

**ENVIRONMENTAL JUSTICE ADVOCACY WITHIN
PUBLIC HORTICULTURE INSTITUTIONS**

by

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fulfillment of the requirements for the degree of Master of Science in Public
Horticulture

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EPIGRAPH

“I have seen something else under the sun: The race is not to the swift or the battle to the strong, nor does food come to the wise or wealth to the brilliant or favor to the learned; but time and chance happen to them all.”

Ecclesiastes 9:11

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ABSTRACT

Environmental justice advocacy from community based organizations remains a necessary tool to protect nature and people. Public horticulture institutions are equipped with scientific experts to support community capacity, aid justice, and augment social relevancy. This thesis research examined the perceptions of horticulture institutions and other cultural institutions as it relates community, environmental issues, and environmental advocacy. Targeted surveys and case study interviews were conducted with leadership in public horticulture and related fields to gain insight.

The findings illuminated a gap between the levels of acknowledged capacity by public horticulture institutions to address environmental issues and the level of advocacy actions taken by those same institutions to educate, empower, or influence, the larger community, policy or patrons. The case studies demonstrated effective ways to engage a variety of audiences and impact environmental policy consistent with the mission and vision of the organizations. Subsequently, recommendations were made for public horticulture institutions to potentially engage their patrons and communities in ways that protect people, protect nature and strengthen relationships.

Chapter 1

INTRODUCTION

The Environmental Protection Agency (EPA) defines environmental justice as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies (EPA, 2011). The EPA describes environmental injustice as situations where communities believe that the goal has not been achieved because of their belief that there is disproportionate exposure to environmental harms and risks. Some examples of environmental *in*justice include illegal dumping of everything from trash to the use and improper disposal of harmful substances such as PCB (polychlorinated biphenyl) or DDT (Dichlorodiphenyltrichloroethane) (Bullard, 1990; Karr, 2006; Carson, 1962).

These injustices have been documented across a range of communities and organizations including the Journal of Environmental History, the Sierra Club and the Deep South Center for Environmental Justice, among many others.

A multifaceted approach including but not limited to educating the public, supporting grassroots advocacy, and taking political action, are critical to ensure environmental justice and limit environmental injustice.

Ample opportunities for environmental justice advocacy are readily available for institutions within public horticulture to take on a more active and public role to support both local and national issues to prevent environmental injustice.

Public Gardens Role and Environmental Issues

Public gardens, like museums, are regarded as cultural institutions. More so, public gardens and museums are reflections of societal norms, expressions of cultural norms and resources for historical and contemporary information (Rakow and Lee, 2011). In order to maintain cultural relevancy within different and diverse communities, these organizations must demonstrate how they are germane to contemporary and historical issues within the public interest and in line with public agendas (AAM, 2002; Carr, 2011). Public gardens, by design, are often equipped with a diverse group of experts including horticulturists, botanists, land stewards and chemists, just to name a few, who have the knowledge base to explain the significance and defend the need for natural resources (Rakow and Lee, 2011). Thus, public horticulture can be considered the intersection of people and science. More specifically, institutions within public horticulture described as organizations that “strive to enhance the quality of life for the public through plant display, education and interpretation, conservation and research as well as outreach. (Center for Public Horticulture, 2010)

Public Horticulture is a prime vessel for environmental justice advocacy. Along with other cultural institutions, public gardens are joining in the climate change conversation largely by providing environmental education through programming that

is typically targeted toward youth both nationally and globally (BGCI, 2009). These introductory courses can serve as great bridges to address and investigate larger environmental conditions. However, this is not enough to effectuate lasting change. More people need to be empowered to fight environmental injustice.

Robert Putnam's theory of social capital suggests "networks enable participants to act together to effectively pursue shared objectives" (Gittell and Vidal, 1998). Therefore, as natural resources become more threatened and climates fluctuate, a collective and concentrated effort is required to make significant improvements to reduce and end degradation to the environment and simultaneously improve public health. These are overlapping goals among community residents, advocates for environmental and ecological justice as well as institutions within public horticulture.

Community Based Involvement in Environmental Justice

Direct and often the community in closest proximity of the issue suffers the most serious consequences of environmental injustices. However, it takes a coalition of community members, experts, and a variety of advocates are needed to effectively change the course of injustice (Bryant and Bailey, 1995; Bullard, 2005). The key to maintaining, creating or sustaining a healthy community free of toxins is to strengthen the relationships within the community, especially grassroots organizations (Hillman, 2002).

Uniting a variety of public and private institutions including religious groups, civil rights groups and community-based organizations, as a diverse coalition is essential to achieving environmental justice.

Environmental maladies strike indiscriminately among a plethora of communities. For example, Native American Indians have long suffered the consequences of political decisions of the US government. In the 1950's the mining of uranium on Indian lands caused long-term illness due to exposure of nuclear reactive substances through the excavation process as well as the improper disposal of nuclear waste. Additionally, there were significant economic impacts to communities of Native American Indians through land leasing processes fraught with government corruption (Byrne et al., 2002). Native American Indians and other groups have reframed the definition of environmental justice to include a process that is participatory, inclusive and democratic.

Injustice also encompasses the permitting and placement of a saturation of industrial companies. According to the Deep South Center for Environmental Justice, "The stretch of the Mississippi River Chemical Corridor from New Orleans to Baton Rouge, also called "Cancer Alley," has 136 petrochemical plants and six refineries, and these facilities are located in close proximity to mostly African-American communities." (Bullard, Mohai and Saha 2008)

Another group that has suffered injustice are Asian and Pacific Islanders who have established a network of peoples and community along the West Coast, to take a unified stand against past atrocities and prevent new transgressions of polluters. The Asian and Pacific Environmental Network (APEN, 2005) explains environmental justice differently from the EPA:

Environmental justice is the right to a decent, safe quality of life for people of all races, incomes and cultures in the environments where we live, work, play, learn and pray. Environmental Justice emphasizes

accountability, democratic practices, equitable treatment and self-determination. Environmental justice principles prioritize public good over profit, cooperation over competition, community and collective action over individualism, and precautionary approaches over unacceptable risks. Environmental Justice provides a framework for communities of color to articulate the political, economic and social assumptions underlying why environmental racism and degradation happens and how it continues to be institutionally reinforced.

Other experts and researchers define environmental justice in a more personable and user-friendly manner. For example, Dan Faber defines it as “unequal access to healthy and clean environments, including environmental amenities (Faber, 2002). According to Bryant, it is broader in scope than environmental equity.

It refers to those cultural norms and values, rules, regulations, behaviors, policies, and decisions to support sustainable communities, where people can interact with confidence that their environment is safe, nurturing, and productive. Environmental justice is served when people can realize their highest potential, without experiencing the 'isms.' Environmental justice is supported by decent paying and safe jobs; quality schools and recreation; decent housing and adequate health care; democratic decision-making and personal empowerment; and communities of violence, drugs, and poverty. These are communities where both cultural and biological diversity are respected and highly revered and where distributed justice prevails. (Bryant,1995) .

Although definitions of environmental justice vary from government to community groups there is a common thread in each perspective. The commonalities include safe communities, safe quality of life, and safe environment for all people. One of the largest differences between the aforementioned definitions is the opportunity to set a framework of self-determining, democratic, proactive approach for the people who will be impacted by proposed developments. The limited stance taken by the EPA

does not explicitly describe the necessity of or the right of public input in such democratic and participatory ways.

The Need For Public Gardens To Advocate For Environmental Justice

While climate change becomes more evident through increased natural disasters, rising temperatures and elevated coastlines, eliminating environmental injustices grows increasingly important. Closer examination reveals the commonalities between environmental injustice and the relationship to climate change. Vulnerable communities that are and will be affected by sea level rise will require significant support for the members who lack the resources to adapt or relocate.

James Karr's position on science and policy is very clear in "When Government Ignores Science, Scientist Should Speak up"(Karr, 2006). Scientists epitomize the power of voice, knowledge and action. Thusly, scientists are critical to the process of rectifying and altering the course of action to protect nature and humans. Public gardens have the scientific expertise and existing membership base to leverage support for environmental justice in unique, exciting and important ways. Although current programming offered by many public gardens focus on active learning, such as continuing educations programs for professional and graduate studies, public gardens have much more to offer (Rakow and Lee, 2011; Bienvenist, 2006). As gardens actively engage their audience about global issues centered primarily on plant conservation, their roles are changing (Rakow and Lee, 2011; APGA, 2006). Gardens are more actively involved in what is known as ecological justice. Daniel Faber defines ecological justice in his book, *Strugge for Ecological*

Democracy, as efforts including protecting, restoring, and conserving nature, biodiversity, species and ecosystems (Faber, 1998). Gardens are also shifting to become leaders in sustainability, energy efficiency, and natural resource management efforts by refining internal systems and infrastructure (Rakow and Lee, 2011; APGA, 2006; BGCI, 2011). Sharing the expertise of natural resource management and protection, and sharing the expertise of reducing the amount and manner whereby materials are consumed, position gardens as integral to the environmental justice movement. David Carr, author of Open Conversations Public learning in Libraries and Museums, expounds on the value of collaboration between institutions for the benefit of the public and the institutions. The results include increased patronage, increased literacy, as well as a strengthening of capacity and education for staff and patrons (Carr, 2011). Thus, public gardens need not begin a new initiative against environmental injustices rather collaborating with other organizations is key and advantageous (BGCI, 2011).

The objective of this research is to explore the advocacy role of public gardens and the resources deployed on behalf of marginalized communities in order to address environmental injustice. Specifically, this research will investigate four elements on behalf of the institution. First, assess the perception of the organization as an asset of the community. Second, examine the perceived role of the organization as a scientific resource. Third, examine the attitude of the establishment regarding involvement in environmental justice. Lastly, explore perceived linkages and barriers to involvement. Recommendations for mobilizing these audiences will also be developed from the findings of this research.

Chapter 2

LITERATURE REVIEW

Scholars have documented the traumatic problems of communities and ecosystems as direct result of environmental infractions across the United States for a considerable amount of time. (Bullard, 1990; Bryant, 1995; Byrne, Glover and Martinez, 2002; Bullard, et al 2008; Faber, 2002; 2005). Academics, grass-root organizations, social justice leaders and environmentalists have examined and challenged the effectiveness of legislative tools to protect all people and species. The United States Environmental Protection Agency (EPA) governs environmental legislation and regulation. It has established guidelines and definitions through legislation that articulates the exact meaning of environmental justice. The EPA has defined environmental justice through a set of policies, laws and regulations that protect individuals and communities, and it should be upheld without regard to ethnicity, income or location. The legislation is a strong acknowledgement of the relationship between poverty and pollution (EPA, 2011). As explained by Bullard in “Dumping in the Dixie” (1990, 1994, 2000), poor and minority communities were still being overlooked and underserved. Several groups viewed this as serving only the environmentally elite. The influence of continued pressure and documented injustices from advocates resulted in President Clinton issuing a 1994 Executive Order 12898 in 1994. This predevelopment preventative measure was added to defend communities

facing public health challenges posed by industry-induced toxic environments. The Executive Order assembled a seventeen member working group of interagency officials tasked with researching conditions of human health and environments, disseminating information, engaging the public, and developing environmental justice strategies (Executive Order 12,898). The framework that environmental justice is built upon is civil rights legislation and human rights legislation. Executive Order 12898 reinforced with two existing laws, the Civil Rights Act of 1964 and the National Environmental Policy Act of 1969 (Bullard, 2005; EPA, 2011). The former prohibits discriminatory actions from programs recipients of federal funds and the latter ensures “all Americans a safe, healthful, productive and aesthetically and culturally pleasing environment” (Bullard 1990; Bullard, 2005; EPA, 2011).

In 2003 the Commission on Civil Rights released an evaluative report of Executive Order 12,898, called Not in My Backyard: Executive Order 12,898 and Title VI as Tools for Achieving Environmental Justice. The report found the EPA’s level of responsiveness to complaints was poor, at best. The involvement and outreach efforts by the agencies needed improvement. Additional funding for research and staffing was needed in order to become more effective. Evaluation and criteria were needed for guidelines, as was a larger accountability process. The 2003 report demonstrated that little progress on behalf of marginalized communities had been made in nearly ten years since implementation.

