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WOMEN ADVOCATES IN GREAT LAKES CONSERVATION

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By

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ABSTRACT

WOMEN ADVOCATES IN GREAT LAKES CONSERVATION

By

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Anthropogenic practices in the Great Lakes Basin, beginning over 200 years ago, have left the Lakes in a compromised condition. Due to the ecological deterioration of the Great Lakes, advocates from scientific, political, economic, and grass-roots communities have been organizing and working toward increased conservation and rehabilitation. Although men and women have been involved and instrumental in Great Lakes conservation, the role of women advocates has been incompletely understood and documented. This research documents the achievements and contributions of eight Great Lakes women advocates and analyzes their experiences as women involved in Great Lakes conservation work. This research found that gender barriers and perceived gender roles contributed to the lack of acknowledgement of these women and their accomplishments. A comparison of these women's work style and environmental motivation to empirical literature demonstrates that their work style and motivations is consistent with women's work styles and motivations documented in prior empirical research. These women are goal-oriented, do not seek personal recognition, and their environmental concern stems from family concerns or a connection to the environment. This is believed to contribute to the limited information available on their conservation work. Additionally, this research gives recognition to these women by documenting their contributions and achievements that have remained unsung.

Dedicated to my parents,

In loving memory of Joy Joseph *(1948-1982)*

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CHAPTER I

Introduction

Problem Statement

Anthropogenic practices in the Great Lakes Basin (GLB) such as over-fishing, industrialization, and urbanization have left the Great Lakes in an increasingly ecologically deteriorated condition since European settlement. These practices, dating back over 200 years, created an urgent need for GLB protection, restoration, and preservation. In response, advocates from scientific, political, and grass-roots communities are making strides toward increased conservation. Both men and women have played an instrumental role as advocates for the Great Lakes. However, the role of women conservationists has been incompletely documented. The purpose of this research is to document the achievements and contributions of eight Great Lakes women advocates and understand their experiences as women involved in Great Lakes conservation work. Understanding their experiences will aid in the determination of why these women are relatively unknown to others involved in conservation efforts. Additionally, this research seeks to uncover gender barriers these women encountered and present a woman's voice in Great Lakes conservation. This research also seeks to give recognition to unsung Great Lakes conservationists.

Preliminary archival research revealed scant documentation on women's accomplishments in conservationist historical literature in the United States and Canada (e.g. Albright, 1961, Strong 1988, and Stroud 1985). Great Lakes conservation research is often published in scholarly journals by scientists and academics, which allows for the authors to gain some recognition from others involved with Great Lakes conservation

work. These scholarly journals do not study and report achievements of researchers and advocates involved in conservation efforts and the campaigns they were involved with, which may be lead to limited knowledge of women advocates who were or were not involved in scientific Great Lakes research. Only recently has some literature been published on the history of the conservationists involved in Great Lakes protection (Dempsey 2001, Dempsey 2004). In the existing literature on Great Lakes conservation, the role of women has not been completely understood. Preliminary meetings and interviews with key Great Lakes professionals revealed that the names and identities of women included in this research are relatively unknown to many professionals involved in Great Lakes conservation. Great Lakes conservation history is incomplete without the acknowledgement of women who work on protecting one of the largest freshwater systems on the planet. By documenting the many achievements and contributions of women advocates, this research helps create a more complete representation and understanding of advocacy involved in Great Lakes conservation. Furthermore, this research gives voice to women who have remained unsung due in part to society's perception of gender roles.

Initial research revealed, through conversations and interviews with Great Lakes professionals, approximately 60 women who have been instrumental in Great Lakes conservation; due to time constraints however, eight women were chosen to participate in this project. These women have been involved in advocacy, science, consulting, and academic work. They vary in age from mid 40s to late 70s, thus their careers bracket the cultural and societal changes in women's educational and career opportunities throughout the last four decades of the modern environmental movement. Research participants were

chosen based on their contributions to Great Lakes conservation, positions held (local advocates, scientists, and coordinator/president/director of Great Lakes organizations), age, geographic location (to encompass all the Great Lakes), and their familiarity to others involved in Great Lakes conservation.

This chapter will present the study objectives, discuss in some detail relevant GLB environmental history and governance, and women's roles in society and in the United States environmental movement, which form the context for this research.

Study Objectives

This research seeks to ascertain whether the work style of these Great Lakes women advocates is consistent with empirical research on women's work styles and environmental concern. For this research, an advocate is defined as an individual, more specifically a woman, who vocally expresses a deep concern and passion for Great Lakes preservation and for whom this concern led to work on Great Lakes protection and conservation issues professionally and/ or non-professionally.

Additionally, this research will lead to greater understanding of why these women are relatively unknown in Great Lakes conservation efforts. Understanding reason(s) why these women are known to a limited number of professionals involved in Great Lakes advocacy and science work may help elucidate questions regarding whether women's work style approach and/or societal barriers are the cause for the gender gap in Great Lakes historical literature. The following research questions will shed light on the barriers faced and contributions of these women Great Lakes advocates.

- **What were the contributions of these women in Great Lakes conservation?**

• How do these women's motivations and work style approaches compare to motivation and work styles of women as documented in the empirical literature?

• What gender barriers (if any) did these women encounter working as Great Lakes advocates?

These questions will also seek to determine if gender barriers, such as inability of women to enter professional fields or advocacy work not being recognized by the scientific community, have changed through the decades for women advocates. Including advocates who have been involved in Great Lakes conservation during different decades, the 1950s-present day, will aid in obtaining knowledge on the shifting perceptions in society and acceptance of women's work and contributions to conservation.

Historical Perspective

Great Lakes Ecology and Governance

The amount of freshwater available on the planet is limited. Of the 97% of water present in the world, 0.5% is available in a usable freshwater form (Ayibotele 1992), which must serve the needs of billions of people on the planet for their agricultural, economic, and personal well being. The GLB comprises 20% of all unfrozen, surface freshwater available on the planet and the Great Lakes- St. Lawrence River Basin is the largest surface freshwater system in the world (International Joint Commission 1985). This makes the GLB a unique and very important global treasure. Located at the border between southern Canada and the northern United States, the GLB is found within New York, Pennsylvania, Ohio, Michigan, Indiana, Illinois, Wisconsin, Minnesota, Ontario, and Québec. Forest harvesting, commercial and recreational fishing, industrialization,

and urbanization have resulted in substantial degradation of this vast and unique freshwater body (Bogue 2000, Dempsey 2001, Environmental Protection Agency 2000, Francis and Regier 1995, Kehoe 1997). Declining water quality in the GLB threatens the health of aquatic organisms, terrestrial species, and humans (Agency for Toxic Substances and Disease Registry 1994, Environmental Protection Agency 2000, Johnson et al. 1998).

Numerous efforts have been made to stop and reverse degradation of the GLB. Decision-making and management by governmental and non-governmental sectors have led to improvements in Great Lakes conservation. Great Lakes governance takes place within a complex structure of jurisdictions, institutional arrangements, interstate compacts, and stakeholder groups. Binational governing bodies, two federal governments, ten state and provincial governments, tribes and First Nations, and hundreds of municipal-level entities are included in the formal Great Lakes governance framework (Francis 1982). The configuration of agencies and organizations involved in governance varies based on ecological and environmental problems and different resource uses (Francis and Regier 1995).

Canada and the United States have been working jointly to manage the Great Lakes through a variety of mechanisms. In 1909 the International Joint Commission (IJC) was created by the signing of the Boundary Waters Treaty between the two countries. The IJC is responsible for monitoring the water quality and quantity of the Great Lakes water system and developing management plans and identifying how management decisions in one country affect the other. In addition to the IJC, other binational treaties were implemented and governing bodies were created, such as the Great Lakes Fishery

Commission (GLFC). The GLFC was created in 1955 with the signing of the Canadian/ U.S. Convention on Great Lakes Fisheries. The mission of the GLFC is to coordinate fisheries research, mitigate and control invasive species populations in the Great Lakes, especially the sea lamprey population, and facilitate cooperative fishery management among the state, provincial, tribal, and federal management agencies (Great Lakes Fishery Commission 2000).

Concern about severe degradation of the GLB resulted in the signing of the Great Lakes Water Quality Agreement (GLWQA) in 1972 between Canada and the United States to control pollution and clean up industrial and municipal wastewater in the Great Lakes. Pursuant to the GLWQA, the IJC identified 43 Areas of Concern or "pollution hot-spots" along the GLB (Figure 1). Areas of Concern (AOCs) are among the most polluted areas in the GLB and, as a result, receive special attention and funding in order for pollution mitigation and environmental restoration to take place (USEPA Great Lakes National Program Office 2003). Remedial Action Plans (RAPs) were created for each AOC to address and facilitate cleanup efforts throughout the Great Lakes (Hartig 1995). The RAP process relies predominantly on local community collaboration with state and provincial agency representatives to develop guidelines and environmental markers for progress of restoration of the AOC. Of the 43 identified AOCs, the Collingwood Harbour RAP in Ontario was the first AOC to be delisted, and one of two AOCs that have been successfully de-listed. As well as the RAP program, federal and state/provincial programs have also led to measurable improvements to various systems and sites in the Great Lakes.

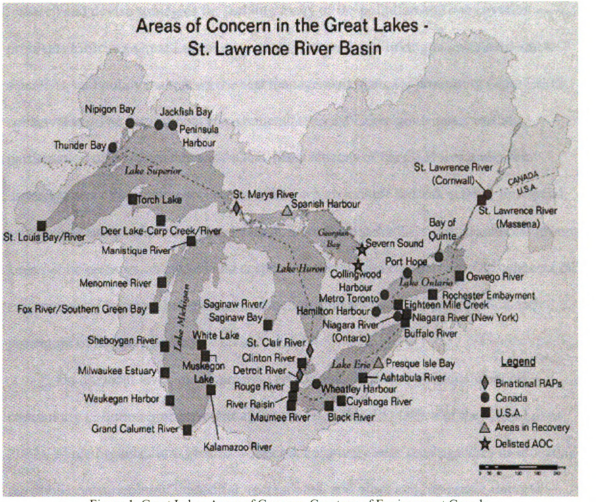

Figure 1. Great Lakes Areas of Concern. Courtesy of Environment Canada. http://www.on.ec.gc.ca/water/raps/map_e.html

The scientific community has played an instrumental role in Great Lakes conservation efforts. Scientists and researchers devise and recommend management and pollution prevention strategies to control and prevent toxics, invasive species, and various other problems afflicting the Great Lakes. Professional organizations, such as the International Association for Great Lakes Research (IAGLR), work independently and collaboratively with government agencies and non-governmental organizations (NGOs) in researching conservation problems affecting the Great Lakes and to gauge the effectiveness of programs designed to mitigate these problems. IAGLR members

research and devise strategies for tackling many of the pollution and conservation problems afflicting Great Lakes water quality, as well as working to unite academics, scientists, and policy makers on the best management plans for promoting Great Lakes conservation. The institutional arrangements in Great Lakes governance include participation of governments and NGOs. Most citizens of the GLB live under four distinct layers of government (Francis 1992), which include federal, state or provincial, sub-state or sub-provincial, and municipal. Environmental NGOs and stakeholder groups keep public pressure on elected and corporate officials and continue to raise concerns of environmental mismanagement and destruction, and advocate for preservation and protection of the environment.

On the local level, environmental NGOs and watershed councils work on community pollution problems that afflict the GLB (MDEQ Office of the Great Lakes 2002). These organizations seek to work collaboratively with state agencies in educating the public on agricultural, industrial, recreational, and other anthropogenic impacts affecting the Great Lakes and community health. These organizations also work to hold various levels of government accountable to policies and laws governing the Great Lakes through political and legal means. Often, environmental NGOs work collaboratively with each other and with governmental agencies to increase their lobbying power.

The Great Lakes United (GLU), a binational coalition, was formed to unite Great Lakes organizations that work on similar issues and focus on protecting the same water body. The GLU was created in 1982 and has members from member organizations representing environmentalists, conservationists, hunters and anglers, labor unions, community groups, and citizens of the United States, Canada, and First Nations and

Tribes. Women have participated as representatives from governmental agencies, public interest groups, and concerned citizens involved in RAPs, but only recently in formal leadership roles. Increased attention on the Great Lakes during the 1960s was due to the visible deterioration of water quality and the lack of federal environmental laws protecting water bodies and other natural resources.

United States environmental movement

During the 1960s, the US environmental movement gained momentum and became increasingly effective in identifying and addressing problems involving natural resource degradation. With limited environmental laws and standards at any level of government to protect natural resources and public health, many municipalities were discharging chemicals, raw and partially treated sewage, heavy metals, and oil into waterways. Repercussions from anthropogenic practices and environmental mismanagement were being witnessed throughout the country. Smog problems in New York, Pennsylvania, and California became common and led to increasing levels of human morbidity and mortality (Dewey 2000, Ely 1951). The 1962 publication of Rachel Carson's book *Silent Spring* documented the effect of chemical pesticides and fertilizers on the environment. Her work generated a massive public outcry because of its description of the devastating impact of persistent and bioaccumulating chemical compounds on bird species, water, and land as well as on human health.

An interesting sequence of events in the GLB paralleled citizen involvement and increasing environmental awareness around the country. During the mid-1960s, the *Chicago Tribune* published a series of articles on pollution problems in Lake Michigan, which raised public awareness of water quality. In 1967, massive alewife die-offs were

occurring on Lake Michigan, and they were frequently found in large heaps along the shore (Colby 1971). Throughout the Great Lakes, beach closings were commonplace due to raw sewage discharges in the water causing algal blooms and phosphorus discharges leading to eutrophication (Beeton 1965, DePinto and Young 1986). Oil globules in the Lakes resulted in declines and deformities in fish populations (Colburn 1990). Massive oil spills, toxic discharges, and various other debris caused the Cuyahoga River, a tributary of Lake Erie, to catch fire in 1968 (*The Plain Dealer* 1969). Lake Erie was proclaimed 'dead' due to exceeding concentrations of contaminants and toxins (Bertram 1992). The public outrage that ensued following the Cuyahoga River fire led Cleveland, Ohio mayor Carl Stokes' proclamation to Congress that water should not catch fire and therefore stricter regulations governing water bodies were needed (Klaric 1969, Thomas 2000).

As a result of these and similar environmental disasters in the Great Lakes and across the United States, federal laws were enacted to address pollution problems. The National Environmental Policy Act (NEPA) was passed in 1969. NEPA was the first national environmental law drafted during the environmental movement and led to the creation of the Environmental Protection Agency in 1970. It mandates environmental impact assessments (EIA) for federal actions or projects with the potential to impact the environment (42 U.S.C. §§ 4321-4347, as amended 1994). Prior to GLWQA in 1972, the United States amended and significantly strengthened the 1948 Federal Water Pollution Control Act, now known as the Clean Water Act. The Clean Water Act (CWA) regulates how water bodies are managed, cleaned, and monitored. The CWA set standards for municipal wastewater and industrial discharge into surface water sources (33 U.S.C. §§

1251-1387, as amended 1996). The purpose of the Coastal Zone Management Act of 1972 is to preserve and restore resources of the US coastal zone, including the GLB, and to encourage and assist states to exercise their management responsibilities (16 U.S.C. §§ 1451-1465, as amended 1996). The drafting and enforcement of the 1974 Safe Drinking Water Act followed, which set maximum contaminant levels (MCL) and total maximum daily loads (TMDLs), or specific limits on contaminants for healthy consumption in drinking water (cite SDWA). The passage of environmental laws at the federal level increased the momentum of state lawmakers to create and enact environmental legislation. As well, many environmental laws required public participation, which led to greater involvement of citizens.

Citizens involved in the environmental movement contributed to the awareness of environmental degradation. Public pressure during the 1960s as well as currently has been instrumental in making lawmakers understand the importance people place on natural resource conservation. Because lawmakers depend on their constituencies to keep them in office, the public will helps determine what laws and policies are drafted and how they are enforced. However, public will does often go unacknowledged by lawmakers. There were multiple forms of activism during the 1960s. Women's rights was becoming increasingly discussed and women organized to gain recognition and began fighting for equal rights.

Role of Women in US Society

The role of women in society has changed drastically through the years. Historically, upper and middle-class women were forbidden to work outside the home, or private sphere, while lower class women were relegated to low wage work (Taylor

1997b). Advocacy and the passage of women's rights laws has aided in the evolution of women's place in society to the point where women may now enter the public sphere as professionals. Today women are present in government, business, and private corporations, but are rarely in top executive roles (Federal Glass Ceiling Commission 1995, Morrison et al 1987).

With the many advances women have made professionally, they are still subject to inequality (Eagly and Karau 2002). A financial disparity between men and women professionals exists, with women on average earning approximately $0.72 for every $1 earned by a man (Becker 2000). Culturally, women continue to be responsible for the vast majority of domestic work, which limits their abilities to become involved in politics/corporate decision-making (Cowan 1983, Gerson 1985, Glazer 1990, Moen 1992, Waring 1988, Wright 1995), regardless of affirmative action policies and other movements to promote equal opportunities and rights for women. The societal difference in men and women's roles has resulted in many barriers for women to overcome in achieving professional and personal goals.

Biases against and barriers for women have a long history. Prior to the first wave of the US feminist movement encompassing the period of the Seneca Falls Convention in 1848 to the passage of the Nineteenth Amendment in 1920, women were not allowed to vote and were not recognized as individual citizens. Women were considered 'legally dead' after marriage and were prohibited from attending college (Basch 1982). Passage of the Nineteenth Amendment granted women the right to vote; however, this right did not extend to minority women.

During World War II, women were encouraged to hold factory and other jobs as their husbands, fathers, and brothers were in combat; other women were involved in helping the military. Women were able to demonstrate their capabilities as workers. When the men returned from the war after 1945, women lost these jobs and returned to their domestic responsibilities. The second wave of the feminist movement began during the early 1960s, with some feminists and researchers pinpointing the 1963 publication of Betty Friedan's book *The Feminine Mystique* as the beginning of the second wave (Friedan 1963). Women's rights became a major political issue in the 1960s and the women's rights movement advocated for equal rights and better access to careers.

The passage of Title VII of the Civil Rights Act of 1964 granted women easier access to careers. After the 1973 *Roe v. Wade* ruling legalized a woman's right to choose to terminate pregnancy, equality and women's rights remained a key rallying point in the United States. However barriers to job entry and workplace discrimination against women were still occurring. Adoption of affirmative action policies during the 1970s enabled white women and minorities increased opportunities for entering the workforce and were policy attempts to eliminate gender and racial discrimination. However, affirmative action cannot directly address the manner in which women are perceived in society and eliminate sexism.

The perception of women's roles in society has not significantly changed as a result of legislation granting women more equitable rights. Women are the primary caregivers and maintainers of the home. Universally, women are largely responsible for early child-care (Chodorow 1974). The unpaid, non-economic work of women often goes unrecognized and is not valued in society (Waring 1988). Despite these inequalities,

women have managed to overcome many barriers and stereotypes (Chafetz 1993, Sullivan and O'Connor 1988). Women are currently in the working world and are represented in professions that were previously closed to them due to women's increased career aspirations over the past several decades (Gerstein 1988, Phillips and Imhoff 1997). Working mothers now balance careers with raising children, especially with men beginning to take on more domestic responsibilities as a result of the progression of women's role in society. Women have been important contributors to the environmental movement and environmental conservation efforts.

Role of Women in the Environmental Movement

From the beginning women have played an instrumental role in environmental protection, particularly at the local level. Within the past few decades, women have been at the forefront of grass-roots environmental movements (Hynes 1992, Merchant 1992, Seager 1993), however; female CEOs continue to be almost non-existent among national conservation groups (Ranney 1990, Taylor 1997b). In comparison with government agencies and environmental consulting firms, grass-roots environmental advocates and campaigns are perceived as radical and biased interpreters of environmental information (Bast Hill and Rue 1994) Since many women become involved in environmental work because of their concern for their own families and communities (Mohai 1992), this perception of grass-roots environmental organizations as radical and inaccurate interpreters of environmental research is a potential contributing factor to the scant information on women's achievements in Great Lakes conservation literature. Many governmental agencies and private environmental companies almost exclusively employed men earlier in Michigan conservation history, providing them the opportunity

to gain visibility (Dempsey 2001). Men's dominance in governmental and private sectors is a potential cause of inadequate historical information available on women Great Lakes conservationists because of societal focus on the accomplishments of men in the management field.

