse audiences. Several themes stood out as central strategies to addressing issues of diversity. These strategies were outreach, the inclusion of multiple languages in programs and materials, biculturalism (or cultural competence), diversity of staff and volunteers (and providing role models), partnerships, the logistics of meeting goals, and specific considerations of distinct audiences.

The first strategy, noted by three-fourths of the EE professionals as important, was related to outreach to diverse communities. Of these individuals, about half indicated that different outreach techniques were required for specific audiences. Learning which particular outreach techniques work for different communities was identified as something that “goes a long way to make communities feel you are invested in them”

(EE professional). For example, another EE professional noted what he learned about the subtleties of culturally appropriate outreach techniques, from conducting informational meetings about his program for Latino communities.

At the first one we served hamburgers and hot dogs. Some of the kids were trying them, but the adults weren't really taking them, or were just throwing them away. Responsiveness wasn't that great at that meeting. After that I started getting local restaurants to cater tacos and burritos. It's amazing how far serving three-milk-cake [*pastel de tres leches*] instead of donuts will go. When parents see that sort of thing they know you have an investment in them. (Anonymous Director of an EE program)

Food was referenced as central to effective outreach in many communities by about one-fourth of the EE professionals. Serving food, especially food appropriate to the community, was described as a way to both get people in the door and to get them to come back.

About half of the EE professionals that I interviewed also indicated the importance of doing outreach that actually engages communities where they are, before expecting them to come to a program, especially if the program is outside the community. One educator advised, "Go to them; don't expect them to come to you. Find out about the community and their background and meet them in the middle" (Anonymous EE professional).

These educators suggested that it was easier to do this type of outreach through partner organizations or schools, as opposed to randomly in the community. "Reaching out to parents and communities through school is good, because reaching out to families randomly is hard" (Anonymous EE professional). About one quarter of the EE professionals indicated that churches were particularly good places to do outreach. "If you can get a pastor from a church to get the whole community out for an event, that is a good way to give people a first exposure to your program, as a group" (Anonymous EE professional). Another EE professional agreed, saying,

Pastors are great at getting messages to large communities, if you can get them on board. And a lot of these diverse communities we want to reach are religious. So beyond school that is a good way. You can go to them, and host a dinner or something and talk about what you do, and then invite them out, maybe organize an event just for its group. It's good exposure. (Anonymous EE professional)

About one-quarter of the EE professionals mentioned the importance of these strategic partnerships in outreach strategies. “By partnering with organizations that serve Latino communities, we don’t have to do outreach or registration on our own” (Anonymous Director of an EE program). Still, another quarter of the EE professionals interviewed suggested general advertising in local papers in a variety of languages, in order to reach diverse audiences.

A second theme that all but one of the EE professionals interviewed mentioned was the importance of incorporating multiple languages and cultures into programs or organizational materials. When EE professionals were asked what their organizations did to address issues of diversity, the most common first answer was to mention the translation of materials, or the hiring of Spanish speakers.

While language was identified as a critical aspect of serving diverse communities, one-quarter of the EE professionals emphasized that it could only go so far. “I am not sure language really is the key. I think we need biculturalism more than bilingualism” (Anonymous EE professional). Biculturalism, or cultural competence, is the third theme identified as important in reaching out to diverse audiences. While not all EE professionals referenced cultural competence by name, more than half of the environmental professionals described examples of how a lack of cultural competence has inhibited effective EE in their organization. In many cases a program’s lack of attention to cultural issues prevented students from even attending programs.

Parents from the Russian community were holding back their students [from attending our program]. Then it came out from a teacher that parents were uncomfortable with the fact that we were using these nature nicknames instead of our real names. For us it’s this goofy fun thing we do, but for them it was raising suspicion – this real lack of trust. They were like, why won’t they tell us their real names? We don’t want to send our kids away with them (Anonymous Director of an EE program).

We send a list home with suggestions of things to bring to our program. We mean it as a suggestion, but a lot of our families take it as literally a list of things they should be able to provide, and many low-income families can’t, so they keep their kids home. We’ve had to reassess how we present that, and think about how we can loan out materials better to families who can’t provide their own equipment (Anonymous Director of an EE program).

Beyond being aware of whether programs are initially presented in a culturally competent way, those EE professionals who mentioned cultural competence also identified the importance of developing content that was culturally relevant and appropriate to the intended audience. An EE professional who works with families in which the parents are migrant workers indicated,

Parents have so many priorities; they won't be interested or aware in [*sic*] your program unless it's framed appropriately. I've found that when we put in a message about agriculture and health, it hits home. So if we want to talk about the watershed, we talk about the use of fertilizers and chemicals and what effects that has and how they spread. They can see then that it impacts them in serious ways on a daily basis. It gets attention (Anonymous EE professional).

Still, more than three quarters of the EE professionals interviewed indicated that they were not aware of any special considerations of how to frame messages for diverse audiences. More than half of EE professionals indicated they had received little training or access to resources regarding learning about cultural competence. One individual, particularly concerned with cultural competence, was aware of this lack of training amongst her colleagues. She emphasized the need to train teachers and educators in cultural competence, saying "Massive retraining in cultural competence is necessary" (Anonymous Director of an EE program).

I conducted one interview that involved speaking to two people involved in EE education in different departments of the same organization. When I asked about whether one EE professional trained his staff in issues of cultural competency specific to working with Latino communities, he responded that he wasn't aware of specific things that would be relevant to discuss with staff, although he thought this information would be helpful. The other interviewee indicated that amongst his staff there were several Latino educators who would be happy to share their experiences and to prepare a training session on cultural competency specific to the Latino community. This type of networking, related to cultural competency, appeared to be rare amongst EE programs.

Although over half of the EE professionals who referred to issues of cultural competence (with or without using the term) emphasized issues of ethnicity and race, about one quarter of the EE professionals also indicated the importance of being aware of class distinctions, and the interplay between class, race and ethnicity. One individual who works with a particularly racially and ethnically diverse population felt that factors

related to social class kept people away from the programs they offered, more than factors of race or ethnicity. “Kids might not want to ask their parents for money for a field trip, or the parents might be embarrassed to apply for a scholarship. I think income shuts people out” (Anonymous Director of EE program).

A fourth consideration brought up by about three-quarters of the EE professionals interviewed was the integration of diversity into staff, interns, and volunteers, not only into the audiences they were reaching out to. About half of EE professionals indicated that diversity within the organization was important because it presented role models to students from diverse backgrounds. One individual also indicated that diversity amongst staff helped to integrate the issues relevant to these communities more deeply into the organizations. “Having a person of color in a role model position in this field is important for all students, not just for students of color...and it brings relevant issues to communities into the programs that you just aren’t going to have without those direct voices” (Anonymous Director of EE program).

While recruiting staff and volunteers from diverse audiences was described as important, there were many barriers referenced to successfully meeting this goal. One EE professional noted that many people from diverse backgrounds do not have the time or resources to devote to volunteering in unpaid positions. “I don’t want to make generalizations, but realistically a lot of minority communities we want to involve are financially less stable than our White audiences. And they just can’t afford the luxury of working with us for free when they already have two, three jobs” (Anonymous Director of EE program). Financial restrictions were also cited as barriers to recruiting diverse staff. “These positions don’t pay well, and aren’t exactly attractive to people that don’t have the luxury of making a little less” (Anonymous Director of EE program).

About one-quarter of the EE professionals interviewed specifically mentioned the difficulty of recruiting diverse high school youth for summer volunteer programs. “Most of these kids don’t have the luxury of taking unpaid summer jobs, even if they are interested” (Anonymous Director of EE program). Internships were described as an important step to further pursuing positions in EE or the environmental field in general, so including diverse students in these programs was cited as particularly significant. “Our internship program is a teacher factory,” described one individual. “You look at the demographic [of our interns] and that’s the future science and environmental teachers we are making here. Unfortunately, for a bunch of reasons, they just aren’t a diverse group” (Anonymous Director of EE program).

A fifth consideration, referred to by about half of EE professionals, was creating partnerships with other EE organizations and with other community groups. About one-third of EE professionals, all based in Portland, specifically noted that there was little coordination among programs, which restricted both the effectiveness of programs, and the ability to provide adequate programming to audiences on a citywide scale. A Portland-based EE professional indicated,

There are a lot of groups in Portland doing good work. And we could really be helping each other out, but there isn't a lot of communication going on. People who work these jobs are already strung thin, and don't exactly have energy to network much. But I think a lot of good could come of it (Anonymous Director of EE program).

EE professionals mentioned the following advantages of working in partnerships: introducing communities to a variety of programs they might otherwise not be exposed to, integrating different communities' concerns into a variety of programs, and sharing resources. Ideas for partnerships ranged from sharing lists of volunteers and interns to creating a citywide assessment of how EE programs are serving communities.

We have a list of lots of volunteers and paid student interns, because we are in the schools recruiting all the time. I would be willing to let them [FTC] know about other opportunities if I knew about them, but it hasn't come up (Anonymous Director of EE program).

What would be great is if METRO [Portland metropolitan area regional government] could organize something where EE programs from different areas of town got together and share what they were doing and who was getting what programs, and what they were teaching. I would love it if teachers at a school could coordinate use of resources. By the time kids got to Outdoor School, in 6th grade, they would have already had a range of experiences in different habitats. It could be coordinated in an online forum, even (Anonymous Director of EE program).

About one-quarter of EE professionals mentioned that creating a network among EE programs would not only have the advantage of improving individual programs, but would also be beneficial for improving the efficacy of programming for audiences on a wider scale, throughout Portland. These EE educators indicated that it was important for

educators and communities to know what programs were available close to them, as well as in the broader community.

I think sometimes it is worth bussing kids somewhere to really give them an experience that isn't available in their neighborhood. But in most areas we have resources for people, and they just aren't known about, but they can provide a lot for people if they are used (Anonymous Director of EE program).

I think it is important to bring kids out here from the city, because there isn't an area like this where they are. But there are a lot of places for them to have nature experiences where they are. I think programs like ours should provide teachers and students with packets about resources in their neighborhoods, and suggest they go there as a class or with their family. That involves some organizing though, to be done well (Anonymous EE professional).

Currently, no EE professionals were able to point to a central listing of EE programs in the area that teachers or individuals could use. One individual mentioned,

The OEEA [Oregon Environmental Education Association] is supposed to have that list on their webpage as something teachers can go to for resources. But it still hasn't been put up yet. Teachers don't really know all their options, or have suggestions of how to bring things together. And we don't really know what schools are getting exposed to what programs, and how programming is coming together for kids as they go to different programs over time (Anonymous EE professional).