Substantive environmental change evidently requires more than governmental policies, but rather a collective agreement among constituents as well as enforcement (Shellenberger, Nordhaus 2004, Gelobter, Goldtooth et al 2004, Karr

2004; Bullard, 1990). Furthermore, industries, social justice movements, and grassroots organizations must unite in order to fight environmental challenges. Understanding the interconnectivity between people, policy, and resources is key to the success of environmental justice within the global community. Shellenberger and Nordhaus authored a controversial essay entitled, “The Death of Environmentalism,” (2004) whereby the writers acknowledged the disconnection between community, activists and government. This discourse also addresses the importance of conservation but contends that conservation in isolation does not serve the global crisis. In the same body of work, Shellenberger and Nordhaus declare that environmentalists have assumed that the success and framework established over thirty years ago is sufficient to move policies forward today and address climate change. Furthermore, the policies of yesterday and the notion of protecting “the environment” with those policies are insufficient. The policies are ineffective for labor improvements, industry improvement and lacked the long-term leverage to impact governmental decision making. Thus the movement is dead. Gelobter (2005) emphasizes the importance of returning to community and interconnectivity for alliance building to gain effective change. More importantly, he addresses the potentially significant impact of focusing resources towards specified targets, such as labor unions and alternative energy businesses, with the understanding that global climate change impacts economies and environments. This angle of conversation may compel additional allies.

The environmental justice paradigm is to create a holistic approach to forming regulations and policies, in addition to protecting and reducing the risk for all

communities (Bullard, 2000). Another point of contention for cities throughout the United States is that industries, in particular, find ways into low economic communities under the guise of job creation. The introduction of jobs in to a community is not always advantageous for the residents of the community. The employment opportunities are not guaranteed or specified for existing residents. Furthermore, industries are drawn to minority and low-income communities due to the lower land acquisition costs and the tax incentives, which are beneficial to the owners and investors. The placement of a business or industry within an economically disadvantaged community is not a guarantee of an improved quality of life for any community member (Bullard, 2000). The framework also sets out to eliminate unfair, unjust, and unequal decision-making processes. Bullard (2000) highlights four points that are essential to the progress of environmental justice. They include adopting a public health model of prevention, shifting the burden of proof to the polluters, testing prior to approving, and evaluating the disproportionate distribution of targeted resources. These four categories are policy platforms whereby communities and advocates can unite.

Overall, the environmental justice movement seeks equal protection and enforcement under the law for all communities, and also seeks to stop or reduce the amount of disproportionate industry dumping in minority and poor communities (Bullard, 1999). Historically, environmental issues within non-minority communities have been addressed much faster than minority communities, whether affluent or not (Bullard, 1999).

As previously described, EPA's inefficient execution and enforcement of its own policies leaves communities at a disadvantage. Bullard, Johnson, Waters, and Wright have researched and documented areas in distress due to environmental hazards. Wright and Bullard (2009) monitored the recovery efforts after Hurricane Katrina and found that nearly three years after the devastating hurricane, evidence of contaminated soil and water still remained. After continued requests, the EPA subsequently informed the Louisiana State Department of Environmental Quality to address the contamination. A second major disaster followed Hurricane Katrina along the Gulf Coast. British Petroleum's offshore drilling failure resulted in an oil release that had a catastrophic impact on ecosystems, livelihoods, and access to food for coastal communities. At least 205.8 million gallons of oil contaminated the Gulf and shores impacting the fishing industry, ecosystems, and access to the coastal communities (NOAA, 2001).

There is a movement among cultural institutions and grassroots organizations to strengthen community ties, while addressing environmental issues, and thereby effectively building social capital by sharing their expertise. Social capital in the realm of community development refers to people and institutions' dynamic and concerted efforts towards a common goal, meaningful interests and the power to act on behalf of that community (Chambers, 2003). The nationally recognized leader in the field of community development, Local Initiatives Support combines the perspectives of civic capacity and community building for the larger good (Gittel and Vidal, 1998). Justice for the environment directly improves the quality of life, the greater good.

Eco museum, *A Sense of Place* by Peter Davis (2000) suggests that museums need not reinvent themselves to address environmental concerns; they already have the potential to use objects creatively to interpret environmental issues. Relating objects to environment through the imaginative tools of the curator can prove more beneficial than costly prefab exhibits. Davis explains that museums should reflect their communities by means of scientific and technological development, cultural development, and lifelong learning. As a cultural institution, the museum should reflect the pulse of its community and larger society, including the social and cultural problems of the environment. In fact, eco-museums have evolved out of the dissatisfaction with their current state of visitor interaction, programming, etc. Cultural institutions need to deal with contemporary, social, cultural, environmental, political and economic challenges. The American Association of Museums (AAM) released, “Mastering Civic Engagement, A challenge to Museum,” which emphasizes the importance of maintaining cultural and current societal relevancy. The authors highly recommend that museums take a long introspective inventory of resources and programs then engage local people to jointly create a place of community responsiveness (AAM, 2002; Dodd, 2010). Rakow, Socolofsky and Burke echo a similar sentiment (2011). They call upon garden leaders to assess the critical shifts in science and society, and then determine how to address the issues in concert with the whole community by setting achievable and realistic goals for the betterment of science and society.

It is important to acknowledge that community is a social and political construct. The term community involves a variety of characteristics ranging from race,

socio-economic and geographic boundaries to name a few (Collins, 2010). For the purpose of this research, community will be subjectively used by the surveyed participants and geographical in terms of nearness to environmental harms.

An Opportunity for Public Gardens

Scientists, environmental advocates, public garden professionals, and museum administrators all agree that for environmental issues to be properly addressed, an interdisciplinary approach is needed (AAM, 2002; Whitmarsh, 2011; Bullard, 1990; Bullard, 2000; Carr, 2011; Dodd, 2010). Thus, the question becomes how does one create such a venture and how can public gardens leverage their existing programming to contribute resources to an interdisciplinary team? Current resources, such as scientific expertise, as well as members who can potentially advocate for responsible practices, are key to the infrastructure needed to achieve environmental justice. Martinez-Alier enhances the discourse of science by affirming that empowering advocates with scientific information and teaching scientists about social implications result in a holistic and self-sustaining defense (Martinez-Alier, 2011). In essence, empowering citizens, scientists, and politicians results in capacity building across all levels and can leverage the support necessary to create changes in policies and implementation (Carr, 2011). The entire community's participation is necessary to overcome injustice and neglect (Bullard, 2008; Byrne, 2002).

In summary, clean air, water, and safe living conditions are civil and environmental rights in the United States. Through significant studies the by Bullard, Mohai, Saha, and Wright the research identified that race remains a factor regarding

incidents of environmental injustices, therefore, minorities communities are still being targeted and exploited (2008). The enforcement of existing legislation for the protection of people and environment is lacking. Scholars, practitioners and laypersons have testified to the effectiveness of a diversified coalition. Public gardens have the scientific expertise to assist communities in distress from environmental injustices. At this juncture, the question is whether or not public gardens are willing to leverage resources on behalf of the public.

Chapter 3

MATERIAL AND METHODS

This research used both qualitative and quantitative methods that included two surveys, two case studies and three interviews. The participants were recognized leaders within the field of public horticulture, as well as other comparable organizations.

Case studies were included to examine the application of advocacy for policy implementation, to address active learning through educational programming, and to explore the influence of partnerships on the public horticulture and also with the community to address environmental justice initiatives.

In compliance with the guidelines of the University of Delaware's Office of the Vice Provost for Research, training for the researcher was provided in September 2011. The investigative design and content of this research was found to be exempt by the Human Subjects Review Board on July 25, 2011 (Appendix A).

Quantitative Data Collection

The surveys were developed to investigate the perspectives and actions of organization leaders related to local and national environmental injustice. They were constructed in accordance with generally accepted procedures (Babbie, 1998). Survey questions were drawn from topics including justice, sustainable development, community assessment, racism, and structural violence. Some questions were adapted

from the Modified New Environmental Paradigm Attitude Scale (Trobe and Actott, 2000) and the Environmental Attitudes Inventory (Milfont and Duckitt, 2010).

Quantitative data were collected through two electronic surveys through national not-for profit horticultural, museum and nature center organizations between July and November of 2011. The researcher utilized Qualtrics, a web-based survey program licensed by the University of Delaware to distribute the surveys.

With the help of the American Public Gardens Association, Association of Directors of Nature Societies, Museum Studies Department of the University of Delaware and the American Society for Horticultural Science the researcher distributed a survey instrument to the following lists for the express purpose of engaging horticulture and related professionals. 115 participants successfully completed the first survey.

- Administrators List
- Public Horticulture List
- Commercial Horticulture List
- Bioenergy List
- Human Issues in Horticulture List
- Local Food Systems List
- Organic Horticulture List
- Waste Utilization in Horticulture List
- International Horticulture and Issues List

This survey was designed to explore organizational perspectives from four specific elements that directly impact social and environmental justice:

- Perception of organization's relationship with community: Questions 7-23
- Perception of environmental injustice from organizational leadership: Questions 24-30
- Perception of organization's needs to get involved: Questions 30-38
- Employing tools used to address environmental injustices: Questions 20, 25, 28, 29, 38, 39, 40,41

A secondary survey was released to institutions that participated in the first survey for the purpose of exploring the conceptual differences and similarities between ecological, environmental and climate justice. The survey yielded a sample size of 40 participants.

- Position on Climate Change: Questions: 1-3
- Position on Ecological Justice: Questions: 4-8
- Position on Advocacy and Education: Questions: 9
- Position on Environmental Justice Questions: 7, 13
- Position on Active Advocacy Questions: 10, 11,12, 13

Qualitative Data Collection

Qualitative data were collected through two organizational case studies and two interviews with cultural institution professionals between December 2011 and March 2013. The questions for the case study were developed as a continuation of the

previously released surveys to further explore justice and advocacy intentions. The Graduate Committee reviewed the list case study questions.

The purpose of conducting case studies was to investigate to several factors. Each organization demonstrated influential roles in environmental justice advocacy and policy impact, significant community outreach, level of impact, environmental programming, policy impact, and key organizational philosophies as it relates to environmental justice advocacy. The organizations were selected from the initial survey from a pool of voluntary participants who expressed a desire to continue with the investigation of the subject matter. Additionally, an exploration of each of the company's website, printed and archived materials was conducted by the researcher for the express purpose of acquiring supplemental knowledge of ecological, environmental or social justice advocacy.

The institutions selected were small in size; however, the influence of the organization is far reaching. Interviews with the Executive Directors, relevant staff, volunteers or board members was arranged. All participants received consent forms and questionnaires prior to the interviews. The interviews were recorded and digitally transcribed (Appendix D).

Data Analysis

Quantitative data from the two surveys were analyzed using basic descriptive statistics. Both surveys utilized Likert scales that allowed for statistical analysis. The small sample size for both test prevented any significant statistical tests.

Qualitative data from the two case studies were analyzed for themes consistent with the survey data. Highlighting any reoccurring themes in the transcribed case study interview allowed the researcher to quickly code these items and identify the frequency.

The identity of survey participants was kept confidential. Participants who desired to leave their contact information for further investigation did so voluntarily. Case study participants signed an informed consent form, which provided the researcher the use of direct quotes, names of the organization and subsequent documentation. All raw data will be stored securely and destroyed two years after the collection date.

Chapter 4

RESULTS

This chapter includes descriptions of significant findings from two surveys and two case studies. The two survey instruments can be found in Appendix C.

Survey One: Cultural Institutions and Environmental Justice

Section 1: Profile of Participating Organizations

There were 172 survey responses of which 121 participants completed the survey. Incomplete responses were removed from this study prior to data analysis. Forty percent of participants were from public gardens and arboreta, followed by 19% who identified themselves as nature societies (Fig. 4.1).

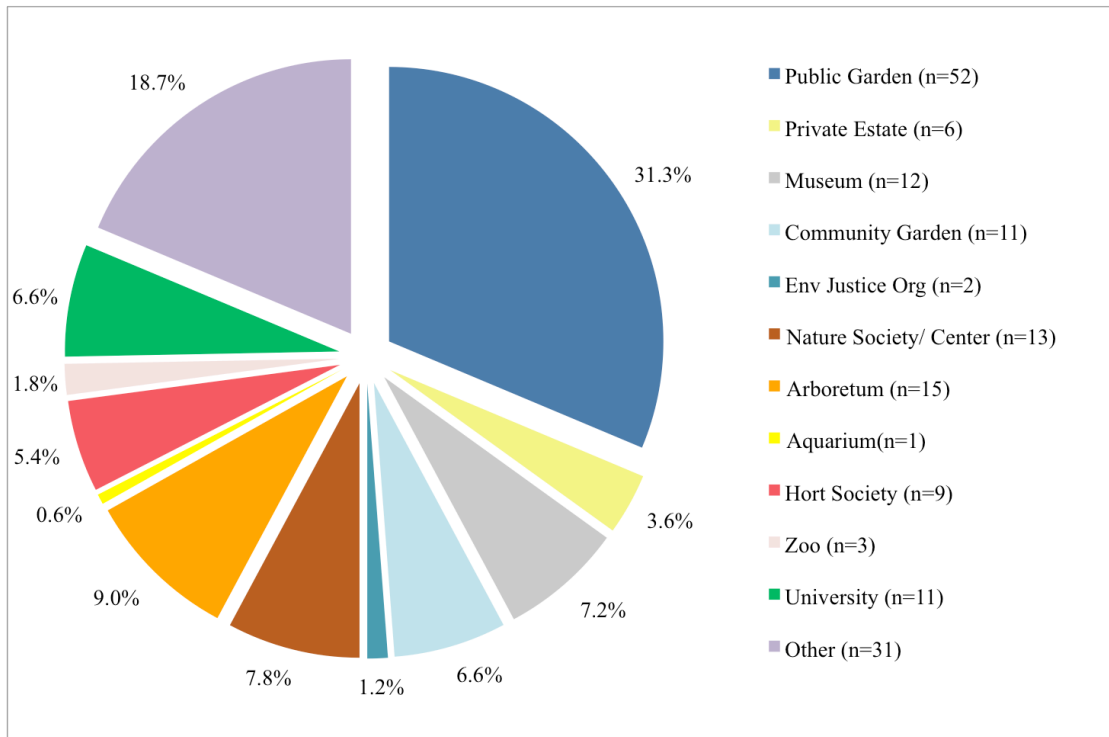


Figure 4.1 Survey 1: Distribution of Sample Population of Public Horticulture and Cultural Institutions

Geographic Distribution

Completed surveys were received from all U.S. states and territories, except for Maine. The highest numbers of responses came from North Carolina, with 16, and California with 11. Florida and the District of Columbia shared the third highest number, 7, from each. The majority of responding organizations identified their locations as urban, with those identified as suburban next (Figure 4.2).