Women advocates typically are active participants in grass-roots campaigns (Blocker and Eckberg 1989, Brown and Ferguson 1995). Many local and women-led environmental campaigns have been instrumental in creating environmental change and increasing response to environmental disasters affecting local communities. An example of this is demonstrated in the Lois Gibbs story. Gibbs, a housewife turned environmentalist, became concerned about the local environment when the health of her children deteriorated rapidly and dramatically in her town of Love Canal, NY. Upon further investigation, Gibbs discovered her house was built on a toxic waste site. Due to the impact this contamination had on her life, Gibbs took responsibility to mitigate the contamination problem in her community. As a result, Love Canal was classified as a Superfund site and the homeowners were bought out and forced to relocate (Gibbs 1997).

A women's lobbying organization became involved with Great Lakes conservation efforts in 1953. The creation of the League of Women Voters (LWV) National Water Resources Policy Program pre-dated legislation and organization efforts designed to manage and protect the Great Lakes. Local chapters of the LWV adopted the National Water Resources Policy Program for implementation on local lakes and rivers. Lake committees were created by local LWV chapters for each Great Lake to address water quality problems and these committees researched and began advocating for water resource protection and better water quality and management in their communities (LWV

1965). These committees designed strategies for educating the public on pollution problems and water quality as well as lobbying elected officials for more stringent legislation for management and protection of the Great Lakes.

The role of women in the environmental movement has shifted with the shifting of the role of women in society. During the beginning of the movement, women were generally volunteers working at the local level. However, with the progression of women's rights in the United States and the increasing number of professional women in the work force, women now are able to be educated, trained, and serve in the environmental field as scientists, managers, researchers, educators, and executives at local and national levels, although they are in the minority in comparison with men (Ranney 1990, Taylor 1997a, Taylor 1997b).

Acknowledging the accomplishments of women advocates is important for society to combat discrimination and eliminate gender barriers women encounter. To present a complete understanding of the Great Lakes conservation movement, women's roles and contributions to Great Lakes protection should be recognized. This research seeks to remedy the lack of Great Lakes historical literature on women by presenting the work of influential women advocates in Great Lakes conservation.

CHAPTER II

Literature Review

Literature on women in society, gender and environment, gender differences in work-style and leadership-style can provide a context for determining why women are relatively unknown in Great Lakes conservation and can aid in analyzing the experiences of these women as well as addressing the research questions. To understand the experiences of these women and the barriers they encountered, interview data were compared and contrasted with existing literature on women's work and leadership styles, women's perceived role in society, and motivation for environmental action and concern. Each research participant reported her passion and a personal connection to the Great Lakes as motivation for becoming involved in conservation, which corresponds with the feminist theory of ecofeminism (Shiva 1989). In addition, all of the women were reluctant to claim credit for many of their accomplishments, stating, "They got tired of me bugging them, " and "I was just part of it..." which corresponds with literature on women's work style approach of not seeking personal recognition (Kanter 1977). In the following sections, I present important empirical literature discussing women's relationship with the environment.

Gender and Environment

Ecofeminist theory argues that women have a bond and relationship to the earth. According to Shiva (1989), any assault on the environment is an assault on women because within the sexual division of labor, women's work entails a close relationship with nature. Ecofeminist theory articulates that the ideologies that authorize injustices based on gender are related to the ideologies that sanction the exploitation and

degradation of the environment (Sturgeon 1997). Therefore, motivation to exploit the environment and women are the same. The basis of ecofeminism relates women's nurturing abilities and their sense of home and community to women being naturally connected to the earth and able to better manage and care for natural resources than men (Blocker and Eckberg 1997, Chodorow 1974). The life giving qualities shared by nature and women make both vulnerable to male domination and exploitation (Merchant 1992). Women's relationship with the environment is seen as special and women are more motivated than men to work for the sustainability of the environment (Momsen 2000).

Cultural ecofeminists argue that the connection between women and nature is biological; therefore men cannot be ecofeminists (Momsen 2000, Shiva 1989). They suggest that women are exploited and marginalized as is the earth. This marginalization leads to women's motivation to protect nature because by doing so they are in essence protecting their very lives (Dobson and Regier 2003, Merchant 1996, Shiva 1989). Some ecofeminist writings suggest that women are potentially more environmentalist than men because of a biospheric orientation, which could mean women "care more" about the environment or are more likely to become aware of the consequences of human activity for the biosphere (Diamond and Orensten 1990, Griffin 1978, Merchant 1979 in Stern et al 1993).

However, ecofeminism has encountered much criticism from other researchers and feminists because of its essentialist argument. Ecofeminism does not consider race, ethnicity, class, and socioeconomic differences between women (Agarwal 1992, Bullard 1993, Gupte 2002, Jackson 1993, Taylor 1997a). The bond between women and the environment is documented more in developing countries where women rely on local

environments for their own and their families' survival (Jackson 1993). Demographic characteristics such as age and socioeconomic status are also important determining factors for environmental support and concern (Gupte 2002, Strandbu 2003). Some literature implicates women in developing countries, due to their poverty and lack of available work, are responsible for ecological destruction (Zein-Elabdin 1996) due to practices such as collecting firewood to cook for their families and to sell in order to earn a profit to buy food and other essentials for their families (Agarwal 1994). However, other ecofeminist researchers present ecofeminism as not assuming one voice for all women, but demonstrates the impact and domination patriarchy has on women and nature (Plumwood 1993, Sturgeon 1997). Sachs (1997) suggests that both ecofeminists and their critics focus on women's relationship with nature, connections between the domination of women and the domination of nature, and the role of women in solving ecological problems.

Ecofeminism's focus on women alone makes men invisible and blames men mainly for ecological exploitation (Braidotti et al. 1994, Leach et al. 1995). Shiva's description of ecofeminism and the Chipko movement in India in the book *Staying Alive* (1989), however, discusses women and men who were dependent on the forest because of their economic status, cultural upbringing, and indigenous knowledge of the resources in the forest. These people organized a movement against the government to protect the forest from being cut down in order to protect their survival. Salleh (1993) argues that ecofeminism does not set up a static ontological prioritization of "woman," but is rather a strategy for social action. The Chipko movement is an example of a strategy for social action. Although this research does not focus on Great Lakes men advocates, men's

motivations for Great Lakes conservation could also be due to passion, concern and respect for these water bodies. Moreover, this research does not seek to classify the research participants as ecofeminists based on their motivation for working on Great Lakes conservation issues.

In comparison to ecofeminism, the feminist political ecology (FPE) theoretical framework seeks to incorporate gender into political ecology. The FPE theoretical framework addresses the interconnectedness of economic, environmental, social/cultural, and political institutions in regard to global, national, regional and local governments (Rocheleau 1996). For example, problems in the Great Lakes AOCs are as much social issues as they are environmental issues (Hartig 1995) because the RAP process brings community members, polluting industries, and various levels of government together in order to devise a plan that will remediate the site of contamination while protecting and preserving community life and the economy. The FPE framework offers a gendered critique of concerns affecting an area such as the Great Lakes Basin, by adding gender as a factor that must be considered along with race, ethnicity, and socioeconomic status.

Some feminist political ecologists argue they are better able to incorporate socioeconomic and class differences between women and their interactions with the environment in a more critical and realistic manner than ecofeminists, since some ecofeminists tend to homogenize all women as having the same relationship and dependence on the environment, as well as same economic and social status (Momsen 2000).

Another perspective of relevance to Great Lakes women advocates is the difference in the types of environmental campaigns with which men and women become

involved. "Strategic" issues, such as acid rain and global warming, are typically of more concern to men and gain political/ public attention (Garcia-Guadilla 1995). Women typically organize and become involved with local environmental issues because of the hazards and threats of these environmental problems to their families (Blocker and Eckberg 1989, Brown and Ferguson 1995, Garcia-Guadilla 1995, McStay and Dunlap 1983, Steingraber 1997, Stern et al 1998). Many women's environmental concern and advocacy stems from motivation to protect their community and children from environmental pollution; this motivation has been reported as the "motherhood mentality" (Blocker and Eckberg 1989). For example my research participants became involved in Great Lakes conservation because of water issues in their community. Since these issues gained less political and public attention, this could be a contributing factor to the limited recognition of their Great Lakes conservation accomplishments.

For instance, literature on environmental concern and participation in nuclear power issues reports that women are more concerned and active in nuclear power safety than are men (Brown and Ferguson 1995, Brody 1984, Passino and Lounsbury 1976, Reed and Wilkes 1980, in McStay and Dunlap 1983). This concern over local issues could be related to the gender division of labor. Women, in general, are most often responsible for domestic work and childcare (Jochimsen and Knoblock 1997, Pietilä 1997), and threats to their children's health causes many environmental justice and "Not In My Backyard" (NIMBY) campaigns to be organized by women, such as Lois Gibbs and Erin Brokovich. Six of the eight women researched became involved in Great Lakes conservation because of local environmental concerns. Seven of the eight women were

involved in advocacy and Great Lakes projects in their communities before contributing to conservation efforts throughout the Basin.

Reports measuring men and women's environmental concern and behavior have led to different and conflicting results (Arcury and Christianson 1993, Arp and Howell 1995, Baldassare and Katz 1992, Blocker & Eckberg 1989, Blocker & Eckberg 1997, Dietz et al. 2002, Gupte 2002, Maineri et al. 1997, McStay & Dunlap 1983, Mohai 1992, Stern et al 1993, Yang 1999). These reports study different factors behind men and women's motivation and pro-environmental behavior. A meta-analysis of studies from 1988 to 1998 revealed that women report stronger environmental attitudes and behaviors than do men (Zelezny et al. 2000). Women may report greater concern about the environment than men (McStay and Dunlap 1983, Mohai 1992, Scott and Willits 1994, Solomon 1989) but are less likely to be active in environmental organizations (Lehman-Schlozman et al. 1995, Mohai 1992). However, this environmental concern and involvement discrepancy for women is dependent on the types of issues asked about and how the results of these studies were measured. Women instead engage in other proenvironmental actions such as green consumerism, consuming and purchasing sustainable and recycled products, (Ozanne 1999) and other environmentally friendly behavior (Baldassare and Katz 1992, Tindall et al. 2003), because of domestic responsibilities. Therefore, women could be considered to be as concerned for the environment as men, but are more likely to be members of local environmental organizations than regional or national organizations. In addition, since women are more conscious of how their behavior and consumption practices affect the environment, they are likely to consume and behave in a more environmentally friendly manner than men.

Although many women work outside the home, the gender division of labor in paid and domestic work may constrain the ability of women to become involved in environmental organizations and participate in environmental campaigns since this involvement tends to take place outside the home (Tindall et al. 2003).

Throughout the feminist literature available on the gender and environment topic, few studies address discrimination or barriers professional women encounter in the environmental field or barriers women encounter in their involvement in environmental advocacy. Environmental justice literature discusses racism and discrimination faced by African-Americans and low-income citizens who live in areas that are plagued with contaminants and polluting factories. Urban neighborhoods predominately populated by African-American and other minority groups, for example, possess a greater number of toxic waste sites and industrial pollution than suburban areas that are predominantly middle to upper-middle class Caucasians (Bullard 2001, p.6). Environmental justice literature presents inequalities and discrimination that minority groups encounter, but only touches on gender discrimination. A racial, gender, and ethnic divide exists between environmentalists and environmental justice advocates; the latter consists heavily of women and minority leaders and members (Taylor 1997b).

Some literature on gender and environment issues has discussed gender discrimination in the environmental field (e.g. Gottlieb 1993, Taylor 1997b). The topic of gender discrimination in the environmental field must be addressed in order to present a complete understanding of gender and environment issues. Understanding society's influence on gender perceptions and expectations of men and women's position in society

are important in determining why women and men are treated differently, the causes for stereotypes, reasons for gender barriers and the subordination of women.

Gender and Society

Socialization theory argues that gender differences are formed because of cultural norms and expectations during the socialization process (Eagly 1987, Miller 1983, Unger and Crawford 1996, Williams and Best 1990, Wilkinson and Kitzinger 1996). Women are taught to be caregivers, cooperators, and nurturers, and to be interdependent and emotionally expressive, whereas men are socialized to be competitive, independent, and less emotional (Chodorow 1974, Eagly 1987, Gilligan 1982). Since women do more nurturing and caring work, both in the home and in their jobs, they are implicitly socialized to value cooperation and concern for others (Davidson and Freudenberg 1996, Mohai 1992, Van Liere and Dunlap 1980). The gender division of labor is said to motivate women to place less value on economics and competitiveness, and be more closely attuned to the environment (Tindall et al. 2003). However, there has been some dispute about the socialization theory. Some development theorists argue that girls are raised and taught to be timid and less vocal than boys (Gilligan 1982), whereas other researchers challenge that finding (e.g. Sommers 2001).

Gender roles have been extensively viewed as being socially constructed (Balkwell and Berger 1997, Lorber 1998, Ward 1999) and are sources of discrimination and stereotypes. The labeling of characteristics and emotions as being either feminine or masculine is an example of these constructs (Connell 1990). These characteristics, also referred to as gender ideologies, are the prescriptions and expectations for what is considered appropriate female or male behaviors (Ward 1999). Men are characterized and

expected, because of gender roles, to be aggressive, dominant, independent, and assertive (Grieg et al. 2000). Men who do not exhibit these qualities might be perceived as weak, "pansies," or "momma's boys." On the other hand women are perceived as being mild-mannered, delicate, and passive, and women who are not are considered to be tomboys, "butches," or "loud-mouthed" (Hutson-Comeaux and Kelly 2002, Lorber 1998, Thorne 1975). These stereotypes are present in social and professional arenas.

A recent study reported women's emotional expressions -reactions to being happy, sad, or angry- were evaluated as less socially appropriate than those of men who exhibited the same emotional expressions (Kelly and Hutson-Comeaux 2000). Women are in a "double-bind"; if they do not exhibit feminine characteristics they may encounter prejudices and if they exhibit excessive female emotional expressions, they can also be ostracized by society. This may be due to the dual position of women in society, as the caretakers and those who maintain balance in the workplace and home because of their interpersonal skills. As stated earlier, affirmative action policies were useful to help mitigate some gender barriers and discrimination for women entering the workforce; however, there are limited policies to address the inequality and prejudices both men and women encounter on the basis of their gender.

The expectation states theory investigates the development of power and prestige hierarchies (Berger 1977, Foschi 1996,Wagner and Berger 1993). Gender power differentials between men and women have been linked to career advancement limitations, limited access to benefits and resources, and wage discrimination for women (Ely 1995, Kanter 1977, Kipnis and Schmidt 1988, Ragins and Sundstrom 1989, in Carli 1999). Researchers have found that men have greater access to power, which is defined

as having the potential to influence or control others or having control over valued resources (Dépret and Fiske 1993, Kanter 1977). The problem with addressing power differentials between men and women is that men are rarely incorporated into research projects intended to examine gender equality (Greig et al 2000). Instead gender equality and gender research tends to study women. Quite often, men do not realize or understand their power and privilege (Greig et al. 2000). The perceptions of men and women's roles in society, the stereotypes of their characteristics and abilities, and the impact these stereotypes have on women professionals have also been studied in the workplace. The next section discusses how socialization, power, and leadership styles can serve as barriers for women to succeed and be promoted in the workplace.

Gender and the workplace

Gender power differentials in the workplace can become barriers to accomplishing work and gaining acknowledgement for tasks completed. Women's relatively low power is seen as a result of the stereotyped social roles of men and women. Men are expected to work outside the home as the "breadwinner" and although women work as professionals, they still occupy traditional house roles more than men (Eagly 2000). Additionally, performance expectations for men and women can lead to gender-based prejudice and discrimination. Balkwell and Berger (1996) suggested that performance expectations for men are higher than for women when tasks are stereotypically masculine, gender neutral, and in some instances stereotypically feminine. Therefore, in many tasks and projects that men and women may be involved with, men were expected to outperform and be more successful than women, which can be construed as gender prejudice and discrimination. In order for women to be considered

equally competent and as successful as men, women must outperform men (Carli 1999). For example, when comparing the competency of female scientists to male scientists, female scientists were judged by their physical appearance more than their scientific expertise and were viewed as competent as men if they exceeded men's productivity in publishing research (Jardine 2000).

The work styles of men and women differ. In general, men lead organizations and companies in an autocratic manner, while women are more interpersonal and democratic in their leadership style (Eagly and Johannsen-Schmidt 2001, Walters et al. 1998). Women exhibiting leadership qualities similar to men are not accepted as readily as men. This could be due to the perceived power differentials between men and women. Traditional gender roles affect the behavior of men and women in leadership roles. Agentic qualities such as aggressiveness, assertiveness, and competitiveness are believed to be requirements for successful leaders; traditionally men exhibit these qualities in leadership (Eagly and Johannsen-Schmidt 2001).

Women are believed to possess communal qualities such as affection, sensitivity, and helpfulness, mainly due to their socialization (Chodorow 1974, Gilligan 1982, Tindall 2002), and lead in a more interpersonally oriented manner, focusing on interpersonal relationships. The democratic leadership style is perceived as a more successful style of leadership (Carli 1999, Helgeson 1990, Kanter 1977). Eagly et al. (1994) showed that participants evaluated autocratic behavior by female leaders more negatively than they evaluated the equivalent behavior by male leaders, which may have been due to the perception of men and women's traditional gender roles. However, women leaders are adopting more agentic work styles. With increased collaboration,

greater numbers of women in the workforce, and democratic work relationships, gender stereotypes in the workplace are slowly disappearing (Phillips and Imhoff 1997, Wagner and Berger 1997).

Another difference in leadership style involves transactional versus transformational leadership. Transactional leaders tend to see relationships with subordinates as a series of exchanges of rewards and punishments. Women describe themselves as fitting into the transformational leadership category, also known as interactive leadership. They focus on involving subordinates in goals of the organization, encouraging participation, and sharing power (Bass 1998, Euster 1994, Rosener 1990). Subordinates respond better to the transformational leadership style (Eagly and Johannsen-Schmidt 2001).

Women in corporate careers are unable to reach upper echelons of companies, because of discrimination and the tradition of "like hiring like." Therefore women are predominant in the lower status, lower opportunity jobs (Eagly 1987, Kanter 1977). Females are more likely to be cooperative and avoid conflict and prefer collaborative work approaches (Nowell and Tinkler 1994, Stockard et al. 1988, Van Lange et al. 1997, Walter et al. 1997 in Drama of Commons book, Tannen 1990). Males are more likely to be competitive, argue, and take opposing stands in collaborative work settings (Tannen 1990, Ward 1999). In mixed gender work groups, men are given more opportunities to speak, and tend to agree more with other men's opinions rather than women's (Carli 1999, Wagner and Berger 1997). Women who are promoted have difficulty with the social part of the promotions, such as golf outings, because men socialize differently than women (Kanter 1977, Rose 1989, Gilligan 1982). Women tend to be included in fewer

professional social networks (Carli 1999, Rose 1989), which further inhibits their ability to earn promotions or learn "tricks of the trade" from senior colleagues.

Reluctance to claim personal recognition for contributions is another work style difference. Men tend to seek personal prestige for accomplishments whereas women are more goal oriented and work on a new task when the previous project is complete (Kanter 1977). Not claiming credit for work and potential gender discrimination may both be factors contributing to the lack of recognition and information available on my research participants.

Communication differences between men and women are also important to identify the misrepresentation and misunderstanding of women and their contributions to Great Lakes conservation. Communication style differences between men and women in the workplace can lead to difficulty for women to receive guidance or promotions, and have their ideas understood by men supervisors (Tannen 1990, Thorne and Henley 1975). Women leaders offer more praise and positive reinforcement to employees, even while offering critiques and suggestions on work projects (Kanter 1977). This positive reinforcement by women supervisors may not be interpreted by men as criticism of work efforts and may lead to conflict or misunderstanding of work expectations.