A sixth theme related to reaching diverse audiences, which emerged from about half of this set of interviews, was the logistics of reaching goals related to diversity. As already mentioned, many EE professionals referred to the problem of setting vague goals related to diversity without coming up with a concrete, long-term, funded plan. One individual referred specifically to the importance of appointing a staff member to be dedicated to diversity issues. "A lot of this stuff is relational. Just building relationships with communities. And that needs a face to it; someone who will show a genuine interest and stick with it over time" (Anonymous EE professional). Another EE professional mentioned a different important logistical issue related to designing programs for diverse communities: the long term feasibility of continuing programs that are designed for these audiences. "Some of these programs, like going out to schools for visits before inviting

them, cost a lot. If you have a grant for them, it's great, but it's not that sustainable. Fee-based is really better" (Anonymous Director of EE program).

A seventh and final theme that emerged from this set of interviews was reaching out to specific, diverse audiences. While most references to diversity were implied to be towards racial, ethnic or economic diversity in general, about one-quarter of EE professionals focused their efforts on a specific group or groups. While some overall strategies were presented as universal, some outreach and program adaptation was described as being specific to different communities. EE professionals particularly referenced outreach specific to Latinos, Native Americans and recent immigrants from a variety of nations. Almost all of the EE professionals with whom I spoke noted that they have noticed the most demographic shift in Latino visitors to their programs, so have made some attempt to focus on outreach to this group.

4.2 Interviews with Tryon Creek State Park

4.2.1 State park staff interviews

Because of the close relationship between the Friends of Tryon Creek (FTC) and the state park, it is imperative to understand the perspective and goals of the state park staff related to issues of diversity, in conjunction with those of FTC. Interviews with state park employees revealed the state park staff's perspective on diversity at the park, including their goals related to diversity, as well as barriers to achieving these goals. State park employees tended to frame issues of diversity at the park within a larger framework of achieving diversity in Oregon's state parks in general.

4.2.1.1 Challenges, failures and barriers to serving diverse audiences

Employees all indicated that a lack of diversity amongst visitors to the park was associated with a discrepancy between programs available at parks and the typical use patterns of diverse communities. "The parks and the programs we have were designed by one group, and designed to fill its needs. For a variety of reasons our workforce isn't representative of the real demographics out there" (Anonymous state park employee). One state park employee expressed concern that not attracting more diverse communities to the park would put state parks, as a resource, at risk. "As Caucasians get smaller as a group what does that mean when we have to make decisions about our parks as a resource? If the majority of people don't feel connected to them or value them, then we'll be in trouble" (Anonymous State Park employee).

State park employees pointed to a variety of barriers to recruiting diverse audiences to the park. First, was difficulty in outreach to these populations. “It’s a good idea to do outreach to church groups or social groups. But I don’t know how to do that recruitment. I’m not going to walk into an all-Black church and say ‘I’m the White guy from the government, come to my park.’ We need to make some sort of connection, or establish a liaison first” (Anonymous state park employee). According to one state park employee, the Forest Service has a human rights representative who serves as a liaison for them. In a similar position at the state park’s headquarters, however, the ‘diversity specialist,’ was not seen to be helpful. “We are not sure what she does, really. We get an email from her once in awhile like, ‘it’s Black history month – celebrate.’ And we say, ‘OK...but what can you tell us about the diversity of our applicant pool?’” (Anonymous state park employee).

The state park uniform that the rangers wear was also cited by one employee as a barrier to making connections with certain communities. “Especially in communities of new immigrants or when there is already some nervousness, with a language barrier or something, I’ve noticed the uniforms can make it uncomfortable” (Anonymous state park employee).

Another barrier referred to by all state park employees interviewed was the fact that the staff of the state parks is already stretched thin. “Diversity is something that we are aware of but effort isn’t really being put into addressing it. You get paralyzed by the largeness of it, by fear of being patronizing or doing the wrong thing” (Anonymous state park employee). Further, even when a program was proposed, staff members have little energy to dedicate to it. “When a program for a specific audience comes up some staff are going to go, ‘Great, I’ll just fit that in...when?’” (Anonymous state park employee).

4.2.1.2 Successes in serving diverse audiences

Despite these difficulties, Tryon Creek State Park was described by one state park employee as being in a special position as an urban state park for reaching diverse audiences, and employees pointed to several successes and ideas for the future. One factor cited as putting Tryon Creek State Park in a good position to address issues of diversity is its urban location. “There is discomfort for a lot of people to go to rural areas, either for employment or to recreate. There aren’t those kinds of dangers here, so it’s not as scary in that way” (Anonymous state park employee). The park was also seen as in a good position to address the needs of a variety of populations because of its

relative proximity to so many communities. “We are a day trip for the majority of the population of Oregon” (Anonymous state park employee).

One state park employee pointed to several programs implemented specifically to target issues of diversity. However, these programs were all described as having met with limited success. The first was outreach intended to increase diversity of the applicant pool. Many state park employees come out of the School of Forestry at Oregon State University. “That demographic itself is pretty homogeneous, so we’ve been working on that. But it’s an issue now” (Anonymous state park employee). Another program targeted at underserved groups is “Let’s Go Camping,” which is organized in conjunction with FTC. “It’s a good program, and always fills up, but we now see we need to do different kinds of outreach to reach people in different communities...” (Anonymous state park employee).

Another program designed to serve diverse communities was a 5-6 week experience for students nominated by teachers at low-income schools, to learn about forestry issues. While it met with limited success in its first year, improvements were being designed for the program’s second year. “It was disappointing because last year we threw it together in two weeks and, in talking to the kids, they weren’t that into it...This year they are going to get some school credits for it, and we are going to do a better job preparing for them, making it exciting” (Anonymous state park employee). No specific mention was made of how the program could specifically change to suit the audience.

4.2.1.3 Recommendations for improved outreach

State park employees had ideas for even more strategies to reach out to diverse audiences. However, according to staff, “Headquarters just doesn’t have the juice,” for many of these ideas (Anonymous state park employee). For example, one staff member suggested adopting an idea from Wyoming State Parks in which single mothers receive assistance to visit state parks that charge fees. “That program is underwritten by the health and human services agency there. That is a good idea. I think if we link the positive health effects of outdoor experiences with the association with obesity and unhealthiness of living below the poverty line, it could be good” (Anonymous state park employee).

Another idea for developing a better relationship with diverse audiences was to create focus groups to elicit “what do people want?” One idea was to use focus groups to determine how to create EE messages that would resonate with different groups. “I’ve

never thought of this before, but when we do our interpretive walks we try to tell messages that connect to things that resonate culturally. I wonder if we could think about telling stories that resonate with different cultures” (Anonymous state park employee).

A state park employee indicated that there were several specific diverse groups in the area that would be relevant to reach. “There is a growing population of Muslims and Somalis and Latinos in the area. Since 1995, outside maybe the 2-3 mile immediate radius, there have been large ethnic and economic shifts” (Anonymous state park employee). State park staff emphasized that it was important to deliberately invite these communities to the park. “It’s not that people don’t feel welcome. I think it’s that many people don’t know we are here, even pretty close by” (Anonymous state park employee). The FTC programs that work with schools were given credit by state park staff as being an important means of advertising the park’s presence within diverse communities. While FTC staff was the impetus for examining issues of diversity in its programs in this thesis project, all state park employees interviewed were in support of exploring these issues. Furthermore, state park staff agreed with the importance of examining the park’s relationship with Latinos specifically, however, they suggested that addressing diversity should not be limited to this group.. “I think it is important to start somewhere but also to make sure that by focusing on reaching out to one community you aren’t leaving out the need to reach everybody” (Anonymous state park employee).

4.2.2 Friends of Tryon Creek staff interviews and information from FTC records

Interviews with the staff of Friends of Tryon Creek revealed similar themes to those brought up by state park staff. While everyone at FTC was enthusiastic, responsive and eager to improve access and the effectiveness of FTC programs to Latino communities, I found that overall the staff of FTC had little time to dedicate to addressing issues of diversity at the park. I did become aware of several scholarship and grant programs that FTC had designed to improve access (transportation and economic) to the park. The examination of FTC records as well as interviews with FTC staff highlighted the successes of current scholarship and grant-funded programs directed at diverse audiences. This search also revealed several particular barriers to reaching and serving Latino communities. However, little time had been spent considering outreach to diverse audiences, or specific considerations for effective education for these audiences.

4.2.2.1 Current service to diverse audiences

Interviews with the staff of FTC demonstrated that FTC has consistently reached out to communities outside the immediate vicinity to bring people from a variety of means and backgrounds to visit and attend programs at the park. The two main ways FTC has attempted this is through scholarship programs and partnerships. FTC records reveal significant information regarding these programs; however, the information is not kept in a systematic format. For example, FTC does not have a consistent way of tracking the scholarships provided to either camp or school programs or any data on the specific demographics of the populations receiving scholarships.

FTC raises money to fund scholarships both by soliciting contributions from private donors, and by applying for grants for specific programs. Although FTC has a policy of not providing any free programs, it attempts to offer 10% of all its programs at very low, reduced cost. However, I was told that no school with over 50% of students qualifying for free or reduced lunch, and no individual who meets application requirements, is turned down. FTC advertises the availability of financial assistance for camps, school fieldtrips and other programs through outreach and advertising materials (all of these materials are in English).

A staff member at FTC indicated to me that the total amount of scholarships given to school programs fluctuates year to year. In 2008, the total scholarship amount given was \$8366. However, in 2007 the total scholarship amount given was \$5812. In 2008, 18% of schools (10 schools) received assistance to pay for programs at the park (one-time visits to the park for up to 60 students). The average scholarship given paid for 83% of the cost of the program. (As schools and communities with low-income and diverse students are located at a distance from the park, financial assistance is also necessary to provide transportation to the park. FTC is able to offer financial assistance for transportation for its school programs through the Oregon Forestry Resource Institute, and has applied for grant money to provide transportation for student internship programs.) In total, in 2008, FTC provided \$2217-worth of scholarships to school programs. In both 2006 and 2007, however, FTC gave away approximately the same number of scholarships each year (about 10) but the amount covered by the scholarship was only 50% (average) for a total of \$1126 (average).

Scholarships given to individual families to attend camp similarly fluctuate year to year. Camp scholarships are given both to individuals who apply directly (applicants must submit a letter and a form including financial information), and to individuals who

apply through partner organizations, who have arrangements with FTC to offer camp experiences at discounts to its constituents. From 2006-2008 the percentage of camp tuition paid by scholarship ranged from 25% to almost 100% (all campers were asked to pay at least a nominal fee). The average scholarship covered 77% of the camp tuition fee. (Total camp tuition ranges from \$119-\$275). In 2008, FTC had 907 campers total and gave 36 scholarships (the numbers for 2006 are similar). In 2007, however, FTC gave only 21 camp scholarships. This difference might be attributed to the fact that FTC held fewer camps in 2007 (673 campers total), or to scheduling conflicts with a partner organization with whom it arranges many scholarships.

FTC also attempts to reach diverse communities through partnerships with other community organizations. The administration noted that it had worked with a variety of groups to varying degrees (see p.60 for information on these partnerships). For many partner organizations, FTC's goal for the partnership is to attract participants to its programs who might not otherwise be aware of, or be able to attend, programs at the park. For these organizations, the partnership provides an opportunity to take part in programs that would be difficult for community members associated with the group to attend without special outreach or assistance. Other partnerships offer opportunities for both organizations to work towards common goals, often on specific projects. Overall FTC's partnerships fall under several categories: partnerships that identify individuals and give them financial assistance to attend camps and classes at FTC, and partnerships that organize one-time or repeat events with other organizations and FTC.