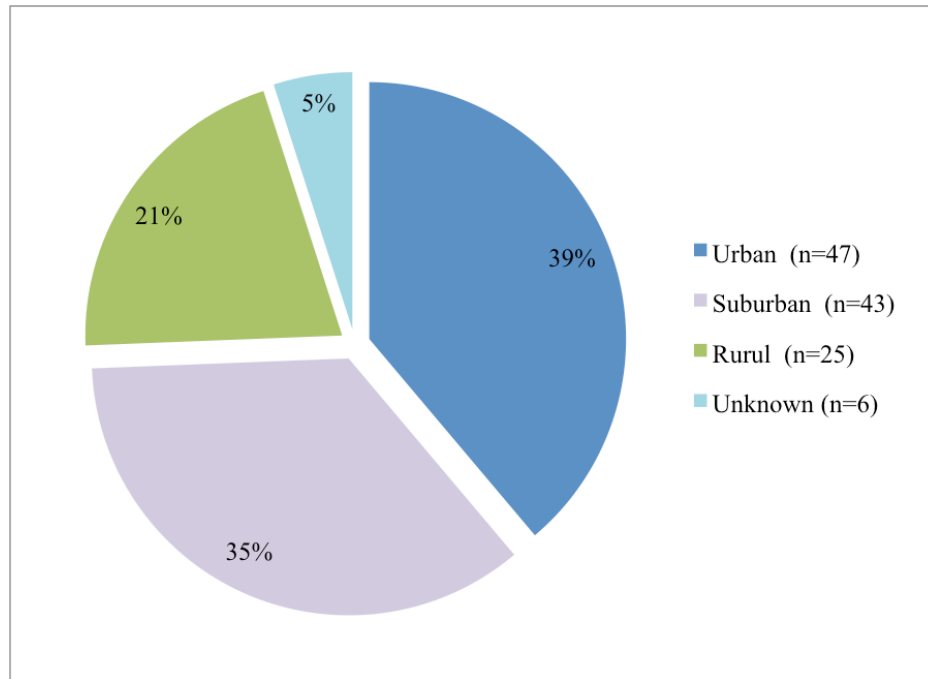


Figure 4.2 Survey 1: Participating organizations’ geographic distribution

Participants

Males composed 55% of the respondents and women 45% of the population. Of the 121 participants, 91.7% identified their ethnicity as White or Caucasian. Less than 1% of the population self-identified as Hispanic, African American, or Native Americans; 5% self identified as other.

The survey was open to the leadership and other staff of horticulture and cultural organizations. Of particular interest were the responses from those holding positions in education, advocacy or sustainability. When asked to describe one’s position at the organization, Executive Directors comprised the largest group of

respondents, followed by those identified as “Other” (Fig. 4.3). Write-in responses included researchers, instructors and faculty.

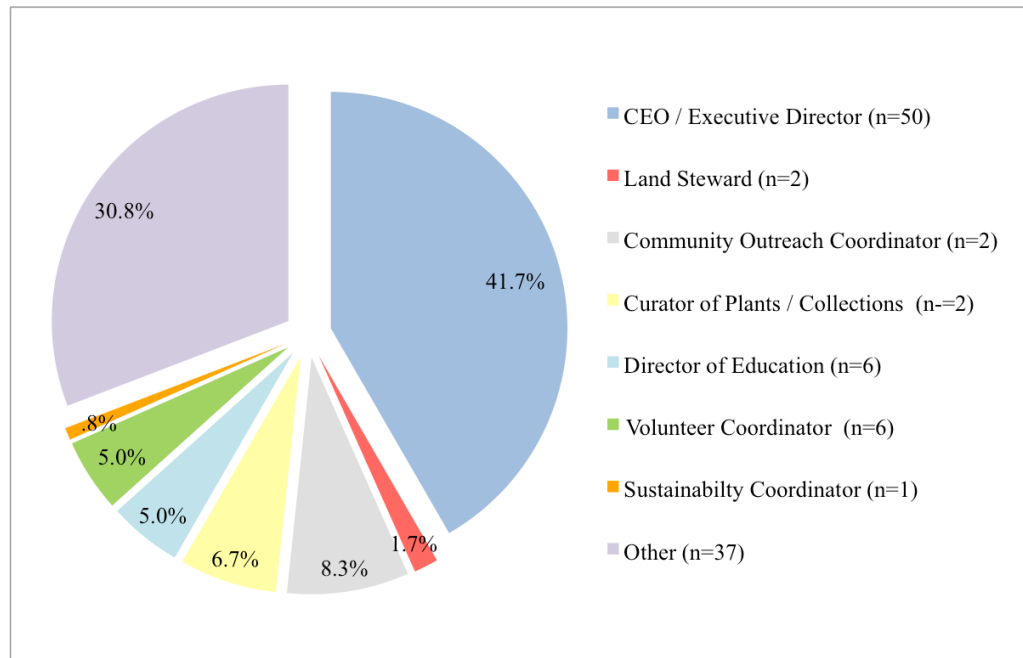


Figure 4.3 Survey1: Sample Population Distribution of Occupations

Seventy-six percent of CEO's and Executive Directors reported having been employed by their organizations more than five years. Executive Directors and CEO were also the largest group of respondents in the sample population.

Table 4.1 Survey 1: Distribution of Employee Positions held and Years worked at present organization

Years w/ organization	Position	CEO / Executive Director	Land Steward	Community Outreach Coordinator	Curator of Plants / Collections	Director of Education	Volunteer Coordinator	Sustainability Coordinator	Other	Total
0-4	Count	11	0	4	2	0	1	1	12	31
	% within Position	22.0 %	0.0%	40.0 %	25.0 %	0.0%	16.7 %	100.0 %	29.7 %	25.0 %
5-9	Count	12	1	2	3	2	2	0	9	31
	% within Position	24.0 %	50.0 %	20.0 %	37.5 %	33.3 %	33.3 %	0.0%	24.3 %	25.8 %
10-14	Count	8	1	2	2	1	1	0	4	19
	% within Position	16.0 %	50.0 %	20.0 %	25.0 %	16.7 %	16.7 %	0.0%	10.8 %	15.8 %
15-19	Count	5	0	1	0	1	1	0	3	11
	% within Position	10.0 %	0.0%	10.0 %	0.0%	16.7 %	16.7 %	0.0%	8.1%	9.2%
20-24	Count	6	0	1	1	1	1	0	3	13
	% within Position	12.0 %	0.0%	10.0 %	12.5 %	16.7 %	16.7 %	0.0%	8.1%	10.8 %
25-29	Count	3	0	0	0	0	0	0	5	8
	% within Position	6.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	13.5 %	6.7%
30-34	Count	3	0	0	0	1	0	0	2	6
	% within Position	6.0%	0.0%	0.0%	0.0%	16.7 %	0.0%	0.0%	5.4%	5.0%
35+	Count	2	0	0	0	0	0	0	0	2
	% within Position	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%
Total	Count	50	2	10	8	6	6	1	38	121
	% of Total	41.7 %	1.7%	8.3%	6.7%	5.0%	5.0%	0.8%	30.8 %	100.0 %

The majority of organizations surveyed, 86.6%, held the legal status of non-profit organizations. Less than 1% of organizations identified themselves as a foundation. Only 2.5% of the organizations surveyed identified themselves as for-profit organizations.

Participants provided information regarding the size of the total organizational budget for fiscal year 2012 (Fig. 4.4). Over 50% of the organizations reported budgets of less than \$1 million, with 24% of organizations having a total organizational budget ranging from \$1million to \$5 million.

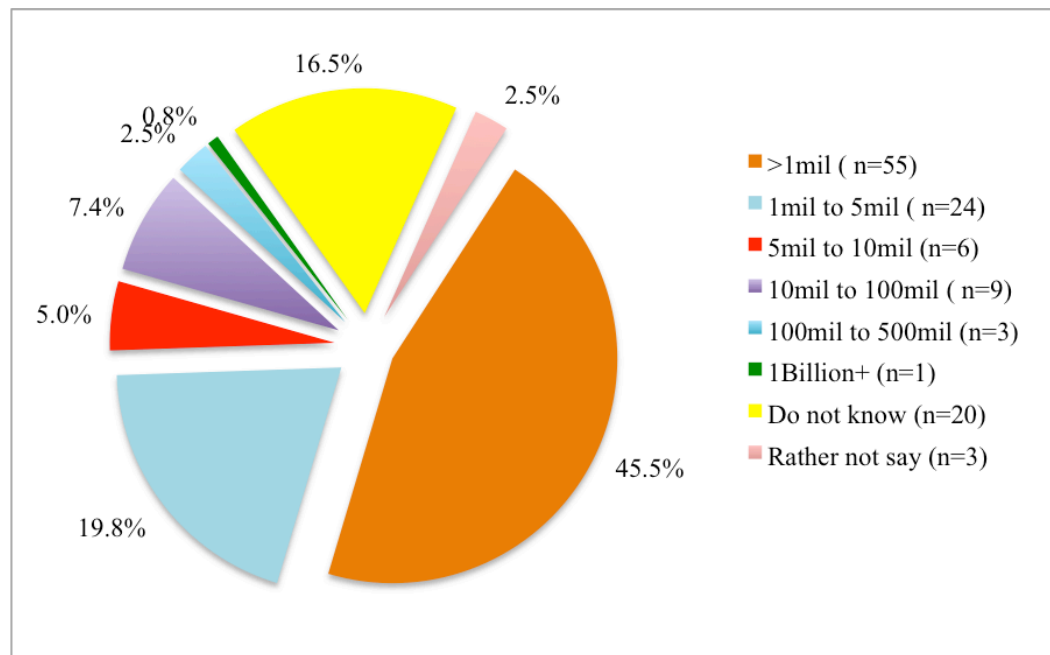


Figure 4.4 Survey1: Range of organizations' FY2012 budgets

Section 2: Perceptions of Organizations-Community

The majority of respondents, 70% reported positive relationships with their communities. The majority of the questions were answered affirmatively, with approval of over 70% of the respondents. Eleven of the 17 questions showed that participants agreed or strongly agreed with affirmative statements regarding their organizations at a 90 % or higher frequency:

- Your organization serves the local community.
- Your organization is an asset to the community.
- Your organization is an amenity, but not critical to the community.
- Your organization makes valuable contributions to the community.
- Your organization is socially relevant.
- Your organization has historically had a positive relationship with the community.
- Your organization historically has maintained a positive relationship with local government.
- Your organization improves the quality of life for visitors and community members.
- Your organization is a resource to environmental groups.
- Your organization is a resource to children in schools.
- Your organization is a resource for adults and continuing education.

Each of the 17 questions for this section demonstrated that organizations feel they have a positive relationship with their community. Public gardens and

arboreta reflected the response rate of the larger sample population and responded affirmatively regarding relationship with community with nearly the exact percentage points.

Section 3: Perception of environment issues and justice

Nearly all organizations agreed with a 90% frequency or higher that

- 1) Nature is a value regardless of any value humans may place on it (98%),
- 2) Science forms the basis for solving environmental problems (95%),
- 3) A change in basic attitudes and values are necessary in order to solve environmental problems (93%).

