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INCREASED CONNECTION TO NATURE AND DEVELOPMENT OF ECOLOGICAL  
IDENTITY IN THE ILLINOIS MASTER NATURALIST PROGRAM

by

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A capstone submitted in partial fulfillment of the  
requirements for the degree of Master of Arts in Education: Natural Science and Environmental  
Education

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# Increased Connection to Nature and Development of Ecological Identity in the Illinois Master Naturalist Program

## Chapter One

### Introduction

The world is currently facing growing environmental issues. It is more important than ever to offer environmental education programs that help make and maintain a connection to nature for people of all ages. In 2012 I joined the Illinois Master Naturalist Program. The program provides learning opportunities in all aspects of environmental education for adults interested in volunteering for environmental organizations in the community. The experience had a great impact on my life. The end result being that I enrolled in graduate school for a degree in environmental education. This experience made me wonder how the program affects other adult participants. What kind of deeper connection to nature do participants experience and how does this connection shape ecological identity?

In my research, I can access a large volume of research on environmental education programs directed at connecting children to nature. Adults can be disconnected from nature as much as children. Even when they had a chance to make the connection as children, technology and society often get in the way of keeping that connection alive. A connection to nature for adults is important because it helps maintain an interest and investment in the environment. “Every day our relationship with nature, or the lack of it, influences our lives. This has always

been true.”(Louv, 2011, p. 3). Louv(2011) believes that our survival both as a species and as a community relies on the ability to reconnect people of all ages to their local natural areas. He goes on to say that “Young, old or in between, we can reap extraordinary benefits by connecting -or reconnecting -to nature. For the jaded and weary among us, the outdoor world can expand our senses and reignite a sense of awe and wonder not felt since we were children.... Nature can help us feel fully alive.” (p. 5-6).

### The Phenomenon of Ecological Identity

The word wonder came up occasionally in previous studies I read regarding the positive effects of environmental education programs on adult learners. Wonder is a concept often associated with childhood that is dismissed or forgotten by adults. Or perhaps it is seen as a superfluous emotion that does not fit with the idea of acting our age. But Louv (2011) believes that a sense of wonder for nature is essential to our future here on Earth.

Thomashow(1996) describes ecological identity as “all the different ways people construe themselves in relationship to the earth as manifested in personality, values, actions and sense of self” (p.3). In this way we see nature as an “object of identification” and nature itself becomes part of how we interpret meaning in our lives (1996, p.3). Since the word nature can refer to many things, and can differ from person to person and community to community, having a sense of our own ecological identity can help us find meaning in our experiences in and relationship with nature. Thomashow(1996) quotes Borden as saying that the “study of ecology leads to changes of identity and psychological perspective and can provide the foundation for an ‘ecological identity’”(p.4). In other words, adult environmental programs that stress learning in

ecology and the environment can reframe not just participant behaviors and actions but their way of seeing and relating to nature.

The Illinois Master Naturalist program works to connect adults living in all areas of the state to local natural areas. The program contains 18 units over several counties in the state. In 2014 they reported that 606 adults were participating in the program and had volunteered 48,193 hours of time to projects state-wide. The top categories were stewardship and education. Based on an average wage of \$22.25 per hour, it is estimated that the total financial impact was \$1,072,294. (J. DeBatista, personal communication, October, 2015). Numbers are only part of the picture. It is my intent to show that programs like the Master Naturalist program help awaken a sense of wonder in participants that creates a deeper connection to nature and the environment and makes it possible for participants to gain a greater understanding of their place in the environment as they develop their ecological identity.

### Previous Research

I believe that a local connection, or in some cases a reconnection, to nature, allows individuals to develop an ecological identity that influences future behaviors and actions that impact the environment both locally and globally. Many previous studies I found focused only on how children connect to nature and what social and emotional benefits they receive from environmental education. Research into adult environmental education is fairly new and has focused on what motivates adult participation and what causes changes in knowledge and environmental behaviors. Only a few specific studies have focused on adult learners in Master Naturalist program such as Broun's (2007) study of the Missouri program and Bonneau's (2003)

study of the program in Texas. While these studies have given us important information about what motivates adults to participate in these programs and how their knowledge and behaviors have changed, I found no studies on the emotional or philosophical benefits of such programs. I focused my research on a more spiritual benefit of participation as it relates to finding a deeper connection to nature and developing a sense of ecological identity.

### Audience

Bonneau (2003) studied the Texas Master Naturalist program in the first years of its existence in order to better understand the impact of the program, and to determine what worked and what needed to be improved. Bonneau(2003) felt that evaluating environmental education programs could also provide information on secondary outcomes. The audience for my research will include both participants in the Illinois Master Naturalist program and program coordinators. I believe this study may help encourage more adults to participate in programs that help them make deeper connections to nature in their areas.

The mission of Master Naturalist programs nationwide is generally to increase environmental knowledge and change participant behaviors and actions. In the case of the Illinois Master Naturalist program I hoped to find the secondary outcome of personal and emotional benefit to the participants. A better understanding of potential secondary outcomes of the program will also be helpful to administrators of the program, enabling them to better meet the needs of participants. Even though the overall mission might be to create more environmentally aware and involved citizens, it is still important to meet individual needs in order to maintain a strong program.

### Purpose Statement

The purpose of this study was to investigate the impact of adult participation in the Illinois Master Naturalist program on personal connections to nature and sense of ecological identity. The intent of this narrative was to explore the phenomenon of connection that is developed during participation in the program by recording personal stories from current and past participants. This investigation into ecological identity and connection to nature seeks to answer the following questions

1. How does the Illinois Master Natural program connect or reconnect adults to local natural environments?
2. Does the program enable participants to develop a sense of ecological identity?

The Illinois Master Naturalist program was started as a way to educate adults in Illinois about the environment and nurture a sense of stewardship in local natural areas. The purpose of the program has been to educate and train volunteers in the community (Master Naturalist-University of Illinois Extension). To answer my research questions, I interviewed current and past participants of the Illinois Master Naturalist program.