Gender stereotypes, societal and professional barriers, and discrimination can also be contributing factors to the lack of acknowledgement of my study participants to Great Lakes professionals. Professional women are subject to double standards at work and are evaluated by a stricter standard than professional men (Foschi 1996, Kanter 1977). Women are expected to outperform men and be more competent than men in order to be taken seriously (Carli 1999, Eagly and Karau 2002, Foschi 1996). Wertheim (1997)

argues that women's exclusion from formal intellectual life became more entrenched with an increasing emphasis on 'expertise.' In the science field, laboratory work was considered a legitimate pursuit for women if it focused on mechanical and menial pursuits, since the laboratory resembled a kitchen and therefore would likely encourage domesticity (Buckingham-Hatfield 2000). These stereotypes and prejudices can become barriers for women to succeed and excel in various professions. In order to understand the experiences and barriers of my research participants, comprehending existing literature and theory were critical in the development of the theoretical framework that helped design my research approach and my methods for conducting this research.

CHAPTER III

Methods

Research Approach

Because this research sought to learn why the conservation contributions of these women, from their own perspective, went unheralded and to comprehend the meaning of Great Lakes conservation events, situations, and actions to my research participants, it was appropriate to address my research questions using qualitative research methods. Qualitative research methodology focuses on understanding a topic holistically rather than through its separate parts (Chung 2000), which aided in presenting thorough insight on the research participants and their Great Lakes conservation work. Qualitative research methods facilitate study of life issues in depth and detail (Patton 2002) and use inductive reasoning to elucidate deeper understanding of social phenomena (Maxwell 1996, Strauss and Corbin 1990), such as a gender gap in Great Lakes conservation history. Feminist theory aided in the organization and approach of the research design to elucidate reasons a section of the population has been marginalized. Feminist theory seeks to give voice to and present information on marginalized groups in the population.

Since there is little, if any, research on women's contributions to Great Lakes conservation, this research seeks to contribute to knowledge and generate more research on women advocates. I chose to approach this research using an *interpretive* approach, which examines an understanding of social reality (Schwandt 1994). An *interpretive research approach* focuses on not only the physical events, such as the specific conservation projects my participants were involved with, but also how my study participants made sense of their participation in these projects and how their

understandings influenced their behavior (Maxwell 1996). Within the interpretive approach is the theoretical perspective of *phenomenology*. *Phenomenology* is based in philosophy and sociology and examines how social phenomena are understood, experienced, and perceived from the research participants' perspectives (Geertz 1973). This approach was appropriate to allow the research participants to describe their experiences as women advocates involved in Great Lakes conservation. Using Crotty's research design approach, the methodologies derived from this theoretical perspective are *grounded theory* and *phenomenological research*. According to Patton (2002) qualitative inquiry is especially powerful as a source of *grounded theory*, which is theory that is inductively generated from fieldwork. The theoretical approach for my research is to examine empirical theories on women's work style and environmental concern as well as reveal potential theories that emerged from interviews that may be contributing factors to the lack of acknowledgement of the research participants, using *phenomenology*. The *phenomenological* methodology allows each participant to describe her own experiences and perspectives as an advocate, without prejudged or inaccurate interpretation from me.

There are no specific requirements and rules regarding sample size in qualitative research. Sample size and the number of interviews depend on *saturation* of the data, when no new information is divulged during interviews (Patton 2002). Eight women who have been active participants in conservation efforts throughout the Great Lakes Basin from the 1950s to present day were chosen as research participants. This included women who work or have worked at the binational, federal, and state level of Great Lakes governance (e.g. International Joint Commission, Environmental Protection Agency, Wisconsin Department of Natural Resources), women working or that were working with

national and local environmental NGOs (e.g. the Sierra Club, Lake Michigan Federation) or as volunteers, were RAP coordinators for an AOC, and women who work at educational institutions (e.g. the University of New Hampshire).

Four of the research participants were identified and chosen through preliminary interviews conducted with Great Lakes professionals and the remaining four women were chosen using snowball-sampling technique after conversations with key Great Lakes decision-makers and professionals. Eight women were chosen for this project to allow me to obtain a comprehensive understanding of each woman's experiences and contributions to the Great Lakes and to provide extensive life histories of each woman. Conclusions about women's attitudes and feelings as advocates for the Great Lakes are limited to only the research participants. This research does not aim to generalize the histories and events of the group studied to all Great Lakes women advocates, but may offer insight into the barriers faced by many women conservationists. Great Lake conservation was defined in this research as rehabilitation, protection, restoration, preservation, and conservation efforts and projects proposed, conducted, and/ or implemented by my research participants.

The first research question for this project is: ***What were the contributions of these women to Great Lakes conservation?*** This question seeks to identify and document the accomplishments of the research participants. The second research question is: ***How does the motivation and work-style approach of these women compare to empirical literature?*** This question seeks to determine the consistency of these women's work styles and environmental concern with that reported in the existing literature. Answering this question will ultimately help understand why these women are relatively unknown in

Great Lakes conservation. The third research question is: ***What barriers (if any) did these women encounter as women Great Lakes advocates?*** Understanding and identifying the barriers these women encountered may help in determining some aspects of the gendered nature of recognizing/ achieving women's conservation efforts.

Research Methods and Data Collection

In order to explore my research questions, I chose to conduct my research using qualitative interviews. Qualitative interviewers listen to people as they describe how they understand the worlds in which they live and work (Rubin and Rubin 1995). Qualitative interviews were valuable to help me understand experiences and reconstruct events in which I did not participate. In-depth semi-structured initial and follow-up interviews were conducted with each woman to discern the advocacy work each woman organized and conducted and to reveal any perceived gender discrimination barriers each woman encountered. Semi-structured interviews, also called focused interviews, are useful for researchers seeking specific information. The interviewer introduces the topic then guides the discussion by asking specific questions (Rubin and Rubin 1995). All interviews were conducted in person, in locations chosen by the research participants.

During each interview field notes were taken. Specific quotes and repetitive words that were relevant to the research questions were noted and documented. These specific quotes and repetitive words were useful during the analysis process to aid in emergent theme identification. Body language and facial expressions were also recorded in field notes and used in the interview analysis process. After each interview, the field notes were expanded and a short summary of each data collection was written. The summary helped me capture early interpretations, and provided personal reflections on

important ideas to follow-up on during the second interview. I also noted useful quotes and information from what was revealed during the interview that were related to the research questions.

An interview guide was created and used for all in-depth semi-structured initial interviews (Appendix A). All research participants were asked the same questions during the initial interview. Each interview was tape-recorded and transcribed. Transcribed interviews were coded for emergent themes for use during analysis. A second interview guide was created from themes identified during initial interviews. The second interview guide allowed me to further explore my research questions and clarify experiences or feelings the research participants had reported during the initial interviews. Because of the diversity in work experience, the follow-up interview guides varied for each research participant and were dependent on the information given during the initial interview. Follow-up interviews were tape-recorded and transcribed, as well. The follow-up interviews allowed for *saturation* of the data (Patton 2002), meaning that each woman was reporting similar experiences as advocates, regardless of their contributions to Great Lakes conservation and no new information was divulged during the interview. The transcribed follow-up interviews were coded to identify emergent themes. The length of all semi-structured interviews varied from one to three hours and were conducted from January to December 2003.

Themes identified from the interview data were used to help answer the research questions. Repetitive comments or patterns in phrases made by the research participants were identified and coded as themes. A table of the themes identified from the

transcribed interviews is listed in Appendix B. All assertions made correlating interview information with the research questions were grounded in the data.

Topical interviews were conducted with former Great Lakes conservationist colleagues of research participants to obtain an etic, or outsider, perspective of these women's conservation work and specific events they were involved with. Topical interviews are narrowly focused on a particular event or process and are concerned with what happened, when, and why (Rubin and Rubin 1995). Topical interviews allowed for *triangulation* of interview data, otherwise known as data collection from a diverse range of individuals and settings, to determine the accuracy of information provided during interviews with the Great Lakes women advocates.

Life histories on each of the women were also compiled using anthropological and feminist research methods. Life histories focus on the experiences of an individual and what she felt while passing through different life stages; they can also provide a window on social change (Rubin and Rubin 1995). Life histories were useful in presenting Great Lakes conservation contributions of each woman, thus addressing the first research question. The personal contextualization of women's lives found in life histories makes them invaluable for preventing facile generalizations and evaluating theories about women's experience or women's expression (Geiger 1986). Since some of the research participants have been Great Lakes advocates for thirty or more years, profiling each woman's contributions in a life history was the most effective method to showcase conservation efforts. As well, since these women are accomplished Great Lakes advocates, I did not want to generalize and downplay the significance of their contributions in a summary of all of my participants.

Validity, Reliability and Reducing Researcher Bias

Researchers are responsible for the validity and reliability of their research. However, the method of presenting qualitative research validity differs from quantitative research. In this section I describe the potential threats to research validity that were identified during the research process and present the methods for determining and reducing these threats. Obtaining rich, descriptive interview data during initial and follow-up interviews and *probing* the research participants during the interview to expand on points or clarify information allowed for increased validity. Transcribing the interview data and allowing the research participants to read and edit the transcribed interviews further enhanced validity. Triangulating data, or obtaining data from difference sources (interviews with research participants' colleagues) was also an important method to increase validity.

Maxwell (1996) describes imposing one's own framework or meaning, rather than understanding the perspective of the people studied and the meanings they attach to their works and action as a main threat to valid interpretation. Practicing *reflexivity* and having *member checks* (description below) reduced the validity threat of misinterpreting the actual meaning present in the transcribed interviews.

Reflexivity is understood as the tendency to reflect upon, examine critically, and explore analytically, the nature of the research process (Fonow and Cook 1991). *Reflexivity* was useful for this project because it allowed me to reflect and critically analyze the information in the interview data; additionally, any assumptions and findings I made were re-analyzed to determine if I was incorporating my own beliefs and experiences into the interview data analysis. Critically examining and analyzing my

research approach and interview process enabled me to focus on information the participants were contributing to reduce researcher biases in interview question interpretation and analysis. According to Lincoln and Guba (2000), *reflexivity* demands that we interrogate ourselves regarding the way in which research efforts are shaped and staged around the contradictions and paradoxes that form our own lives. *Member checks* are the involvement of research participants in data analysis and interpretation (Guba and Lincoln 1986). *Member checks* were crucial to prevent my misinterpretation and misrepresentation of interview data. Research participants were consulted during the analysis of transcribed interviews to ensure I properly interpreted the data. After transcribing interviews, each participant was emailed a copy of the transcripts and was able to make any corrections and clarifications on the transcripts. The research participants were asked to email the revised transcripts to me as soon as possible. Follow-up emails and telephone calls were made to remind research participants to email revised transcripts at least one month before the follow-up interview. *Member checks*, which involve keeping the research participants engaged in the research process and in data interpretation and analysis (Guba and Lincoln 1986, Maxwell 1996) increased rapport between me and the research participants, and also reduced *reactivity* by allowing the research participants to correct or clarify any of my misinterpretation in the interview data.

Reactivity, or the influence of the researcher on the setting or individuals studied (Maxwell 1996), was another validity threat considered during the research process. Interviews were conducted in-person in neutral locations chosen by each woman in comfortable, familiar environments (home, office, or local coffee shop in her

community), which helped reduce my influence on these women. The semi-structured interview approach was used to minimize my influence on participants. Although specific questions were asked, each woman guided the interview based on the information she revealed. Research participants were involved in the data interpretation and analysis to reduce *reactivity*. However, the potential researcher influence on the participants still exists to some extent. This is because of the possibility that information revealed during interviews was what each research participant thought I wanted to hear rather than what each woman felt or experienced as a Great Lakes advocate.

Another threat to validity is selective or distorted memory. My research participants gave their perspective on their experiences as Great Lakes conservationists. As such, certain situations they discussed with me could have been omitted from their description due to selective memory. As well, since some of the questions I asked pertained to work they did decades earlier, these women could have had difficulty remembering certain events. By interviewing individuals these women worked with in addition to contacting various organizations they were involved with to obtain information, I was able to reduce some of these threats.

Two independent qualitative researchers, not associated with this study, were asked to code the data separately and to record emergent themes detected from the interview data. The themes that were most common amongst the three of us were used as the themes linking the data to research questions. The use of independent, qualitative researchers was to determine uniformity in data interpretation and emerging themes, and for inter-coder reliability purposes.

Research Participants

- **Dr. Kathleen Barber**: Political Science Professor Emeritus John Carroll University, George Gund Foundation Board Member, Center for the Great Lakes Director, Great Lakes Protection Fund Director
- **Dr. Mimi Becker:** Environmental Policy Professor University of New Hampshire, Great Lakes United Founding Member, Great Lakes Tomorrow President and Founding Member, IJC Science Advisory Board
- **Ms. Lee Botts:** Lake Michigan Federation Founding Member and Executive Director, Great Lakes United Founding Member, President appointed Great Lakes Basin Commission Chair
- **Ms. Edith Chase:** League of Women Voters Lake Erie Basin Committee Chair, Cuyahoga River fire TMDL process, Great Lakes Tomorrow Board Member, Ohio Coastal Resource Management Project Director
- **Ms. Jane Elder:** Biodiversity Project Director, Sierra Club Great Lakes Program Director, Lake Michigan Federation, Great Lakes United Founding Member
- **Ms. Mary Ginnebaugh:** Detroit River RAP, International Association for Great Lakes Research Board of Directors, Great Lakes United, Ontario Citizens Environmental Alliance
- **Ms. Victoria Harris:** University of Wisconsin- Sea Grant Institute Water Quality and Habitat Restoration Specialist, Fox River RAP Coordinator, Lower Green Bay RAP Coordinator, International Association for Great Lakes Research past president

• **Dr. Gail Krantzberg:** IJC Great Lakes Regional Office Director, Collingwood Harbour RAP coordinator, Province of Ontario RAP Program Coordinator, Ontario Great Lakes Policy Analyst, International Association for Great Lakes Research past president

CHAPTER IV

Results

In this chapter, I will present my research questions and highlight my research findings based on the interviews. Although I received extensive information from the interview data, the themes that were most closely related to my research questions were used in analysis and interpretation of these women's experiences as Great Lakes women advocates. The life history organization and compilation was used to understand and identify the accomplishments and contributions in Great Lakes conservation of these women. Life histories were compiled to address the following research question and document each woman's conservation work. Life histories profiled each woman individually and presented her accomplishments and contributions without comparison to the other research participants. In this section, a brief summary of each woman's history and contributions to the Great Lakes will be presented.

LIFE HISTORIES: What were the contributions of these women to Great Lakes conservation?

Kathleen Barber

As a child Kathleen Barber grew up in the suburbs and often hiked with her family. She learned to locate and identify wildflowers and birds. The Great Lakes were a major part of her childhood experience. Common family vacations during the 1930s were spent in cottages on Lake Erie and Lake Michigan. During her high school years, Barber was able to spend weeks on Georgian Bay and the north shore of Lake Superior in Canada with her friend. Because of her upbringing in the GLB, she always felt that protecting the Great Lakes was extremely important.

Academically and professionally, Kathleen Barber was drawn to politics. Barber's passion for politics led her to intern for Senator Claude Pepper of Florida in 1945 and then in 1946-47, to work as a speechwriter for the Democratic National Committee on issues such as housing, education, health care, and civil rights. Working on Capitol Hill was an exciting and fulfilling time for her. During the 1940s the environment was not seen as a pressing national issue.

In 1955 Barber and her husband moved to Cleveland and through volunteer work, she became involved in environmental issues. Barber joined the League of Women Voters, a women's lobbying organization, because of her continued political interest and concern over women's equality. The National LWV chose water quality as an area of focus in 1953 and local chapters of the League began researching water quality issues. As a member of the Shaker Heights League Water Study Committee she became educated on water quality issues nationally and in the Great Lakes. Barber was able to learn why and how phosphorus enters Lake Erie, the impact of eutrophication, the connection of ground-air-water pollution, and the effect of local water pollution on regional water systems. The research process the LWV undertakes while working on specific agendas led LWV members to be extremely knowledgeable and thoroughly educated on topics they are advocating and lobbying for. After months of studying, the Shaker Heights Water Committee developed an agenda to lobby and work on eliminating phosphorus discharges into Lake Erie. Due to her political experience, Barber began lobbying the Ohio legislature on Lake Erie issues and became involved in environmental organizations. Although her work has been political, Barber used her political influence and knowledge to work on Lake Erie conservation issues.

Barber chose to begin graduate work at Case-Western Reserve University in 1958 while raising her children. She encountered barriers during the application process for graduate school. "I talked to the department head and he said I don't think so, we've had Shaker Heights housewives before, and some exciting campaign comes along and they join the campaign, and we've wasted all our time counseling them because they're gone." Barber had to meet with the chair multiple times before being accepted. Barber earned her PhD in Political Science from Case Western in 1968 and was hired as a professor at John Carroll University. While teaching political science, she often used environmental examples to explain the various laws and policies she was teaching. During her teaching years, she realized that promoting Great Lakes conservation was very difficult because of stark differences in funding and lobbying power between environmental groups and industries and corporations.

The executive director of the George Gund Foundation asked her to come talk to the Gund Foundation Board of Directors about important issues in the Cleveland area, "I didn't know I was being tried out for membership of the Gund Foundation Board." In 1980, Barber became the first woman on the Board of Directors for the Foundation, and continuously raised environmental concerns and Lake Erie toxics as pertinent issues affecting Cleveland. Barber served as a Gund board member from 1980-1998. "I think they really invited me to join because they needed a woman. That was during the period when some of the all-male organizations were being pressed to at least add a woman." She steered the board to work on and fund Great Lakes projects. The Gund Foundation developed a regional alliance of foundations and built a network of funders who were funding Great Lakes research and advocacy projects. One of the initiatives in 1982 led to

the creation of the Center for the Great Lakes, headquartered in Chicago. The Center was a foundation-funded non-partisan organization that worked on water quality and water quantity issues, sponsored quarterly conferences each year throughout the Great Lakes region and actively brought together corporations and environmentalists. She believes that increased communication and collaboration between corporations and environmentalists would result in greater environmental conservation and fewer political problems and conflict dealing with environmental issues.

Barber served as the Director of the Center for the Great Lakes from 1982-91, as well as the Ohio Director for the Great Lakes Protection Fund from 1989-92. The Great Lakes Protection Fund (GLPF) was created in 1989 by the governors of the eight Great Lakes states. Each state governor appoints two members to serve on the Board of the Fund. The main purpose of the GLPF is to advance the action program goals of the Toxic Substances Control Act and the Great Lakes Water Quality Agreement.

Barber understood the importance of regional Great Lakes protection and after focusing on Lake Erie, began working on conservation issues affecting the entire Great Lakes, using her political background and the Gund Foundation as tools. Because of Barber's efforts, the Foundation developed an interest and enthusiasm for the environmental agenda and seeks to fund issue-oriented research. Barber noted the difficulty she had in convincing the board to focus on Great Lakes and environmental projects. She was expected to be a women's advocate and was, but "I didn't find that nearly as hard because of the times...Environmental issues involve real money and real limits in regulation...I found that even with the rest of our board and the Gund family that women's issues weren't as controversial as some of the environmental issues."

Barber feels one of her greatest accomplishments in regards to Great Lakes conservation was the regional approach taken by the Gund Foundation. Barber did encounter some gender barriers as a Foundation board member. "Our meetings were at the Union Club in the early days, and women had to go in through the side door, it was called the social entrance. I felt that was very demeaning because I wasn't going to a social event, I was going there as a professional. I got a friend of mine...and we went through the front door. I know this sounds ridiculous in 2003, but this is what we did sometime in 1980-82." Being looked at as a token woman compelled Barber to work harder because she had to educate the other Gund Foundation board members on the diversity of women. "I had to help them understand that I was a woman, but I could not represent 'women' because women have many different perspectives."

Barber still remains active and involved with Great Lakes conservation, even though she is now retired from teaching. Barber has been a Trustee for the Great Lakes Science Center in Cleveland, Ohio since 1988. In 2002, she helped the Center organize a traveling Great Lakes exhibit displaying information on pollution problems affecting the Great Lakes, water quantity in each lake, and the impact of exotic species on the Lakes. In the summer of 2003, Barber worked with other Cleveland environmentalists on developing a summer course on Great-Lakes decision-making, for students and community members.