The participants agreed that injustice to the environment happens nationally (93%), and environmental justice is a cause worth supporting (94%). As a follow-up to the acknowledgement that science and attitudes are part of a solution to solving environmental ills, the survey invited participants to address organizational capacity as it relates to climate change and environmental justice. Seventy-three percent of surveyed organizations agreed they have the capacity to teach about climate change and 67% organizations agreed they have the capacity to teach about environmental justice. Eighty-nine percent of organizations agreed that stopping environmental injustice is the responsibility of the local community; public gardens and arboreta responded with an 88% rate of agreeing. Seventy-four percent of all surveyed organizations agreed their organization is needed to help end local environmental problems.

Sixty-one percent agree that environmental issues facing their community are the result of climate change whereas 39% disagree. Eighty-four percent of participants agreed that environmental issues facing their community are the result of decisions made by politicians, while 93% of all participants agree that environmental issues facing their community are the results of decisions made by business / industry. Only 3% organizations indicated that we face no environmental issues today.

Section 4: Environmental Advocacy Actions

The next section of the survey inquired about the frequency of some common environmental issues as it related to their community. Again, a Likert scale was employed to measure the frequency at which harms impact their local communities. Air pollution, illegal dumping, water contamination, noise pollution and soil contaminations were identified as the highest ranking while medical waste, nuclear waste, and access to clean drinking water were all identified as never being a problem (Table. 4.2).

Table 4.2 Survey1: Frequency of environmental harms within the community of the sample population

Environmental Issues	Frequency Always		Frequency Sometimes		Frequency Never	
Air Pollution	28.9%	(n=35)	61.20%	(n=74)	11.6%	(n=14)
Coastal Land Loss/ Erosion	28.9%	(n=35)	35.50%	(n=43)	36.4%	(n=44)
Illegal Dumping	34.7%	(n=42)	61.20%	(n=74)	4.1%	(n=5)
Littering	58.7%	(n=71)	41.30%	(n=50)	0.80%	(n=1)
Lack of drinking water	9.1%	(n=11)	28.10%	(n=34)	62.8%	(n=76)
Contamination of water	21.5%	(n=26)	64.50%	(n=78)	14.0%	(n=17)
Nuclear Waste	4.1%	(n=5)	15.70%	(n=19)	80.2%	(n=97)
Medical waste	5.8%	(n=7)	46.30%	(n=76)	47.9%	(n=58)
Noise Pollution	24.8%	(n=30)	62.80%	(n=76)	13.2%	(n=16)
Soil Contamination	20.7%	(n=25)	74.40%	(n=90)	5.0%	(n=6)
Other	16.5%	(n=20)	19.00%	(n=23)	64.5%	(n=78)

Participants were asked to identify the ways their organization supports environmental justice and select the frequency at which they engaged in a variety of advocacy on behalf of their local communities (Table 4.3).

Table 4.3 Survey1: Frequency of advocacy activities within sample population

	Always		Sometimes		Never	
Educate audience about responsible behavior	45.50%	(n=55)	47.90%	(n=58)	6.60%	(n=8)
Educate audience about consequences of poor environmental decisions	33.90%	(n=41)	56.20%	(n=68)	9.90%	(n=12)
Host community forums	15.70%	(n=19)	57.90%	(n=70)	26.40%	(n=32)
Support advocacy groups financially	2.50%	(n=3)	19.80%	(n=24)	77.70%	(n=94)
Support with in-kind contributions	5.00%	(n=6)	49.60%	(n=60)	45.50%	(n=55)
Support with other contributions	5.80%	(n=7)	51.70%	(n=62)	42.50%	(n=51)
Write an Op Ed piece	4.10%	(n=5)	38.00%	(n=46)	57.90%	(n=70)
Write a blog	10.80%	(n=13)	31.70%	(n=38)	57.50%	(n=69)
Write policy decision makers	8.30%	(n=10)	47.90%	(n=58)	43.80%	(n=53)
Speaking out against injustice in general	13.20%	(n=16)	52.10%	(n=63)	34.70%	(n=42)

The researcher used a cross tabulation to explore whether the size of the operational budget was predictive of the level of advocacy support. The options in this Likert scale used to identify the frequency for each type of advocacy were “Sometimes, Always and Never.” All organizations, across the range of budgets, reported to support environmental advocacy through educating audiences about responsible behaviors. Additionally they reported supporting advocacy by educating audiences about consequences of poor environmental decisions. (Table 4.3 and Table 4.4). The highest affirmative responses were sustained in the sometimes category, in contrast to the category entitled always.

Table 4.4 Survey1: Budget and educating audience about responsible behaviors

		Educate audience about responsible behaviors				
		Frequency	Sometimes	Always	Never	
Organizations Total Budgets for FY 2012	Amounts					Total
	>1mil	Count	25	27	3	55
		% within Budget	45.50%	49.10%	5.50%	100.0%
	1mil to 5mil	Count	14	8	2	24
		% within Budget	58.30%	33.30%	8.30%	100.0%
	5mil to 10mil	Count	4	2	0	6
		% within Budget	66.70%	33.30%	0.00%	100.0%
	10mil to 100mil	Count	6	3	0	9
		% within Budget	66.70%	33.30%	0.00%	100.0%
	100mil to 500mil	Count	2	1	0	3
		% within Budget	66.70%	33.30%	0.00%	100.0%
	+1Billion	Count	0	1	0	1
		% within Budget	0.00%	100.00%	0.00%	100.0%
	Do not know	Count	7	10	3	20
		% within Budget	35.00%	50.00%	15.00%	100.0%
	Rather not say	Count	0	3	0	3
		% within Budget	0.00%	100.00%	0.00%	100.0%
	Total	Count	58	55	8	121
		% within Budget	47.90%	45.50%	6.60%	100.0%

Ninety-four organizations indicated they never support advocacy groups financially; 44 of them reported having an organizational budget of less than \$1 million. Whereas, the three (2.5%) organizations who reported that they always support advocacy groups financially indicated their 2012 operational budgets between \$1 and \$5 million, between \$10-100 million, and between \$100 and \$500 million. Eleven of the twenty-four organizations that selected “Sometimes” they support

advocacy groups also reported having a budget less than \$1million. Nine of the 24 organizations have budgets over a million dollars.

Table 4.5 Survey 1: Budget and educating audience about consequence of poor environmental decisions

		Educate audience about consequences of poor environmental decisions			Total
		Sometimes	Always	Never	
>1mil	Count	32	18	5	55
	% within Budget	58.2%	32.7%	9.1%	100.0%
1mil to 5mil	Count	14	6	4	24
	% within Budget	58.3%	25.0%	16.7%	100.0%
5mil to 10mil	Count	5	1	0	6
	% within Budget	83.3%	16.7%	0.0%	100.0%
10mil to 100mil	Count	6	3	0	9
	% within Budget	66.7%	33.3%	0.0%	100.0%
100mil to 500mil	Count	2	1	0	3
	% within Budget	66.7%	33.3%	0.0%	100.0%
+1Billion	Count	0	1	0	1
	% within Budget	0.0%	100.0%	0.0%	100.0%
Do not know	Count	8	9	3	20
	% within Budget	40.0%	45.0%	15.0%	100.0%
Rather not say	Count	1	2	0	3
	% within Budget	33.3%	66.7%	0.0%	100.0%
	Count	68	41	12	121
	% within Budget	56.2%	33.9%	9.9%	100.0%

Ultimately the sample size was inadequate to make detailed statistical conclusions; however, trends in the data indicate that organizations with budgets over \$5 Million were more likely to support advocacy through in-kind contributions, hosting forums, and educating audiences. The same organizations less frequently

supported advocacy efforts through financial contributions, writing opinions editorials, or writing blogs.

Participants were asked to describe whether or not incentives were provided to their audience to use more environmentally friendly transportation means. The most frequent response was “Never,” and “Always” the least frequently selected (Fig. 4.5).

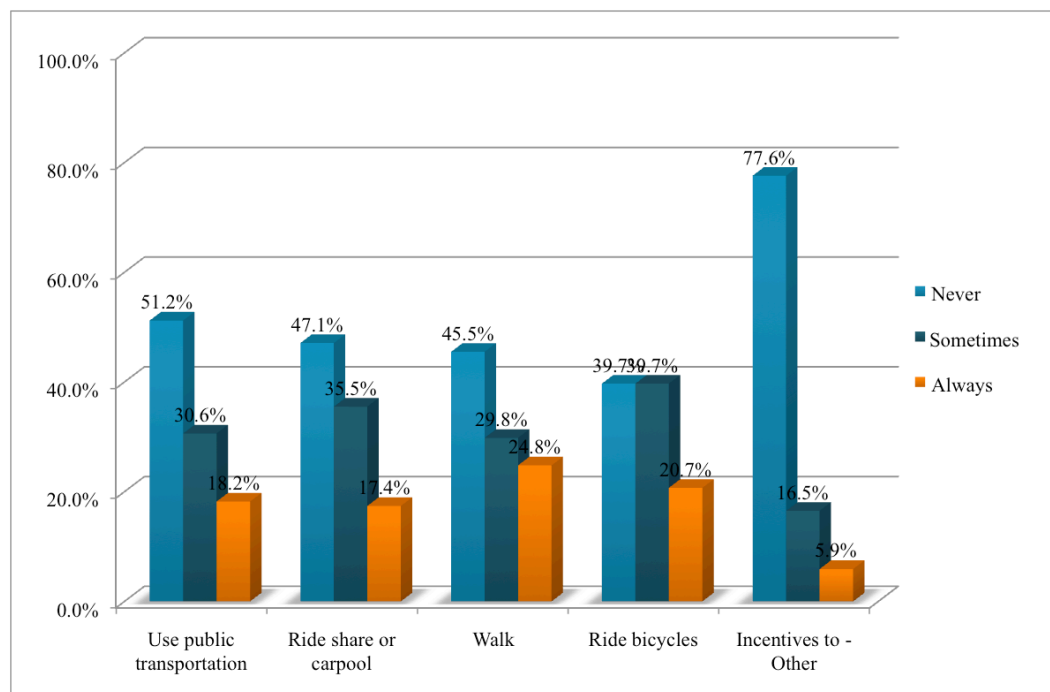


Figure 4.5 Survey 1: Organizations providing incentives for audience to use alternative transportation

To determine how the organizations approach environmental activities, participants were asked how they taught others to be more environmentally friendly.

Educational programs and modeling behaviors were the preferred method of teaching behaviors. Providing incentives is not a common practice by organizations within public horticulture and other cultural institutions.

Survey Two: Ecological Justice and Environmental Justice

The second online survey, “Ecological Justice and Environmental Justice,” was made available using previous list serves to any organization that took part in the first survey, “Environmental Justice and Cultural Institutions.” This survey was designed to explore the perspectives of cultural institutions about ecological justice, environmental justice through specific questions about beliefs and actions. As a measure to ensure consistency within the population, first question survey inquired about the participation in the first survey using logic model available, participants were asked about their participation in the previous survey, “environmental justice and cultural institutions”. Organizations that did not participate in the first survey were exited via a logic model dismissal process.

The sample size for survey number two was 49 organizations (Fig. 4.6). The majority of participants represented botanic gardens, public gardens and arboretum with a response rate of 47%. University gardens and Arboretum represented 18% of the sample size, while university extension represented 20%. The remainder of the participants came from governments and museums and no responses were received from community gardens, horticultural societies, farms, environmental centers, and

nature centers / societies. The majority of participants, 51%, represented leadership positions and 45% represented educational research and horticultural positions.

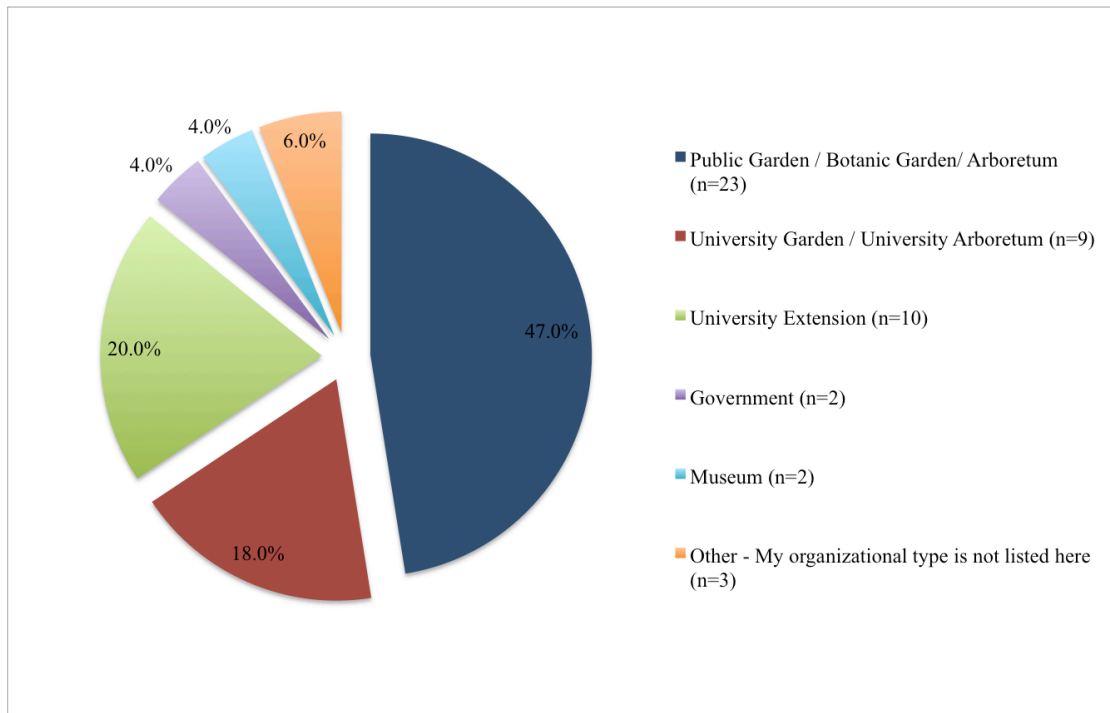


Figure 4.6 Survey 2: Profile of participants of ecological and environmental survey

To the question, “Does your organization acknowledge the reported impacts of climate change?” 69% of participants answered affirmatively, 25% answered maybe and 6% answered negatively.