### Summary

The future of our planet may be dependent on transformative environmental education. It is more important than ever that adults be given opportunities to both connect to local natural areas and to develop an ecological identity that aids in making important environmental decisions. A connection to nature benefits the entire community, if not the world. It is my hope

that this research will show the depth and importance of programs like Master Naturalist in developing and maintaining these important attributes.

The Literature review in the following chapter explores the history of adult environmental education in the United States and investigates how curriculum has changed over time. Looking at new work geared towards transformative instruction in current curriculum gives a better understanding of why a study of the emotional benefits of adult environmental education is vital to the continued wellbeing of our communities.

## Chapter Two

### Literature Review

A connection, or reconnection, to nature can help individuals develop their ecological identity, which in turn can influence behaviors and actions that impact the environment. In order to understand how adult environmental education has evolved to support this, it is important to consider past literature on the history of environmental education, and to review how environmental curriculum has evolved over time. This chapter also reviews previous studies of Master Naturalist programs that have looked at the impact of environmental education on adult learner knowledge, attitude and behavior. These past studies set the groundwork for further research into the impact of adult environmental education on personal connection to nature and the development of ecological identity.

#### Environmental Education

The roots of environmental education in the United States can be traced as far back as the Nature Study Movement of the late 19th and early 20th century, with its emphasis on the study of natural history and first hand observation of nature. Since little was known about the consequences of actions on the environment, the purpose of environmental education programs was geared towards personal benefit. This early movement contributed the ideas of observation and inquiry that are still used in environmental education programs today (Athman & Monroe, 2001).

By the 1930's the dust storms, flooding and soil erosion of the dust bowl era had led to the Conservation Movement, and the goal of environmental education became to educate the public about the importance of conserving, or using wisely, the country's natural resources (Athman & Monroe, 2001). At this time Dewey also introduced the Progressive Education Movement that focused on "learning by doing," a process that continues to be used in current environmental education programs (Athman & Monroe, 2001, p.38).

In the 1950's more and more people were leaving rural areas for jobs in large urban areas. Outdoor education became an important aspect of environmental education programs at this time. In response to concerns from parents and administrators that urban youth were not getting enough contact with the natural world, there was a push to create more outdoor learning opportunities (Athman & Monroe, 2001).

Rachel Carson wrote *Silent Spring* in 1962, sparking what is now commonly known as the environmental movement. Her book caused average citizens to become concerned with what was impacting the environment around them, especially those things that they could not see directly. The 1975 United Nations Belgrade Charter described environmental education for the world, as an active process that leads to the ability to work both as an individual and as a community to solve current and prevent future environmental problems. The Belgrade Charter helped to outline the structure of environmental education as a way to help citizens see how their actions impact the environment (Athman & Monroe, 2001).

Since the late 1990s, many states have started Master Naturalist programs that help adult learners and volunteers reconnect to their natural local areas. Early Master Naturalist programs

were “based on the notion that it is important to accomplish a needed action for conservation through formation of new alliances that include agencies, education organizations, and motivated and empowered volunteers” (Vandenberg, Dann, Dirks, 2009, p.7). The first such program started in Texas in 1998 aimed to “develop a corps of well-educated ‘master volunteers’ to provide education, outreach and service dedicated toward the beneficial management of natural resources within their communities”(Bonneau, 2003, p.1).

Recently educators have begun to focus on more transformative ways of presenting environmental education. As access to local natural areas diminishes, people are experiencing an “extinction of experience”(Athman & Monroe, 2001, p. 40). Transformative approaches to environmental education give adult learners the ability to gain hands on experience of local natural areas, allowing them to “develop a sense of wonder and a sense of place, fostering the awareness and appreciation that motivates them to further questioning, better understanding and appropriate concern and action” (Athman & Monroe, 2001,p.40).

Environmental Education can now be used as a way to help people see that they live as a part of the natural world and not outside of its processes or laws. Lange (2010) notes that Edmund O’Sullivan “advocates for an ecozoic education vision that transcends modernity through deep cultural therapy” (p.310). In this way people can place themselves in relation to the global community, which can lead to finding a better sense of place and purpose in their lives. As cited by Lang (2010), in O’Sullivan’s theory, transformative learning can help learners develop more sustainable habits, enact social justice to help others and the environment, and find personal joy (2010).

Other recent educational approaches have become similarly holistic, aiming to address not just environmental issues, but personal happiness and satisfaction. Experiential and Outdoor Education can be both educational and recreational allowing educators to meet the many personal needs of all learners (Clover, Jayme, Hall & Follen, 2013). Clover, Jayme, Hall and Follen(2013) write that environmental education lead by experts in a field and focused solely on science can feel “disempowering and fatiguing” to regular adult learners(p.4). Therefore adult learners should be allowed and encouraged to draw on their own personal knowledge and experiences in class in order to relate better to the topic being addressed. The authors believe people can burn out on environmental knowledge and issues, causing them to give up on both learning and action. The authors believe this can be combatted with a more hopeful approach to education that allows adult learners to feel empowered to enact change both locally and globally. One way in which this can be done is by “encouraging the reconnection in a more sensory, spiritual and emotional way with the rest of nature” (Clover, Jayme, Hall & Follen, 2013, p.28).

#### Outdoor and Place Based Education

Just as the purpose of environmental education has changed, curriculum implementation for adult environmental education has also evolved over time. The intent has always been to better meet the specific needs and expectations of adult learners, but the way this is done has changed. Traditionally, environmental education was split into two forms of learning either for ecological knowledge or for political advocacy. Piersol(2010) believes this limited the benefits of environmental education for adults and argues that we currently live in a connected global environment that is nonlinear and goes beyond any one kind of understanding. Political

advocacy while important can lack a deep understanding of both the issues and the solutions.

Piersol(2010) believes that a sense of wonder must become an important tool in environmental education.