While FTC has some established scholarships and partnerships, little other outreach or consideration of diversity has been done formally or consistently at the park. Staff members indicated that they do not target outreach to any groups in particular or tailor programs for any different groups. "I don't feel we gear our programs to populations; we do try to make them accessible to people by making them low-cost though. We don't try to reach out to any groups in particular. We do reach a wide group in the metro area though."

According to FTC staff, most of the diversity in audiences at FTC can be attributed to the elementary school programs. In 2008, FTC conducted 91 field trips at the park. Fifty-seven of these groups were from public schools, 25 from private schools and 9 from scout troops. While there is no available demographic information for either the scout troops or private schools, data from the public schools that visited the park demonstrate the income diversity and Latino populations among the schools that visited

the park (see Figures 6 and 7). The data reveal that while FTC programs do serve some low-income and Latino students, these populations make up a moderate percentage of overall program attendees.

Fig.6.
Percentage of students who qualify for free and reduced lunch at schools who visited FTC in 2008

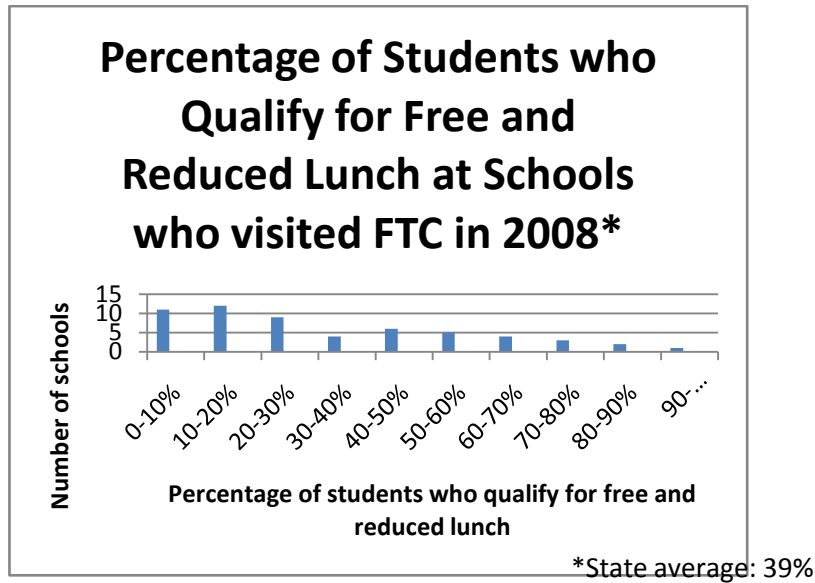
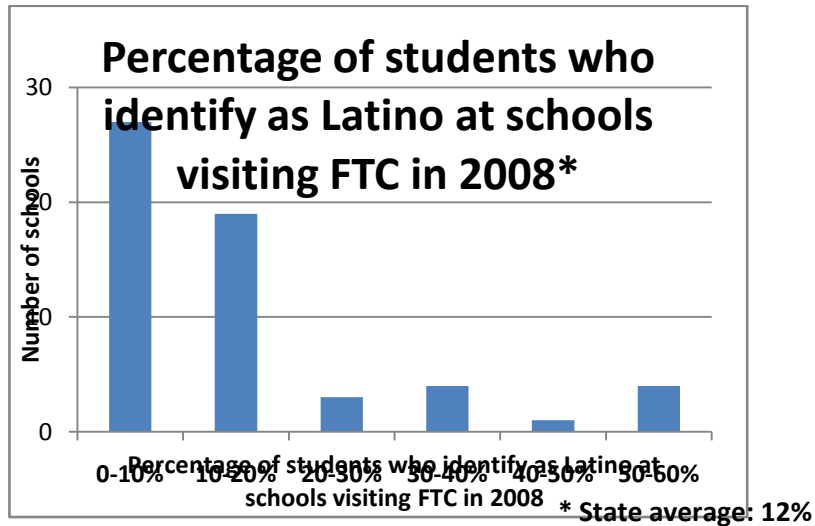


Fig.7.
Percentage of students who identify as Latino at schools visiting FTC in 2008



FTC advertises its school programs by sending paper and email advertisements to public and private schools. These school programs expose many students and families to

the park who might not otherwise hear about it. While FTC does outreach throughout the region, some public school districts have a much better response rate, including two districts in which all elementary schools send students. Both of these districts are relatively far from the park (about 10-25 miles away), and both have schools with many students on free and reduced lunch (48% and 34%), indicating that perhaps administrative encouragement or word of mouth has promoted FTC in this district more than the simple availability of the park or resources of the school.

Staff members indicated that they attract more low-income school audiences to FTC than some other EE programs in the area because, even without scholarships or assistance, its costs are relatively low. However, I found FTC costs to be comparable to other programs in the area. FTC charges \$4.50-\$7.00 per student for a field trip to the park, depending on the length of the visit, whereas a similar program at Audubon, for example, charges \$3.00-\$5.00 dollars per student.

4.2.2.2 Challenges, failures and barriers to reaching diverse audiences

While FTC has achieved some success in reaching diverse audiences, particularly elementary school children, conversations with the staff of FTC brought up several barriers to effectively reaching diverse audiences and addressing diversity at the park in general. The barriers consistently referenced by staff members include the reputation of the park, time constraints of staff, lack of diversity of staff, and the park's location.

One barrier mentioned by all FTC staff interviewed was the reputation of the park as uniquely catering to the neighborhood. One staff member illustrated this reputation by describing an experience she had had at a local environmental conference. At the conference she was chatting with another EE professional from the area, and mentioned that she worked at FTC. The other EE educator's response was, "Oh, so you work at that yuppie park." Other FTC staff members and state park staff mentioned that they were also aware of this reputation, and explained that it might discourage some audiences from visiting the park. To the contrary, however, one staff member explained that she believed people's lack of awareness of the existence of the park kept them away more than an impression of being unwelcome.

Another barrier that was suggested by all interviews with FTC staff was that, overall, they have little time to dedicate to evaluating FTC's current programming or to considering issues of diversity. For example, one staff member indicated that FTC had long planned to create pre- and post-visit packets for students who visit the park, but that

no staff member had had time to dedicate to this project yet. Several staff members in the past have been particularly interested in issues of diversity at the park, including a Latino who was interested in creating bilingual and bicultural programming. However, even these highly motivated staff had had little or no opportunity to allocate energy towards projects related to diversity.

Similarly, an evaluation of FTC's current programming with regards to diversity, has been prevented by constraints of time and financial resources. FTC has been lucky to have some interns conduct teacher surveys, but these surveys did not examine how teachers working with different demographics differed in their experiences at the park, because the students did not have time to delve into this question. Similarly, the current review of the EE programs at the park is not specifically examining the FTCs service to diverse audiences, in part because funding for the research cut the research projects' timeline in half.

Lack of time to dedicate to projects related to diversity has also resulted in inconsistent partnership relationships with community groups, as opportunities and staff members change frequently. While FTC has worked with a number of organizations, few of these relationships have been consistent. One frustration with maintaining partner relationships was that individuals involved in the partner organizations were also inconsistent about attending programs. For example, FTC conducted outreach about family programs at a transitional home for homeless families, however, many of those families who registered for programs after this meeting did not attend programs, as planned.

Another obstruction to addressing issues of diversity at FTC, which was commented on in all interviews with FTC staff, is the lack of diversity at all levels of the organization, from high school interns to board members. Addressing diverse interests, especially with limited staff time, can be done if those interests are naturally incorporated into the structure of the programs through diverse staff and volunteers. One simple way this would play out is in diversity of languages spoken. One staff member indicated that there were few staff or volunteers capable of speaking a foreign language, who are available to work with diverse populations, or do outreach. "It's hard to do outreach to Spanish speakers when you don't speak Spanish, and don't have that to offer them" (Anonymous FTC employee).

A final barrier to diversity at the park, mentioned by all FTC staff interviewed, is the park's location. Although the park is located within the Portland city region, it is

situated in one of the most secluded, White, and affluent areas of town. Although public transportation (buses) serves the neighborhood and some locations near trailheads, the closest stop to the nature center is about 1 mile from the park. Portland is lucky to have many parks in and around the city, so while FTC may provide some unique resources and programs, Tryon Creek State Park is simply not conveniently located for many people.

4.3 Interviews with teachers and partner organizations involved with Latino communities

Currently, FTC provides programming to Latino communities mainly through school programs and through partnerships with community groups. Both of these opportunities provide avenues to conduct outreach to attract Latino students and families to other programs at the park. I conducted interviews with teachers who work with primarily Latino students and have brought them to the park, as well as with Latino-based community groups that have partnered with the park, or could do so in the future. Both sets of interviews revealed some themes related to what has gone well in their relationship with FTC and challenges and failures of this relationship. Both sets of interviews also suggested ways that FTC could improve its connection with Latino communities.

4.3.1 School Programs

4.3.1.1 Successes of school programs in serving Latino communities

Several themes stood out, related to the success of programs for Latino students, from interviews with teachers who work primarily with Latino students and have brought them to the park. These themes include that the program is relatively low cost, that the programs at Tryon prepare students and families for the Outdoor School experience in 6th grade, and that the programs are strongly tied to state benchmarks.

All teachers interviewed indicated that they were only able to bring their students to the program because of the generous scholarship assistance. “With our school budget and the family budgets of my students, there is no way we could come if it wasn’t mostly paid for” (Anonymous teacher). Teachers affirmed that FTC’s scholarships were exceptional compared to similar programs. “When I tell other teachers about the fantastic scholarships I get to bring my kids out here, people are always shocked. Especially when I tell them I’ve never been turned down either” (Anonymous teacher).

Another theme related to the success of the FTC programs, with regards to working with Latino youth, is that the FTC program prepares the students for the Outdoor School experience in 6th grade. All teachers interviewed indicated that many of their students had had little experience in forests and that exposure to forested areas before Outdoor School helped make that later experience more valuable. “Most of my students’ experience outdoors has only been as wild as city parks. When I bring my kids here I usually hear-‘I thought this was a park, where are the swings?’ and really see devastation on their faces. Gaining even a little familiarity with the experience does a great job preparing students for Outdoor School” (Anonymous teacher).

Further, one teacher indicated that families who had experienced sending their children on a field trip to a forest were more comfortable later on allowing their children to attend Outdoor School. “It can be hard to convince families to send their kids to Outdoor School. It’s a big issue with Russian families. Less Latino families hold their kids back, I think because it is a cultural thing to have trust for the teacher. But Latino migrant families certainly are more hesitant sending their kids out, especially the first time” (Anonymous teacher).