In 1997, Barber received the Lake Erie Award from the State of Ohio Lake Erie Commission, which is a lifetime achievement award, because of her advocacy work protecting Lake Erie, as well as the Great Lakes Science Center Outstanding Leadership Award. When asked what she would most like to be remembered for Barber replied, " I

don't think of any one thing. Maybe I would like to be remembered for trying to bring Great Lakes issues to a wider audience than the people who were listening when I first got involved."

Mimi Becker

Growing up in the GLB prompted Becker to become an advocate for the Great Lakes. Becker was astounded to learn that one of the world's largest freshwater sources was plagued with so many problems. Her father instilled a love of the Great Lakes and the environment in her. Her work in relation to Great Lakes conservation began in the middle 1960s. She was living in Hiram, Ohio at the time and became one of the founding members of the northern Portage County LWV. Becker subsequently became President and implemented a major environmental agenda in 1968 because of the Cuyahoga River problems. She recalls the Cuyahoga River catching fire at least three times, which raised massive concern in her community. The northern Portage County and Kent Country LWV worked to designate the Upper Cuyahoga River as a National City River. She joined the Lake Erie Basin Committee in 1968, and met Lake Erie advocate, Edith Chase.

During that same time, Becker was Chair of the Water and Sewer Committee of the Ohio Northeast Five County Regional Planning Organization. Under the Clean Water Act, they were obligated to do regional water and sewer management, meaning the regional planning organization would monitor sewage treatment plants under Section 208 guidelines of the Federal Clean Water Act. Becker and Chase were involved with the first regional planning initiative related to Lake Erie, the Lake Erie Wastewater Management Study, conducted by the Army Corps of Engineers. She was on the advisory committee for the study that advised the Corps on how to obtain public participation. A series of

public workshops were held in 1972-73 by the Corps around the Lake Erie Basin to develop a series of alternatives on how to monitor wastewater. Her experience working with the Corps and her success in garnering public participation led to her appointment to Director of Land Use for the Ohio State LWV Board. Due to this appointment, Becker organized a governor's conference on Land Use Policy in Ohio. The Ohio governor asked Becker to Chair an Ohio Interagency Task Force on Land Use to develop this conference to allow different state agencies to get involved. She used her public participation organizing skills to bring together representatives from state agencies that did not normally work collaboratively. The conference was held in 1974 and led the governor to establish the Land Use Study Team. For two years the Team made recommendations to the state legislature on land use policy and planning for Ohio.

In 1976 the Joyce Foundation funded a conference that brought together leadership of various environmental organizations and government from Canada and the United States to determine if a binational coalition of Great Lakes organizations could be formed. This conference was one of the many meetings that led to the creation of the Great Lakes United (GLU). Among the participants at this conference was Lake Michigan advocate Lee Botts. Today GLU is a binational coalition of member organizations, labor unions, environmentalists, First Nations and Tribes, community groups and citizens. The organization that was created as a result of the 1976 conference was the Great Lakes Tomorrow (GLT). Becker was elected president of GLT from 1976-81 and remained active with the organization until its close in 1987. The purpose of GLT was to facilitate the education of the public and its participation in decisions that will affect the Lakes. Offices for GLT were located in Ohio and in Ontario, and there was a

joint board of directors with members from both sides of the border. The GLT was intended to be a binational advocacy organization but was also extremely effective in environmental education throughout the Great Lakes.

With the 1972 GLWQA coming to fruition, the IJC was given a mandate to undertake a reference study to determine whether land use activities were causing pollution in the Great Lakes, and if so, to identify the causes and sources. Also the IJC wanted to increase public participation to educate and learn from citizens. Becker joined a land use study group, created in 1978, called the Pollution from Land Use Activities Reference Group (PLUARG), which engaged citizens in the identification of land use problems occurring in their communities, non-point pollution sources, and the impact of these issues on water systems. The Group was to report back to the IJC on its findings on land use and non-point sources of pollution. PLUARG realized that they needed public consultation to understand where the land use/ water quality problems in the GLB were and to educate the public on land use issues.

A series of panels were held in each Great Lakes state and nine geographically dispersed across Ontario. Representatives from major user groups, local governments, and diverse interests that had some knowledge or concern about the Great Lakes were chosen to be on the panel. The IJC wanted extensive public participation on these panels. Becker chaired the Ohio panel and represented GLT. The panels wrote reports to the IJC and PLUARG, and they were all published in the Pollution Reference Group Report that was forwarded to the IJC Science Advisory Board and the Water Quality Board. The chairs of the panels were put into Canadian panels and US where the states and provinces from each country met to review all the findings from their side of the border. Becker

was elected to serve as chair of the US panel and reported the US findings to the IJC. PLUARG wanted to disseminate the information to the public in a concise, meaningful, and easily understood way.

PLUARG decided to conduct a series of workshops to report its findings and their implications to the public. Becker had extensive experience in properly and effectively organizing public participation, so her insight aided in the dissemination of the PLUARG findings. GLT put together a proposal for conducting workshops and was awarded a contract by the IJC. IJC wanted to ensure that the public was involved and were able to speak and participate at public meetings, to ensure the public understood the toxics, point-source, and non-point source findings from the land-use in the GLB study. Each of the workshops provided many opportunities for citizens to raise questions, and participants were given an information packet with the major facts from the PLUARG study and its implications. These reports were fully supported and documented and therefore were considered credible by the IJC and the Science Board. The value and consideration of an "ecosystem approach" to Great Lakes management helped to materialize from this process and contributed to the 1978 Great Lakes Water Quality Agreement.

Because of Becker's accomplishments with PLUARG, in 1978 she was elected Chair of the Societal Aspect Committee of the IJC Science Advisory Board. Her role was to bring people together to work collaboratively on how to design and implement an "ecosystem approach" the Great Lakes management. A workshop jointly funded by IAGLR, GLT, GLFC, and the IJC was organized to help bring people together to further Great Lakes conservation and the ecosystem approach to managing the Lakes. This

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workshop brought together CEOs from major polluting industries, the IJC Commissioners, key members of the Water Quality Science Advisory Board, and key environmental leaders. The planning for this conference was a two-year process, partly because of an unclear definition of what an ecosystem approach was. The participants of this workshop produced a series of strategies for actions that could be taken to implement an ecosystem approach. The strategies were mapped to be feasible given the available financial resources and political will. There was a deep commitment by the participants to commit time and effort to create recommendations and methods needed for ecosystem management. The participants had to collaborate and work together, which was contrary to their relationship prior to this conference. Becker chaired and facilitated the entire workshop. The principles designed from this workshop were published informally by the IJC in 985 and then later by the *Journal of Great Lakes Research.*

As well as contributing to Great Lakes Conservation with the IJC, Becker was also instrumental in helping establish GLU. GLT became one of the participating sponsors of GLU and Becker contributed to the 1980 Windsor, Ontario meeting and the 1982 Mackinac Island, Michigan meeting that led to the formation of GLU. Becker helped Lee Botts prevent the GLU from being established as a hierarchical organization, which was the intention of some of the collaborators involved its formation.

In 1986, she received the Ohio Environmental Protection Agency Directors' Award for Outstanding Service because of her Great Lakes and environmental successes. Becker began her graduate studies at Duke University in 1987, and earned her PhD in 1996 with her dissertation research gauging the effectiveness of the RAP process in restoring AOCs. She is currently a professor of natural resources and environmental

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policy at the University of New Hampshire. When asked what she would like to be remembered for Becker replied, "Whatever contribution, the decisions for the Great Lakes program and other initiatives the Great Lakes Tomorrow made in terms of expanding a concept of what an ecosystem approach is and people's ability to actually envision the future in such a way so that they can implement it. Basically, how can you create citizens who are willing to hold their governments accountable and able to do it? And a legacy for people who come up behind you to do more of the same."

Lee Botts

Lee Botts grew up in the "dustbowl" of Kansas and Oklahoma during the 1930s-40s. After earning her English degree at Oklahoma State University, she moved to Chicago with her husband. They lived in a community around the University of Chicago on the shoreline of Lake Michigan. Botts was amazed or as she said "blown away" by Lake Michigan, she had never lived on the shore of a natural and vast freshwater source. The community in which Botts was living happened to be an activist community and she became involved in many issues related to the lakeshore through the 1950s-60s.

While her children were in school during the 1960s, Botts involved herself in environmental education projects, otherwise referred to as "conservation projects" in the 1960s, as a volunteer parent. In 1968, Botts was offered a staff position to work for the NGO the Open Lands Project, an environmental organization in Chicago, and became the first woman staff member of the Project. Her job description was to promote environmental education in the public schools. During the 1960s, a series of events unfolded that caused increased environmental concern across the United States as well as in Chicago and the Lake Michigan region.

A series of articles published by the *Chicago Tribune* described the pollution of Lake Michigan in the mid-1960s. Botts recalls seeing oil globules on the shores of the Lake because of an oil spill, as well as alewife die-offs in 1967, and beach closings due to algal blooms. In spring of 1969, she worked with the Open Lands Project and the Save the Dunes Council to invite representatives of conservation groups from the four states around Lake Michigan to a meeting at the University of Chicago, to bring concerned citizens together to work on Lake Michigan conservation. This conference resulted in an agreement among participants that they would work together on Lake Michigan conservation projects.

The Board of Directors of the Open Lands Project reached a compromise to establish a Lake Michigan organization to operate as a project of Open Lands for one year and by 1971 it would become an independent project. When the question arose as to who would run the new Lake Michigan organization, the president of the Open Lands Project said Botts had too many responsibilities as a wife and mother, and someone else should be hired. She privately drafted a lawsuit that she was going to file if she didn't receive the Lake Michigan director position. The Board named her as head of the new organization, therefore she never filed her suit. Botts became the director of this new environmental organization during a time when women leaders were uncommon in the public sphere. The Lake Michigan Federation (LMF) became independent in 1971 and was the first regional organization in the Great Lakes. She remained the executive director for five years and is a lifetime board member.

One of the main issues she worked on with the LMF dealt with nuclear power plants. With the passage of the Atomic Energy Act of 1954, nuclear power was seen as a

cheap source for electricity. The licensing process for nuclear power plants was designed to allow for citizen intervention during the licensing procedure. By 1970 Lake Michigan was home to five nuclear power plants, with two reactors in three of the locations. The Atomic Energy Commission (AEC), the predecessor of the Nuclear Regulatory Commission (NRC), had a plan to site between 20-24 more nuclear power plants near Lake Michigan. In addition, one of the first big power plants, located in Grand Haven, Michigan, was ready for its operating license in 1970. Botts received a telephone call from Senator Phillip Hart's office inviting her to attend a field hearing in Grand Rapids because of the letters from concerned citizens the Senator received regarding the Pallisades Plant in Grand Haven. Botts attended the hearing and was asked by these concerned citizens how to stop the plant from receiving its operating permit. She discussed the political process for citizen intervention and suggested the community petition the AEC to intervene in the permitting process. Three weeks later she received a telephone call, "They said we have 35,000 signatures, now what do we do?" With Botts' guidance and assistance the community against the Pallisades Plant was able to secure the services of a *pro bono* lawyer, and law students from the University of Illinois were working to find a legal basis that community members could intervene in the permit process.

LMF coached the community on how to organize a pre-hearing conference. The community raised funding to put together a team of researchers to work on the citizen intervention. A hearing was held in 1970 in Kalamazoo, Michigan. The Michigan community, LMF, and the team of researchers sought to prove that the AEC failed to address a number of legal requirements. For one, NEPA of 1969 requires an

environmental impact assessment (EIA). They argued that NEPA applied retroactively to all the new nuclear plants because they were not finished in 1969 and that the AEC was responsible for all forms of pollution including thermal. Thermal energy was important to recognize because the Calvert Cliffs plant was discharging heated water into Lake Michigan, which is a form of thermal pollution. These two arguments were the basis for the motion used to intervene. When the motion was made at the hearing, Consumers Power Company stalled because their attorneys did not want the hearing officer to rule in the interveners' favor. The LMF subsequently intervened in the licensing process for all the nuclear plants on Lake Michigan. The Pallisades example was used in the *Calvert Cliffs* decision to shut down the Calvert Cliffs nuclear power plant (*Calvert Cliffs' Coordinating Committee, Inc v. U.S. Atomic Energy Commission*, 146 U.S. App. D.C. 33; 449 F.2d 1109, 1971)). "That decision should have been called the Pallisades decision," according to Botts.

In 1975, Botts began working on a regional coalition for the entire Great Lakes system. She was convinced that they couldn't save Lake Michigan by itself because "water pollution doesn't see borders." Botts wanted to reform the Lake Michigan Federation into the Great Lakes Federation. She and another LMF Board member proposed and received funding for a conference to bring people together from all the Great Lakes states to consider forming a Great Lakes Federation. She was granted funding but was asked by the LMF not to turn the organization into the Great Lakes Federation. Botts agreed but decided to leave the LMF to pursue building a Great Lakes coalition. She began working for Region V of the Environmental Protection Agency, where she was the only woman non-secretary, and was appointed Chair of the Great

Lakes Basin Commission by President Jimmy Carter. When Ronald Reagan was elected president, he abolished all the Basin Commissions in the US. Botts continued working at the federal and regional level on Great Lakes advocacy issues.

In 1980, Botts was asked by Wayne Schmidt of the Michigan United Conservation Clubs to help organize the Great Lakes Tomorrow Conference to develop a regional coalition in the Great Lakes Basin. Schmidt had received funding from the Joyce Foundation to hold this conference in Mackinac Island, Michigan. This conference led to the creation of the Great Lakes United (GLU). At the Great Lakes Tomorrow Conference there was a difference in opinion between some individuals who were interested in seeing a regional coalition based on consensus and collaboration and others who wanted a centralized, hierarchical organization. In the end GLU was formed as a regional collaborative binational coalition.

Botts' experience as a Great Lakes advocate began as a volunteer and she was able to become an environmental professional as a result of her volunteer and work experiences. Botts has worked at the local level as a volunteer, as director of environmental organizations, for the government, for the private sector and for academia. She believes she is best at "getting things going." When asked what she would like to be remembered for Botts replied, "I hope I have made a little bit of difference. I am proud of the Lake Michigan Federation, of course. I really get enormous gratification from the young people. I still work with young people and I hope I can make a difference. Those kinds of things I would like to be remembered for. I hope I have made some difference for some people, for some issues. That's all."

Edith Chase

Edith Chase grew up in the GLB. She was born and raised in Minnesota, and lived in New Jersey and Pennsylvania before moving to Ohio forty years ago. Chase earned a Bachelor's degree in Chemistry and Master's degree in Organic Chemistry. She worked as a chemist for a pharmaceutical company. During the late 1950s and early 1960s Chase became concerned about the pea green soup color of the Cuyahoga River because of the excessive algae in the river from failing septic systems and the daily Akron Water Works withdrawal of 70 million gallons that caused stagnant water in shallow, narrow sections of the river. Chase recalls the publication of Rachel Carson's book *Silent Spring* was an awakening for some people to look at how the natural environment was being used as a dumping ground, which was precisely what was occurring in the Cuyahoga River. Chase joined the LWV in 1963, and that same year League members from Michigan, Indiana, Ohio, Pennsylvania, and New York formed the Lake Erie Basin Committee. The Lake Erie Basin Committee focus was on water quality issues, and Chase began learning about Lake Erie and water quality issues. The pea green soup color of the Cuyahoga River was an issue that Chase could not ignore.

Then on June 22, 1969, the Cuyahoga River caught fire, because of Standard Oil refinery and other chemical companies repetitively discharging their effluent into the river. The Cuyahoga River fire caught national attention but it wasn't the first time it had caught fire. The national attention the fire received prompted residents of Kent to take action to mitigate the pollution problem in the Cuyahoga. Because of the knowledge Chase gained while researching Lake Erie water quality issues with the LWV, she became involved with letter writing campaigns and talking to elected officials about the

River fire. "Speak truth to power, I always say. They are all bright people but there is a political overlay, and they have to pay attention. You need to do your homework." In the late 1960s the discharge of phosphorus from laundry detergent into rivers and streams created visible foam. Because of these visible signs of pollution, the Ohio state government addressed the issues and implemented plans to prevent and treat the pollution problems. Chase believes that if pollution were purple, there would be a lot more public pressure and more things would be accomplished. "The water may be clearer, but that doesn't mean it's cleaner."

The passing of many national environmental laws in the beginning of the 1970s mandated public participation in many of their programs. The LWV helped Chase learn how to write letters to public officials and speak at public meetings. In 1968 Kent, Ohio townspeople organized a "Kent in 1980 Conference", and the environmental committee that was created from that conference became the Kent Environmental Council in 1970. Chase has been active with the Kent Environmental Council since its formation. The Kent Environmental Council has focused many of its projects on the Cuyahoga River and Lake Erie. Chase helped the Council plan and organize clean-ups along the shoreline of the Cuyahoga and then helped dedicate the River Edge Park along the Cuyahoga in 1976, which was a major undertaking, because of the amount of work that was dedicated to organizing and cleaning the River after the fire.

Chase became Chair of the LWV Lake Erie Basin Commission in 1972. One of the forms of public education for the Commission was the publication of pamphlets called, Lake Erie Letters. Lake Erie Letters were written on many of the pollution problems and issues affecting Lake Erie. Chase, as well as Mimi Becker and Kathleen

Barber, contributed many articles to the Lake Erie Letters. She was elected to the Ohio State Board of the LWV in 1977 and remained there until 1981. Her focus was on water resources, but she understood how many environmental problems were interconnected. When the CZMA was passed in 1972, the states had to set up their own program for meeting standards. None of the Ohio politicians were working on implementing the CZMA, which concerned Chase. In 1982 she helped create the Ohio Coastal Zone Management Project, where she has been the executive director. The Project is independent of the legislature and the state and researches and distributes information to the public on coastal zones, the Great Lakes, and water quality problems; they also work to hold government officials accountable to the CZMA.

Chase was appointed to be part of the Cuyahoga River RAP in 1989 and has brought her knowledge and experience working with the Cuyahoga since the 1960s to the RAP team. In the middle 1990s, she was appointed to be on the Advisory Panel for the Ohio Lake Erie Commission, because of her regular attendance and participation in the Commission meetings. Six agencies, the Ohio EPA, the Department of Natural Resources, the Department of Transportation, the Department of Development, the Department of Health, and the Department of Agriculture, are involved in this Commission to work together on Lake Erie Basin conservation, which was created in 1988. In 1997 she worked on the External Advisory Group for the Great Lakes Initiative. Under EPA Region V, the Great Lakes Initiative was set up to develop regulations for Great Lakes conservation in each Great Lakes state. Chase was one of four participants with environmental concern involved in the Great Lakes Initiative effort. She worked on getting regulations approved but feels more conservation regulation is needed to protect

and preserve the Great Lakes. She is also a member of the External Advisory Group for the TMDL process, as part of the mercury subgroup.

Working with the Lake Erie Commission in 1998, Chase helped develop the Lake Erie Quality Index. Every five years, the Commission monitors water quality to determine the extent of clean-up and conservation in the Lake. Each agency involved with the Commission researches a specific aspect of the Index and brings all their information together. In 2001, with Chase's help the Commission organized a strategic plan, called the Lake Erie Protection and Restoration Plan. Chase was the first recipient of the Lake Erie Commission Lake Erie Award, which is a lifetime achievement award, due to her almost forty years of contributions to Lake Erie conservation. In 2002, she received an award from the Ohio Environmental Council for her water conservation efforts. When asked what she would like to be remembered for in terms of Great Lakes conservation, she said, "I guess just as part of the whole effort that it took to turn us around from ignoring environmental and health issues to at least addressing them. I am just a part of it."