Outdoor education is about the many levels of relationships people experience with their own self, with others and with nature. It is mainly concerned with skills and knowledge, but can also be used to address emotional and spiritual well-being (Taylor, Gray, Birrell, 2012). We currently live in a time where all types of people are becoming more and more dependent on technology in many forms. Adult environmental education often takes place indoors and online, relying heavily on the use of technology. This can cause a detachment from the natural world. To offset this, educators can use place based and hands on learning that connects adult learners to their local environment. Outdoor learning can also provide opportunities for cultural and spiritual reflection, the practice of mindfulness, and the use of all senses (Walter, 2013).

Outdoor learning opportunities do not need to be overly dramatic or physically taxing to be educational. Walter (2013) writes that local parks and natural areas, community gardens, and even backyards can all be effective teaching tools in outdoor education. Sense of place can be a relevant teaching tool for adult environmental education programs. It creates empathy and concern for all life and the belief that one must live in harmony with the natural world, obeying all of its laws and processes. Payne (2010) notes that when used wisely, place based education can have an impact on attachments to many kinds of environments and how learners experience them.

Ardoin (2006) describes sense of place as “elusive, subjective and personal” (p. 112). This form of teaching describes not only a physical reality but can also represent a belief in the spirit of a place or the living force that makes “undifferentiated space [become] place as we get to know it better and endow it with value” (Ardoin, 2006, p. 113). Ardoin(2006) believes that the spirit of a place can be defined as “the ability of certain places to evoke an almost immediately intense intimate and emotional connection”(p114).

Using wonder as a tool in place based education allows individuals to think about the complex relationships in the environment and to look for patterns and processes that affect them and the environment. Piersol (2010) believes that when individuals are connected to place, they operate out of a moral sense of compassion that goes beyond just feeling responsible and therefore guilty.

The study of sense of place can be approached in many ways and can look at different ways individuals make connections to and find meaning in a specific place. But deep and meaningful connections can only come from hands on or direct experiences with places that provide the learner with the spirit of the place. Part of place based education is about individuals connecting by sharing stories of places and their experiences there. This provided a way for learners to “develop their own meaningful connections and hopefully a related environmental ethic” (Piersol, 2010, p. 201)

Master Naturalist Programs

I believe that how one connects to natural areas and the environment directly affects what one does for the environment both on a local and global scale. Even though average people do have the ability to restore and preserve the environment locally or take actions that affect it globally, they often do nothing. Therefore, knowing what motivates individuals and communities to act environmentally is an important tool for environmental educators and organizations. Having a connection to local natural areas is an important factor in willingness to learn and take action. I think that state run Master Naturalist programs provide a way for adults to learn about their local natural areas and spend time outside with like-minded individuals.

At the time Bonneau (2003) conducted a study of the Texas Master naturalist program in 2003, 82% of Texans were living in urban areas which accounted for only about 6% of all Texas land area and there was an increasing separation from the natural areas that citizens were responsible for making decisions about. Bonneau's 2003 study looked at changes in knowledge regarding ecology and natural resource land management and how that knowledge impacted attitudes about land management and use.

Bonneau (2003) conducted the study due to a lack of research that focused on the environmental education aspect of master naturalist programs. For the study Bonneau (2003) defined attitudes as "an evaluation of feeling state about a person, object or action" and noted that these attitudes have a direct impact on human behaviors (p. 17). Bonneau (2003) noted that public involvement in natural resource management is increasing as funding decreases and agencies seek alternative ways to manage large areas of natural lands. Bonneau (2003) felt that

knowing and understanding citizen attitudes and beliefs about ecology and management practices could help in making program decisions.

Bonneau (2003) used pre and post questionnaires with identical questions related to knowledge and attitude statements that rated the acceptability of five common land management practices. The study concluded that participants completing education programs about land use and the benefits of practices like prescribed burns or hunting as land management tools had a more positive attitude towards the practices than they had prior to the program. The average gain in ecological knowledge from pre to post test was 15% (Bonneau, 2003). The study also showed a significant change in 14 out of the 26 attitude statements. More positive attitudes were felt especially towards the use of prescribed burns and the acceptability of hunting as land management practices. Bonneau (2003) felt that this showed that the Texas Master Naturalist Program was successful at creating a more informed and involved public and that participants were more pro resource management after training. Bonneau determined it was likely that participants would continue to volunteer with the program in the future (2003).

Broun's 2007 study of the Missouri Master Naturalist program looked at increased knowledge of ecological processes and conservation issues and sought to make a connection between this increase in knowledge and motivation for continued participation in the program. Broun (2007) felt that as the state became more urbanized people were spending less time in natural areas, causing a removal from natural processes that help maintain quality of life, and believed that involving citizens in learning about and volunteering in the environment helps decrease this disconnection.

At the time of the study, the Missouri Master Naturalist program was made up of 25 public and private organizations that did volunteer training and implemented programs. Broun's 2007 study was done to validate the need for and support of continued funding of the program. Broun (2007) used pre and post testing to evaluate changes in knowledge of local ecology and conservation. Broun (2007) also reviewed motives as a variable that affects changes in knowledge by using a modified VFI. Motivation was believed to have a significant impact on the ability of adult learners to understand and retain new information. Citing reliability and validity of VFI in previous studies, Broun used this to survey six factors for motivation: socialization, learning, career, personal self-worth, feel better about environment, and altruistic. A knowledge survey of 25 questions related to the outlined training topics of the program was used both pre and post program to compare changes in knowledge.

Broun (2007) concluded that knowledge of local ecology and conservation issues improved due to training. Most participants ranked values or learning as the strongest motivating factor, but Broun (2007) found no real correlation between motivation and improvement in knowledge test scores. Even though social benefit was not ranked by participants as an important motivating factor on the VFI, Broun(2007) noted that "in casual conversations with volunteers during the training program...volunteers often commented that they enjoyed the opportunity to be with and to do thing with others who have similar interests' (p. 44). Broun (2007) suggested that further research might look at "aspects of the program that help promote retention" such as opportunities for socialization, a motivating factor that seems to become more important the longer a person stays with a program (p. 57).