This teacher also emphasized that preparing students for successful Outdoor School experiences was critical, as Outdoor School is renowned for pushing students into further interest in studying and working in the environmental field. “I don’t know if my vision really plays out, but I know that Outdoor Schools can teach kids about alternatives to working at the mini-mart” (Anonymous teacher).

Another theme mentioned by all teachers interviewed was that the FTC programs are strongly tied to state benchmarks. “I know a lot of teachers, especially in tough schools, that are overwhelmed by what they are working with. They have no time left for anything that is not tied directly to the established curriculum and benchmarks” (Anonymous teacher).

4.3.1.2 Patterns of challenge or failure in serving Latino communities

While all teachers pointed to positive aspects of FTC’s programs, they all also referred to themes related to challenges and failures of FTC’s school programs. These trouble spots included the following: volunteers were not prepared to work with Spanish speaking, urban youth; the actual programs were not designed for these students to be successful; outreach (including advertisement of scholarships) was insufficient; and, finally, pre- and -post visit materials were lacking.

All teachers interviewed suggested that the volunteers who led the programs did not seem prepared to work with Spanish-speaking, urban youth. “The volunteers are not always prepared for not-White or not-affluent kids. Any kids who haven’t been in a forest before are going to be unruly and distracted. The volunteers don’t tap into that energy, though; they stay set on running the program as usual. You can see them get real frustrated sometimes” (Anonymous teacher). Language was also mentioned by this teacher as a barrier. “I translate for my kids who need it when I go up there, because there isn’t a translator, but if they divide us up I can’t be everywhere” (Anonymous teacher).

All teachers interviewed also mentioned that aspects of the programs were not set up for students’ success. “When the programs aren’t set up for success, of course the kids are going to misbehave.” (Anonymous teacher). This teacher suggested that volunteers adjust the focus of the program for some groups of kids. “It’s important that it is set up to meet benchmarks, so we can justify coming out here but these kids really just need a chance to explore and learn the rules on first visits. I think the volunteers don’t always appreciate that; they want to stick with the program” (Anonymous teacher).

Teachers further indicated several other elements of FTC’s school programs that were problematic for their demographic of students. For example, “For kids struggling to learn English, in this environment, a group size of 10 is just too big” (Anonymous teacher). Another teacher indicated that the way rules were explained was insufficient for their students, leading the students to be set up for failure. “The rules need to be rephrased with explanations of why they are in place. Why can’t they gather cones? Pick Trilliums? And they need a chance to go over them before the program, and once they get to the park. Otherwise they just don’t get it, it’s all too overwhelming” (Anonymous teacher).

4.3.1.3 Ideas for future improvement

Although all teachers working with Latino youth referred to challenges or failures of FTC’s school programs, they also referenced several practical ideas for the improvement of their relationships with the park. These ideas included training current volunteers and recruiting new volunteers to be prepared to work with Spanish-speaking, urban youth, making some adjustments to program design, preparing pre- and post- visit materials, and extending outreach efforts to schools and individual teachers.

One teacher recommended training and recruiting volunteers prepared to work with Latino youth. She mentioned that having volunteers trained in Spanish was

important, but suggested that it was more important for volunteers to be trained in specific considerations for students visiting a natural area for the first time, than to be bilingual. Recruiting volunteers experienced in working with Latino youth, such as parents, was identified as a solution. However, another teacher indicated that she had had trouble working with parent volunteers. “I’ve had Russian and Latino parents come out and they don’t know the rules. They’ll wander off and smoke or talk on the phone. They don’t know what’s expected of them so they are nervous and don’t know how to act” (Anonymous teacher).

Teachers also recommended several adjustments to program design and implementation. First, one teacher recommended dedicating more time to explaining rules to the students. She specifically suggested designing a homework assignment to give students prior to coming on the trip which would ask students to consider the top 5 rules, illustrate each, and provide a short justification of the rule. She explained, “They’ll get more out of it once they are there if expectations are really clear” (Anonymous teacher). A teacher also recommended reducing group size and having students do more hands-on activities, and a rotation between stations, as opposed to spending the whole time wandering. This teacher indicated that EE programs she had attended with these structural elements were successful for her students.

Another related suggestion that emerged from interviews with teachers was teachers’ interest in pre- and post-visit materials. One teacher indicated that this would help prepare students to succeed on the trip, as well as help them to get more out of the experience. The teacher above emphasized that the pre-packets would prepare students for what would be expected of them at the park. However, one teacher also feared that busy teachers would not take the time to use pre-and post-materials with their students. This teacher suggested that materials be designed to be relevant to teachers and that their importance be emphasized by the staff, if they are to be effective. “I think busy teachers will ignore packets, unless there is a reason not to.”

A final suggestion that surfaced from interviews with teachers was the enhancement of outreach to teachers. One teacher explained that not many teachers knew about FTC. “They [FTC] have great opportunities, but if you don’t know the system, it’s hard to access” (Anonymous teacher). Another teacher suggested that improving outreach in the teacher training programs would recruit teachers to bring their students to the park and prepare them for the experience. “If you don’t offer to give teachers something, and offer to train them, they won’t come to you. You have to meet them with something

useful to them” (Anonymous teacher). While FTC has established teacher training programs, this teacher stated that they are not well advertised. “Outreach [for teacher training] needs to be more personal than a flyer. Teachers need a reason to come out on a weekend” (Anonymous teacher).

4.3.2 Partnerships

Interviews with existing and potential partner organizations also revealed themes related to current successes, failures and ideas for future improvement of FTC’s service to Latino communities.

Organizations that FTC already works with include Verde, Hacienda Community Development Corporation (Hacienda CDC), REACH, Friends of the Children, Headstart, Neighborhood House, and SOLV (originally meaning “Stop Oregon Litter and Vandalism”). These organizations include some groups that focus on serving the Latino community (Hacienda CDC and Verde), low-income housing organizations, educational organizations and environmental organizations. FTC has not collected any data on the demographics of individuals brought to the park through partnerships. Most partnerships operate either as either an opportunity to bring groups to the park for events such as ivy-pulls, or as referrals for individuals or families for scholarships. However, each partnership works differently, depending on the specific needs and interests of the organization.

Hacienda CDC is a housing complex in Northeast Portland providing affordable housing and community support for working Latinos and other families. Hacienda CDC also provides an assortment of educational and economic opportunities for its residents. Hacienda CDC has partnered with FTC in a limited capacity to refer students and families to the scholarship program.

Verde is a native plant nursery located in Portland, whose mission is to provide environmental job training, employment and entrepreneurial opportunities, and to foster a connection between economic vitality and environmental protection and restoration. Verde targets these opportunities to residents of Hacienda CDC. In the past, Verde has participated in small, one-time invasive removals with FTC. For Verde, these events have served its goal to meaningfully engage the Latino communities with environmental organizations. For FTC, these events have provided an ecological service and an opportunity to introduce the park and FTC programs to individuals who might not

otherwise find out about them. Verde is interested in expanding its relationship with FTC; however, currently no regular partnership exists.

REACH provides affordable housing opportunities and supportive services throughout the Portland area. Currently, over 1,200 individuals live in homes provided by REACH. Amongst REACH's many education and economic programs is a service that assists families in REACH housing with finding and paying for summer camp opportunities. REACH has been partnering with FTC for the past several years to provide scholarships to its families to attend summer camp at FTC for a nominal fee. Every year around a dozen students attend camp at FTC through this partnership.

Friends of the Children is a national organization that matches kindergarten students identified as vulnerable with supportive mentors who maintain a consistent relationship with them through their high school graduation. Friends of the Children has partnered with FTC to refer students and families to the scholarship program.

Headstart is also a national organization, with seven classroom centers in Portland. Headstart provides education and child and family support targeted at the 824 low-income 3-4 year olds and their families in Portland public schools. Headstart partners with a variety of community and education programs to provide opportunities for students and families. Headstart has partnered with FTC to refer students and families to the scholarship program.

Neighborhood House provides social, emergency, and recreational services for individuals and families residing in southwest Portland. Approximately 6,000 individuals and families receive services from Neighborhood House every year. Nearly 75% are low income and 50% are members of minority groups. FTC has partnered specifically with Turning Point, Neighborhood House's transitional housing program for homeless families. A focus of Turning Point is on providing educational and recreational activities for children. Neighborhood House partners with FTC to refer students and families to the scholarship program.

SOLV is a statewide, non-profit organization founded in 1969, which promotes opportunities for government agencies, businesses and individual volunteers to participate in programs and projects to improve Oregon. Every year, SOLV creates an average of 50,000 volunteer opportunities across the state. SOLV partners with FTC to coordinate one-time volunteer events, such as riparian improvement projects and invasive removals. These events help FTC gain exposure, provide upkeep to the park, and help SOLV by providing an opportunity to engage the public.

While FTC already has established multiple partnerships, there are several other potential partner organizations within the region. Organizations that have similar EE programming to FTC shared several ideas for potential partner organizations with strong connections to the Latino community. Organizations FTC might consider partnering with in the future include Adelante Mujeres, Open Meadow School, various “after-school programs,” and Portland Impact. All of these organizations could expose diverse audiences, including many individuals and families from the Latino community, to FTC and bring their voices to the park. FTC could provide these organizations with a quality educational opportunity and resource, either by visiting these groups in their communities or by inviting them to the park.

Adelante Mujeres, located in Forest Grove (near Portland), is a non-profit whose mission is to educate and empower low-income Latina women and their families. Adelante Mujeres currently provides education and other supportive services to Latina women and their families throughout the Portland area. To date, 98 women and their families have completed a full program of services with Adleante Mujeres and many others have accessed services provided by the organization. Adelante Mujeres has partnered with organizations similar to FTC in the past, and might be interested in partnering with FTC for one-time events, such as invasive removals or stream restoration, or in referring families or students to programs, volunteer opportunities and internships.

Open Meadow is a non-tuition private school for middle- and high-school students who have not been able to succeed in traditional public schools. Many of the school’s programs include service-learning components. Open Meadow is a potential partner for recruiting volunteers and interns, as well as for longer-term restoration projects, which the school could include in its service-learning curriculum.

After-school programs, in general, also provide many opportunities for potential partners, although funding for transportation might be a problem for some of these programs. Schools Uniting Neighborhood (SUN) Community Schools is one network of after-school programs, run as a partnership between Multnomah County Department of Parks and Recreation and 54 low-income schools in 6 Portland area districts. At these schools SUN conducts a variety of programs aimed at improving the academic performance and overall health of students. SUN schools might be interested in partnering with FTC to refer students, volunteers or interns, to host courses, workshops or one-time events, or to have FTC visit its school or after-school programs.

Impact Northwest is another potential partner. The organization conducts a range of programs aimed at increasing individuals' self-sufficiency and alleviating the effects of poverty. Impact Northwest reaches 70,000 individuals a year through its educational, economic, housing and other programs. Impact Northwest might be interested in partnering with FTC to refer students and families, or to coordinate one-time educational events.

Beyond this list of potential partner organizations, as a part of evaluating its current EE programs, FTC is additionally already in the process of considering expanding its partner organizations and compiling a list of potential partners.