Jane Elder

Jane Elder grew up in Michigan and spent many family vacations on the Great Lakes. She recalls trips to Lake Huron as a little girl and the first time she walked into Lake Superior. "I was five years old and got hit by that first icy cold wave...I have always loved the Great Lakes." Her education at Michigan State University was in communications, but Elder became involved in campus activism because of the world events occurring during the early 1970s, such as the environmental movement, Watergate, and Vietnam. She joined the local Sierra Club as a college student after being

challenged by a friend to be proactive rather than talking about her concern for the environment. Elder became the Chapter Chair of the Sierra Club by the time she graduated with her Bachelor's degree. She was hired by the Club's state office in 1977 and became their first statewide lobbyist. In 1979 Elder moved to the Sierra Club Midwest office while the CZMA was being debated by Congress. Her first assignment was to lobby to make sure the Great Lakes states were part of the definition of what was considered coastal and were part of the federal funding package. Elder worked to bring more people into the alliance within the Great Lakes Congressional Districts, especially because the many of the issues the Sierra Club Midwest office was working on involved the Great Lakes. Because of the looming rise of toxics in the Great Lakes, Elder worked with another woman to get the first Sierra Club regional grant to work and dedicate staff time to Great Lakes issues.

Elder was involved in the debates and organizational meetings to help create GLU in the early 1980s. During the disputes involving the manner in which GLU should be organized, as a collaborative network of organizations or a hierarchical organization, Elder voiced her opinion that GLU would be more effective as an open, consensus led organization. She and the other contributors to GLU's creation, such as Lee Botts and Mimi Becker, prevailed and GLU now operates as a collaborative binational coalition of Great Lakes organizations. Elder believes that collectively working on Great Lakes conservation is more effective than working individually. The multi-issue (including water quality, exotic species, shipping) regional coalition is something that she worked tirelessly to help organize in the Great Lakes region.

Research linking toxic contaminants in fish to air pollution and the fact that no regulatory system existed to deal with this problem prompted Elder to focus efforts on air-water pollution links. In 1987, Elder successfully worked on adding a new section on toxic air pollution to the Clean Air Act to deal with the impacts that toxic air deposition have on the Great Lakes and other surface water sources. The Air Toxics section of the Clean Air Act now addresses water pollution caused by air toxics, which is the accomplishment of which she is proudest. Mercury is not regulated by the Air Toxics section and is one contaminant she is still concerned about, "what a terrible price we are still paying for that one vote."

Elder worked on the addition of CWA provisions to address contaminated sediments in AOCs, by lobbying for funding for Great Lakes programs in the CWA. The CWA provision helped start funding for the sediment clean-up of the AOCs program. In addition she worked to get American law to recognize GLWQA as domestic policy. She was asked to be one of the US observers for the US- Canada negotiations on organizing AOCs, which meant she was able to participate in the diplomatic discussions and the strategy sessions for the US on US-Canada Great Lakes work. "To be at the negotiating table between the diplomatic team in US and Canada was terribly exciting."

Elder worked to organize binational Great Lakes Washington Weeks where 20-30 activists, scientists, and labor leaders met to lobby, and hold meetings and briefings to address Great Lakes issues at the Congressional level. Elder was extremely effective at mobilizing citizen lobbying around issues to help Great Lakes delegations understand the importance and value in the Great Lakes, especially at the regional level. "I remember trying to get a meeting with the State department in Washington DC and being asked, 'let

me get this straight, you are a bunch of environmentalists,' and I said yes, 'and you are going to have Canadians with you?' This level of involvement and commitment from lobbyists and advocates of Great Lakes issues from both sides of the border was something new in many of the department offices and to politicians in Washington DC. She and other citizens went to the Canadian Embassy, the US Embassy, the State Department, and inside the halls of the EPA asking to meet with air and water divisions.

She earned the Sierra Club "Michael McCloskey Award for Exemplary Service in the Sierra Club" in 1994. She was the first recipient and was voted by her peers to earn the award. She currently works as the executive director of the Biodiversity Project in Madison, Wisconsin. In 2002, the Biodiversity Project was funded by the Joyce Foundation to conduct a public opinion survey throughout the GLB on Great Lakes public interest and concerns. This study found GLB residents are concerned about issues affecting the Great Lakes and believe more efforts to prevent development and pollution were needed. As well, residents have emotional connections to this water body but are not very well informed of the problems in the Great Lakes.

To further engage the public in Great Lakes issues of health and conservation for future generations, the Biodiversity Project, along with state and regional partners, is launching the Great Lakes Public Education Initiative in 2004 to raise awareness of the Great Lakes, threats to their health and their value. The Biodiversity Project's findings in the 2002 Great Lakes survey helped solidify the Joyce Foundation's decision to focus on larger-scale Great Lakes efforts. When asked what she would like to be remembered for, Elder replied, "I would love to be remembered for the Michigan Wilderness Act, work to

protect the integrity of Pictured Rocks and Sleeping Bear Dunes National Lakeshores, and of course, the work on air toxics in the early years for the Great Lakes."

Mary Ginnebaugh

Being a native of Michigan and spending a great deal of time on Lake Michigan at her aunt and uncle's cottage as a child connected Mary Ginnebaugh to Great Lakes issues. "I think that anyone that has been raised in the Great Lakes region can't help but be in tune with them and have a love for them. I think there's a Great Lakes gene." While living along the Detroit River, she noted changes occurring to the River. Visibly seeing changes in the habitat and quality of the water helped her decide she wanted to do what she could to raise attention to make a difference for the Great Lakes region. Ginnebaugh earned a Bachelor's degree in Biology and her first Master's degree in Medical Technology. Prior to earning her second Master' degree in Occupational and Environmental Health, Ginnebaugh worked at the Environmental Protection Agency lab in Grosse Ile, Michigan. She worked to determine concentrations of PCBs in water, biota, and fish due to pollution. Some of the fish consumption advisories for the State of Michigan came about through the work she conducted. Her work experience helped her connect environmental work with her medical health education. After earning her second Master's degree from Wayne State University in Detroit, Michigan, Ginnebaugh worked for GLU. While working for GLU, Ginnebaugh shared an office with the NGO Citizens Environment Alliance in Windsor, Ontario, and later become extensively involved in Detroit River issues with the Alliance.

Because she lived near the Detroit River for a number of years and had work experience in both the US, with the EPA lab, and in Canada for GLU, Ginnebaugh was

increasingly concerned with water quality problems stemming from point-source dischargers such as the Detroit Wastewater Treatment Plant, various chemical facilities, McLouth Steel, Great Lakes Steel, and other industrial sources on both sides of the border. As a result of her concern, she became a vocal member of the Detroit River RAP team. Many other organizations and companies were involved in the Detroit River RAP process, but as Ginnebaugh discusses, " Government organizations, the Michigan Department of Environmental Quality (MDEQ), Wayne County, the State of Michigan talked the words but never advocated for any change in discharge permits, land use practices, or just cleaning up the Detroit River. It was a conspiracy for failure." She refers to the RAP as "the best-kept secret" in southeast Michigan because it was never reported as news on television and newspapers. There were citizens that were involved in the RAP and their commitment to bringing attention to the River was, from her perspective, amazing.

Since this RAP was binational, the citizens groups on both sides of the River worked together to bring attention to how dysfunctional the RAP process was, under the State of Michigan. She says if it weren't for the Canadians and their support to keep the RAP efforts moving and visible, she's not sure what may have happened. She believes Canadian press would always cover the press conferences held by the Citizens Environment Alliance or GLU on the Detroit River, but the US press would never come to the public hearings or press conferences. In 1996, Ginnebaugh helped organize a walkout of the Detroit River Binational Public Advisory Council meeting that was to approve the RAP report the MDEQ had drafted. Half of the meeting attendants from both

Canada and the US, including the chair, took part in this walkout to demonstrate the inadequacy and bias in the government drafted RAP report.

She also was a member of the State Public Advisory Council for many years representing Detroit and water quality issues affecting the area. Ginnebaugh felt there was a lot of money (millions of dollars) that EPA was giving to the State of Michigan for the RAP program, and so much money being wasted and squandered on "feel good activities and running meetings that absolutely nothing happened to bring any environmental progress to the Detroit River." She believes her outspokenness prevented her from getting jobs with state government, she would take civil service exams and be the number one or number two candidate for the job but during interviews would be told she wouldn't get the job because of her activism.

Working to improve Detroit's aquatic environments was Ginnebaugh's central concern. Because there is a concentration of environmentally degraded areas in southeast Michigan, the Southeast Michigan Geographic Initiative was organized through the EPA and the MDEQ. The problem, however, was that this Initiative did not involve any public citizenry. Through GLU, Ginnebaugh organized to bring citizen perspective and public participation to the Initiative. Through her efforts, a network of Detroit environmentalists and local groups formed their own group, the Southeast Michigan Action Coalition, to work together on environmental problems in the Detroit area. They worked to bring public attention to the Detroit Wastewater Treatment Plant where sewage sludge was being burned and to bring attention to Allied Chemical Plant that had numerous air quality issues. Ginnebaugh was extremely outspoken and adamant about bringing measurable environmental change to the Detroit River. She left GLU in 1995.

While volunteering for the Wyandotte, Michigan organization, Downriver Citizens for a Safe Environment, Ginnebaugh organized around issues affecting Monguagon Creek, a tributary of the Detroit River. A small chemical manufacturing facility, Elf Atochem, had a permit to discharge their waste to the Detroit River using Monguagon Creek as their direct discharge point. When the DEQ changed the chemical manufacturing facility permit prohibiting the direct discharge the Creek, Elf Atochem was allowed to discharge their chemicals directly into the Detroit River. In response to the change in their permit, the facility owners were going to build a pipe to directly discharge their chemicals into the Detroit River. The change in the facility's permit allowed for increased effluent concentrations of copper and zinc. Ginnebaugh filed a citizen's suit and represented herself during the trial. The chemical facility had four attorneys and she had difficulty obtaining legal and financial help from any Michigan environmental groups. Finally, she met with the administrative law judge and reluctantly agreed to drop the suit because the company agreed that the copper discharge permit authorized an increase and was contradictory to the effluent concentrations on the previous permit, and therefore could not be allowed. She remembers that as "one of the most awful experiences I've ever had." Ginnebaugh remained committed to raise public awareness of the Detroit River.

She hosted 'toxic tours' of the Detroit River area. The first toxic tour was in 1993 during the biennial IJC meeting in Windsor, Ontario. She took two busloads of people from the meeting through Southeast Michigan. Ginnebaugh received a letter from one of the women who took a toxic tour that said she was so inspired by Ginnebaugh that she became an environmental lawyer. "I was so pleased because I said if I could change just

one person about what can be done, that was worth all the work that was involved." Her current passion is with her involvement in IAGLR because the Association has a long standing in the Great Lakes, and has worked to present scientific research to policymakers and other decision makers in a usable form, and bring awareness to many issues. When she attended her first IAGLR meeting in 1984, she noticed there were not many women on the Board. She sought to join the Board and became its first woman secretary. During the time when Ginnebaugh was secretary, Vicky Harris and Gail Krantzberg were also elected to the board. She received an award from the Association for her work with IAGLR in 2001. She is still involved with the Citizens Environment Alliance, working and advising the citizens on how to keep actively involved in the revival of the Detroit River RAP. When asked what she would like to be remembered for Ginnebaugh said, "For being a part of the environmental movement in the Great Lakes. Whether I'm remembered or not really doesn't matter, but environmental improvement does. I just want it to happen. I want there to be measurable environmental improvement, and I would like to be remembered as one cog in the wheel that made it happen."

Victoria Harris

During Victoria Harris' childhood, she spent much of her time on the Great Lakes. Growing up in Milwaukee, her parents had a boat and would spend their weekends boating. Educationally, Harris was a pre-medical undergraduate student and had a Sea Grant student job working for a sedimentologist examining sedimentation from power plants off Lake Michigan at the University of Wisconsin- Green Bay. Her work entailed characterizing sedimentation patterns around the mouth of the Fox River and near the intake and discharge structures of nuclear power plants. She continued working

until she graduated and became so interested in the Great Lakes that she decided to focus her career in environmental science and the Great Lakes rather than medicine.

She became the first advisory service specialist in the Green Bay office of Sea Grant. After two years there she thought she would have more of an impact on the Great Lakes by going into regulation rather than research and outreach. "I thought that being an environmental regulator was where it was at. You could deny those permits and modify them as you thought best." In 1982, after working for the Fish and Wildlife Service in Minneapolis, she began working as a watershed planner and policy analyst for the Wisconsin DNR before returning to the Green Bay office of Sea Grant in 1999. "I realized that regulation really isn't where it is. In order to really affect good policy you need to get information out there into the policy makers' hands."

Harris became involved with a GLFC project called Great Lakes Ecosystem Restoration (GLER), which focused on managing the Great Lakes as an ecosystem. Harris believes GLFC chose Green Bay as one of their case study sites for the GLER project in 1978 to apply this approach and try to work at the local level because there was an existing Sea Grant program in Green Bay that was ecosystem-oriented with ample public information. Harris helped organize meetings to bring managers in the region together to work at the local-level on the project. At the first meeting in 1978, scientists from various disciplines identified primary stressors causing ecosystem dysfunction, now known as Great Lakes Beneficial Use Impairments. At the second workshop, held in 1979, participants developed strategies for alleviating the stressors and a report was drafted and given to the GLFC on the findings.

Also during the late 1970s, the Wisconsin Department of Natural Resources was working to develop a wastewater allocation for biological oxygen demand (BOD) on the Fox River. The Department decided that the industries should work together with the seven major municipal sewage plants that were the primary sources of BOD on the River to decide how to divide up the total allowable load of BOD on the River amongst them. The collaboration that occurred on the Fox River and with the GLER project formed the basis for the Fox River RAP in Green Bay, Wisconsin. Harris was one of the first RAP coordinators in the Great Lakes and produced the first remedial action plan. This RAP had a multi-disciplinary approach, mainly because of the GLER project and the citizen interest in Green Bay. This approach led to prompt plan completion because of the collaborative work approach between industry, government, and citizen interest groups. The ecosystem focus of all the research projects that were part of the Green Bay sub-program, and the work done prior to the Sea Grant office establishment by Harris and others, also aided in the Fox River plan development. A number of workshops were held and scientists participated to build a more integrated understanding of the ecosystem. She helped organize the first RAP advisory committee for the Great Lakes and created a series of advisory committees, including a citizens' advisory committee that was used as a model for other Great Lakes RAPs to follow. After the GLER project, the ecosystem management approach for the Fox River continued. Because of all the information sharing between advisory committees working as part of the Fox River RAP team, Green Bay received recognition from the IJC for their work approach.

As a member of the Science and Technical Advisory Committee for the Green Bay RAP, the Committee was recognized by the EPA. When the EPA's mission was

expanded to deal with ecosystem risk, the EPA Great Lakes National Program Office conducted pilot studies in the Great Lakes region to identify risks to humans and to ecosystems. Green Bay was chosen as one of their study sites so Harris worked to bring together a group of scientists, managers, and knowledgeable people about systems and organized workshops to determine what were considered the greatest risks to the Green Bay ecosystem as part of the Great Lakes ecosystem. Habitat loss and exotic species introduction were identified as the two main priority problems, which helped the EPA to implement programs to address problems other than toxics, affecting the Great Lakes.

The same group of people who in the late 1970s organized around the GLER study continues to meet currently. In the early 1980s, a citizens group called the Green Bay Renaissance Limited was formed and agency managers, fish managers, land use planners, and educators participated to continue rehabilitation planning and working for Green Bay. The group is committed to using an ecosystem approach to managing Green Bay. They also continue to meet and work on plans to clean-up the Fox River and Green Bay. Harris has been extensively involved and a key player in both groups.

Since 1997, Harris has been involved in the restoration of an archipelago in southern Green Bay, called the Cat Island Restoration Project, which evolved as a habitat restoration RAP recommendation from the Biota and Habitat Work Group for the Green Bay RAP. The work group, consisting of representatives from the Fish & Wildlife service, the Corps of Engineers, the Wisconsin Department of Natural Resources, University of Wisconsin- Green Bay, and the Brown County Harbor Director have been developing project proposals and designing the restoration. Harris plans to continue to work on the project until she retires. Harris has been involved with IAGLR since the

1990s. Working with IAGLR gave Harris the opportunity to work regionally on Great Lakes issues and to be in contact with Great Lakes scientists and conservationists outside of Wisconsin. In terms of Great Lakes conservation, Harris would like to be remembered for, "Hopefully, it would be that I was able to bring together people with knowledge to develop some consensus for action that was based on good science. If I helped to facilitate some group discussion over the years I would be happy about that."

Gail Krantzberg

Gail Krantzberg became involved in Great Lakes conservation efforts due to her passion for protecting the environment, which is supported by her educational background. Her Master's and PhD work involved ecotoxicology, contaminant cycling and ecology in freshwater systems during 1980 to 1987. In 1982, between her Master's and PhD work, Krantzberg was offered a contract by the Ministry of the Environment in Ontario to conduct sediment work on the Great Lakes. The more she studied and understood the uniqueness of the Lakes, the more she learned how much in peril they are. "The majesty of the Lakes just captured me." Upon completion of her doctoral work in 1987, she was asked by the Ministry of Environment to conduct post-doctorate work for them. One year after her post-doctorate work, the Province began hiring for the RAP program under the GLWQA. Krantzberg applied and became a sediment specialist for Ontario where she worked assessing sediment quality in seventeen Ontario AOCs and determine a course of action for remediation in these areas. Approximately six months later she was asked to become the Collingwood Harbour RAP coordinator, which she revealed, "was probably one of the finest times in my career."

Collingwood Harbour was a former industrial port and, as a result, had contaminated sediment problems. The focus of the Collingwood RAP was on sediment and municipal waste clean-up, and stream and habitat rehabilitation. She worked as the Collingwood Harbour RAP coordinator for eight years collaborating with the community as well as scientists and engineers to design and implement a management plan to remediate and de-list Collingwood Harbour. Krantzberg organized technical teams and conveyed information to the decision makers, public advisory committee and the general public. She organized public meetings and drafted public outreach materials with the advisory committee to convey the information from the technical experts to the general public in an easily understood form. Her guidance and the commitment of the local community and technical team led to the de-listing of the Collingwood Harbour AOC. Krantzberg organized the RAP in such a way that the community was the decision-makers and the role of the technical team was to supply the community with knowledge to help them determine action for the de-listing. Collingwood Harbour was the first AOC that was successfully de-listed in the GLB. Krantzberg is reluctant to claim credit for the de-listing. She said that the pride in the community, the commitment and passion from the people, and the community involvement were the main catalysts for the Harbour's recovery.

As a result of her success with Collingwood Harbour, in 1994, Krantzberg was asked to coordinate the Ontario Provincial RAP program through the Ministry of Environment. Krantzberg met with each Ontario RAP coordinator and discussed remediation projects and allocated funding to each RAP team for their programs. The province had a limited budget, so the provincial dollars she allocated leveraged

community and business funds to contribute to cleanup. She organized workshops throughout Ontario to discuss how de-listing can be achieved and how to apply or implement policies from science. In 1997, she was recruited to become a Policy Analyst for Great Lakes issues for Ontario during a time when massive lay-offs were occurring for provincial employees due to the new conservative government. She explained, "Most of the people with any expertise in the Great Lakes were laid off and I was one of the few Great Lakes advisors remaining." Because of the downsizing in the government, Krantzberg became a provincial representative in many organizations and committees working on Great Lakes conservation, because there were no other Great Lakes provincial employees available. She does think her accomplishments are recognized, but partially because of her lone involvement in provincial Great Lakes projects. "By default my name is on everything that has something to do with the Great Lakes...My name is all over the place because for five years in the provincial Ministry of Environment I was it." There were many professionals who were interested in keeping her engaged in the Great Lakes community. She became part of the IJC Water Quality Board and sediment Task Force Group in 1997. When the Canada-Ontario Agreement was due for renewal, she was asked to be the lead negotiator with her assistant deputy minister, during the late 1990s. Until 2001, she worked on negotiating a new agreement with the federal government.

Due to her involvement with various Great Lakes organizations and governing bodies, she was recruited to become IJC director of the binational Great Lakes Regional Office in Windsor, Ontario in 2001. She works to support the Advisory Boards and ensure there is open communication between all the Boards. With her position in the IJC,

Krantzberg has become a facilitator and policymaker. She believes that having a science background makes her an effective policymaker. Her scientific training, which connected her to Great Lakes problems, enables her to understand and question advice given to the Commission that may not be based on sound science. She has enjoyed the transfer of information with the IJC Boards and notes that increased communication between scientists, the public, and policymakers translates into better management decisions for the Great Lakes and greater acceptance and trust. She feels her responsibility is to help connect people living in the Great Lakes who are disconnected from the Lakes. Krantzberg is interested in increased collaboration with environmental groups and user groups. She notes that she doesn't feel she has ever been treated differently by colleagues and other professionals because of gender. She does think that others were worried she might be treated differently and is always introduced as 'Dr. Gail Krantzberg'. However, she has never felt the need to introduce herself as 'doctor.'