### Ecological Identity

Previous studies indicate to me that there is a need to better understand how adult environmental education impacts connection to nature and ecological identity.

Environmentalists and educators such as Orr, Louv, and Thomashow believe that environmental education for adults has moved beyond simply being a vehicle for knowledge gain and behavior change. The next step in researching adult environmental education may need to look at the spiritual benefits such programs provide in an era with increasing separation from nature.

Orr (1992) defines ecological literacy as the “ability to ask what then?”(p. 85). He goes on to define ecological literacy as an understanding of the limits of what can be counted in nature. While it is important to have knowledge of a system and how it works, it is equally important to have a sense of wonder about the beauty and complexity of that system. According to Orr (1992), western culture struggles with ecological literacy for many reasons. In an age of specialization and technology we have lost sight of our connection to natural systems and how they impact quality of life. Because of this, we lack a true appreciation for the intrinsic value of nature and accept instead an ugliness that is necessary to maintain our way of life. Finally Orr(1992) believes that all this is the result of a lack of opportunity to spend time in nature on a daily basis. According to Orr, we have lost our sense of place in the world (1992).

Louv (2011), like Orr(1992), believes that our future and the future of the planet depend on reconnecting to nature on both a physical and mental level. Urbanization and technology can separate us from nature and this ultimately makes us weaker in both body and spirit. Louv (1992) writes that the benefits of time spent in natural settings include expanded use of senses,

sense of awe and wonder, better health, more creativity, bonding opportunities, and an appreciation of the present now.

In the “Nature Principle”, Louv (2011) references a nine year forest service study and other studies that have shown that contact with nature can help relieve “mental fatigue” and restore attention. He also notes that experiences in natural areas have a positive impact on mental health and focus (p.27). The forest service study looked at Outward Bound participants that did a two week in the wild program. They reported feeling an increased sense of peacefulness, and that they could think more clearly and felt more physically restored. Louv(2011), citing Kaplan, used the term “directed attention fatigue” to describe the feeling where one is continually subject to stimuli competing for attention, leading to individuals becoming worn out, irritable, impulsive and impatient, all of which causes poor decision making. Louv (2011) goes on to say that Kaplan saw a need for “involuntary attention” or “fascination” that could counteract this fatigue. Louv(2011) felt this occurs best in situations where the individual is removed from a daily routine and immersed in natural “wonders” (p. 28).

According to Louv (2011), some studies have shown that “people have a more positive outlook on life and higher life satisfaction when in proximity to nature, particularly in urban areas” (p.49). In these cases Louv (2011) defined nature as “human beings existing in nature anywhere they experience kinship with other species” (p. 52). Louv (2011) cites E. O. Wilson’s belief that we have an innate emotional connection to other living beings, not just humans, but plants and animals as well, that he calls biophilia. He supported his idea with research that showed that regardless of culture, people surveyed worldwide, most often preferred images of

nature over other images offered. Louv (2011) goes on to write that Wilson also noted that people who work in jobs associated with nature are more likely to appreciate what nature can do for them and turn to it in times of crisis. Louv (2011) believes that true happiness can only be found in intrinsic values and that ultimately environmental issues can be seen as issues related to our spirituality. Our spiritual beliefs are usually maintained by a “sense of wonder” (Louv, 2011 p.243). Seeing nature as a source of spiritual meaning is not just beneficial to our own wellbeing but also to that of our community and the world.

Thomashow (1995) believes that finding our ecological identity is a process of searching for the importance of nature in our lives by looking at our actions, and values that make up our idea of what nature is. Direct experiences in nature help us explore our actions and values. To understand where we stand on environmental issues we must determine what the word nature means to us and to the work we do. Thomashow (1995) writes that finding ecological identity is a four step process that begins when we learn about ecology. This helps us to realize how we relate to ecosystems and then we can examine how our environment impacts what we know to be true about ourselves. Finally we can see how environmental or ecological worldviews can change our action and behavior.

Thomashow (1995) defines having an ecological consciousness as thinking about actions and behaviors in terms of ecosystems and having an eco-centric value system. He calls it the “ability to see oneself as an integral part of the biosphere” (p. 19). People become eco-conscious in one of two ways, either cognitively or experientially. As people become more connected to the environment, their actions and habits can change. Even though pressure to act

environmentally can cause feelings of anger, fear or resentment or can feel overwhelming, having a sense of ecological identity can help people deal with difficult issues and restore happiness.

## Chapter 3

### Methods

The Illinois Master Naturalist program provides learning opportunities in all aspects of environmental education for adults interested in volunteering for environmental organizations in the community. Like researchers before me, I believe that a connection to nature is important because it helps maintain an interest and investment in the environment. This study looks at ways the Illinois Master Naturalist Program connects, or reconnects adults to nature and how it helps in the development of an ecological identity.

Chapter 3 covers the type of research and method that was used to conduct this study. It also gives a description of the participants that were interviewed and where this took place. Tools used in the procedure are described and an explanation of how the collected data was analyzed is also provided.

#### Research Paradigm

This is a qualitative study. Qualitative methods are best suited to this study because it focuses on descriptions of experiences from individuals about a phenomenon they are participating in together. Qualitative methods have historically been used to for research that focuses on “exploring and understanding meaning” that participants attach to an event (Creswell, 2014, p. 4). It is also important to note that qualitative research allows for the collection of data

in a natural setting. According to Creswell (2014) “This up-close information gathered by actually talking directly to people and seeing them behave and act within their context” is an important component of qualitative studies (p.185).

I used phenomenological methods to gather information for this study.