From those groups that currently have some degree of partnership with FTC, one theme related to the successes of these relationships emerged. Partners indicated that FTC was able to provide sufficient financial support to encourage participation in partnerships. One resident services coordinator at a partner organization that works with clients in low-income housing commented,

The Friends of Tryon Creek are always very enthusiastic about partnering with us, and consistently offer incredible discounts to residents who live in our affordable housing. They have been a great group to partner with, and are always excited to bring our kids into their programs (Anonymous).

Several themes related to challenges of failures of partnerships also emerged from these interviews. First, not all partnerships were active. For example, one Executive Director of an organization that staff of FTC identified as a partner stated,

...we've really not done a lot with FTC yet. This isn't meant as a criticism – we have met a few times, and would like to work together, but other than a small invasive removal project we haven't found the right project yet. This has happened in other cases/organizations, and eventually things align... (Anonymous).

As other organizations indicated a stronger connection to FTC, the overall theme emerged that, while some of FTC's partnerships are well established, partnerships are not consistently strong with all organizations.

Another theme related to challenges and failures of partnerships, evident from interviews with partner organizations, was that Latinos are not significantly represented through the current active partnerships. One youth services coordinator at an organization

that is active in partnering with FTC (mostly by referring students for summer camp scholarships) said,

The Latino population...they actually comprise a fairly small portion of our population – somewhere between 4 and 5% of our residents identify as Hispanic or Hispanic-(fill-in-the-blank). (Anonymous)

Interviews with partner organizations also revealed some ideas for future improvement. All current partners I contacted, even those who did not consider the partnership active, were interested in opening dialogue into ideas for future projects together and for reviving old projects that had not been continued. One contact at a partner organization emphasized an appreciation for FTC's outreach and encouraged it to do more to reach out to organizations working with diverse communities.

One overall theme, common to interviews with EE professionals, state park and FTC staff, teachers and contacts at partner organizations, was recommendations and ideas for FTC to improve service to Latino communities. Some of these recommendations overlapped significantly across groups of interviewees; for example EE professionals, state park staff, teachers and partner organizations all suggested enhanced outreach. Many of the recommendations that emerged from interviews also corresponded with background research related to EE and diverse audiences. For example, while not all EE professionals or teachers referred to cultural competence by name, many of them referred to this concept; it is also emphasized in current literature. Other themes that emerged from the interviews, but that were not directly recommended as ideas, also tie back to the literature. The combination of all the data collected in the above interviews combined with the guidance of background research, shaped the recommendations in the following chapter.

Chapter 5

Recommendations and Discussion

The findings presented in chapter 4, along with other background research, endorse a spectrum of recommendations for improving FTC's service to Latino communities. Many of these suggestions would also ameliorate FTC's relationship with diverse audiences in general. The recommendations range from simple adjustments to more complex and ambitious processes. I have categorized each recommendation as external (which includes recommendations related to outreach strategies), internal (which contains recommendations related to organizational/staff/administrative changes), curricular and pedagogical, and assessment and evaluation. I have also divided the recommendations into general recommendations, recommendations for school programs, and recommendations for other partnerships.

5.1 General Recommendations:

Staff and administrative leaders at FTC have demonstrated an interest in reaching out to Latino communities. Some of FTC's current programs and several of staff members' ideas for future programs specifically promise to serve these communities. However, currently FTC has achieved only moderate success in serving Latino communities; mostly through its school programs (see Figure 2, p. 3). Already busy staff, lack of training, and lack of financial resources have all contributed to FTC's challenges in serving Latinos.

Despite these challenges, FTC has the potential to provide the fast-growing Latino population, and other diverse communities, with an exceptional and distinctive educational resource. While there are many EE programs in Portland, FTC conducts particularly high quality family, school, and community programs, as well as coordinating many volunteer opportunities, in a setting rich in natural and social history. Although other programs could provide communities with more convenient EE, FTC programs can introduce communities to ecosystems and issues not available from other programs. To fully appreciate the unique aspects of FTC's programs, an inventory of Portland area EE programs would be necessary.

An inventory of the region's other EE programs would also help FTC allocate its limited resources efficiently, in the effort to provide effective EE to Latinos in the region. Still, even with limited information regarding FTC's role in the wider community of EE

in the region, because the Latino population is high in the area, it makes sense for FTC to first focus its efforts towards this community (as MERITO did in Monterey). However, it is important that FTC consider its service to a variety of diverse communities, as many diverse communities continue to be underserved by EE programs. Many of the following recommendation can be extrapolated by FTC, or other organizations, to serve as direction when striving to improve service to other (or multiple) diverse communities. I have classified all current recommendations drawn from background research and interviews into the following categories: external, internal, curricular and pedagogical, and evaluative.

5.1.1 External (Outreach)

Many EE professionals lament the fact that much lip service is paid to diversity in environmental education, but little has been achieved in actually providing quality EE services to low-income and minority populations. In light of these warnings, in general, I propose that FTC expand its outreach efforts to Latino communities. However, I propose that FTC first carefully consider how prepared it is to provide quality services to these populations once they have attempted to engage them. Currently, several teachers indicated that they felt that FTC was not prepared to work with their students (due to language and cultural barriers). Before FTC makes an effort to bring more Latino students to the park, I advise that they first focus on recruiting and training staff and volunteers prepared to work with these audiences.

Still, FTC could significantly increase its relationship with Latino communities by taking some deliberate steps. Currently, FTC conducts little targeted outreach, including to Latino communities. This contributes to the fact that few Latinos are involved with the group as staff, volunteers or audience members. While, below, I suggest the importance of internally integrating the interests of Latino communities into FTC through hiring and volunteer appointments, I recommend that FTC also conduct external research into the needs and interests of Latino communities. I suggest that FTC organize interviews with representatives of teachers who work with Latino students, members of Latino communities, Latino community leaders, and Latino teens or adults who are considering volunteering at the park. Staff members at FTC are already aware of several teachers who are Latino or who work with predominately Latino youth. Further, several of the potential partner organizations I mentioned might be interested in sharing input with FTC, including Open Meadow, Adelante Mujeres, and after-school programs.

These interviews could help FTC specifically consider the interests of these groups in the design and implementation of current and future education programs, and they would demonstrate its dedication to serving the specific interests of Latino communities.

Some EE professionals indicated that outreach materials are better received if the targeted audience feels included in them. FTC could consider depicting representatives of communities it would like to reach in photos on brochures and its webpage in order to make these groups feel included and invited. This step might also help to counter the reputation of the park as “that yuppie park,” as one EE educator referred to it. Similarly, if FTC chooses to develop any bilingual services at the park, it should consider advertising these services bilingually and distributing these materials to teachers, community members, and religious groups.

Finally, as FTC’s connection with Latino communities is weakest with adults and teens, I recommend that it focus outreach efforts on these populations. One way to reach teens who might already be interested in volunteering in a setting like Tryon Creek is to acquire lists of volunteers from other programs, such as the Outdoor School, which has slightly more diversity amongst its teen volunteers, and to advertise positions to this group. Some of the potential partners I have listed might also be interested in referring potential interns or volunteers, especially if FTC is able to advertise and provide academic credit or financial compensation for these positions.

5.1.2 Internal (Organizational, staff, administrative)

Interviews with EE professionals indicate that, without actually integrating diverse individuals into all levels of an organization the interests of diverse groups usually remain misunderstood and poorly and inconsistently served. Further, including diverse role models at all levels of an organization encourages diverse youth to enter environmental fields (Coyle, 2005). In order to become an organization that reliably serves the needs and interests of Latino communities, FTC must embed those interests in its staff, volunteers, and board. When positions become vacant, I recommend that FTC consider hiring new staff members who represent the interests of groups they are hoping to serve.

The inclusion of diverse/Latino individuals on the board of FTC could have significant impact in the organization’s relationship with diverse communities. Inclusion of one or more diverse/Latino board members involved in community services or education (such as a current or retired school principal or librarian, an executive director of a local services organization, or a Latino college professor in the field of K-12

education) would make a public statement to the community about FTC's ongoing commitment to diversity. It also could create ongoing connections to Latino organizations and service-providers, which would open doors to local organizations and other key leaders in the community. Much of the literature, as well as interviews with EE professionals, indicates that the inclusion of diverse community members into planning and leadership roles of an organization plays a significant role in the genuine incorporation of the needs and interests of diverse communities into that organization (Lewis and James, 1995).

Further, for volunteer and intern positions, FTC should consider both how to attract and how to retain these volunteers. For example, as many low-income adults and teens do not have the resources to commit to unpaid internships or volunteer positions, FTC should consider developing programs in which individuals could receive some compensation for these positions, either as financial or school credit.

As current staff, interns, and volunteers do not represent Latino communities, it is also particularly important to train these individuals in cultural competency related to working with these populations (Gruenewald and Smith, 2008). Teachers indicated that they felt that volunteers were particularly unprepared to work with urban, Latino audiences. While recruiting or training volunteers in Spanish might be one way to better prepare volunteers and staff to work with Latino audiences, EE professionals implied that being prepared to engage students biculturally might be more important than being able to engage students bilingually. Preparing a brief training for staff and volunteers regarding specific cultural considerations involved in working with urban and Latino youth could prepare staff and volunteers for more successful and less frustrating interactions with these groups. EE educators from other organizations, as well as teachers, might be interested in participating in a training and knowledge-sharing workshop on this topic.

5.1.3 Curricular and pedagogical

Throughout my interviews I noticed that few EE educators or teachers had considered pedagogical or curricular approaches particularly appropriate for Latino audiences. Research indicates that engaging individuals with material and topics most relevant to them has the greatest effect on boosting environmental literacy (Lewis and James, 1995). Yet, asking how they specifically attempt to connect with particular diverse audiences usually elicited furrowed brows and comments such as, “Oh, that’s a

good question, but I'd never thought about it." One EE educator, working as an environmental interpreter, stated that he always attempted to draw in audiences with stories that connected to their lives, but had never considered altering these stories for different audiences. He was inspired by the question to consider adapting his interpretation.

Currently, FTC has done little to consider adapting curricular or pedagogical methods to be more approachable to Latinos. For example, FTC does not provide any interpretive materials or services in languages other than English. For many members of Latino communities, Spanish is a first, or only, language. Offering materials in Spanish could attract and serve many members of Latino communities. While FTC might not be able to offer all services bilingually, it may be possible to develop some bilingual services or materials such as a bilingual self-guided trail brochure and map. While I recommend developing bilingual materials, I emphasize that developing an atmosphere and programming that is bicultural is as, or even more important, than developing bilingual materials.

A place to start is with a general effort to engage the audience by connecting them to what they are familiar with and concerned about (Lewis and James, 1995). As suggested by the widespread lack of consideration to this issue, it is difficult for educators of one ethnicity to determine what is familiar or of concern to an audience of another ethnicity. Including staff members and volunteers who are from diverse backgrounds, as well as soliciting information from informed sources are two ways to gain insight into ways to connect to audiences. One EE educator, for example, indicated that he engaged migrant workers in water quality issues by connecting them to health concerns related to agrochemical pollution. He developed this curriculum after asking the audience directly what concerns they had about water quality.