To the question, “Do you personally believe that climate change is real?”, 91% of respondents answered affirmatively, 4% answered maybe and 4% answered negatively.

When asked whether or not there is a relationship between ecological injustice and climate change 77% of participants answered favorably and 23% answered negatively (Fig. 4.7).

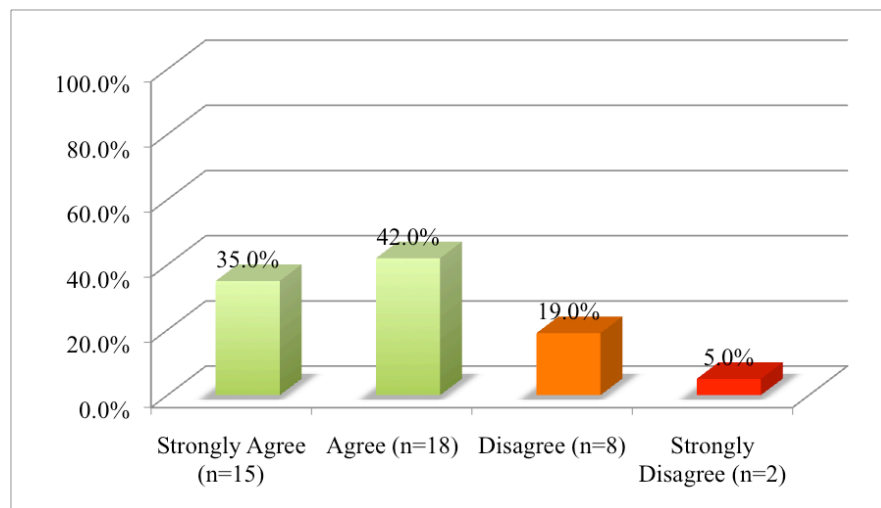


Figure 4.7 Survey 2: Relationship between ecological injustice and climate change

When asked whether or not there was a relationship between environmental injustice and climate change, 81% of participants answered affirmatively and 19% answered negatively.

When asked whether or not there is common ground between ecological justice and environmental efforts, 95% of participants agreed or answered affirmatively, and 5% answered negatively or disagreed.

Participants were also asked if they believe there's common ground between advocacy and education, to which 91% answered affirmatively and 9% answered negatively or disagreed (Fig. 4.8).

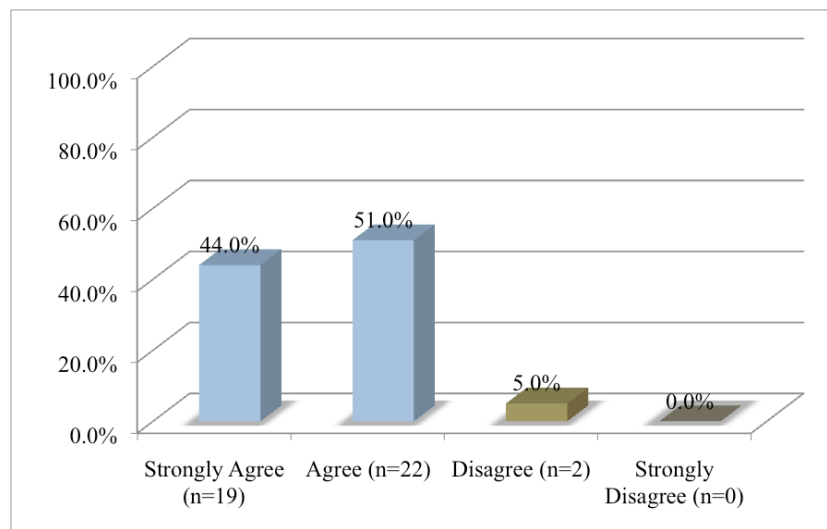


Figure 4.8 Survey 2: Common ground between ecological justice & environmental justice efforts

Participants were also asked if their organization addressed ecological justice, of whom 7% answered never, 56% answered sometimes and 37% answered always (Fig. 4.9).

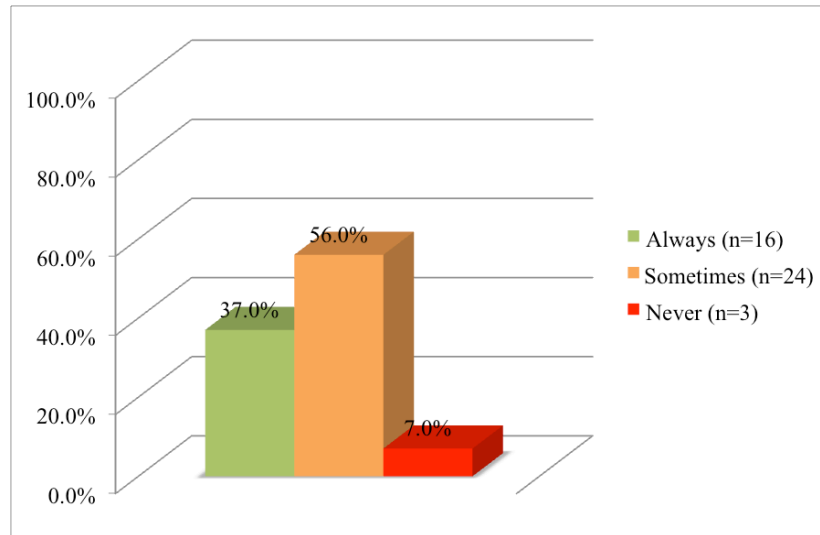


Figure 4.9 Survey 2: Organizations addressing ecological justice

When the survey participants were asked if their organizations address environmental issues, 16% of respondents always addressed them, 67% sometimes did, and 16% always addressed these issues.

Figure 4.10 illustrates the responses when participants were asked to further describe how the organization specifically addresses environmental justice issues.

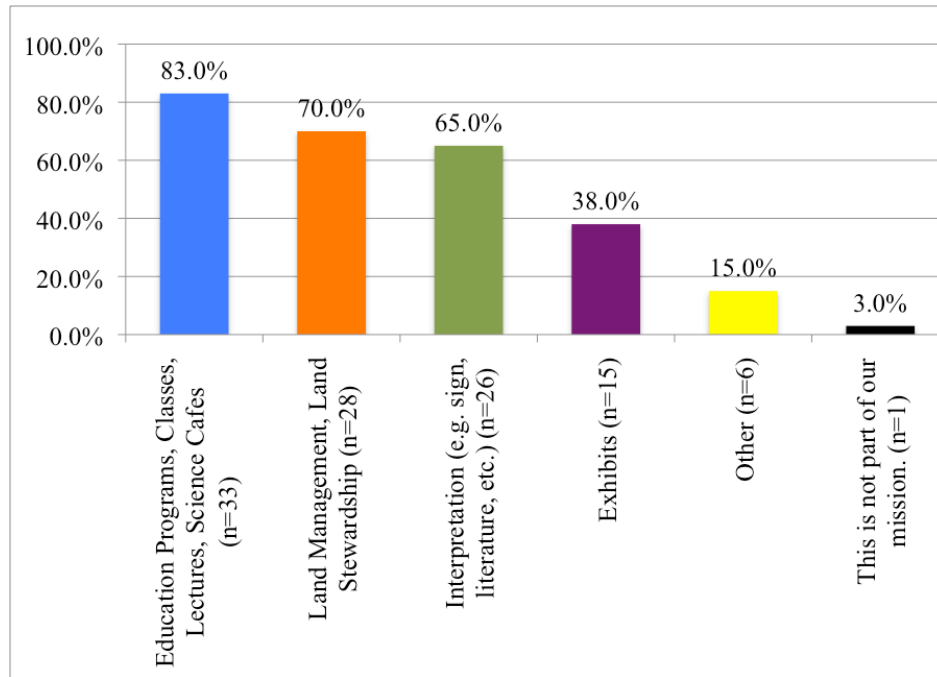


Figure 4.10 Survey 2: Methods organizations use to directly address environmental justice

Case Study One: Delaware Nature Society (DNS)

Executive Director, Brian Winslow; Environmental Advocate, Brenna Goggin and Board Member, Lorraine Fleming provided the interview on behalf of Delaware Nature Society. The expanded summary of this interview can be found in the Appendix D.

Mission and History of Advocacy

Delaware Nature Society was founded in 1964 as a nonprofit organization with a mission “to foster understanding, appreciation, and enjoyment of the natural world through education, to preserve ecologically significant areas, to advocate stewardship and conservation of natural resources.”

DNS is different from other nature societies regarding its level of advocacy. Brian Winslow, Executive Director and Lorraine Fleming, Board Member explained that other nonprofits including nature societies have partners such as the government, which at times may prohibit you from an advocacy voice. Other organizations are afraid of alienating donors and members by taking a stand on environmental issues.

There is a misconception in the Delaware environmental community too. (Brenna Goggin, Environmental Advocate, DNS)

Because a 501c(3) organization cannot do anything like that. (Lorraine Fleming, Board Member, DNS)

DNS has an affiliate partnership with National Wildlife Federation and others who are more comfortable within the world of advocacy.

Environmental Justice

The individuals interviewed at DNS are forthright in their growing awareness for Environmental Justice and its relationship to the organizational structure, message and how that organization delivers that information to the constituents, stakeholders and clients it aims to reach.

Environmental justice advocacy became a by-product as DNS advocated and educated its members and constituents. Subsequently, there has been recognition in the environmental community that DNS missed an opportunity to garner more support and grassroots activists because they have not combined the message of a healthy environment means a healthy person. Now DNS teaches about the impact from a negative environment impacts people, mostly under-served people. (Brenna Goggin, Environmental Advocate, DNS)

The DNS runs DuPont Environmental Educational Center that certainly provides a greater opportunity for being more involved and awareness and recognition amongst the greater part of the state because of the role DNS plays. (Brenna Goggin, Environmental Advocate, DNS)

Modes of Advocacy & Points of Impact

DNS has an Environmental Advocate on staff who supports education, through public awareness of important issues. DNS maintains a strong advocacy practice in a leadership role for the entire state.

DNS advocates for the environment in three specific ways: a quarterly newsletter to membership, outreach to public, targeted education for decision makers. (Lorraine Fleming, Board Member, DNS)

DNS is the only organization with an Environmental Advocate on staff in the State of Delaware. One of the roles DNS fulfills is leading the

environment-working group, which provides opportunities for other organizations that would not otherwise participate publically. In some cases, the lack of public participation by other organizations is due to the lack of understanding of what advocacy constitutes, advocacy is often confused with lobbying. DNS has legal aide for environmental issues that require legal action if necessary. (Lorraine Fleming, Board Member)

There are advantages to having a paid advocate, a dedicated staff member to do the research, to ensure accuracy on the issues, and convey the issues to legislators in addition to developing those relationships. DNS has also created an advocacy committee, which has the right people science looking at the issues. There is an advantage to having a paid advocate on staff whose sole responsibility is advocacy. The expertise and craft of the Advocate and committee creates a greater sense of comfort for the leadership and staff. (Brian Winslow, Executive Director)

Not all advocacy methods utilized by DNS are policy related. Brian Winslow, Executive Director emphasized the importance of offering environmental education programs with content. Experience without content does not provide a lasting impact, nor does it specifically change behaviors. Creating awareness of a problem is not sufficient. DNS strives to create behavior changes in simple ways. Some other forms of advocacy include educating people about pesticide and fertilizer usage and offering safe alternatives; DNS also offers backyard wildlife habitat education and certification. (Brenna Goggin, Environmental Advocate)

Partnerships & Public Horticulture

For DNS, partnerships range from political figures, national affiliates and communities of Wilmington. Public gardens and nature centers united to protect endangered species.