Phenomenological methods are a part of qualitative research, often used in education studies that study the meaning that multiple individuals attach to a common experience. The focus is on “what all participants have in common” (Creswell 2013, p. 57). Creswell (2013) goes on to say that the “basic purpose of phenomenology is to reduce individual experience of a phenomenon to a description of the universal ‘essence’ of the thing” (p. 58).

Creswell(2013) describes Moustaka’s procedures for conducting phenomenological research as a multi-step process that involves first determining the research problem, identifying the phenomenon, collecting and analyzing data to determine themes and meaning, and finally presenting the “essence” of the phenomenon or the “essential, invariant structure that focuses on overall common experience” (p.62). In the end the research will develop a “descriptive passage... and the reader should come away...with the feeling ‘I understand better what it is like for someone to experience that’” (Creswell 2013, p. 62).

This study focused on two broad questions as indicated by common procedure. The interview questions were open ended, allowing the participants to tell their own story in their own words (Creswell 2013). What was your experience in terms of connecting to nature and developing an ecological identity by participating in the Illinois Master Naturalist program? How have places where you have learned or volunteered influenced or affected this connection

and development? Other additional open ended questions were also presented to the participants to allow them to fully develop their descriptions of the program and how it impacted their feelings of connectedness and ecological identity.

### Setting and Participants

This study looks at the impact of the Illinois Master Naturalist program on participant connection to nature and ecological identity. The Illinois Master Naturalist Program is offered through the University of Illinois Extension. I interviewed current and past participants in the program. The program is open to adults of any age and from any background. The only pre-requirement for participation is a desire to learn about local natural areas.

The participants in this study were self-selected. I interviewed 15 Master Naturalist who responded to an open call to all current and past Master Naturalists asking for volunteers to participate in a discussion of connection to nature and ecological identity (Appendix B). Individual interviews with participants occurred at a time and place of their choosing. This procedure allowed the individual to elaborate freely on what specifically they experienced in the program and how that impacted their connection to nature and ecological identity.

### Methods and Analysis

Each participant in the study was asked the same open ended questions designed to explore feelings of connection to nature and development of ecological identity throughout the program. They were also allowed to add any additional comments that they felt were important to the topic, but may not have been addressed in the interview questions. The main focus of the interviews was on two major questions. What is your experience in terms of connecting to nature

and developing an ecological identity by participating in the Illinois Master Naturalist program? How have places where you have learned or volunteered influenced or affected this connection and development? Other additional open ended questions were also presented to the participants in order to more fully develop their responses. Each participant was given a chance to speak about their experience in the program as it relates to connectedness to nature and ecological identity. I moderated the discussion by using the interview questions directed at the common experience (Appendix A).

The analysis of phenomenological data should highlight “significant statements” or information that illustrates how the subjects experienced the event (Creswell, 2013, p.61). These statements or stories were then categorized into groups with similar meanings that could be used as common themes. The themes were then used to write a description of what was experienced in both a structural and textural way. The development of a textual description explains the common experience of all the participants in the study. The structural description of the experience describes how the participants experienced the event in similar ways. An overall description that combines the what and the how into the “essence” of the experience is also included (Creswell, 2013 p.60).

### Summary

It was my belief that the common experience of participation in the program would show that participants develop a strong connection to nature, particularly local areas, after completion of the program. I also thought that this connection would continue to grow as participants continued to volunteer and take additional education courses to maintain certification. Adult

environmental education is an important way to increase adult connection to local natural areas and help adults develop an ecological identity. I hoped that this study would show that participation in the Illinois Master Naturalist Program does both of these things.

The next chapter on results of the study shows how the project proceeded. In this chapter I review the findings of my interviews with the 15 Master Naturalists and present the data and the results of the data analysis. Interpretation of the data shows that subjects in the Illinois Master Naturalist program share a common experience of deeper connections to local natural areas.

## Chapter 4

### Results

The purpose of this research project was to look what participants in the Illinois Master Naturalist Program experience during their time in class or volunteering. I interviewed 15 participants about their connection to nature and sense of ecological identity prior to the program and after participation, in order to answer two main questions. How does the Illinois Master Naturalist Program connect or reconnect adults to local natural environments? Does the program enable participants to further develop a sense of their own ecological identity? Seven open ended questions were asked that allowed the participants interviewed to fully express their personal experiences in the program.

Overall most participants that were interviewed felt that they had a good connection to nature and the environment prior to joining the program. They were less sure about the status of their ecological identity as this was a new term for many of them. The main theme to come out of the interviews was that most participants felt that the program allowed them to understand and connect more deeply with local natural areas. In this way some, but not all, felt that they further developed their ecological identities. A secondary theme that emerged for many of the participants interviewed was that the program, both the classes and the consequent volunteer work, allowed them to have a dedicated time to be outdoors and appreciate the experiences that local natural areas have to offer. A final theme that emerged for which I had not been looking

was that almost all of the participants interviewed found a connection to other people in the community and felt that was an important part of the program for them.

#### A Prior Connection to Nature

“I know that I definitely had a strong ecological background prior to taking the classes and a very good connection to nature before the Master Naturalist classes.”

“Ecological identity is me. It’s what I have been through, what I am striving for, what I have seen. It’s what makes you want to do something to protect and preserve the places you care about or have good memories about.”

“I was very fortunate to be raised by parents who loved to be outside and raised my brother, sister, and I in nature. We were brought up to be respectful of nature. I know I definitely had a very good connection to nature before taking the Master Naturalist class.”

When asked about their connection to nature and ecological identity prior to the program 14 of the 15 Master Naturalist interviewed expressed directly or indirectly the belief that they had a good or very good connection to nature and the environment prior to joining the program. The idea of having an ecological identity was harder for those interviewed to determine.