As suggested above, conducting interviews with Latino community members and considering diversity when making hiring decisions are two ways FTC could bring issues of concern to Latinos into its programs.

5.1.4 Assessment and evaluation

One reason many EE professionals maintain that EE programs have failed diverse communities is that even programs interested in serving these communities fail to plan and monitor their efforts, end up losing sight of their goals and run out of resources

to meet them. As FTC attempts to reach out to Latino communities, it is important that it both plan future steps and develop a system of evaluating its efforts.

Evaluation will reinforce FTC’s commitment to diverse audiences. I recommend that FTC offer a questionnaire to teachers, partner organizations, volunteers, and visitors about their experiences with FTC. FTC might also want to consider tracking learning outcomes amongst different groups of students and adults visiting the park. This might be as simple as asking teachers about the progress of their students, as a part of a teacher survey. Further, FTC currently does not have a systematic way to keep track of the demographics of its audiences. A place to start might be to keep track of the demographics of the recipients of the scholarships it gives to individuals, to schools, and to partners. Organized records of the recipients of scholarships might help FTC analyze whom they are serving.

Finally, serving Latino communities with quality EE requires assessing programs at a regional scale. A regional assessment of how Latino communities are served by EE programs in the Portland metro region would help to clarify FTC’s potential role. For example, it may be more important for FTC to focus on specific Latino communities, or to focus on serving Latinos with specific services, such as teacher trainings, watershed education, or programs for pre-schoolers, depending on what other regional organizations are already doing.

Table 1: General Recommendations

Category	Recommendation	Justification
External (Outreach)	Conduct interviews with individuals from Latino communities, teachers who work with Latino students, and representatives from other groups FTC is trying to reach.	Determine the interests of these communities and build genuine relationships.
	Develop bilingual outreach materials depicting representations of diverse audiences.	Demonstrate inclusiveness to potential audience.

Table 1 continued:

	Share volunteer and intern lists with other organizations and teachers, particularly Outdoor School.	Inform students and volunteers who have showed interest in similar programs about opportunities at FTC, and vice versa.
Internal (Organizational/Staff/Administrative)	Provide cultural competency training, including specific skills and considerations for working with students from low-income, urban and Latino backgrounds, for volunteers and staff.	Interviews revealed that teachers did not feel as though staff and volunteers were consistently prepared to interact with diverse populations.
	Make an effort to include members from diverse communities at all levels of the organization including interns, volunteers, staff, and board members, even if this requires changes such as paying interns.	Becoming an organization that serves diverse audiences requires embedding the needs and views of those audiences in the organization.
Curricular and Pedagogical	Develop bilingual and bicultural materials.	Language is not the only key to inclusiveness, although it is a step towards including non-English speakers. Perhaps even more essential is the inclusion of bicultural material into curriculum and pedagogy.
Assessment and Evaluation	Keep track of the demographics of its audience, particularly scholarship recipients, and offer a questionnaire to families, partner organizations and teachers about their experience with FTC.	As FTC attempts to reach more diverse audiences continual evaluation of its efforts will help keep progress on track and resources designated efficiently.

Table 1 continued:

	Network with other EE groups throughout the region to establish which organizations are serving which communities, with which resources and services.	Determine, on a regional scale, what FTC’s role should be in serving Latino communities.
Assessment and Evaluation	Keep track of the demographics of its audience, particularly scholarship recipients, and offer a questionnaire to families, partner organizations and teachers about their experiences with FTC.	As FTC attempts to reach more diverse audiences, continual evaluation of its efforts will help keep progress on track and resources designated efficiently.
	Network with other EE groups throughout the region to establish which organizations are serving which communities, with what resources and services.	Determine, on a regional scale, what FTC’s role should be in serving Latino communities.

5.2 Recommendations for school groups

School groups expose many Latino families to Tryon Creek State Park, who might not otherwise be aware of FTC’s programs. FTC could do more to improve the quality of experience for Latino students visiting the park, however, and to encourage these same students and their families to return to the park.

5.2.1 External (Outreach)

FTC could expand the exposure of Latino communities to the park through school programs by providing pre- and post-visit materials to teachers and students. These materials could advertise other programs at the park, including internship opportunities, as well as suggest similar resources that families might be interested in around the Portland area. Beyond encouraging students and families to return to the park, these materials would also promote making connections to other natural areas, perhaps closer to students’ home communities. As one-time visits to natural areas are not necessarily associated with the development of environmental literacy, these pre- and post-packets are an essential key to creating an overall valuable experience for students

visiting the park. Further, as mentioned above, improvements in environmental literacy are associated with engaging people with environmental topics of direct interest to them. Pre- and post-packets that reference topics of specific interest to urban and diverse communities would show commitment and interest to serving the needs of these communities and perhaps entice them into becoming more involved in EE programs and with FTC.

I also recommend that FTC expand its outreach efforts to teachers, particularly to teachers who work predominately with Latino communities. FTC has several strong teacher programs, and could perhaps consider developing a training program specifically for teachers who are unfamiliar with natural areas themselves, or who are working with students unaccustomed to natural areas. I encourage these teacher trainings to both encourage teachers to bring their students to Tryon Creek, and to provide information on other programs teachers can suggest to their students in their home communities. It would be of benefit to both teachers and FTC if these trainings were to integrate curriculum related to the specific needs and interests of various diverse communities.

I do not recommend that FTC immediately increase outreach to teachers who work primarily with Latino students, to bring them to Tryon. Research indicates that while outreach is important, if programs are not actually prepared to work with diverse groups, this can breed mistrust or resentment. I recommend that FTC first train its staff and volunteers to work with diverse audiences, as well as practice some specific curricular and pedagogical techniques for these audiences, before soliciting many of these groups to come to its programs.

5.2.2 Internal (Organizational, staff, administrative)

As discussed under general recommendations, FTC currently has few staff members or volunteers prepared to give instruction in Spanish, or prepared to work with urban or multicultural youth. Teachers working with Latino students have indicated that this prevents their students from succeeding in visits at Tryon Creek State Park. Further, some staff at FTC suggested that working with urban youth could be overwhelming. I recommend that FTC hire and train staff with these considerations in mind. This training would both assist staff and volunteers as well as provide a higher quality experience for students.

5.2.3 Curricular and pedagogical

Teachers, EE professionals, and published research all suggest several pedagogical and curricular changes that could improve the effectiveness of school programs at FTC for Latino youth. First, smaller group sizes would make groups of students more manageable, as well as allowing students on their first visit to the park to receive more attention to their individual learning. Second, more hands-on activities would prevent students from becoming distracted, and would allow them to take advantage of the rare opportunity to visit an area such as Tryon Creek State Park. Third, many students have not experienced being in a forested setting and need time to explore the area, to become accustomed to the atmosphere before they can be productive learners. Building this into first-time visits could be beneficial to students.

In addition to these recommendations brought to attention by teachers, I recommend that FTC consider framing the curriculum around questions relevant to students from urban audiences. Studying a forested setting may immediately seem unrelated to their lives. However, if the students' experience at FTC could be linked back to their home communities, through contextual questions, the learning could be enhanced (Clark, 1997). For example, students could be presented with a question such as, "How does my habitat affect me?" Or, "Where does my water come from?"

Finally, while I have made a few general recommendations for pre- and post-packets, I further recommend a few specific components for pre- and post-visit material. One, pre-packets should include a homework assignment for students to become familiar with the rules at the park, so that it will take up less time to clue students into expectations once they arrive in the area. Second, post-packets should contain a component that tells students and families about other opportunities around Portland, suggesting activities with other organizations, and that students and families can do on their own, so that learning can be extended beyond a one-time visit to the park. Focus questions, such as those suggested above could also be included in these packets.

5.2.4 Assessment and evaluation

I recommend that FTC develop a questionnaire, to encourage all teachers to offer feedback after bringing school groups to the park. As FTC begins to track more positive feedback from teachers who bring Latino students to the park, they will be able to take the next step to encourage more of these teachers to bring their students to the park.

Table 2: Recommendations for school programs:

Category	Recommendation	Justification
External (Outreach)	Develop pre- and post-visit packets for school trips. Include a list to give to students of what they can do in their neighborhoods and how FTC links back to their homes/lives. Include in this packet how to come back to the park with their families and what programs and scholarships are offered.	School programs introduce diverse audiences to FTC. These relationships could be expanded by devoting energy to conducting outreach to families through these programs.
	Expand and target outreach efforts to teachers.	Teachers who work with Latino populations may be hesitant to bring their students to programs unless they are made to feel FTC is specifically prepared for their students and field trip content directly relates to their learning objectives.
Internal (Organizational/Staff/Administrative)	Recruit Spanish language speakers for staff and volunteer positions.	Spanish-speaking volunteers and staff will take the pressure off of teachers to serve as translators.
	Train FTC staff and volunteers in special considerations of working with students unfamiliar with natural environments.	Students unfamiliar with natural areas may need special guidance to be successful in their first FTC programs.
Curricular and Pedagogical	Divide students into smaller groups during park visits.	Smaller group sizes in field learning settings will make groups more manageable and allow students more opportunity to engage in student-centered learning.
	Develop more hands-on activities.	Keep students focused.

Table 2 continued:

	Allow students time for exploration.	On students' first visits to a natural area they might need to simply explore and get comfortable with the surroundings.
	Include exercises that introduce the rules in pre-visit packets.	Prepare students for expectations before they are at the park.
	Tie learning back to home community.	A one-time park visit will be a more valuable learning experience if teachers can extend learning back to home communities.
	Develop contextual questions that relate an experience with FTC back to a student's home community.	EE has shown to be most effective when made relevant to a student's life.
Assessment and Evaluation	Develop a questionnaire for teachers designed to elicit feedback about their experiences with FTC.	Evaluations will allow FTC to track success and follow up on any persistent challenges.

5.3 Recommendations for FTC's partnerships

Partnerships are an efficient way of expanding the audience of an organization as well of introducing diverse perspectives to an organization. EE educators from other regional organizations particularly mentioned the value of partnering with groups who work with Latino communities, in order to reach this audience. FTC's current partnerships could be broadened to serve more individuals from Latino communities and incorporate their specific interests into projects and programs at the park. Individuals exposed to Tryon Creek State Park through one-time partnership events might consider returning to the park to visit or to attend FTC programs. As "partnership" implies serving the needs of both parties, however, FTC must be careful to track its commitment and success in meeting the needs of partners.

5.3.1 External (Outreach)

Currently, FTC's partnerships focus on either organizations that recommend specific individuals to attend programs with FTC, or organizations interested in hosting

events with Tryon Creek. Neither of these partnership efforts currently reaches many members of Latino communities. I recommend that FTC review all of its current partnerships, to evaluate the demographics they serve and to determine whether these partnerships are serving those most in need of its services, within the larger community.