Many public gardens were strong advocates particularly for plant conservation and that is one place where we did manage to work together. (Brian Winslow, Executive Director, DNS)

DNS has met with the political leadership of the state of Delaware as well as the City of Wilmington to review the priorities of both the state and the environmental community. The secretary outlined forty-two items that he wanted the environmental community to address. Through collaboration with the environmental group, sea level rise has been designated as the area of focus. (Brenna Goggin)

Sea level rise encompasses research, saturation, preservation, and advocacy. It utilizes the variety of skills of the environmental working group. Sea level rise will impact more than beach communities. Therefore an awareness campaign is critical. People who are disadvantaged will inordinately affected. (Brenna Goggin, Environmental Advocate, DNS).

Measurable Outcomes

DNS explains the linkages between measurable outcomes and maintaining momentum with constituents.

In order to build power and to keep people interested, thanking people for their efforts and telling them when their efforts made a difference is important. With the advocacy committee I always put together a chart that outlines the bill number, what the bill does and the DNS position on that. That is an internal document primarily for the advocacy committee. I do send out a final report that says what we have done, the final count on bills, what passed, what did not pass (Brenna Goggin, Environmental Advocate, DNS).

Case Study Two: Creative Learning Engagement Opportunities Institute (CLEO)

The interview for Creative Learning Engagement Opportunities Institute, CLEO was provided primarily by Caroline Lewis, Founder and Executive Director. The expanded summary of this interview is in Appendix D.

Mission

Mission: to advance environmental literacy and civic engagement by developing transformative initiatives that can be scaled and replicated.

Vision: a world in which people, communities and organizations are engaged and literate about our environment.

History of CLEO & Advocacy

The CLEO was started with the founder's desire to promote, provoke, and celebrate with an environmental focus using her expertise on environment and engagement in 2010. A lack of a program that was scalable, replicable and transformative, the founder wisely decided to create CLEO within Pinecrest Gardens.

The CLEO's mission became amplifying civic engagement using.... The purpose was not to create a program but find the exemplary ones. However, one was not found, CLEO project on climate was created .

CLEO considers clearly defined targets for advocacy. Advocacy means engaging everyone from government to businesses, schools, colleges and university to participate in to take that on. CLEO advocates for climate change awareness.

Environmental Justice

In this section, CLEO expresses the need, position and understanding of environmental justice as well as their position on social justice matters.

CLEO intentionally supports environmental justice. Originally, CLEO was designed with the goal of civic engagement on environmental issues. CLEO's intention was to get people care about stewardship, people caring about environmental issues, stewardship, environmental footprints, not being so consumer oriented and to rally people toward climate literacy. CLEO considers climate literacy in the climate conversations. The biggest umbrella with food, water, and energy issues under the umbrella. It is almost synonymous with environmental justice, climate justice, because every action taken is affecting climate.

Caroline Lewis explained that some populations are disproportionately vulnerable. Environmental Justice is more about treatment and consideration of *all* communities in particular the most vulnerable communities. CLEO is primarily concerned about the poor, vulnerable, un-resourced, uneducated people having to deal with the impacts of climate change “We are talking about environmental justice for all, climate change impacts on all. We are not concerned with affluent folks adapting to climate change. We are looking at the vulnerability factor, in populations.”

Modes of Advocacy & Points of Impact

The vocal leadership of CLEO demonstrates the means by which they engage business based and political constituents, the scientific community as well as the general public.

CLEO is housed at Pinecrest Gardens, who has asked CLEO to assist with outreach in order to bring in aspects of climate change to the community. The results of these methods used to engage are forums, panel discussion, and workshops on the issues of climate literacy. More importantly giving the community the tools, inviting everybody to become part of the conversation. Allowing everyone to answer what he or she believes climate change is all about and what they believe their role is.

CLEO created a fact sheet that summarizes the target goals of having people own a portion of the climate change conversation. CLEO reaches an interdisciplinary audience, and works together to set higher targets for both short-term and long-term. This is done through trainings forums workshops cafes. The forums also have segments of brainstorming for the active partners to address means of deeper engagement. This is step one or Phase I of the larger call to action by CLEO Institute, which is training on the science of climate.

Additionally, CLEO promotes the challenge as a competition between businesses. County officials, banks, universities and law firms engage in Phase I of challenge. The results include fun, social and learning opportunities with and across institutions.

RCAP is the regional climate action plan and CLEO Institute's big policy push. It has 108 action points and involves four counties: Miami Beach, Broward, Monroe, and Palm Beach. Together elected officials, city workers, lawyers, planners, scientists, and meteorologists were assembled to discuss and strategize about making southeast Florida resilient to deal with sea level rise and climate change, including mitigation and adaptation. The goal is to acquire Federal funding for infrastructure improvements at readiness level. CLEO was very active in pushing the 108 point plan out to the public for comment by the use of social media, internet, and the website.

Partnerships & Public Horticulture

United with CLEO, Pinecrest Gardens is deliberately engaging its audience in discussions and education about climate change and environmental justice.

Pinecrest Gardens has a mighty agenda of being a horticulture, historic, cultural hub in South Florida. They felt they were missing environmental education and planned science outreach. To that end Pinecrest Gardens approached Caroline Lewis, the director of CLEO to assist with education and outreach especially with their five public schools.

Pinecrest Garden has the amazing plant collections. Facilities that could draw audiences of different interests and disciplines, and CLEO has the programming capability to engage larger and diverse audiences.

Partnerships are formalized through a Memorandum of Understanding (MOU), for institutions of which they have an option to amend. The gist of the MOU is agreeing to have at least one of the workshops or forums or film screenings, then promote the phase one of people answering the questions and send some people to phase two.

Regarding the American Public Gardens Association, of which Caroline Lewis is a Board Member, she believes it has the leadership knowledge, the board and the executive director to really make advocacy something that is embraced and not run from. APGA has been in attendance in DC at Million Advocacy day for the past two or three years. Public gardens are shoulder to shoulder with the museums and the zoos and the aquariums and all that. And in a lot of cases

APGA on behalf of a lot of public gardens is making the most connections with elected officials. Now what they're advocating for, in that case, is government support for gardens and garden related causes like funding for the SPN, the Sentinel Plat Network or funding for NAPCC, the North American Plant Collections Consortium. (Caroline Lewis)

Plant pests, migratory patterns, the devastation of trees and forests in addition to woods and sources of food for farmers must be addressed. So if you get APGA and public gardens the money to be the eyes ears nose mouth of invasive species and holding that, lives will be saved.

CLEO and Caroline have suggested to APGA, plan on climate change, the science and the integrity. The role public gardens can and should play providing the conversation and the education of the public at large, but leave garden leaders to decide how far they can go with each and every message they can put out.

Measureable Outcomes

This segment of the interview with Caroline Lewis illustrates how CLEO created very specific goals to reach a target audience and impact policies with verifiable data.

A climate change literacy program was created at the end of 2011 and designed to continue through 2014. The intent is to reach 10,000 people with the phase one questions annually. Potentially CLEO will have reached 30,000 people at the end of this project that is verifiable data. More than that, an unarticulated goal is that RCAP is acted on robustly.

Annually CLEO celebrates partners by giving certificates and highlight them in the showcase celebrating all successes.

Chapter 5

DISCUSSION

Globally, environmental justice is important because of the mounting infractions against ecological balance, which cause challenges to interspecies dependence. This occurs in a variety of ways such as the contamination and exploitation of natural resources, which often results in public health complications; continued decrease of protection and enforcement of policies designed to safeguard nature and humans alike; and lack of continuity in the social fabric of community to defend and protect all inhabitants in a unified manner (Forbes, 2001;Faber, 2005; Mohai et al., 2007). Contemporary literature suggests that a holistic, collaborative community effort is essential to successfully amend existing policies, hold governmental agencies accountable for enforcement of protective polices across all communities equally, and create additional measures to ensure all beings are protected and preserved through a democratic and inclusive process (Bryant et al., 1995; Dobson, 1998; Stein, 2004; Janes, 2009).

This study identified methods employed by public horticulture institutions and other cultural institutions that both support environmental justice advocacy and acknowledge the need for ongoing involvement by these institutions. Also identified were the weaknesses between perceived beliefs and actual actions taken to protect communities and the environment from injustice. The research

examined the methods cultural and public horticulture institutions are taking to reduce or prevent injustice to the environment in partnership with the local community. Subsequently, this research identified gaps and opportunities for deeper involvement in a public process towards justice for both people and nature.

Relationships and Perceptions

Section 1: Organizations, Demographics and Justice

Across disciplines, the highest response rates came from CEOs and Executive Directors, most of whom have been employed by their organization for more than five years. The majority of respondents self-identified as Caucasian. The socioeconomic status for each individual was not collected. Therefore, it is unknown if race or socioeconomic status are predictive factors of the levels of engagement in environmental justice awareness or advocacy among participants of this research. Public gardens have a longstanding perception of being racially homogenous organizations (BGCI, 2010). The same homogeneity is reflected in the sample population. As echoed throughout the literature, environmental injustices have most frequently occurred in communities of color and communities of low-income. Is the lack of diversity among staff of public gardens and other public horticulture institutions an inherent structural barrier to advocating for environmental justice? Does this homogeneity result uneven participation across the larger community?

Perceptions of Organizations' Relationships with Communities

The majority of organizations consider themselves socially relevant and contributors to the quality of life for their visitors and community. Literature indicates that social relevance is critical to the success of public horticulture institutions, particularly public gardens (BGCI 2010; APGA 2011; Rakow and Lee 2011). Most of the sample population felt favorably about their relationship with their local communities. Furthermore, these organizations consider themselves community amenities as well as economic assets, by providing jobs within their communities. Overall, institutions within public horticulture reported a positive perception of existing and historical relationships with their community members, government and businesses. Most significantly, research revealed the acknowledgement that over half of the surveyed population reported being a member of a larger body of environmental advocates. Consistent with the literature, trends in the data show community support for environmental justice through building relationships with advocates and members of community (Bryant et al., 1995; Dobson, 1998; Johnson, 2007; Janes, 2009).

This research provides a platform for future investigation regarding the ways cultural institutions and public horticulture institutions define community. Providing jobs and other economic development opportunities to people who live in distressed communities is a key element to the justice segment of the definition. How these institutions define and engage community is a significant indicator of barriers or avenues to engage distressed segments of community.

Perceptions of Environmental Justice

The data illustrates that public horticulture organizations and other cultural institutions have the same perceptions regarding environmental justice. Nearly all of the sample population agreed that environmental justice is a cause worth supporting. Participants agree that environmental injustice happens nationally and locally. Over half of the participating institutions agreed they have the capacity to teach about climate change and environmental justice. Nearly the entire sample population agreed that there are issues challenging the environment within their own community. This thesis research also supports the idea that the responsibility to end environmental injustice is in the hands of the local community, a concept presented in the New Environmental Paradigm survey instrument (Hawcroft and Milfont, 2010). A majority of the sample population agreed their organization is needed to help end local environmental problems. Again, nearly the entire sample population acknowledged the value and importance of nature, the interconnectivity between environmental justice, ecological justice and climate change. Furthermore, nearly all of the participating organizations agreed that there is common ground between advocacy and education; and their organization is needed to end injustice. These beliefs echo the framework of environmental justice as described by Bryant (1995) Mohai (2008) and Bullard, Saha and Wright (2007), which refer “to those cultural norms and values, rules, regulations, behaviors, policies, and decisions to support sustainable communities, where people can interact with confidence that their environment is safe, nurturing, and productive.” The next stage in research examined how these beliefs translate into corresponding actions.

Acknowledged Issues & Advocacy for the Environment

As for the types and frequencies of environmental harms happening to the communities within the sample population, the data demonstrated that across the nation, there are still harmful infractions against ecosystems, natural resources, and public health; all of which impact the quality of life. There was not a single example of an environmental harm that was identified with a 100% frequency level of “Never” by the entire population sample. Therefore, concerted efforts are required to eliminate air pollution, land erosion, illegal dumping, and contamination of drinking water, nuclear waste, medical waste, noise pollution, and soil contamination across the represented communities.

This thesis research illuminated unique perspectives not previously captured in literature. The data demonstrated that public horticulture institutions are not consistently participating in proven methods of environmental advocacy. Participants acknowledged a variety of environmental issues are still prevalent in their own communities. They also acknowledged the need for their organizations to get involved as well as acknowledged they have the power to influence community issues; yet, public horticulture institutions are not taking direct advocacy actions, consistently towards justice for the environment nor its patrons. These findings revealed prospective means to engage and support the communities beyond biological conservation within the garden walls. Actively advocating for the restoration of natural resources in addition to advocating for the reduction and eliminations of toxins that impact people and ecosystems can strengthen community stability in ways more profound than private collections of specimen. The literature emphasized the

importance scientific community and related experts to step forward and help communities particularly for the disenfranchised, for the purpose of protecting ecological balance, in restoration are definitely in the realm of capacity for public horticulture institutions. (Bryant,1995; Forbes, 2001; Karr,2006; Janes, 2009; Carr,2011; and; Davis,2011)

The American Public Gardens Association reports over 70 million people visit public gardens annually (APGA, 2011). With an audience so vast, with environmental issues unresolved, and the consequences of environmental issues so grave, public gardens with the capacity to teach and advocate for justice are forgoing tremendous opportunity to reach, teach and empower an incredible audience for environmental and social change. More deliberate actions are required for environmental change beyond acknowledging ones' own capacity to teach and influence community change.