Many of the Master Naturalists described an ecological identity as something that develops as you grow in life. Master Naturalist B described it as a personal part of one's life that

develops from a childhood that is spent outdoors and in relation to nature. She went on to say that nature has always been a source of healing for her, even when she did not spend as much time outdoors as an adult due to professional obligations. Because of this she did feel that she had a strong connection to nature and that nature was part of her overall identity. Master naturalist C described ecological identity as an individual thought process that is learned over time through both education and experiences in nature. She believed that growing up in a rural area with lots of time spent playing outside and observing the natural world gave her both her ecological identity and a good connection to nature.

Some of the Master Naturalists interviewed saw an ecological identity as the way you interact with nature and the environment. Master Naturalist H said “I think developing an ecological identity seems to be more about understanding your place in your ecosystem. Ecological identity develops differently for everyone, but you have to be able to get outside and interact with nature for that to happen.” Her background in environmental science caused her to feel like she entered the program with an already good connection to nature and the environment. Master Naturalist J described an ecological identity as “learning the role you play in nature and how you respond to nature, how you act, and how it affects you.” She also felt that she has always had a strong connection to nature whether it was in play or work.

When talking about how an ecological identity was developed Master Naturalist G said that she believed that ecological identity comes from education, but also from having empathy towards nature. “Your experience and location helped to shape it. But people have ecological identities on a very broad scale; even within the same families people view nature and the

environment in different ways. So I think that ecological identity is about how aware you are. Some people are more aware than others.” In her way of thinking everyone has an ecological identity that is always developing, even if they are not aware of what it is called.

Master Naturalist N described having a connection to nature in a similar way during her interview. “For me, my ecological identity is to realize, or forget, the cultural teaching that we are separate from the natural world. We are a part of it. And we have the potential to live in a reciprocal relationship with the rest of the world, instead of just trying to be less bad.” For her everyone has a connection to nature, and ecological identity is more about how aware of that connection you are. She felt she was very aware prior to the program.

#### An Awareness of and Increased Connection to Local Natural Areas

“For me the biggest benefit was how much it increased my awareness. It is always amazing when you go into things thinking you have this awareness and finding out, not so much. Just learning what we have in our own area, I always used to think that this is a horrible place for people interested in the environment to live. Now I am realizing not really as much as I thought.”

“You see so much more. It’s like you’re going along in life and you have this tunnel vision or you’re living in a world of black and white and maybe gray. But then you start to learn about the different species and suddenly your world is this bright kaleidoscope of colors.”

“The thing that I’ve gotten out of it is that there is such a variety of topics to learn and so much exposure to wildlife and different places. I feel like it opens the doors in terms of possibilities. Or opens awareness and changes the behaviors and what we do on a daily basis. For me, I’m just much more aware of stuff. It really has expanded my awareness of my world.”

For many of the participants interviewed the main impact of the program and continued volunteering has been an increase in the awareness of local natural areas. So even though they felt that they had a good or even strong connection to nature prior to the program, the classes and places that they volunteer have allowed them to develop an appreciation and awareness of new local natural areas. Part of this awareness for many was an understanding of how they fit into the natural systems around them and the importance of local natural areas for the health and wellbeing of themselves and their communities.

Master Naturalist B felt “a heightened connection to nature and local areas” and that the classes made her “more aware of how valuable an environmental mindset is in terms of protecting and preserving natural areas.” Master Naturalist J noted that “every class was enlightening and I feel like I’m a much more educated person about the whole natural world” and that the classes gave her a “better understanding of her own relationship to the natural world.”

During his interview Master Naturalist E compared taking the classes to taking classes in music appreciation. He talked about how you might be aware of all the ecosystems or habitats in

an area, the same way you might be aware of classical music on a surface level. But when you chose to make a study of a particular piece of music, or habitat, “you realized all the intricacies of that piece” or place. “It gets down to a deeper level and in the process of education you become more appreciative of what you hear or see.” In this way he felt that the program had allowed him to obtain a higher level of awareness about local natural areas and what he would find there.

Master Naturalist K called it a “life changing course. Once you take it you don’t go back to the ignorance. It makes you hungry to learn more. It makes you aware of what you don’t know”. Because she was able to see places she wasn’t aware of before, she now has new favorite local natural areas to visit and appreciate. It also changed the way she thought about local ecosystems and allowed her to see their importance. Master Naturalist N also became more aware of local natural areas and described how she “saw places with unique individuality that had their own personalities. When you think of a prairie, you might think of a very one dimensional thing, but when you look at and compare two prairies, you see all the different characteristics.” She felt the program helped her look beyond the surface and at the details of places.

Master Naturalist O described how the program helped him learn about and experience different local natural areas and encouraged him to get out and visit more and learn more. It gave him a better appreciation of local natural areas, their importance and what it takes to preserve and maintain them. He described how he volunteered at only one place and how seeing it repeatedly throughout the year, allowed him to make a meaningful connection to that place.

He was able to see natural events as they occurred and changes that take place over time. The longer he worked there the more he saw the value of the place, something he hadn't seen or thought about before. In his words "something that looked like something that wasn't useful changed in my mind to something that was a piece of gold for the community. Like any relationship, the more times you meet, the more your relationship grows." He felt like the program allowed him to better understand how everything was connected. That it is not about separate things like soil, insects, birds or air, but that everything is connected in some way and if you disturb one thing, everything is affected. "Seeing it, going and participating, gave me a better understanding of that."

#### A Dedicated Time to be Outdoors and Appreciate Nature

"I didn't have to meet objectives. I didn't have to meet any content standards that teachers wanted. I just had to enjoy it. It was nice to recharge myself and I looked forward to that 4 hour class. To just be there. Just be in the moment."

"Peace, quietness, time for reflection. Time to discover what is really important in one's life. It is really meditative. In some ways I would say a religious experience."

"You have this block of time where it's almost like Shangri-La, where you're out of reality. It is almost like sacred time."

For many participants the true value of the program was in how it gave them a special time and a reason to be outdoors in nature. Participation in the program requires time spent outside, and so they felt they had no excuses for not being there and more importantly enjoying that time. Both Master Naturalists E and G talked about how the program was a motivation to “get off the couch” and “get back outside”. Master Naturalist E said “it gets you out of the house and involved in a topic of interest to you.” Master Naturalist L said the program motivated her to be outside, even in weather that made her uncomfortable.