In 1998, Krantzberg received the Amethyst Award for Excellence in the Civil Service because of her Great Lakes work. When asked what she would like to be remembered for in terms of Great Lakes conservation, she replied, "I would like to be remembered for helping to make the Great Lakes great. And for not being arrogant."

Emergent themes and concepts from the interview data were identified and analyzed to understand my research participants' experiences as women advocates involved in Great Lakes conservation. These themes are presented with my research questions below. The themes that emerged from the interviews were used to show a relationship between my research participants' experiences and my research questions to

form an understanding of the barriers they encountered as women advocates and also to compare their work approach and environmental concern to empirical literature on women's environmental motivation and work approach. I will first present the themes identified from the interviews and then synthesize the meaning and experiences of my research participants into a summary of the importance of my research findings. A table of the emergent themes and concepts from the interviews is located in Appendix B.

How does the motivation and work style approach of these women compare with empirical literature?

Theme 1: Not claiming credit for work

The results of this study suggest that not seeking personal recognition, part of the work-style approach of these Great Lakes women advocates, could be a factor contributing to limited knowledge of these women and their contributions. Empirical literature reports that women tend to be focused on goal attainment. Once goals are reached, women do not seek personal prestige for their accomplishments (Kanter 1977, etc.). Reluctance to claim credit for accomplishments was a common theme among these women. Their work style of not seeking personal recognition for their conservation work may have led to an assumption that they are not accomplished conservationists. During an explanation of how recognizable she thinks her contributions to Great Lakes conservation were, Mary Ginnebaugh noted, "I guess it's because women don't do a good job advocating our successes. I think women are more interested in achieving the goal without having our names stamped all over it." Ginnebaugh continued to discuss that she would rather have the work completed. She prefers that there be measurable environmental improvement to having her contributions recognized.

During Jane Elder's interview, while answering the same question she explained, "I think women are taught that it's just no big deal, when it is a big deal. I do appreciate recognition but I also have a hard time taking effusive praise." Jane Elder expressed how acknowledgement from her peers is important to her, but more important is working to make a difference and contributing to Great Lakes conservation because of her talents. "... if I can get some credit for it, great, but really I am here to make a difference if I can." When asked why she thinks women tend to not seek personal recognition for conservation achievements, Harris explained, "Women have always been expected to pitch in without necessarily a great deal of recognition. They tend to want to collaborate with people and not necessarily want to be the upfront person."

Theme 2: Working Behind the Scenes

According to empirical literature, women tend to work behind the scenes. This relates to women's style of not seeking personal recognition. Women feel more comfortable contributing "backstage" than "in the limelight" (Eagly and Johannesen-Schmidt 2001). Much of the work these women did was behind the scenes, which also leads to difficulty in identifying and acknowledging many of their contributions. Working behind the scenes was another theme identified in the interviews. When Lee Botts was helping to prevent the permitting of nuclear power plants on Lakes Michigan, she stressed during her interview that the community members really were the ones that helped set a legal precedent in the U.S. (see Lee Botts life history, p. 58-59). "The utility companies thought I started the Pallisades Plant intervention but it was really the people of Michigan that did it." Botts, however, helped the community groups by offering guidance and advice on how to organize and petition for citizen intervention against the

Atomic Energy Commission. She contacted a *pro bono* lawyer for them, and was present at the public hearing held in Kalamazoo, Michigan. Therefore, much of her contributions were behind the scenes. Without her help the Michigan community would not have had the knowledge, resources and guidance available to them to file an intervention in the permit process for the nuclear plant.

As a Gund Foundation Board Member, Kathleen Barber proposed that the Foundation begin seeking and actively funding Great Lakes and environmental research. This was successfully achieved during a Foundation meeting in the early 1980s. As a result of Barber's proposal and presentation, the Gund Foundation began funding regional environmental research throughout the Great Lakes and continues to offer grant-money for those interested in conservation work. Many grant recipients, however, are unaware that without Barber's vision and proposal, the Foundation would not have an environmental agenda and preference to fund Great Lakes research.

The majority of Edith Chase's contributions to the Great Lakes, and more specifically to Lake Erie, have also been conducted behind the scenes. Chase's work with the Lake Erie Basin Committee of the League of Women Voters was mainly to raise public education and awareness on issues concerning Lake Erie and engage people in her community to attend public meetings, to contact elected officials, and write letters to editors of local newspapers. Her conservation work with Lake Erie has continued with her appointment to External Advisory Groups for the Ohio EPA to ensure public participation on water issues, as well as her involvement with the Cuyahoga River RAP, which she has been part of for fifteen years. In 2003, she helped organize and sponsor a "River Day," with activities and events along the entire Cuyahoga River. Chase gave a

presentation on the current and historical issues affecting the River. Although many people were involved with organizing the River Day event, Chase was one of the main organizers, unbeknownst to most of the attendants.

Theme 3: Goal oriented

These women were focused on achieving their goals and completing projects (Balkwell and Berger 1996, Eagly and Johannesen-Schmidt 2001, Kanter 1977). When the province of Ontario had dismantled their Great Lakes program, Krantzberg remembers the frustration she felt recognizing "how much in Ontario we contribute to the problem, yet how little the province was doing about it." She began looking for outside sources to help fund the conservation effort after the province reduced her annual budget from $1.3 million to $100,000 for Great Lakes projects. Although the Great Lakes were not a top priority for her provincial supervisors, Krantzberg remained committed to the Lakes.

> I was in sort of a denial phase. But then you figure, do I still believe in this? Screw the decision. Find another way of doing it. You need to realize that it is a world dominated by economy and live with it and find a way to use it to your advantage.

When Ginnebaugh was heavily involved in Detroit River issues, as part of the Detroit River RAP team, as well as local environmental organizations such as the Citizens Environment Alliance, she continuously raised the importance of cleaning the River. She felt that the government agencies that were responsible for managing and protecting the Detroit River were not interested in holding polluters accountable and listening to the public. When a polluting company began directly discharging chemicals

into the River, she decided to file a citizen's suit by herself to take the issue to court. Although she was not working for any specific organization at the time, her vision remained the same, cleaning the Detroit River.

Theme 4: Democratic/ collaborative work style

Women prefer working in collaborative environments and seek to work in groups on projects (Carli 1999, Eagly and Johannesen-Schmidt 2001). As leaders, women seek to ensure that all opinions and ideas are heard (Hutson-Comeaux and Kelly 2002, Yoder 1994). My research participants were involved with collaborative conservation work, often as facilitators. Harris's work with the Green Bay RAP has been to bring people together to work on conservation. "If that's been a contribution I have been able to make it's over the years it's I have been able to serve as a facilitator for these collaborative efforts." Krantzberg's work experience with the Collingwood Harbour RAP was similar. As the RAP coordinator her job was to bring experts together to devise plans for remediation of the Harbour as well as present information to the public that was factual and easily understood. Currently Krantzberg is organizing strategies for engaging the public to raise awareness to re-connect them to the Great Lakes. "There are 33 million people living in the Great Lakes, 32 million are disconnected. In order to protect the Lakes we must engage the public in stewardship."

Becker's work assignment as the Chair of the Societal Aspect Committee of the IJC Science Advisory Board was to bring executives and key decision-makers together to work collaboratively on how to design and implement an "ecosystem approach" for Great Lakes management. The participants at this meeting had been in conflict with each other

in the past, but with Becker's organizing and role as the facilitator of this collaborative process, these individuals had to put aside their differences and work together.

Theme 5: Power differentials

Affecting change was believed to be more difficult than becoming involved in Great Lakes conservation. This is due to their limited professional roles and because of perceived power differentials between men and women. According to existing literature, since women have limited access to upper-echelons of decision-making, they have greater difficulty than men being taken seriously and affecting change (Balkwell and Berger 1996, Carli 1999, Eagly and Johannesen-Schmidt 2001, Foschi 1996, Kanter 1977). Barber explains, "If you wanted to affect a decision that meant you wanted a little power, at least a measure of power. I think it was partly our own feelings of reluctance, as women, about getting up and speaking at public meetings." This feeling of reluctance relates to how women are perceived in power dynamics, since women are perceived to have less power, their ability to affect decisions and promote conservation was difficult.

While lobbying at the state capitol on Great Lakes issues, Elder recalled a meeting where she was explaining policies involving the GLWQA, a man said to her, "Isn't it nice to have nice young ladies involved in politics. But dear, we need to stick to the facts here, not all this emotional stuff." Elder believes she was discredited not because of the information she was presenting but because of her gender. To combat perceived power differentials, these women organized their strategies differently. "That was why those of us who were able to use networks, such as the League of Women Voters, would have to be willing to share power, which was not something that male-dominated organizations were accustomed to doing," explained Becker.

Theme 6: Female stereotypes/ Women standards to follow

There were instances where these women were treated differently because of not conforming to stereotypes of women based on traditional gender roles (Carli 1999, Eagly and Karau 2002, Phillips and Imhoff 1997). Women are expected to follow specific cultural and societal norms due to stereotypes and sexism. When Becker was interviewing for a professorial position at the University of New Hampshire, she was asked what her husband thought about her potentially moving out of state for a career, she replied, "that is an illegal question." Another instance where Becker was treated differently was when she arrived in Minneapolis for a meeting wearing a pantsuit. She said that in the 1970s, if women did not dress "like women should" by wearing a skirt, men did not treat them like professionals.

When Botts arrived for a meeting at a private club in Washington, D.C., her driver asked her if she was supposed to be dropped off at the main entrance or the women's entrance of the club. She asked to be dropped off at the main entrance, and when her car pulled up there a man motioned the driver to drive around to the women's entrance. When Botts entered from the women's entrance, her colleagues. all of whom were male, waited to see her reaction to being dropped of at the women's entrance. Instead of making a scene, Botts decided to ignore the issue. In this instance as well, Botts was expected and decided to follow women's standards.

Theme 7: Commitment/ Passion for Lakes

The motivations of these women to become involved in Great Lakes conservation are consistent with empirical literature on women's environmental concern (Gupte 2002, Momsen 2000). Krantzberg noted

> When I look around the Basin in terms of the mentality of why we should clean it up, it's 'because we should' for the women. For men it's 'how are we going to sustain business and attract new commerce.' There are clearly exceptions but the motivation tends to be different.

These women remarked on how their passion and respect for the Great Lakes has been a major motivating factor for them to work on Great Lakes conservation. Elder's commitment to working on Great Lakes issues stems from her feelings of awe from the Lakes. "It's this miracle on planet earth. It's a gift of life. I don't understand how anyone could not love them." Ginnebaugh refers to the Great Lakes as a gem of the world. Her childhood exposure to the Lakes inspired her to work on conservation issues.

> I wanted to do what I could to raise attention...to make a difference. That part of what I think is innate because you love where you live and you respect this beautiful 20% of the world's freshwater supply."

Theme 8: Commitment to community

As stated in empirical literature, women become involved in conservation issues because of hazards and threats in their neighborhoods. This was a motivating factor for the conservation work of the participants in this study. All the women with the exception of Krantzberg became involved in Great Lakes protection through concerns in the community. This local concern branched into concern and work on regional Great Lakes issues. Working on local issues also prevented some of these women from gaining recognition throughout the Great Lakes Basin as advocates.

Botts described how the majority of the women she worked with became involved in conservation because of a community problem, which prompted them to regional

Great Lakes work. Botts herself became involved and interested in Great Lakes issues due to the alewife die-offs that were occurring on the shores of Lake Michigan, where she was living. "Women tend to be the nurturers, lovers, and helpers. It doesn't have to stay with their family, it can go to something as large as a region, such as the Great Lakes," said Ginnebaugh.

For these women, their motivation for conservation work was just an extension of their care for the home and family. "In some ways the role that we play for the environment is not very different from the maternal role," noted Harris. Chase has lived in Kent, Ohio since the 1950s and her conservation work has focused on Lake Erie and the Cuyahoga River, two water bodies in her community. The infamous Cuyahoga River fire occurred just a few miles from her home and she was outraged that the River caught fire multiple times before gaining national attention. She has been working to hold politicians accountable to promises they have made for improvements to these water bodies and to address issues that concern her and affect her community (e.g. the Cuyahoga River fire, the 'foaming' of lakes and rivers due to phosphorus, mercury in the Great Lakes).

Theme 9: Multi-tasking

Spreading oneself too thin, by being involved in multiple Great Lakes projects and organizations as well as domestic responsibilities, is a contributing factor for why many of these women's contributions are unknown. Chase is an example of a woman who has been involved in multiple Lake Erie projects, "I said I was only going to work on Water Resources because there was too much to learn. I didn't want to spread myself too thin. Once I was elected to the LWV Ohio State Board, everything is connected to

everything else. You have to look into air quality, solid and hazardous waste, energy, radioactive waste and the coastal issues as well as water." She took her children with her to meetings and on "field trips" along Lake Erie where she could monitor water quality.

Barber postponed working on her doctorate degree until all her children were in school and chose a university close to her home so she could continue to be a full-time mother.

> My environmental work was in part diluted because I had this other life, the scholarly life...I think I was spread too thin to make an impact...I had a primary commitment to my family. I did not go to certain meetings because of my commitment to my family.

As well as understanding how these women's experiences compared with empirical literature, I was interested in identifying any barriers these women encountered as women working for Great Lakes conservation. The themes that emerged from the following research question present the barriers these women encountered and reported during my interviews.

What barriers (if any) did these women encounter as women Great Lakes advocates?

Theme 1: Men as staff, women as volunteers

Until recently, many of the environmental positions in the working world were male-dominated, with the vast majority of volunteers being women. Krantzberg noted, "In my work around the Great Lakes what I tend to find is there are more men in senior levels of government by miles...When you go out in the communities, the chairs of those

citizens committees are frequently women." The greater number of men involved in professional positions in Great Lakes conservation served as barriers, since there was a mentality that women were not capable of certain work and also men represented the upper-echelons of decision-making. Barber believes that during the 1960s, women were not as prominent in environmental organizations and government because of the times. Men in professional positions and women as volunteers were the norm. Women had limited professional involvement in conservation issues but were able to join local environmental organizations without difficulty. Chase also noted that when she began her conservation work with Lake Erie, the concerned citizens were women and the staff people and decision-makers were almost all men. However, women are now represented in professional positions, as demonstrated by Krantzberg and Elder, both of whom are directors of organizations.

Theme 2: Men as decision-makers

Men as formal decision-makers while women were vocal, concerned citizens, is another gender barrier that these women encountered in their conservation work. Although there is public input during decision-making processes and in public hearings, community members are often not acknowledged by policymakers. This lack of acknowledgement from policymakers poses a barrier for community members to create change and be heard by decision makers. Furthermore, local community members encounter difficulty in having their ideas adopted by decision-makers. While conducting her dissertation research, Mimi Becker noticed that most of the RAP team staff members were men and the public participation facilitators tended to be women. She recalls that if government agency staff were uninterested in having public involvement or didn't listen

to the ideas and suggestions of environmental volunteers, the work of many local community members would go unnoticed.

Ginnebaugh encountered resistance from the Michigan Department of Environmental Quality while trying to promote public input as a Detroit River RAP representative on a Detroit River initiative organized by the Department and the EPA. "I tried to interject things that we thought were important from a public perspective and there was a lot of resentment by DEQ for us to do that." If the management plans and conservation ideas of these women were not similar to those of the government or the organizations that these women were seeking to reform, their ability to successfully contribute was increasingly difficult because the government was more interested in promoting their own agenda, and the government was in a position of power.

All of the women noted that in their conservation efforts, there was a greater ratio of men in the upper-echelons of decision-making, and in the government, which led to the inability for many women volunteers to be taken seriously and be heard. Botts recalled her work in the 1960s, "Remember also in those days still relatively few women had jobs in professional positions. The volunteer mode of operation was still very much possible for many women."

Theme 3: Not being taken seriously

For Elder, Ginnebaugh, Harris, and Krantzberg, their work experience was a bit different because they became involved in Great Lakes conservation during a time when women were entering the workforce and were able to hold environmental positions in government, companies, and organizations, rather than contributing solely as volunteers. However, gender was nonetheless a limiting factor for these women to feel like they were

making progress in conservation work. Many societal barriers to women in the work place were slowly overcome with the women's rights movement and the evolution of society. However, even while working as professionals, these women encountered barriers in working for conservation. There were instances when the research participants expressed that women's work was not taken seriously or valued in Great Lakes conservation because of the perception of women in society as not being as competent. Harris explained,

> I think in society in any field there are remnants of the male chauvinistic attitude toward women as not being as good as men, not having the skills, or shouldn't have the power and influence in society that men traditionally have.

This mentality created a difficult environment for women to present ideas to other professionals or decision-makers, as well as to be treated as competent professionals.

Theme 4: Not being heard

At times, women are not heard or do not feel they are being represented because of society's perception of women. As stated earlier since men are perceived to be and in fact often are in a position of power and many professional positions are held by men, men can choose to ignore women on the basis of educational, professional, or personal differences. There were instances where Chase recalls that she was not heard because she was a woman. She recalls being ignored by a state legislator.

> I was talking with one of them and I said, this is the way it really is and you have to look at the root causes. He didn't hear me. He talked right past me. Then some man came up and said the same things I had, and then he paid attention.

Krantzberg was not listened to by a man who held a higher position than hers and only chose to listen to and communicate with individuals who were at the same professional level as his. Her supervisor told her to explain the problem and solution because she had been working on the project, but he did not listen to her. Rather than getting upset, the study participants worked around these barriers. Chase said she found her situation humorous, and as long as the legislator heard it from someone, it didn't bother her. Krantzberg's approach is, "If I am not listened to, I'll ask the question again. Defensiveness gets in the way."

Theme 5: Old-boy network

"Old-boy networks," or the male-dominated setting in many of the projects and efforts these women were involved with, proved to be another barrier for them. Ginnebaugh explained,

> I hate to say it but it's still a man's world out there. I've often thought about had I been a man pursuing this, would I have been promoted or allowed to go in a different direction and I honestly think yes I would have. I think women get short changed...

Elder recalls being treated differently than her male colleagues and felt she was patronized by board members who were men; she believes this was gender related. "I wonder if any men got the 'toughen up' speech or 'if the heats too hot get out of the kitchen.' There was definitely an 'old boy network' mentality."

Theme 6: Token woman

When women were represented on boards and committees, they were often in a "token woman" role, meaning that these women were members of these groups to

demonstrate that there was female representation. By serving on many committees as token women, women's ideas were not taken as seriously because they were not asked to serve based solely on their abilities. Tokenism worked to these women's disadvantage and advantage. If women were represented on committees as "tokens," this presented a barrier for accomplishing work. Barber explains, "We said that we're not going to be token women, we want full roles." She did not want to be represented on a committee to fill a quota, but to have her ideas and suggestions for projects heard. Becker remembers being included on many committees and Great Lakes groups because of her LWV involvement. She recalls, "I was always the token woman environmentalist. I had to give up wearing pants because they wouldn't take you seriously in those days if you didn't look like a professional woman."

Harris noted that being a token woman was advantageous particularly if some of these organizations were looking for diversity in an advisory committee. Token appointments give women an opportunity to not only be included in certain panels but also attempt to break through "glass ceilings" (see below). "These days the token women sit on the board of directors of corporations and cabinets. It's changed but not very much at the top," explained Chase.

Theme 7: Glass ceilings

The understanding that they would only be able to succeed and be promoted to certain positions because of gender, otherwise known as "glass ceilings" was another barrier these women encountered. "Glass ceilings" represent an understanding that one can only be promoted and succeed to a certain position because they do not meet the requirements, expectations, and resemble the people in charge. Thus, they are not

permitted to rise above a certain level. Often these glass ceilings are organized by men in charge, who form an "old boy network" in executive positions and the furthest women will be promoted is to middle management (Kanter 1977). Elder explains, "By and large we (women) were not board chairs and department heads. There were certainly glass ceilings that we saw."