FTC should also consider diversity when considering new partnerships. I have recommended several organizations for FTC to consider partnering with in the future (see page 62). I emphasize, however, the importance of maintaining consistent investments in partnerships, and caution FTC against reaching out to more organizations than they have time and resources to work with.

5.3.2 Internal (Organizational, staff, administrative)

Building long-term relationships with diverse communities requires commitment and sustained, person-to-person contact. I recommend that FTC identify someone on staff to track and maintain partnerships. While volunteers and interns could be designated with responsibility for doing some outreach and organization with partner groups, a staff person must consistently oversee the pursuit of FTC's partnership goals.

5.3.3 Curricular and pedagogical

Some partner organizations might have ideas for programs or projects that expand what FTC has done in the past. I suggest that the staff person designated to track partnerships also engage in conversations with both old and new partners to experiment with ideas.

5.3.4 Assessment and evaluation

FTC currently does not keep organized records of the numbers and demographics of individuals it serves through various partnerships. These records could help FTC determine the success of current partnerships and guide future decisions.

Table 3. Recommendations for partnerships

Category	Recommendation	Justification
External (Outreach)	Evaluate current partnerships.	FTC partnerships are inconsistent. While there is some value in partnerships for one time events, developing committed partnerships with more organizations could forge stronger bonds with diverse communities.
	Contact new potential partners with strong connection to Latino communities.	FTC, generally, has weak partnerships with groups connected to Latino communities.
Internal (Organizational/Staff/Administrative)	Determine a staff person to follow up on current and future partnerships.	Create consistency and ensure longevity of partnerships.
Curricular and Pedagogical	Consider new programs or events, depending on the interests of partners.	Expand ideas about how to attract and serve the interests of partner organizations.
Assessment and Evaluation	Ask partners to fill out a survey, after partnering for an event, or annually.	Keep track of partners' level of satisfaction with their relationships with FTC.

Conclusion

Interviews with EE professionals throughout the Pacific Northwest illustrated that many regional EE organizations are concerned with reaching diverse audiences through their programs. Little has been done, however, to take stock of how these programs are serving these communities individually, or on a regional scale. This study has indicated several ways in which one organization, the Friends of Tryon Creek, could improve its EE services to a specific community. The research has also implied the importance of expanding this inquiry, to determine what would be the most efficient and effective role for FTC in serving diverse audiences, considering other regional resources.

The conclusions of this case study are applicable to many other EE programs interested in serving diverse communities, principally organizations that have achieved some degree of success in serving diverse audiences, but which are interested in going further. Additionally, these conclusions are relevant for other organizations, who like FTC, have limited time and resources, but would like to efficiently and effectively address their organization's relationship with diverse audiences. The conclusions are also particularly relevant to those organizations that provide EE to diverse audiences through school programs, but in general serve a more homogenous audience. Further, although this case study focused on FTC's service to the Latino community, the conclusions are relevant to organizations interested in focusing on outreach to other specific groups, or to diverse audiences in general. Choosing one audience helped the research gain focus and specificity; however, this is not a necessary step for an organization to share.

There are a variety of things FTC is already doing to provide access to effective EE to diverse communities, including Latino communities. First, there is genuine interest, at all levels of the organization, particularly in the administration, to address issues of diversity. Further, FTC has already taken tangible steps to provide assistance to low-income audiences. FTC already has an established scholarship program, which provided over \$8300 of assistance to individuals and schools in 2008. FTC's partnerships also help bring a diverse constituency to the park and its programs, particularly its partnerships with organizations that recommend students and families for assistance. While FTC has met with some success in meeting the needs of diverse audiences through these efforts, like many similar EE organizations, it continues to provide the most consistent service to a relatively homogenous audience of White, middle-class or affluent audiences.

Several factors contribute most significantly to FTC's challenges in serving Latino audiences. First, its board, staff, and volunteer base are relatively homogenous; the needs and interests of Latino communities have not been integrated into the organization, although many individuals involved in the organization might be interested in serving diverse audiences. Second, although all teachers interviewed had positive things to say about bringing their students to FTC programs, some teachers stated that the staff and volunteers were not prepared to work with their urban or Latino students, perhaps because volunteers have had limited experience or preparation for working with these students. Third, although FTC has several successful partnerships, FTC does not have any active partnerships with predominately Latino groups. Fourth, FTC has conducted limited outreach to specific communities, and has not made an explicit attempt to make its outreach materials welcoming to a variety of audiences. Finally, FTC does not have a strategic, long-term plan to address issues of diversity, and diversity is inconsistently addressed. For example, although FTC is currently reviewing all of its educational programming, service to diverse audiences is not an explicit consideration of this evaluation.

In order to address these challenges and failures I have developed a set of recommendations that FTC might consider in order to better serve Latino communities. Many of these recommendations would also help FTC address the diversity of the organization and its audiences in general. Of all these recommendations, a few stand out as priorities, considering background research and the comments of other EE educators interviewed for this study. Further, the following recommendations are ones that I believe match the limited financial and resource capacities of FTC.

First, and perhaps most imperatively, FTC should develop a long-term plan for meeting diversity goals related to Latinos and other diverse audiences. This plan should include a timeline and specific goals (such as "provide all staff and volunteers with cultural competence training" or "recruit 25% of interns from diverse communities"), and should designate individuals who will be responsible for tracking progress and meeting specific goals. While it might be efficient to have interns work on projects, such as interviewing teachers or potential partners, it is imperative that FTC commit to following through with information interns generate, by integrating it into an established plan. It is also important for FTC to develop a plan and a timeframe consistent with its resources.

As FTC considers which goals to integrate into its plan, I recommend that it consider its role in providing service to the Latino community, and other audiences, on a

regional scale. Since FTC, and most other EE organizations, has limited resources, it is imperative that it allocate its resources efficiently. It would be wasteful for programs to expend resources to conduct outreach to communities that are better and more conveniently served by other programs. For example, it would not be beneficial for FTC to direct outreach to a school district already effectively served by a similar EE program. FTC should consider how its unique programs and services fit in to EE on a regional scale, and which specific audiences might be in need of, or have interest in these programs.

In order to determine FTC's role within EE programs in the region, all EE programs must organize and share information about the audiences they serve, and the resources and programs they provide. This networking would serve the purpose not only of assisting individual programs, such as FTC, with decisions about where to focus resources efficiently, but would also benefit schools and communities, by creating a consciously assorted and distributed range of EE opportunities across the region. I found that teachers lamented the fact that there was not a convenient resource to go to in order to find appropriate EE opportunities; an online network of EE organizations would provide this resource. (As mentioned earlier, EEAO theoretically provides a similar listing, but it has not been posted). Further, networking would help EE organizations share information, volunteers and staff. In my interviews, I found that some knowledge, particularly about cultural competence as related to EE, is available but has not been shared. An Internet forum, in conjunction with a list of organizations and information on their audiences and services, would be a helpful tool.

Once this network is established, FTC will better be able to determine how important it is for it to devote resources to serving Latino communities in relation to other diverse audiences, and what services these communities are in the most need of. (Considering the demographic increase of Latinos in the area, FTC has already decided it is a priority to serve Latino audiences; however, it is also important that it consider its role in serving other audiences, as well, in the future.) Further, a network would allow FTC to better determine which of its programs to promote as unique programs that audiences could not find elsewhere. For example, FTC might want to emphasize succession, watersheds, or human interaction with forest ecosystems — issues specifically linked to Tryon Creek State Park that might not be available in many other regional programs.

A second recommendation that I emphasize as a priority is that FTC work on building the diversity of its board, staff and volunteers, in order to integrate diverse interests into the organization. EE professionals indicated that it can be difficult to recruit diverse members onto the boards of EE organizations because there simply aren't that many EE professionals with diverse backgrounds. While I encourage FTC to attempt to diversify its board, I also encourage it to promote environmental careers to diverse young people. Providing opportunities for diverse young people to engage in EE opportunities, such as internships, can be critical to encouraging them to enter environmental fields. I recommend that FTC focus on building the diversity of its young interns through partnerships and sharing resources, such as contact information, with other EE organizations. FTC has indicated that it has some resources available to provide financial compensation for interns. As money can be a barrier to some people who might otherwise be interested in internships with FTC, this program would be important to set in place.

Third, I recommend that FTC expand its partnerships to include more organizations who work with Latino audiences, and other diverse communities. Partnerships are a way to both introduce people to the park, and establish a commitment to working towards common goals. FTC has an inconsistent level of commitment to its current partnerships; I recommend that FTC reevaluate this pattern. FTC should determine which partnerships to focus on in the coming years, including organizations from the list of potential new partners. While it would still be beneficial to work on a one-time basis with some organizations, it will do more to develop strong and long lasting relationships with diverse communities if FTC were to focus its limited resources on developing a few committed partnerships.

Fourth, I recommend that FTC train staff and volunteers in cultural competence, so that it can be more prepared to work with diverse audiences. While it is not imperative for staff or volunteers to be prepared to interact with audiences in Spanish, or other languages other than English, staff and volunteers will be able to more effectively deliver EE if they are aware of specific considerations and interests of different audiences. Brainstorming contextual questions that might help students relate to material presented at the park could be useful (Clark, 1997).

Fifth, I recommend that FTC consider diverse communities when conducting outreach. However, I emphasize that building the organization's capacity to work with diverse audiences, such as establishing cultural competency training for staff and

volunteers, should be a priority before expanding outreach. Expanding outreach too fast could risk setting diverse audiences up for ineffective EE experiences.

Although my research enabled me to come up with the above recommendations, there were a number of limitations of my study. First, I decided to conduct a study of how the overall organization serves Latino audiences. While this broad scope allowed me to develop a comprehensive review of all levels of the organization and its many programs, I was not able to provide as much in-depth information as might be useful. For example, I was not able to comprehensively interview all teachers who have brought groups to the park, both from Latino communities, and from more White and affluent schools. This information might have provided much more specific recommendations to FTC of how they could improve its school programs. Further, I was unable to follow up with all potential partners to sketch out specific needs and interests that their groups might have in working with FTC. Perhaps in the future, interns working with FTC could pursue this research. However, I emphasize that there should be a permanent point person designated to follow up with this information as it is gathered.

Another limitation of my study is that I was unable to determine the capacity and feasibility of implementing one of my key recommendations, that of determining FTC's role in providing EE to diverse audiences on a regional scale. Although interviews suggested that EE professionals would be interested in developing a resource to facilitate this on the Internet, I was not able to pursue this idea further. As it is an essential step for all EE organizations interested in devoting limited resources to serving diverse audiences, I believe this is a priority for future research. In addition, my study was restricted by my limited interviews with current and potential Latino audience members. While I interviewed several Latinos, in all categories of my interviews, I was able to gather only limited information on the specific needs and interests of this population, with regards to FTC and EE, in general.