Master Naturalist J also felt that the program motivated her to confront things she was uncomfortable with. She talked about how volunteering allows her time to be outside and “intimate with nature”. She said she had faced things that made her uncomfortable and learned to accept other things like spiders and insects that she previously did not like, because now she can see their purpose and place in the natural system.

As someone who worked in the environmental field, Master Naturalist A liked that the program allowed her to set aside a “dedicated time to really experience what we had in the area”. She went on to say that “volunteering with kids in an informal setting means that you can let go of some of the hard science and focus on appreciation, immersion and experience outdoors.” Volunteering with kids helped her to be able to be in the moment and appreciate with the children what they were seeing and feeling.

#### A Connection to People

“You’re meeting people that are talking about a topic they are so vested in, that they are so interested in. And you’re seeing new passion. You’re seeing passionate people,

whatever the topic is, every time you go to class. That's really cool. Because that's infectious."

"I think one of the greatest benefits is how many wonderful people you meet. You're working and doing things together and you have that in common, no matter what you do not have in common. You have that and it develops into a great love."

"To me personally, it is finding like-minded people who share the same interest and curiosity and getting to hang out with them."

A theme that came up outside of my research questions, but seems to be a very important component of the program for many of the people I interviewed, was how the program connects them to other in people in the community who have similar interests and appreciation. This response came up most when participants were asked what the greatest personal benefit of the program was for them.

For Master Naturalist A, the overall benefit of taking the classes was a chance to be with other adults interested in the same things she was interested in and to see things through their eyes and see how they experience and appreciate nature. Many others interviewed shared this feeling. Learning and volunteering in the program is a way for them to make connections to and learn from others in the community. Master Naturalist G said "it is inspiring to be around other people who know so much and care so much about local areas". She believes that the program

changes the way you think about things in large part due to the variety of people involved in the program. It helped her to see that there is more than one side to any issue. She said “the people that are involved and how dedicated and invested in where they volunteer, the amount of knowledge that they have, that is amazing.” Master Naturalist K talked about feeling a “camaraderie” with other volunteers throughout the program and while volunteering. This and the diversity of the people involved in the classes were an important element vital to learning for her.

Educating others was another important component of the people connection for many of the Master Naturalists. Master Naturalist H talked about how she learned the importance of educating others. The requirement to volunteer doing something new, lead her to being an educator at the place where she already volunteered. “Before it was just me, something I loved and did, but didn’t really try to get other people involved.” Volunteering as an educator has shown her the importance of community education and encouraged her to learn even more about topics that are important to the environment and the work that she does.

Many of the Master Naturalists mentioned volunteering with children and students at local natural areas. Master Naturalist A talked about how she knew, even at the beginning of the program that she wanted to volunteer in education. Other participants talked about how rewarding working with children or the public was for them. Master Naturalist E said “when I see a wonderful smile on a child, when they realize something about nature that they didn’t know before, that for me is an a-ha moment.” Master Naturalist F talked about how part of the draw of the program is the ability to work with other people through volunteering in education programs.

For her the program encouraged her “dual life-long goals of learning about nature and sharing that knowledge by educating others.”

### Summary

Passion. Appreciation. Camaraderie. These words were spoken more than once by more than one participant during the interviews. The overall essence of the experience of participation in the Master Naturalist program was one of deep connections. For many these connections went beyond a feeling of caring for a local natural area and came to include community and the global environment.

I believe, based on the experiences described by the participants interviewed, the Illinois Master Naturalist program does provide adult learners with a deeper connection to local natural areas and a better sense of their ecological identity. All but one of the 15 participants interviewed described a connection and/or appreciation of local natural areas visited either during classes or as a volunteer. Many also described a better understanding of local ecosystems and their place in the environment. If we look at Thomashow’s(1995) definition of ecological identity as “all the different ways people construe themselves in relationship to the earth as manifested in personality, values, actions and sense of self (p. 3), then the program did help participants realize their relationships to nature and the earth.

## Chapter 5

### Conclusion

#### Transformative Learning in the Illinois Master Naturalist Program

The major learning that I think can come from this study is that Master Naturalist programs like the one in Illinois, can be an important tool for transformative learning for adults. As stated previously in the literature review in Chapter two, transformative approaches give adult learners the ability to gain hands on experience of local natural areas, allowing them to “develop a sense of wonder and a sense of place, fostering the awareness and appreciation that motivates them to better understanding and appropriate concern and action” (Athman & Monroe, 2001, p. 40). The Illinois Master naturalist program certainly helped the participants interviewed to look at local natural areas with renewed interest and appreciation, and allowed them to make deeper connections to nature and the environment. For many this deeper understanding and connection, caused them to rethink daily actions on a global, environmental level.

An important part of transformative learning is outdoor education and hands on learning. Outdoor education is about the many levels of relationships people experience with their own self, with others and with nature. In Chapter two I described how educators can use place based and hands on learning to connect adult learners to their local environment. According to Walter (2013), in this way outdoor learning can provide opportunities for cultural and spiritual reflection, the practice of mindfulness, and the use of all senses. This was something that definitely occurred for many of the participants that I interviewed.

### Limitations, Implications, and Future Research

The main limitation to this study was that not all of the participants in the Illinois Master Naturalist program were able to describe their experience in the program in relation to feeling a deeper connection to nature or a more developed sense of their ecological identity. The participants I interviewed chose to participate in this study because they did feel like they had made a deeper connection. It is possible that the majority of the more than 600 adults in the program might not have made similar connections.