Theme 8: Queen bees

Other Great Lakes women conservationists, referred to as "queen bees" posed yet another barrier to these women. These "queen bee" women expected special treatment and did not conform to certain work standards, which created greater difficulty for my research participants to earn respect from male colleagues and successfully complete projects and Great Lakes work. Ginnebaugh recalls working with women who she felt truly inspired and taught her and other women who were not open to suggestions and working collaboratively.

> I think those women that have a vision and are able to recognize the help that you can achieve to accomplish that vision are the ones that succeed. It's the women that entrench themselves in the 'it's my way or the highway' mentality that don't succeed.

Rather than working collaboratively and understanding the entire issues, "queen bees" believe they understand the issue, and if they are not listened to it is because they are women. They seek to be in control. "Women who may be very passionate and motivated won't stand back to understand the process. They believe they don't need to, they believe they are right. That doesn't work," explained Krantzberg.

Theme 9: Family commitment/ responsibilities

Because women are perceived as caretakers in society, time and mobility constraints due to family responsibilities present another barrier for these women. Chase discussed how much of her work with the League of Women Voters was conducted over the telephone. When she needed to attend meetings, she would bring her son and give him books to read. Chase explains, "Because women, if they marry and have families, have to take a little time off, that sets you back on your career path." Elder recalls how she was often asked by colleagues at meetings when she was going to get married and begin having children. She notes, "You had to be on the defensive rather than offensive role in those days. There was often an assumption that you were in it temporarily and then you were going to 'settle down.'" She remembers during the early 1970s that the Sierra Club never had to deal with maternity leave, which made it difficult for field representatives who decided to become mothers.

Theme 10: Overt gender discrimination

Overt gender discrimination in education and as professionals was another barrier these women encountered in their Great Lake conservation work. Overt acts of gender discrimination were identified as instances where my research participants expressed a belief that they encountered discrimination. These examples present limitations these women felt in accessing certain positions or affecting change. Both Harris and Barber were initially denied access to graduate schools because they were married and were likely to have children. Male academics assumed that both would become pregnant or were not serious about education and would therefore leave without completing their degrees. Barber explains

> I talked to the department head and he said I don't think so, we've had Shaker Height housewives before and some exciting campaign comes along and they join the campaign and we've wasted all our time counseling them because they're gone.

Elder recalls being flirted with and hit on by congressmen or businessmen while traveling for business trips. "There was an assumption if you were alone and female, you were available." She remembers vividly being hit on by a congressman whom she had the opportunity to have a meeting with.

> I realized nothing I was saying about the legislation made any difference, I was there as an object. I was humiliated... I thought my ability to be a participant in this system had been compromised by this sexist SOB. If it's happened to me, how many other women have been marginalized, patronized, and taken out of the game because they are not guys?

On the whole, however, these women do not feel they often encountered gender discrimination while working on Great Lakes issues. This may be because they acutally did not encounter any or because they refused to acknowledge it. As Chase stated

> I just don't pay attention to discrimination because I don't know what I would do if I did. You say what you need to say and you've got to make sure that you've done your homework... so what you say stands up.

Rather, these women decided to focus their attention and energy on working towards increased conservation. There were, however, instances where these women were treated differently and patronized because of being women, which I define as subtle acts of discrimination. My research participants do not believe that treatment was because of

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discrimination. Covert and subtle acts of discrimination are discussed in greater detail in Chapter 5.

Theme 11: Male dominated environment

Working in a traditionally male-dominated environment is also another barrier because of the difficulty these women had in being accepted. Harris remembers in the 1970s when governmental agencies, such as the U.S. Fish and Wildlife Service and the Department of Natural Resources, began expanding their responsibilities under different mandates, such as pollution control, they began hiring more women. She encountered some resistance from state employees. "There were a few, generally older and actually a few younger chauvinist types that were less accepting of women." Women had to prove their capabilities and intelligence to male counterparts.

In many instances these women had to prove they were more knowledgeable than men in order to be accepted. Because men were in positions of power and decision-making, these women had to be certain that they were presenting facts and understood what they were discussing to be taken seriously. Chase explains, "You need to do your homework. You have to phrase things carefully, they are all bright people but there is a political overlay and they have to pay attention."

Theme 12: Inner Politics

"Inner politics" was significant in creating barriers for my research participants' conservation efforts. Politics were referred to as inner decisions or agreements that were made by a few individuals without the input of other board members or the general public on important conservation issues affecting one or all of the Great Lakes. Chase encountered "inner politics" on numerous occasions while working on Cuyahoga River

and Lake Erie water quality and coastal issues. The example she gave of encountering inner politics involved a moratorium on oil and natural gas drilling in Lake Erie she helped initiate, which is up for renewal by Congress in 2004. The Ohio governor explicitly told Chase in 2001 that he would issue an executive order to prevent any oil or gas drilling in Lake Erie, but he has not yet addressed the issue. There have not been any hearings in the House or the Senate on the issue since. "It's the standard political process, the stall."

"Inner politics" poses barriers for environmental organizations to promote or initiate change for the Great Lakes. This relates to power differentials, since politicians and policymakers are those in power, they can choose to make decisions without input of those that do not agree with them and without considering the impact of those decisions on people who are not present to help create a plan. Recalled Barber,

> When I was teaching I could see that politics were the problem not the science. The science was OK. It just needed a lot of money. But the politics always got in the way, in particular the lack of funding for environmental groups and therefore their weakness in Legislature and Congress.

In comparison to industries and some special interest groups, the public interest and environmental organizations that these women were involved with, relied on membership and contributions to boost their lobbying and financial power. They usually do not have as much money as companies and special interest groups. Therefore they have difficulty in being represented and heard at decision-making tables.

Despite these barriers, the eight women I interviewed have been able to contribute effectively to Great Lakes conservation. They learned to use their skills and work around

barriers in order to promote the change and improvements they desired for the Great Lakes. Due to their commitment and concern for the Lakes they have not let the gender barriers they encountered prevent them from working towards conservation.

CHAPTER V

Discussion

This research sought to identify the perceived gender barriers these women encountered as Great Lakes advocates and document their accomplishments and contributions to Great Lakes conservation, as well as compare their work to the empirical literature on women's work style and environmental motivation. Because research similar to mine is uncommon in Great Lakes literature, this research brings a new and gendered lens to a human dimensions topic in Great Lakes conservation. Traditionally, literature on Great Lakes conservation has been reported by scientists who have conducted research on water quality, quantity, toxics, invasive species, and other ecological issues afflicting the Lakes. Gender topics and women's role in conservation have only recently become an area of study and research, within the last fifteen to twenty years. My research participants and their accomplishments may be unknown because advocacy work has only recently been documented and accepted in conservation efforts. Gender barriers and the work approach of women contribute to the limited acknowledgement of these women's contributions. Furthermore, the barriers my research participants encountered suggest that women are perceived as not as competent as men professionals, and gender power differentials and sexism are still present in society.

The barriers these women encountered deal with the perception of women and women's role in society. These women had difficulty in being taken seriously and being heard because of their roles as women volunteers in comparison with men who were often professionals and in decision-making roles. Additionally, family responsibilities became another barrier for these women to contribute to Great Lakes conservation

because of women's roles as the primary caretaker. The role of women in society during the 1950s has changed in some ways from women's current role. In the 1950s, women professionals in the United States were uncommon in the public sphere. Women instead volunteered and became involved in community projects. The elder women in this study became involved with Great Lakes conservation through volunteer efforts, and through volunteering were able to obtain some work in the public sphere.

Currently, there are fewer gender barriers for women entering the workforce and being promoted. However, this research found that there are existing barriers in the workforce, such as "old boy networks," "glass ceilings," and "tokenism," which can impede women's success and ability to be promoted and be represented and taken seriously in upper-echelons of decision-making. Elder, Ginnebaugh, Harris, and Krantzberg are working professionals in the environmental field. None of them believe that gender was a factor in being promoted or entering into jobs. But they do believe they were, at times, treated differently because they are women. The greatest contributions to Great Lakes conservation by the four elder women, who range from mid 60s to 80 years old, in this study, Barber, Becker, Botts, and Chase, in contrast, were done as volunteers. This difference can be attributed to the time frame they became involved in conservation efforts. Women now have easier access to careers that were previously closed to them. Perceived gender roles of women have evolved from the traditional stay-at-home mom and secretarial jobs to women managers in business, government, and NGOs.

Barber, Becker, Botts, and Chase were involved in promoting women's rights and Great Lakes conservation through the LWV. Although Botts' Great Lakes conservation work did not begin with the League, she did collaborate with League members on

numerous Great Lakes issues. Since women's professional involvement in environmental careers was almost non-existent during the 1960s and women's rights was gaining increased recognition in the United States, the LWV served as an effective platform for women to become involved in Great Lakes campaigns and gain credibility by representing a reputable lobbying organization, such as the LWV. The LWV was flexible enough that women members could bring their children to meetings. Additionally, League members could conduct much of the work by telephone and at home, which allowed mothers to continue to raise their children and work on domestic responsibilities.

Throughout the decades, the number of women studying in the science field has increased. The younger women in this research, Elder, Ginnebaugh, Harris, and Krantzberg, were trained and work in the science or other relevant fields on natural resource and Great Lakes conservation issues. Women now have the ability to enter and earn university degrees (Basch 1982). Krantzberg, who happens to be the youngest of my research participants, has never felt she has encountered any gender discrimination and has never felt she was a token woman on any committees. This could be due to the greater acceptance and increased role of women in the public sphere, and more specifically, in the Great Lakes scientific community. As well, my four younger research participants did not discuss their children and the impact that their family had on their Great Lakes conservation work. The four elder women explained how they scheduled their Great Lakes efforts around their families' needs and their children were important determinators in the campaigns and projects they chose to work on.

What's interesting to note is that only three of the women believe they encountered gender discrimination, and this discrimination was work-related or graduate

school related and not in the Great Lakes conservation field. These women report they did not encounter overt gender discrimination as Great Lakes advocates and discrimination was not a limiting factor in conservation efforts. Rather, these women believe they were treated differently and patronized because of gender and the societal expectations of women during the 1960s-80s. My research participants reported encountering "old boy networks," "glass ceilings," difficulty in being heard, serving as "token women," and difficulty in affecting change. I believe the above emergent themes I identified are forms of subtle discrimination because my study participants encountered these barriers due to gender. Subtle forms of discrimination are more difficult to identify and address because they are ingrained in perceived gender roles and stereotypes of power in society. As well, "old boy networks," "glass ceilings," and "token women" positions are all forms of gender discrimination that can limit women's ability to affect change and succeed in professional work.

A potential reason my research participants did not express subtle gender discrimination as a form of discrimination may be due to the perception of discrimination occurring only in the workplace. Since affirmative action policies were designed to address workplace discrimination, these women perhaps believe they did not encounter discrimination. Additionally, since women are perceived as less competent than men and because of gender roles and sexism in society, the subtle discrimination barriers these women reported might have been interpreted by them as perpetuation of these roles and "the ways things are" for women.

Although women have easier access to professional environmental careers, this research revealed that these women did encounter gender barriers and their experiences

are consistent with empirical literature, described in Chapter 2. Perceived gender roles in society created expectations and assumptions on the capabilities of and appropriate roles for these women. Gender roles and the influence of these roles in the workplace and in society are important to understand. These women felt marginalized and ineffective at certain times because they were viewed as objects or were silenced by men decision-makers because they are women and were not following traditional women's roles. They also felt they could be easily discredited because of the perception that they did not possess the same knowledge as men in decision-making roles. Becker recalled often that women had to prove they were smarter than men in order to be heard and be taken seriously, which is consistent with literature on the double standards of evaluating men and women's professional work (Eagly and Karau 2002, Foschi 1996). Power differentials and women's roles in society made it difficult for women to have professional careers and be taken seriously by men, who held the professional positions.

Not speaking up at meetings, being expected to enter private clubs where professional meetings were held through the social entrance, having to dress and behave "like women should," and being patronized by men were common experiences for these women. They were often expected by their male counterparts to focus their time and energy on their husbands and children and not on Great Lakes issues. Elder encountered countless instances of men colleagues asking her why she was neglecting family responsibilities and how her husband felt about her traveling alone to do her work. These women worked within these barriers, conforming to their gender roles and using token positions to their advantage. They were able to overcome some of their gender barriers and work to create the change they were seeking in the Great Lakes. For example, Botts

was appointed by President Carter to chair the Great Lakes Basin Commission, and was the only woman chair of any basin commission in the country. Barber was asked to serve on the board of directors of the Gund Foundation due to her advocacy work on Lake Erie, as well as her work on women's equality. These women organized different strategies within systems, despite barriers, and chose to work toward their vision for Great Lakes conservation in order to accomplish their goals.

Additionally, these women served as pioneers for younger women advocates to follow without having to encounter all the barriers that the older women who have been involved in Great Lakes conservation for forty years confronted. This is evident in interviews with the four younger women. They acknowledge the commitment of women mentors who created an easier path for the younger women to create change. When Elder was discussing the influence that Botts had on her professional life, she said, "Lee Botts is certainly a lifelong career influence for me. I respect her. She was there breaking down barriers of her own without giving it much thought." All these women had men and women mentors in the Great Lakes field that helped guide them and supported their vision and efforts. These mentors provided invaluable insight on how to be effective and work within institutions to promote conservation ideas.

The leadership style of these women is consistent with empirical literature. My research participants worked in more collaborative settings and preferred to lead in a democratic style. As stated in the literature review, the democratic leadership style is perceived as more successful and effective (Carli 1999, Eagly and Johannsen-Schmidt 2001). Harris explained that women prefer working in groups, even as facilitators.

> The reason for this is to get the job done, not for personal recognition...Women are more comfortable and believe more is accomplished in a group setting. Not with one person charging forward and taking ownership of an idea. When you deal with an ecosystem you have to be interdisciplinary. That means you have to work with a lot of different people. It's counter-productive if these people are out there working on their own personal recognition. It just doesn't result in a positive product.

These women prefer to work collaboratively to ensure that all voices and ideas are heard, which is contrary to some of their experiences working on Great Lakes conservation. In addition these women were more focused on reaching the goal, rather than taking ownership of the ideas that led to goal attainment. Ginnebaugh discussed how it would be almost embarrassing for women to brag about a successful program they designed and implemented.

Indeed, I found these women are extremely goal oriented. Despite the barriers they encountered they were focused on organizing and working on campaigns and projects to protect the Great Lakes. When their tasks were completed, they began work on new Great Lakes issues. Because women generally do not claim credit for their accomplishments (Kanter 1977), some of my research informants were reluctant to discuss their accomplishments in projects they organized or were involved with. They would remark that they were "one of many" involved, because of their collaborative work-style and reluctance to be recognized for their efforts. These women have not sought personal recognition for their accomplishments. They are content that the work has been accomplished because of their commitment to the Lakes. Rather than claiming

credit, they get gratification knowing that they have been able to contribute to the betterment of the Great Lakes. Krantzberg notes that for herself, she feels accomplished if others take credit for her ideas.

> It's coming up with an interesting idea by being inspired by people around you and having other people start using it and hearing them talk about it and they don't know where it came from...that's satisfaction enough.

They do not feel the need to claim credit for their work. This is embodied in the socialization differences between men and women. Women, in general, are taught to not be independent and expect recognition for their work (Gilligan 1982). As highlighted in this research, these women focused on goals rather than personal prestige. All informants also reported that they would like to be remembered for being part of the effort, but being remembered was less important than the Great Lakes being protected for future generations. As Elder explained,

> The things women bring to the movement are context, history, and future, partially because of the notion of nurturing from generation to generation. Lee [Botts], for instance, her ambition is that her grandson still has a wonderful Lake Michigan. She is highly motivated for little Alexander, not herself.

This motivation for protecting the community and the family is found in literature on gender and environmental concern as well as socialization theory. With the exception of Krantzberg, these women initially became involved in Great Lakes conservation because of local environmental problems. Their contributions to the Great Lakes were focused in their communities. This could be due to the gender division of labor in society, and women's role as the primary caretaker of the family (Chodorow 1974, Waring 1988).

This commitment to Great Lakes conservation resonates with ecofeminist and gender and environment literature on women's environmental concern and motivation. These women are concerned to preserve and protect the Great Lakes because of an emotional or personal passion and respect for this water body. They all expressed a deep respect, concern, and connection to the Great Lakes that served as a motivation and inspiration to continue campaigning, lobbying, researching, and advocating for protection and preservation. This connection to the Great Lakes could be linked to the exploitation and marginalization of women and the environment, as well as the life-giving qualities shared between women and the environment (Merchant 1992, Shiva 1989).

Because they were working on local issues, there was less opportunity for acclaim and publicity within the Great Lakes. This is another factor for the lack of information available on these women. Working as a volunteer rather than a scientist or other environmental professional also limits the opportunity to be recognized for accomplishments outside of one's peer group. The work conducted by local women volunteers was perceived as being the most challenging. Becker remarked, "When I think back about the changes that were made and the people who were committed long term to creating change, it's been mostly women." Edith Chase's biggest contributions to Lake Erie conservation were made as a concerned citizen, or as a community representative. "We've always been there. In many ways always the stalwarts, the envelope stuffers..." stated Elder. Local environmental issues tend not to be as newsworthy as national or international environmental problems (Garcia-Guadilla 1995).

Serving as "token women" on committees and boards, which are appointments to certain positions based on gender rather than on ability, perpetuates the objectification of

women. Because women in token positions are chosen to fill a quota, their input could be constrained and not be taken seriously. Researchers and theorists have suggested that tokenism processes are affected by gender as an ascribed master status such that women, who have lower status in a patriarchal society, will experience negative tokenism processes to a greater extent than higher status white men (Yoder 1994). Yet, by continuing to present ideas and suggestions to implement projects for the Great Lakes and demonstrating their capabilities and intelligence to those they were working with, my research participants used their token positions to their advantage to advocate and organize projects. They were able to earn respect from their colleagues. These women discussed how uncomfortable it was being the only woman at meetings and as part of decision-making teams. Being in a minority position is difficult because often minority viewpoints challenge the status quo. These women were able to make strides in these situations because of their persevering dedication to the Great Lakes. Because of their commitment to the Great Lakes, they did not let their discomfort prevent them from achieving their goals for the Lakes.

My research participants were aware of and do believe that there are "glass ceilings" in Great Lakes conservation work. They understand that although they have been able to accomplish important work for the Lakes, their abilities and contributions will only go so far. Men remain dominant in many of the upper echelons of decision-making and hold executive positions of Great Lakes organizations, government agencies, and research institutions, whereas women predominate in community organizations. Men as professional decision-makers and women as volunteers was another barrier for these women in their conservation efforts. These women encountered difficulty in being taken

seriously and being heard by men because of gender. Difficulty in entering professional employment and having "token" appointments on committees compounded the treatment of women. "Old boy networks" in many professions and organizations perpetuated the difficulty for women to contribute to Great Lakes conservation and be taken seriously since these women did not fit into the "old boy network." People feel uncomfortable around those that act, talk, and look different from them. This results in the complexity of dismantling "old boy networks" because these networks chose to only hire and accept those that think like and resemble them (Kanter 1977). Additionally, as reported in the literature, men are expected to outperform women in tasks (Balkwell and Berger 1996, Eagly 2000). Therefore, women are perceived as being less competent than men. The tokenism and exclusionary networks are key in constructing "glass ceilings." In view of the interaction of token and gender statuses, a simple increase in numbers fails to address forces associated with gender discrimination (Yoder 1994).

Another way to look at the challenges faced by the study participants involves examining societal sexism. The perception and differential treatment of women as inferior to men stems from sexism. Frye (1983) explains sexism as the sex-marking and sex-announcing in cultural and economic structures that molds people into dominators and subordinates. The construction of gender roles and the domination of men in the working world are pieces of the edifice that is sexism. As well, men in decision-making roles, "old boy networks," and "glass ceilings" for women perpetuate sexism. With increased numbers of women entering into the environmental field and working as professionals in Great Lakes conservation, as well as the continued evolution of women's roles in society, these limitations for women can be mitigated. However, sexism in

society will not be overcome unless the perception of men's and women's abilities, strengths, and capabilities are no longer defined by gender but instead based on individual attributes.