While public horticulture institutions do not steadily employ traditional modes of advocacy, survey data also shows teaching about environmental justice through exhibitions was ranked as the second most frequent mode of advocacy, although the response rate was quite low. Of the organizations that deliberately advocate for environmental justice, educational programs, classes, lectures and science cafés were the most frequent activities selected to engage the public. Direct methods such as writing political leadership, writing a blog or hosting community forums did not correspond to the reported levels of environmental justice advocacy needed by the same institutions.

Contributing to advocacy groups can be another means to ameliorate the degradation of natural resource and public health. Although over half of the sample population reported being members of a larger body of advocates, support for advocacy groups was not demonstrated significantly through financial support. About half the population indicated they sometimes contributed with in-kind donations. Funding from large foundations and other sources of stipulated funds often hamper progress toward the resolution environmental issues deemed important by local communities (Faber 2005; Boyce and Shelly 2003). Contributions of capacity and capital can assist environmental groups to maintain their focus and expertise on the issues deemed critical by their respective communities and diminish competing interests. Investing in local community based organizations reaffirms the environmental, social justice and community development frameworks set for this research.

Case Studies

Delaware Nature Society (DNS) a cultural institution and the CLEO Institute at Pinecrest Gardens (CLEO) are supporters of environmental justice, ecological justice, and social justice. Their advocacy is realized through a variety of instruction, programming and outreach. These qualitative investigations utilized interviews with the leadership of these institutions, which provided insight not achieved through the quantitative portion of research. The case studies illustrate institutions' deliberate approaches to environmental justice in deliberate ways that employ direct, strategic methods to engage visitors and partners.

Designated Staff

Interviewing key staff illuminated the effectiveness of having employees, who monitor environmental policies and activities that impact ecological balance as well as the quality of life for the human community. DNS designated funds annually over the last several years to employ a full time employee to fulfill the role of Environmental Advocate. The full time Environmental Advocate at DNS educates not only the advocacy committee, but also fellow staff, board members and the public regarding issues that impact local communities as well as the entire state of Delaware. DNS believes their commitment to environmental justice, conservation and preservation of resources deserves the dedication of staff time and resources. The CLEO staff and leadership are all advocates who conduct outreach, follow issues and educate their constituents, partners and the public. Both DNS and CLEO's dedicated advocates are in direct contrast to the survey respondents who, by comparison, did not report having designated persons on staff who specifically followed local or national environmental policy.

Partnerships

CLEO has a formal partnership with Pinecrest Gardens, established specifically to assist with outreach and education in ways and methods the garden could not accomplish alone. CLEO has the capacity and expertise to conduct environmental education outreach and advocacy. Their partner, Pinecrest Gardens is the primary host site for science cafes and an annual awards banquet to celebrate the accomplishments of the partners and donors.

The environmental justice advocacy success for DNS and CLEO is planted in their partnerships. They utilized partnerships within advocacy networks; in the case of DNS, they are the leader of the advocacy network and Delaware Environmental Working group. CLEO has established partnerships with other environmental advocates, institutions of higher learning, businesses, non-profits, as well as governmental entities. DNS and CLEO use their partnerships to move environmental policies forward to the legislature, by communicating through e-lists, blogs, and outreach to the political leadership and stakeholders of each issue. DNS has also successfully partnered with the National Wildlife Federation, a larger national advocate for species conservation, preservation and protection. The goals and mission of each partner are complimentary. Both organizations utilized local and national networks to establish partnerships. CLEO enters into formal agreement with their partners to accomplish specific educational tasks in the name of environmental justice and climate change. The partnerships have been used to share information and strengthen community safety.

Modes of Advocacy

DNS and CLEO use a variety of methods to advocate for environmental justice. In addition to engaging local political leadership through DNS Voice It-Action Alert, an electronic newsletter, it also provides traditional environmental education programming with direct messaging, sharing why each subject matter is important. DNS is also the leader of the Environmental Working Group of Delaware, as well as it's own advocacy committee specific to the needs of New Castle County.

CLEO initiated an online video messaging challenge in 2011 for 10,000 people to explain in a few minutes why climate change is personally important. Through this media exchange, individuals and business are encouraged to own a piece of the climate change dialogue. The online video message invitation extends into 2014 and could potentially engage 30,000 people. CLEO has also maintained an online presence as a resource across three counties of Florida regarding the Regional Climate Adaptation Plan.

DNS and CLEO use outreach methods to teach about specific issues such as climate change and sea level rise. The leadership of each institution emphasized the importance of providing visitors with more than just programming, but rather “experience with content,” as framed by Executive Director of DNS, Brian Winslow.

DNS and CLEO are assisting communities to reach their highest potential by forming partnerships, hosting open conversations, and bringing potentially harmful policy initiatives to the attention of the community. Assisting communities to reach their highest potential in concert with educating community members about environmental policy implications supports the, democratic, participatory process tenant of the environmental justice framework (Dobson 1990; Bryant et al., 1995; Davis, 1999; Davis, 2011; Ballantyne 2005; Carr 2011). DNS is able to assist communities in reaching their potential by offering participatory educational programs such as water wise management, back yard habitats, and technical stream monitoring, teaching about behavioral consequences and celebrating actions taken for the environment.

CLEO is able to augment the community by hosting open community forums specific to climate change adaptation and environmental justice, engaging subject experts and disseminating information to the community at large.

Chapter 6

RECOMMENDATIONS

Conclusion

In the larger context of community, institutions hold a substantial weight towards the economic and social fabric that builds cohesiveness within communities. Community development theory offers a framework for social capital, that is a “community’s capacity to act” instead of “need,” based in the connectivity of all of the members’ ability to build relationships and thusly a strong collective (Gittel and Vidal, 1998). This thesis research finds that the capacity of institutions within public horticulture, as assets to community and scientific experts, are missing opportunities to assist the larger community to respond more directly to environmental injustice.

This thesis also illustrates that among public horticulture and other cultural institutions, lies a gap between the acknowledged level of need for environmental justice advocacy and the level of advocacy actions taken to address or end injustice to the environment and people. There is a strong implication that cultural and horticultural organizations believe that environmental injustice is real, injustice happens frequently, and that their participation is needed to help end its degradation nationwide. Institutions are not taking directed, proactive advocacy movements. A fraction of institutions in the representative sample is willing to use interpretation and programming to address issues. Actual actions involving direct public engagement

were not demonstrated. There is a critical place between belief and action. Strategic actions are required to solve environmental problems.

Models of horticulture and cultural institutions surfaced that took on deliberate advocacy for the express purpose of environmental justice. These organizations have demonstrated how a cultural institution and a public garden can contribute to environmental justice locally and nationally through effective partnerships, direct messaging, engaging political leadership, designating staff advocates and hosting community café's about local environmental justice issues. They have effectively demonstrated varying levels of environmental advocacy and engagement. They have achieved a balance of outreach and internal programming that reflect their missions and the environmental needs of their communities. Advocating for environmental justice can be an inclusive and engaging process that strengthens community health and relationships.

As a result of this thesis new questions for the field of public horticulture have developed. Even the most willing and progressive organizations are missing opportunities to more deeply engage in environmental justice advocacy by the inherent racial homogeneity of staff. The lack of organizational staffing diversity, programmatic diversity and diversity among partners quite possibly preclude these organizations from gaining a clear understanding of the injustices and therefore participatory support for environmental justice. The information gathered from the case studies and survey instruments have revealed a need for further investigation. Future research is needed to explore the means by which public horticulture institutions internally address the selection process, if any, to strategically support

environmental justice. How do these organizations define community, from the perspectives of culture, politics, and geography? Do these elements influence long-term or strategic goals?

Recommendations

Opportunities abound for organizations to galvanize support on behalf of local communities in ways that align with the mission and purpose of public horticulture. Public horticulture institutions “strive to enhance the quality of life for the public through plant display, education and interpretation, conservation and research as well as outreach” (CPH, 2012). Building on the strengths of education and outreach, and as demonstrated in the case studies in this research, the following recommendations suggest points of engagement towards environmental advocacy.

Diversified & Dedicated Staff

A significant asset for each organization is the dedication of staff and resources towards keeping track of all environmental policies that can or will potentially impact nature and human health. Staff shares information and educates constituents internally and external to the organization.

Diversifying the management team and staff to include more people of color from a variety of backgrounds is essential to engaging a broader community and constituent base for environmental justice. Diversifying the staff can offer an additional perspectives regarding environmental injustices within the local community.

Education

Enhancing environmental advocacy can be achieved through information sharing, educational programming and interpretation. Educating board members, other leaders and staff about the close ties to environmental advocacy is key. It relates directly to preservation, conservation and stewardship of natural resources, and thusly the mission. A basic for advocacy is education. Educating the board and staff can alleviate fears of straying from the mission and alienating constituents and donors. Incorporating environmental advocacy as a core strength of the institution and positively impact relationships with grassroots – organizations focused primarily on environmental justice. Interpretation and other educational programming inherently offer opportunities to explain how and why factors impact ecosystems, resources and public health. Public horticulture institutions should take advantage of the current opportunities in existing programs to ensure the experience provides but also environmental justice content. Designing programs for the sole purpose of environmental and social justice should become part of the larger education platform for these organizations.

Partnerships & Outcomes

A plethora of sound educational, environmental, and conservation advocates with whom to partner and support are assessible locally and nationally. Partnerships with a variety of businesses, educational institutions and grassroots community advocates have advantages. Balanced capacity and efficacy assuage the challenges of bearing the weight of justice alone. Sharing the success of partners and communities can garner support and allegiance. Although public horticulture

institutions did not demonstrate a position of leadership in terms of advocacy , their contributions can be significant and bolster success through sharing resources and capacity. One of the most effective partnerships to pursue for the express purpose of supporting environmental justice is a partnership with an local environmental justice group. This type of strategic partnership would greatly inform the education and advocacy of the institution to collaboratively address injustices.

Sharing the measureable outcomes of advocacy is another method to gain traction and continued support. Communicating the successes and defeats of advocacy efforts are leverage to determine what additional tools are necessary to achieve the desired deliverables. Moreover, celebrating successes regardless of the size or impact demonstrates commitment to the cause for a safe, healthy and productive environment for all inhabitants.

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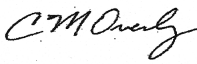
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Appendix A
HUMAN SUBJECTS REVIEW BOARD

Certification of HSRB Training

<p><i>Certification of Training Human Subjects in Research</i></p>
<p><i>The University of Delaware certifies that</i> <u>Abby Johnson</u> (Name of researcher)</p>
<p>attended an institutional training session on the use of human subjects in research on <u>September 1, 2011.</u> (Date)</p>
<p>The session included the following topics:</p> <ul style="list-style-type: none">• The Belmont Report• Federal regulations for using humans in research (45 CFR 46)• The University's Federalwide Assurance• Informed consent• Institutional procedures• Sources for additional information.
<p> Cordell M. Overby, ScD Associate Provost for Research</p>
<p>Research Office University of Delaware Newark DE 19716 302-831-2137</p>

Exempt Letter



RESEARCH OFFICE

210 Hollihen Hall
University of Delaware
Newark, Delaware 19716-1551
Ph: 302/831-2136
Fax: 302/831-2828

DATE: July 25, 2012

TO: Abby Johnson
FROM: University of Delaware IRB

STUDY TITLE: [359731-1] Environmental Justice and Cultural Institutions

SUBMISSION TYPE: New Project

ACTION: DETERMINATION OF EXEMPT STATUS
DECISION DATE: July 25, 2012

REVIEW CATEGORY: Exemption category # 2

Thank you for your submission of New Project materials for this research study. The University of Delaware IRB has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations.

We will put a copy of this correspondence on file in our office. Please remember to notify us if you make any substantial changes to the project.

If you have any questions, please contact Jody-Lynn Berg at (302) 831-1119 or jlberg@udel.edu. Please include your study title and reference number in all correspondence with this office.

Appendix B

SAMPLE INFORMED CONSENT

1. PURPOSE/DESCRIPTION OF THE RESEARCH

This research study satisfies a portion of a thesis requirement for a Masters of Science Degree in the Longwood Graduate program at the University of Delaware. The focus of this research is to examine the institution public horticulture's relationship to environmental justice advocacy and the institutional support of environmental justice advocacy to community.