In the future the University of Illinois Extension may wish to survey all participants regarding their connections, awareness and appreciation of local natural areas that they find in the program and the understanding and development of personal ecological identities. Knowing how the program affects participants on a personal, emotional, and spiritual level could allow the program to offer classes that help participants understand and develop their ecological identities. When asked if she wanted to make any additional comments at the end of the interview, Master Naturalist N said “One thing I would say is that I don’t feel like what you’re talking about was addressed in the program directly. Not that it didn’t come out. They certainly addressed ways you can help, but as far as going a little deeper. But maybe that is a whole different class.” If as Clover Jayme, Hall and Follen(2013) write in “The Nature of Transformation” that environmental education lead by experts in a field and focused solely on science can feel disempowering and fatiguing” and cause people to burn out on environmental knowledge and issues, then transformative learning the focuses on emotional well-being and a spiritual connection could be an answer to traditional teaching (p.4).

Future research that could come out of this study might look into the social connection that emerged as a theme but was not part of my original research question. In a time when people feel disconnected from nature they may also be feeling disconnected from each other as well. Part of the draw of the program, and the reason that volunteers stay on year after year, seems to be the social connections that they make during classes and at volunteer sites. Many participants interviewed spoke of the joy of meeting “like minded” individuals who understood their feelings and concerns. Broun also noted in the 2007 study of the Missouri Master Naturalist program that further research might also look at “aspects of the program that help promote retention such as opportunities for socialization, a motivating factor that seems to become more important the longer a person stays in the program (p.57). Results of this study will be shared with the University of Illinois Extension and will be available to any participant in the program interested in reading the study and offering their own recommendations for the program.

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Appendix A  
Interview Questions

6. What was your experience in terms of connecting to nature and developing an ecological identity by participating in the Illinois Master Naturalist program?
6. How have places where you have learned or volunteered influenced or affected this connection and development?
6. Please explain in your own words what it means to develop an ecological identity? Is this the same as environmentalism or environmental ethics? Why or why not.
6. Describe an “ah-ha!” moment you had while learning or volunteering in the program.
5. Please provide any significant background information that you feel has affected your participation in the program. Do you feel you had a well developed ecological identity and/or connection to nature prior to joining Master Naturalists? Why or why not?
6. What would you tell a friend who is interested in joining the program is the greatest benefit of participation?

## Appendix B

## Interview Recruitment Email

Date

Dear Master Naturalist,

I am a graduate student working on an advanced degree in education at \_\_\_\_\_. As part of my graduate work, I plan to conduct research with Master Naturalists in \_\_\_\_\_ County from March-April, 2016. The study is being done under the direction of \_\_\_\_\_ with the approval of \_\_\_\_\_. The purpose of this letter is to request your participation.

The topic of my master's capstone is increased connection to nature and development of ecological identity in Master Naturalist participants. I plan to interview Master Naturalists about their experiences of increased connection to nature through their involvement in the program. Additionally I will be asking how the program has helped you develop a sense of ecological identity. The interview will be audio recorded and will last about 40 minutes. It can take place at a location of your choice.

If you feel you could be of help to my research and would like to participate in the interviews or if you have additional questions contact myself or \_\_\_\_\_ with the information listed below.

Thank you,

Sincerely,

## Appendix C

### Letter of Consent

February 4, 2016

Dear \_\_\_\_\_,

I am a graduate student working on an advanced degree in education at \_\_\_\_\_. As part of my graduate work, I plan to conduct research with Master Naturalists in \_\_\_\_\_ from February-March, 2016. The study is being done under the direction of \_\_\_\_\_ with the \_\_\_\_\_. The purpose of this letter is to request your participation. This research is public scholarship. The abstract and final product will be cataloged in a digital commons, a searchable electronic repository. It may be published or used in other ways.

The topic of my master's capstone is increased connection to nature and development of ecological identity in Master Naturalist participants. I plan to interview Master Naturalists about their experiences with increased connection to nature and development of ecological identity. The interview will be audio recorded and will last about 40 minutes. The interview questions will be provided ahead of time. After completing the capstone, I will summarize the findings in a report to be distributed to interview participants and Master Naturalist administrators.

There is little to no risk if you choose to be interviewed. There are not anticipated to be any risks beyond those that exist in daily life. All results will be confidential. Pseudonyms for participants will be used. The interviews will be conducted at a place and time that is convenient for you. All interview recordings will be destroyed after completion of the study.

Participation in the interview is voluntary, and, at any time, you may decline to be interviewed or to have your interview content deleted from the capstone without negative consequences. Participants may decline to answer any questions they prefer not to answer.

I have received approval from \_\_\_\_\_ and from \_\_\_\_\_ to conduct this study. The Capstone will be cataloged in \_\_\_\_\_, a searchable electronic repository. My results might be included in an article in a professional journal or a session at a professional conference. In all cases, your identity and participation will be confidential.

When this research is discussed or published, no one will know that you were in the study. However, laws and university rules might require us to disclose information about you. For example, if required by laws or University policy, study information which identifies you and the consent form signed by you may be seen or copied by the following people or groups: a) The university committee and the office that reviews and approves research studies, the Institutional Review Board (IRB) and Office for Protection of Research Subjects; and b) University and state auditors, Departments of the university responsible for oversight of research. If you feel you have not been treated according to the descriptions in this form, or if you have any questions about your rights as a research subject, including questions, concerns, complaints, or to offer input, you may call the Office for the Protection of Research Subjects (OPRS) at \_\_\_\_\_.

If you agree to participate, keep this page. Fill out the duplicate agreement on page two and return it to me by mail or copy the form in an email to me no later than \_\_\_\_\_ 2016. If you have any questions please contact me or \_\_\_\_\_.

Sincerely,

Informed Consent to Participate in Qualitative Interview  
*Keep this full page for your records.*

I have received the letter about your research study for which you will be interviewing Illinois Master Naturalists. I understand that the interview will be an audio recording. I understand that being interviewed poses little to no risk for me, that my identity will be protected and that I may withdraw from the interview any time without negative consequences.

Signature\_\_\_\_\_

Date\_\_\_\_\_