The limitations of my study begin to imply the many questions I still have regarding this research. For example, "What are the advantages and disadvantages of focusing on reaching out to one particular audience (Latinos), to gain focus, instead of looking at diversity in general?" Following up on FTC's progress could help answer this question. Another set of questions I am left with is "How is the Latino community served by EE programs in the region, generally? What is lacking? What is already well provided? Are there some groups within the Latino community who are particularly underserved?" Conducting continued interviews with a variety of stakeholders could help

answer these essential questions. In addition, I am left with the question, “Which other audiences could FTC improve its service to?” Analyzing the region’s EE service to a variety of diverse audiences could help answer this question.

Finally, I am left with the question, “What are the barriers to developing a well coordinated network of EE programs in the region?” Answering this question is essential to making progress towards diversity goals in EE on a meaningful scale. In an era when building everyone’s ecoliteracy carries the responsibility of solving dangerous and complicated environmental problems, it is essential to determine how to provide access to effective EE for all, not only within individual organizations, such as FTC, but also on regional scales.

As pressure from environmental problems continues to increase in the coming years, we will persist in dependence on environmental education to evade potential environmental catastrophe. If EE is to be relied on as an effective response to environmental problems, however, it must reach all audiences. Developing EE programming that is able to effectively and consistently reach diverse audiences remains a challenge in the face of pervasive inequalities in society. Providing effective EE for all requires individuals to reevaluate their relationship with diverse audiences, organizations to make internal changes, and regions to organize their EE programming. While demanding and perhaps overwhelming, these changes are all possible, and are essential. My hope is that the above thesis is able to inspire, encourage, and enable environmental educators to forge onward in the vital task of providing effective environmental education for all.

Works Cited

- Agyeman, Julian., Kathryn Newhall-Smith, and Jenna Ringelheim. "Mainstreaming diversity: From paradigm to practice." Boston, MA: Barr Foundation, 2006.
- BARR Foundation. "Understanding cultural competency in experiential environmental education programs: A report from the Cultural Competency Assessment Project," Boston, MA: BARR Foundation, 2006.
- Biklen, Sari Knopp and Robert C. Bogdan. *Qualitative Research for Evaluation: An Introduction to Theory and Methods. Second Edition.* Needham Heights, MA: Allyn and Bacon, 1992.
- Caro, Victor, and Alan Ewert. "The influence of acculturation on environmental concerns: An exploratory study." *Journal of Environmental Education.* Issue 26, No. 3 (1995): 13-22.
- Chavez, Deborah J. "Invite, Include, and Involve! Racial Groups, Ethnic Groups and Leisure." *Diversity and the Recreation Profession: Organizational Perspectives.* Eds. M.T. Allison and I.E. Schneider. State College, PA: Venture Publishing (2000): 179-191.
- Clark, Edward T., Jr. *Designing and Implementing an Integrated Curriculum: A student centered approach.* Brandon, VT: Holistic Education Press, 1997.
- Coyle, Kevin. *Environmental Literacy in America.* Washington, D.C.: The National Environmental Education and Training Foundation, 2005.
- Environmental Protection Agency (EPA). "Environmental education: Basic information." <http://www.epa.gov/enviroed/basic.html>. Accessed January 27, 2009.
- Friends of Tryon Creek State Park. *A Forest in the City: Your Guide to Tryon Creek State Park.* Portland, OR: Friends of Tryon Creek State Park, 1994.
- Freire, Paulo. *Pedagogy of the Oppressed.* Trans. Myra Bergman Ramos. New York: Continuum, 1970.
- Gonzales, Juan. *Harvest of Empire. A History of Latinos in America.* New York, NY: Viking, 2000.
- Gruenewald, David A., and Gregory A. Smith, eds. *Place-Based Education in the Global Age.* New York: Lawrence Erlbaum Associates, 2008.
- Hammond, Betsey. "In a changing world, Portland remains overwhelmingly White," *The Oregonian*, January 17, 2009.
- Hart, Roger. *Children's Participation.* London: Earthscan Publications, 1997.
- Hong, Angie and Dorothy H. Anderson. "Barriers to participation for Latino people at Dodge Nature Center." *Journal of Environmental Education.* Vol. 37, No. 4 (2006): 33-44.

- Jacobson, Susan K., John J. Arana, and Mallory D. McDuff. "Environmental interpretation for a diverse public: Nature center planning for minority populations." *Journal of Interpretation Research*. Vol. 2, No. 1(1997): 27-44.
- Jensen, Robert. *The Heart of Whiteness: Confronting Race, Racism and White Privilege*. City Lights Books. San Fransisco, CA: 2005.
- Kahn, Jr., H. Peter and Batya Friedman. "On nature and environmental education: Black parents speak from the inner city." *Environmental Education Research*. Vol.4, No.1 (1994): 25-41.
- Karsten, Lia and Willem van Vliet. "Increasing children's freedom of movement: Introduction." *Children, Youth and Environment*. Vol. 16, No.1 (2006): 69-73.
- Kato, Kumi. "Environment and culture-developing alternative perspectives in environmental discourse." *Canadian Journal of Environmental Education*, Vol. 7, No. 1 (2002): 110-116.
- Lewis, Susan and Kathy James. "Whose voice sets the agenda for environmental education? Misconceptions inhibiting racial and cultural diversity." *Journal of Environmental Education*. Vol.26, No.3 (1995): 5-13.
- Louv, Richard. *Last Child in the Woods: Saving our Children from Nature-Deficit Disorder*. Chapel Hill, NC: Algonquin Books, 2005.
- MacGregor, Jean. Personal interview. Recorded at The Evergreen State College. January, 2009.
- Madges, Tania J, ed. *What's Fair Got to do with it? Diversity Cases from Environmental Educators*. San Francisco: WestEd, 2004.
- Matsumoto, Karen. "Multicultural assessment of your environmental education organization," ISSRM Conference. Ostersund, Sweden. 2005.
- McIntosh, Peggy "White privilege: Unpacking the invisible knapsack." Wellesley College: Center for Research on Women.
<<http://seamonkey.ed.asu.edu/~mcisaad/emc598geUnpacking.html>>. Accessed February 2009.
- MERITO. "Multicultural Education for Resource Issues Threatening Oceans." <http://montereybay.noaa.gov/educate/merito/about-plan.html>. Accessed March, 2009.
- Mrazek, Rick, ed. *Alternative Paradigms in Environmental Education Research*. Troy, OH: The North American Association for Environmental Education, 1993.
- NAAEE. "Excellence in environmental education: Guidelines for learning (PK-12)." Washington, D.C.: NAAEE. Available online at <<http://www.naaee.org/programs-and-initiatives/guidelines-for-excellence/matirials-guidelines/learner-guidelines>>. Accessed March, 2009.

Office of Management and Budget. "Revisions to the standards for the classification of federal data on race and ethnicity." Executive Office of the President, Office of Management and Budget (OMB), Office of Information and Regulatory Affairs, 1997. Available at <<http://www.whitehouse.gov/omb/fedreg/1997standards.html>>. Accessed February, 2009.

Olsen, Laurie, Jhumpa Bhattacharya, and Amy Scharf. "Cultural competency: What it is and why it matters." Oakland, CA: California Tomorrow, 2006.

Palmer, Joy and Philip Neal. *The Handbook of Environmental Education*. London: Routledge, 1994.

Parlett, Malcolm and Garry Dearden, eds. *Introduction to Illuminative Evaluation*. Santee, CA: Perfector Web Press, 1977.

Patton, Micheal Quinn. *Utilization Focused Evaluation: The New Century Text*. Thousand Oaks, CA: SAGE Publications, 1997.

Patton, Micheal Quinn (2002). "Utilization-Focused Evaluation (U-FE) Checklist." Western Michigan University: Evaluation Checklists Project. Available at <www.wmich.edu/evalctr/checklists>. Accessed February, 2009.

Piaget, Jean. *The Construction of Reality in the Child*. New York: Basic Books, 1952.

Popular Science. "America's 50 greenest cities." <<http://www.popsci.com/environment/article/2008-02/americas-50-greenest-cities?page=1>> . Accessed March, 2009.

Portland Public Schools. "School profiles and enrolment profiles: 2008-2009," Portland , OR: Portland Public Schools. Available at <<http://www.mis.pps.k12.or.us/.docs/pg/10310>>. Accessed February 2009.

Running-Grass and Julian Agyeman. "Reorienting environmental education for environmental justice." Summit II National Office, Washington D.C: Resource Paper Series. Second National People off Color Environmental Leadership Summit., 2002.

Running-Grass. "The four streams of multicultural environmental education," *Race, Poverty & Environment*, Vol. 6 (1996): 3-6.

Schwandt, Thomas A. *Qualitative Inquiry: A Dictionary of Terms*. Thousand Oaks, CA: SAGE Publications, 1997.

Silverman, David. *Interpreting Qualitative Data. Third Edition*. Oxford: The Alden Press, 2006.

Stake, Robert E. *The Art of Case Study Research*. Thousand Oaks, CA: SAGE Publications, 1995.

Sobel, David. *Place-Based Education: Connecting Classrooms and Communities*. Barrington, MA: The Orion Society, 2004.

Sterling, Steven. *Sustainable Education: Re-visioning Learning and Change*. Schumacher Briefings No. 6. Devon: Green Books, Ltd, 2004.

Taylor, Dorceta E., "Making multicultural environmental education a reality," *Race, Poverty & Environment*, Vol. 6 (1996): 3-6.

Washington County Commission on Children and Families. "Beaverton community profile." Washington County, Oregon: WCCCF: 2007.

Washington County Commission on Children and Families. "Hillsboro community profile." Washington County, Oregon: WCCCF: 2007.

Weilbacher, Mike. "Green tsunami rising: Environmental education's third wave." *Green Teacher*. No. 83. (2008): 4-8.

Wells, Nancy M. and Kristi S. Lekies. "Nature and the life course: Pathways from childhood nature experiences to adult environmentalism." *Children, Youth and Environments* Vol.16, No. 1(2006): 1-24.

UNESCO, "Trends in environmental education." Based on working documents for the Belgrade Conference. Paris: UNESCO, 1975.

UNESCO, "Final report: First intergovernmental conference on environmental education, Tbilisi." Paris: UNESCO, 1977.

US Bureau of the Census (2000a). "[Profile of general demographic characteristics: 2000](#)" Available at http://factfinder.census.gov/servlet/QTTable?_bm=y&-geo_id=D&-qr_name=DEC_2000_SF1_U_DP1&-ds_name=D&-lang=en. Accessed March, 2009.

US Bureau of the Census (2000b) "Hillsboro (city), Oregon" Available at <http://quickfacts.census.gov/qfd/states/41/4134100.html>. Accessed March, 2009.

US Bureau of the Census (2000c) "Portland (city), Oregon" Available at <http://quickfacts.census.gov/qfd/states/41/4159000.html>. Accessed March, 2009.

Zenn, Rick. (2005). "The Portland metropolitan area natural resource education directory," World Forestry Center. Available at <http://www.worldforestrycenter.org/topics/documents/PDXNaturalResourcesDirectory.pdf>. Accessed March, 2009.