Additionally, the domestic responsibilities of women should be valued differently to overcome sexism. Women are still in an economically subordinate position in society, earning approximately $0.72 for each $1.00 earned by men (Becker 2000). Culturally, women are responsible for the vast majority of domestic work, which keeps women subordinate, regardless of affirmative action policies and other movements to promote equal opportunities and rights for women. Domestic work is universally regarded as low value and economically insignificant (Waring 1988). Women who do not work in the public sphere are considered unimportant because they do not directly contribute to the economy. In many developing countries women and girls are sold or forced into prostitution and sex slavery. Since a profit is being made on this work, these women are seen as economically significant and their prostitution work is regarded as valuable to the global economy (Waring 1988).

As demonstrated in the life histories, although my research participants encountered some barriers while working as Great Lakes conservationists, this did not prevent them from continuing their work. Each woman is accomplished and has been successful in Great Lakes conservation. Without Elder's lobbying efforts, the Clean Air Act might not have a provision addressing toxic air deposition impacts on the Great Lakes, even though she believes she was patronized and treated differently during her Great Lakes lobbying days because she is a woman. Chase's outspokenness while working with NGOs and her forty year commitment to Lake Erie has led to measurable

environmental clean up in the Cuyahoga River and Lake Erie. Botts' vision for a coalition of user groups and environmental organizations throughout the Great Lakes, to unify Great Lakes issues, led to her creation of GLU. She used her minority position as a woman to her advantage on many of the boards she was on to advocate for creation of GLU. These women did not allow sexism and power differentials prevent them from accomplishing their goals.

But, how many women did? How many other women Great Lakes advocates were unable to begin or chose to stop working on Great Lakes conservation issues because of sexism, power differentials, and other or similar barriers that my research participants encountered? Since local environmental work is primarily done on a volunteer basis, many participants remain unsung because they are not paid staff and their advocacy efforts, e.g. writing letters and attending public meetings, do not directly contribute to the economy. Additionally, because of the difference in how boys and girls are socialized, women could be conditioned to accept being ignored and not being taken seriously and decide against conservation work.

Existing gender discrimination, barriers facing women professionals, and pro-environmental behavior differences between men and women, are contributing factors to the lack of recognition of women's contributions to Great Lakes protection. Because of society's distinct gender roles, many accomplishments of these women went unheralded. They were less visible and recognized because their contributions and efforts in Great Lakes conservation were performed from within feminine roles using feminine expressions, such as activism rather than science, and addressed local or "domestic issues" rather than male "strategic issues" (Garcia-Guadilla 1995).

One societal aspect that I think is important to understand is patriarchy. Patriarchy along with sexism has been perpetuating the subordination of women in society. Because we live in a male dominated society, challenging the status quo and the entire system of oppression is an extremely difficult task. Research similar to mine is important to slowly identify these systems of oppression, because it uncovers and presents the life experiences and stories of women who have been involved in Great Lakes conservation efforts. Their stories illustrate the workings of patriarchy and how it may be overcome on an individual basis. Although my research participants are more interested in conserving and preserving the Great Lakes than ensuring that other conservationists know of their contributions, ignoring their knowledge and accomplishments contributes to patriarchy by demonstrating that women Great Lakes advocates are not as important as men. Sexism and patriarchy compound the repression of women.

Therefore, I believe along with women's work style and motivation for environmental concern, sexism and patriarchy are other reasons the women I researched have not been recognized for their conservation work. However, gender roles, gender power differentials, and the perception of women in the workplace as colleagues and leaders and in the environmental movement are shifting as society evolves and becomes more accepting of women in the public sphere. But until sexism and patriarchy are mitigated, women and women's contributions to society will still be regarded as unimportant.

Why is this research important in natural resource management?

Natural resource management issues are often ecological, economic, and social. For instance, the water quality in the Great Lakes is important ecologically for the

maintenance and preservation of habitat, species, and the water body, but because of the various human uses on the Lakes, such as fishing, swimming, and boating, management of the Great Lakes have economic and social implications and importance. Traditional natural resource management and science is performed from a reductionist framework. Some ecosystems and species that were studied for management purposes incorporated human uses, value, and impacts on these resources in a limited manner.

Natural resource management only recently has begun to address what management means to the public who use resources. Incorporating people and human uses into resource management is becoming increasingly common to better manage resources. However, adding human dimensions into management can be potentially ineffective if the user groups of the natural resources that are being managed are not informed of the management plans and decisions. In addition, preventing user groups and citizens from helping to design projects intended to garner increased public participation leads to reluctance by community members and stakeholder groups in adopting natural resource management plans. This reluctance on the part of management agencies to inform the public on management decisions or on natural resource problems stems from the complication in explaining the issue and management plan to the public in a manner that is understandable and acceptable. Additionally, different individuals, such as women, may look at a problem from different perspectives. However, these different perspectives can be great sources of insight for producing effective and acceptable management plans.

Actively seeking women's perspectives in natural resource management is important for equal representation as well as understanding how and why resources are valued by women who are mothers and/ or environmental professionals or environmental

volunteers. Women may be able to contribute their perspectives as mothers or as resource users in order to help devise solutions. As well, since women prefer to collaborate, they can help ensure that all voices are heard and that the decision is accepted and understood by all involved stakeholder groups.

Many natural resource governmental agencies and environmental laws require public participation and the agencies design the means for conducting participation. My research reveals instances where women's ideas and concerns were not taken seriously by government officials at public hearings. As well, due to domestic responsibilities and reluctance to speak, women who are concerned about natural resource issues may not attend public meetings. If public participation workshops are designed in a way that impedes women's involvement, then not all stakeholders' opinions are represented and addressed, which leads to inadequate management. User groups and citizens will be further reluctant to promote and accept management plans because of not believing their voices and opinions have been heard. Including women in public participation design will lead to greater likelihood that women will participate, because the workshops will be flexible enough for women to balance careers, domestic responsibilities and public participation. However, what is important to understand is that although there might be increased representation of women or other groups in a management setting, if these women do not feel comfortable or if they are included in "token" roles, then the collaborative effort is unsuccessful. Women may be less reluctant to contribute and voice concerns at meetings if there are no other women present and if public participation methods are designed in a way that are uncomfortable for women. Based on women's primary role in society as caretakers and because women tend to focus more on

community and family issues than men, women natural resource managers would be more conscientious of work schedules and times of meetings, because of the difficultly that some participants may face with conducting meetings after their children's school, finding baby-sitters, ensuring dinner is available for their family, and also locations of meetings.

To combat ineffective public participation, co-management and adaptive management designs lead to greater acceptance of management plans. Co-management brings agencies and community members together to collaboratively design management plans. The community implements the plan and monitors resources, and the governmental agency offers guidance and assistance. Because of the collaborative approach and since the community has responsibility in managing resources, management plans are readily accepted by user groups. Adaptive management workshops also seek to bring various stakeholders, government agency managers, scientists, academics, economists, and policy analysts together to design broad management objectives. All concerns of representatives are presented and the group collaboratively works to design a model and management plan. Allowing representatives from all sectors of a population that use or depend on a natural resource to voice concerns in a comfortable setting leads to stronger management. A diversity of representation and ideas produces more effective natural resource management policies.

Another reason why this research is important in natural resources is to understand that women have had important roles in conservation. By not acknowledging or recognizing the contributions of women to Great Lakes protection, we are allowing for

the continued marginalization of members of the population. Recognizing contributions of underrepresented groups should encourage increased participation.

Researcher Reflections

Summarizing my research experience in a thesis proved to be much more difficult than I had anticipated. I was continuously aware and conscious of how this thesis might be interpreted by those who may read it. The interviews conducted for this research provided much more insight and information than was included in this thesis. Themes that contributed to understanding and answering the research questions were presented here. However, many other themes and important information were revealed during the interview process. For example, an important theme that emerged from this research was the childhood experiences of these women. These women all grew up on the Great Lakes and spent much of their time recreating on the Lakes. Their parents instilled an appreciation and respect for nature. Chase summarized this connection best when she said, "...if you can go down and put your hand in the water, you then will take care of it." These women's stewardship and motivation for conservation is likely due in large part to their childhood exposure to the Great Lakes, which could be a reason for the concern and commitment to the community they were raised in, the GLB.

Another important concept that emerged was that these women did not use their gender as a limiting factor for their conservation work. Rather than playing the role of victim, or as "queen bees," these women worked within the systems that were creating difficulties and barriers for them to promote conservation and to prevent being discredited by their male counterparts. They educated themselves on issues to prevent them from being discredited for not being informed or being too emotional. They

collaborated with others to have strength in numbers and diverse knowledge to combat power differentials between men and women.

Having the opportunity to sit and interview these women and witness their respect and concern that future generations will continue to work on conservation issues was inspirational to me. Unfortunately what cannot be articulated in words is their commitment to the Great Lakes and their determination to make an impact to conserve, protect, and preserve these water bodies. Rather than working on these issues to further their careers or to gain recognition, these women's motivation and focus lies solely on their concern and passion for the Great Lakes. During interviews with Elder and Botts, both revealed their concern and uncertainty about the role the next generation of Great Lakes advocates will play and even whether there will be a next generation of conservationists. Elder explains,

> I think there is lack of a regional vision for the Lakes. The public is checked out and doesn't have faith in the government solution. I also think there is, from our research, a real sense of lack of urgency. It worries me, there's a quote from Sarah Stein that says, 'The next generation will not grieve what it does not know.' If we don't know winter, if we don't know crisp, clean Lake Superior, if we don't know the lake trout, if we don't know Pictured Rocks National Lakeshore when it was still wild, how will we grieve it? If we don't feel any sense of loss, what will motivate people to take action?

Rather than give up on conservation work, however, these women are committed to continuing the work and trying to engage the younger generation to understand what has already been accomplished, the history of Great Lakes conservation projects and

policies, and how to work within systems. This is evident by the continued advocacy work by Barber, Becker, Botts, and Chase, who all have been involved in Great Lakes conservation for forty years. All of my research participants are committed to engaging youth to continue the legacy of Great Lakes conservation. Becker chose to "infect" the next generation of conservationists and environmentalists by becoming an international environmental policy professor at the University of New Hampshire. Botts worked for six years, from 1997 to 2003 to create a residential environmental education center. She now teaches elementary and high school students about environmental issues. Krantzberg created an internship opportunity program for students and young adults to gain work experience and exposure to the International Joint Commission. "I think going to the children is extremely important. We owe it to ourselves to be doing that. We owe it to our children and our children's children," stated Ginnebaugh. These women discussed the significance in being involved in service work. Protecting the Great Lakes was perceived as providing a service to the community and to the Great Lakes Basin. Working on issues to better the earth and preserve resources for future generations is of utmost importance to them. They felt it was their moral obligation to keep the Great Lakes intact for the children.

Another emergent theme was the belief that more women than men are studying natural sciences and natural resources at the university level and are working in the environmental field than men. Becker, has noticed that every year the percentage of women in the graduating class at the University of New Hampshire has increased.

> I keep wondering in my classes why the vast majority of students are women. Is it because women are attracted to natural resources management as a career more

than men because ultimate income and power may be less important than meaningful work? I think that is probably true. I think women want to be able to support themselves but I've got some pretty good informal evidence that meaningful work is more important to women and they are more likely to be concerned about what is going to affect the next generation.

Harris also believes that women are more likely to enter natural resource conservation and environmental protection because of women's connection to home and family.

With the first generation of natural resource government agency professionals nearing retirement, many opportunities for women will be available in government, where traditionally men held positions of power. The "glass ceilings" and "old-boy network" mentality could disappear granting easier access to women in these environmental and conservation careers. The increasing number of women entering the environmental field choosing water and policy issues for their education, also allows women easier access to these careers and greater opportunity to make an impact and be heard by colleagues and others involved in Great Lakes conservation.

Research Limitations

Eight women were included in this study in order to obtain an understanding and documentation of their accomplishments and experiences as Great Lakes advocates. Because of this small sample size and because my research participants were chosen not only based on their achievements but their accessibility for interviews, generalizations of women advocates and the barriers they encounter are only limited to the research participants. Since no men were included in this study, this research is unable to fully determine if there are work-style differences between men and women Great Lakes

conservationists and if gender barriers do exist in Great Lakes work. Comparisons made between women and men were constrained to existing empirical literature on gender differences in work-style, leadership, and environmental concern.

As reported in feminist theory and environmental justice literature, socioeconomic, ethnic and racial differences can lead to diverse perspectives and barriers for women in society. All of the women included in this study are Caucasian and have earned at least a Master's degree. Therefore, this research does not consider socioeconomic, ethnic and racial differences between women advocates and acknowledges that women of differing socioeconomic status, and race and ethnicity may have had different experiences and perspectives as Great Lakes advocates.

Four of the women included in this study became involved in Great Lakes work thirty to forty years ago. Some of the information they revealed during the interviews could be inaccurate due to the difficulty of recalling past events. In terms of researcher bias, the researcher, regardless of the continued involvement and engagement of the research participants, could have misinterpreted the interview data. The interview data could also be imprecise due to the research participants misunderstanding the questions or revealing information they thought the researcher was interested in hearing rather than what was encountered or occurred, thus leading to reactivity.

Despite these limitations, however, this research is able to present the conservation contributions of these women in life histories and identify gender barriers they felt they encountered as women advocates. Additionally, this research presented the parallels between my research participants' work style and environmental motivation and the empirical literature. These women are accomplished advocates and despite barriers

and their work approach were able to contribute significantly to Great Lakes conservation. The barriers these women encountered did not prevent them from continuing to work on conservation issues and they worked within constraints to ensure that the Great Lakes are protected for future generations.

Appendix A

Initial Interview Guide

What is your background in the environmental field in terms of educational and work experience?

How did you become involved with Great Lakes conservation?

What were the specific projects you were working on for the Great Lakes?

What do you feel are your greatest accomplishments in terms of Great Lakes conservation?

Probe: Do you feel accomplishments were recognized?

When you first became involved with Great Lakes issues, what was the ratio of men to women?

And the current ratio? What about the ages ranges of men and women?

How do you feel currently about the representation of women in the Great Lakes field?

Do you feel you were ever discriminated against because you are a woman?

How difficult was it for you to become involved in Great Lakes issues?

How was your relationship with the women you worked with?

How was your relationship with the men you worked with?

From a gender-perspective, who would represent the upper echelons of decision-making?

What would you like to be remembered for in terms of Great Lakes conservation?

Appendix B

Table of Coded Emergent Themes from Interview Data

Tag	Theme/ Concept	Definition	Example from Interviews
MULT TSK	Multi-tasking	Working on multiple projects and tasks, while balancing domestic and work responsibilities.	"I spent probably 80% of my time doing the Collingwood Harbour RAP and 70% of my time doing everything else. It was a very busy time."
OVRT DISC	Overt gender discrimination	Gender discrimination acts that are easily identified as objectifying or marginalizing women by verbal or body language.	"There was a time when I was lobbying in Washington DC when I was literally chased around a desk by a congressman. It sounds unbelievable and my psyche was not prepared for it."
PSN	Passion/ Commitment to Lakes	Explicit explanation of the passion one felt for the Great Lakes as being motivation for work.	"It was such an unappreciated, magnificent natural system that the country seemed ready to throw away if it were convenient."
MEN DM	Men as decision-makers	Men holding executive positions, or positions where final	"One of the things I noticed was

		decisions are made.	there were never very many women on the Board and that always struck me."
OB NTWK	Old-boy network	The same types of people encompassing an upper decision making echelons and hiring similar people based on similar socioeconomic backgrounds.	"I certainly stuck out because I was young and female and it was an old-boy network."
MALE DOM	Male dominated environment	Work experiences, board memberships, or volunteer experiences where ratios of men to women favored men.	"In my work around the Great Lakes, what I tend to find is there are more men in the senior levels of government by miles."
NOT CLM CRED	Not claiming credit for work	Literary comparison of women's work style of not claiming credit for contributions.	"I don't mean to claim credit for it." "I don't go to bed at night and say 'gee, I've never been recognized,' because it doesn't matter."
POLIT	Politics	The explanation that decision-makers make their decisions based on their own requirements without recognizing public input.	"An example would be, we had a binational RAP in Detroit and we would hold meetings on the

			Canadian side and it would never be covered by the US press. We would say why and they would say, 'it's Canadian.' We would hold press conferences on a regular basis and we always had the Canadian press there. But the US would never come and we could never get articles."
WMN STD	Women's standards to follow	An understanding that women have to follow a traditional role in order to be taken seriously by men or other women at meetings and hearings.	"If you wanted to be taken seriously as a professional, you not only had to dress the part, you had to be a woman who was trying to look like a woman, not a woman trying to look like a man."
UNSUNG	Unsung accomplishments	Achievements or contributions by these women that have major impacts on people or conservation without anyone but the women knowing who	"It's having an idea, struggling with a problem, having an idea on how to

		accomplished it.	solve it and talking to a lot of people and gradually hearing people talk about the solution and adopt it as if it were their own idea."
ACCOM NOT REC	Accomplishments not recognized	Achievements or contributions made that go unrecognized.	"I was involved in lobbying Great Lakes issues in 1979-80 and no one knew it."
MEN STF WMN VOL	Volunteer work	Men in leadership and staff positions as professionals and women holding positions as volunteers.	"A lot of my extra-curricular activity was environmental ." "I think the hard workers are still women, the women volunteers." "Most of the staff people that were giving the RAP teams were men."
COLLAB	Democratic/ collaborative work style	Working in a manner where all voices and ideas are heard and people of different backgrounds and areas of expertise work together.	"Most of the women I worked with in the Great Lakes field are similar. They are more comfortable and believe more is accomplished

			in a group setting."
COMM UN COMMIT	Commitment to community	Motivation and commitment toward conservation stems from concern to protect and help community.	"They respected my knowledge of the local community. When I brought things to the table they listened."
SERV WK	Service work	Work to serve a greater purpose for bettering the community, with little intention for personal acclaim.	"That's why I think going to the children and instilling a sense of pride and respect for these Great Lakes is very important. We owe it to ourselves to be doing that. We owe it to our children and to our children's children."
BHND SCENES	Working behind the scenes	Working in lower levels of professions or in working in a manner to prevent personal recognition.	"Women have always been expected to pitch in without necessarily a great deal of recognition."
GOAL ORIEN	Goal oriented	Focusing on the goal or end product while accepting or working against barriers along the way.	"Women can achieve the goal, be a part of it, and feel good about it. I think women are more interested in achieving the

			goal without having our names stamped all over it."
DIFF AFF CHNG	Difficulty affecting change	Barriers to reforming or changing policies for the Great Lakes.	"My environmental work was in part diluted because I had this other life, the scholarly life... I think I was spread too thin to make a major impact but that is all right."
NOT TKN SER	Not taken seriously	Instances of having ideas ignored or questioned, or being demeaned or marginalized without reason.	"I remember a speech that I may have mentioned during our first meeting that said, 'Isn't it nice to have nice young ladies involved in politics. But dear, we need to stick to the facts here, not all this emotional stuff.'"
NOT HEARD	Not being heard	Being overtly ignored or having ideas not acknowledged by colleagues.	"If you were a woman they did not hear you. ... I was talking with one of them and I said, this is the way it really is and

			you have to look at root causes. He didn't hear me. It just wasn't registering. Then some man came up and said the same things I had and then he paid attention."
GLASS CEIL	Glass ceilings	The understanding that achievements stop at a certain level and the upper echelons would be visible but not attainable.	"There was often an assumption that you were in it temporarily and then you were going to 'settle down.' There were a fair number of women in the lobbying roles for the field reps, but the positions of power were almost always men, almost always white men. I can't think of any exceptions to that. "
QUEEN BEE	Queen bee	Women who refuse to listen to other people because of a belief that they are always correct, women who feel threatened by other women.	"There are women who have been in difficult situations because they are highly insecure and

			highly arrogant. They work on the presumption that if they are not listened to because they are women."
FAM COMMIT	Family commitment	Motivation and commitment to work to protect or help the family.	"I look at Lee Botts who is now in her late 70s. Her ambition is that her grandson still has a wonderful Lake Michigan. She is highly motivated for little Alexander, not herself."

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