The investigator released a survey in which the Creative Learning and Engagement Opportunities Institute (CLEO) participated. Subsequently, CLEO voluntarily expressed a willingness to further support this research. By examining the web-based material, namely the mission and self described strategies, through exploratory conversations with the leadership of CLEO, it has been determined that CLEO is a match institution because of its ability to successfully engage in environmental education and advocacy impacts.

For the purpose of conducting in depth interviews and case studies, CLEO Institution and its entire staff have the option to participate in this study at will. There are no consequences for withdrawing.

The procedure for participating includes answering additional programmatic, partnership, and policy implementation strategies during an agreed time and location.

2. CONDITIONS OF SUBJECT PARTICIPATION

CLEO Institute has been selected as a case study for its environmental advocacy education strategies and implementation methodology. For this reason, documenting the identity of CLEO is critical to this research as model of success. The identity of individual staff persons will remain confidential.

Participation can be terminated by CLEO Institute at will. Consequences for withdrawal include the removal of CLEO from the case study/ interview portion of this research.

3. RISKS AND BENEFITS

The subject matter includes societal and environmental injustices. Discussions of this nature may cause some discomfort to the participants.

The benefit to CLEO for participating in this research is the opportunity to demonstrate a successful model of community based environmental justice advocacy in relationship with public horticulture through documentation of a thesis.

4. FINANCIAL CONSIDERATIONS

Not Applicable

5. CONTACTS

For additional questions about details of the research, study procedures, follow-up, etc. regarding this research please contact:

Principle Investigator: Abby Johnson, Longwood Graduate Program
Address: 125 Townsend Hall, University of Delaware, Newark, DE 19716
Email: abbyabby@udel.edu
Cell: 786-473-5160 or 302-722-6802

Chair: Dr. Robert E. Lyons, Director, Longwood Graduate Program
125 Townsend Hall, University of Delaware, Newark, DE 19716

Concerns regarding the rights of individuals who agree to participate in research should be addressed to: Institutional Review Board, University of Delaware, 302-831-2137

6. SUBJECT'S ASSURANCES

Your participation in this research is considered voluntary. You have the right to refuse to participate or discontinue participation at any time.

7. CONSENT SIGNATURES

I have read and understand my rights as a participant in the research described above.

Participant Print Name

Participant Sign Name

Principal Investigator Print Name

Principal Investigator Sign Name

Appendix C

SURVEY INSTRUMENTS

Survey One

Dear Colleagues:

We would like you to complete a survey that asks questions about cultural organizations, community relationships and environmental issues. This survey is one part of a research study about environmental justice and cultural institutions. This survey is open to staff of arboretum, aquariums, community gardens, community based organizations, environmental justice organizations, horticultural societies, public gardens, museums, nature centers, and zoos.

* Your participation is voluntary. Your identity and answers will be kept anonymous. No one will know these are your answers.

*Please do not skip any questions unless directed by the survey or if answering makes you uncomfortable.

If you would like the results of this survey in the form of the final thesis please contact Abby Johnson at abbyabby@udel.edu, you have questions about your rights as a participant in this research please contact the Chair of the Human Subjects Review Board 302-831-2137.

○ [Click here to move forward](#)

The purpose of this survey is to gain a better understanding of cultural institutions relationship to community, perceptions of environmental justice and perceptions of advocacy. The working definitions of environmental justice and advocacy for this survey are listed below. Environmental justice is defined by the survey designer as the right for all people to live free of environmental harm or hazard where they work, rest, or play. All people have the right to participate in a policy process to ensure both

people and nature remain healthy and vibrant. This definition incorporates the definition by the EPA and social justice groups. Advocacy is educating others; supporting, recommending and speaking in favor of the safety of people and the environment. This survey can be completed online at your leisure. The hyperlink can be shared with your professional networks.

☐ I am ready to begin the survey

Please describe your organization. Select all that apply

- ☐ Public Garden
- ☐ Private Estate
- ☐ Museum
- ☐ Community Garden
- ☐ Environmental Justice Organization
- ☐ Nature Society / Center
- ☐ Arboretum
- ☐ Aquarium
- ☐ Horticultural Society
- ☐ Zoo
- ☐ University
- ☐ Other _____

Which below characterizes your organization

- ☐ Private Non-profit 501.c (1-15)
- ☐ Public - non profit
- ☐ Foundation
- ☐ For-profit
- ☐ Other _____

Where is your organization located?

- ☐ Alabama
- ☐ Alaska
- ☐ Arizona
- ☐ Arkansas
- ☐ California
- ☐ Colorado
- ☐ Connecticut
- ☐ Delaware
- ☐ District of Columbia
- ☐ Florida
- ☐ Georgia
- ☐ Hawaii
- ☐ Idaho
- ☐ Illinois
- ☐ Indiana
- ☐ Iowa
- ☐ Kansas
- ☐ Kentucky
- ☐ Louisiana
- ☐ Maine
- ☐ Maryland
- ☐ Massachusetts
- ☐ Michigan
- ☐ Minnesota
- ☐ Mississippi
- ☐ Missouri
- ☐ Montana
- ☐ Nebraska
- ☐ Nevada
- ☐ New Hampshire
- ☐ New Jersey
- ☐ New Mexico
- ☐ New York
- ☐ North Carolina
- ☐ North Dakota
- ☐ Ohio
- ☐ Oklahoma

- ☐ Oregon
- ☐ Pennsylvania
- ☐ Puerto Rico
- ☐ Rhode Island
- ☐ South Carolina
- ☐ South Dakota
- ☐ Tennessee
- ☐ Texas
- ☐ Utah
- ☐ Vermont
- ☐ Virginia
- ☐ Washington
- ☐ West Virginia
- ☐ Wisconsin
- ☐ Wyoming
- ☐ I do not reside in the United States

Which of the following best describes the location of the organization

- ☐ Urban
- ☐ Suburban
- ☐ Rural
- ☐ Not sure

Is education or outreach a part of your organization's mission?

- ☐ Yes
- ☐ No
- ☐ Other

What is your organization's estimated total budget for this year, from all sources?

- ☐ less than \$1 million (US)
- ☐ \$1million to \$5 million
- ☐ \$5 million to \$10 million (US)
- ☐ \$10 million to \$100 million (US)
- ☐ \$100 million to \$500 million (US)
- ☐ \$500 million to \$1 billion (US)
- ☐ over \$1 billion (US)
- ☐ Do not know
- ☐ Rather not say

Your organization serves the local community

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

Your organization is an asset to the community

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

Your organization is an amenity, (but not critical) to the community

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

Your organization makes valuable contributions to the community

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

Your organization is socially relevant

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

Your organization provides jobs for people in the community

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

Your organization historically has had a positive relationship with the community

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

Your organization historically has maintained a positive relationship with minorities in the community

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

Your organization historically has maintained a positive relationship with local government

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

Your organization actively seeks to empower community residents and visitors

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

Your organization has the power to influence community issues

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

Your organization is a tourist destination

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

Your organization improves the quality of life for visitors and community members

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

Your organization is a resource to environmental groups

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

Your organization is a resource to children in schools

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

Your organization is a resource for adults in continuing education

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

Your organization has partnered with institutions of higher learning

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

The natural environment has value within itself regardless of any value humans may place on it. *

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

Science forms the basis for solving environmental problems. *

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

A change in basic attitudes and values is necessary in order to solve environmental problems. *

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

Your organization has the expertise to teach about environmental justice

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

Your organization has the expertise to teach about climate change

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

Environmental Justice is a cause worth supporting

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

Environmental injustices happen at the national level

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

Stopping local environmental injustices is the responsibility of the local community

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

Your organization is needed to help end environmental problems locally

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

Environmental issues facing our community are a result of climate change

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

Environmental issues facing our community are a result of decisions made by politicians

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

Environmental Issues facing our community are a result of decisions made by businesses/ industry

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

We face no environmental issues today

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Agree
- ☐ Strongly Agree

Please rate how the following factors impact your community

	Sometimes	Always	Never
Air Pollution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coastal Land Loss/ Erosion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Illegal Dumping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Littering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of drinking water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Contamination of water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Improper disposal of Nuclear Waste	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Improper disposal of Medical waste	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Noise Pollution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Contamination of Soil	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other -	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Your organization is a member of a larger body of environmental advocates

☐ True

☐ False

As an organization we provide incentives to our audience to

	Sometimes	Always	Never
Use public transportation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ride share or carpool	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Walk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ride bicycles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

This organization supports environmental justice by

	Some times	Alwa ys	Never
Educating the audience about responsible environmental behavior	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Educating audience about the consequences of poor environmental decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hosting community forums	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supporting environmental advocate groups financially	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supporting environmental advocate groups with in kind-contributions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supporting environmental advocate groups with other contributions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Writing an Op Ed piece in the local news paper or similar outlet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Writing a blog	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Writing policy decision makers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Speaking out against injustice in general	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

As an organization we teach others how to be more environmentally friendly through

- ☐ Educational programs
- ☐ Incentive programs
- ☐ Modeling behaviors such as composting, recycling or showcasing energy efficiency techniques
- ☐ Other _____
- ☐ We don't teach others how to be more environmentally friendly

Please describe your position in your organization.

- ☐ CEO/ Executive Director
- ☐ Land Steward / Manger
- ☐ Community Outreach Coordinator
- ☐ Curator of Plants / Collections
- ☐ Director of Education
- ☐ Volunteer Coordinator
- ☐ Sustainability Coordinator
- ☐ Teachers / Educators
- ☐ Other _____

What is the highest level of education you have completed?

- ☐ Grammar / Primary/ Education
- ☐ High School / GED
- ☐ AA / AS
- ☐ BA / BS
- ☐ MA/ MS
- ☐ Ph D, Ed D
- ☐ JD,
- ☐ MD
- ☐ Other _____

How many years have you worked at this organization?

- ☐ 0-4
- ☐ 5-9
- ☐ 10-14
- ☐ 15 -19
- ☐ 20-24
- ☐ 25 - 29
- ☐ 30 - 34
- ☐ 35 +

Gender

- ☐ Male
- ☐ Female

Please describe your ethnicity

- ☐ White/Caucasian
- ☐ African American
- ☐ Hispanic
- ☐ Asian
- ☐ Native American
- ☐ Pacific Islander
- ☐ Other _____

Would you be willing participate further in this research through a possible case study or interview?

- ☐ Yes
- ☐ No

For further participation, how may we contact you?

Name

Address

Address 2

City

State

Zip Code

Country

Email

Phone

Additional comments:

Your time and participation are greatly appreciated. Thank you.

Survey Two

Dear Colleagues,

This is a follow-up survey to the survey released during the summer of 2012 regarding environmental justice and cultural institutions such as public gardens, museums, and nature centers for example. The purpose of this survey is to examine the concepts of ecological justice and environmental justice from the perspectives of cultural institutions.

The survey on average takes less than 10 minutes to complete.

Your participation is voluntary. Your identity and answers will be kept anonymous.

This survey will remain open until noon EST, November 17, 2012.

If you would like the final result of this survey in the form of a final thesis please contact Abby Johnson at abbyabby@udel.edu.

Guiding Definitions for this Survey

Ecological justice: efforts including protecting, restoring, and conserving nature, biodiversity, species and ecosystems

Environmental justice: efforts including protecting nature, protecting human health where we live, work and play through a collaborative, democratic process open to all

***Climate Change:** significant changes in climate measures such as temperature, precipitation, and wind changes, for example, over decades or longer.

(* This definition was adapted from the Environmental Protection Agency's definition.)

Did you participate in the previous survey about environmental justice and cultural institutions such as public gardens, botanic gardens, museums, and university gardens, for example?

- ☐ Yes
- ☐ No

Which of the following best describe your position within your organization?

- ☐ Director, CEO, President, Vice President , Assistant Director, Public Garden Manager
- ☐ Board Member
- ☐ Horticulturist, Curator, Field or Classroom Educator, Researcher, Agent, Environmental Professional
- ☐ Volunteer, Docent
- ☐ Member, Friend
- ☐ Other _____

Which of the following best describe your organization?

- ☐ Public Garden / Botanic Garden/ Arboretum
- ☐ University Garden / University Arboretum
- ☐ Community Garden
- ☐ University Extension
- ☐ Horticultural Society
- ☐ Farm
- ☐ Environmental Center
- ☐ Government
- ☐ Museum
- ☐ Nature Center / Nature Society
- ☐ Other - My organizational type is not listed here _____

Does your organization acknowledge the reported impacts of climate change?

- ☐ Yes
- ☐ Maybe
- ☐ No

Do you personally believe climate change is real?

- ☐ Yes
- ☐ Maybe
- ☐ No

There is a relationship between ecological injustice and climate change.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

There is a relationship between environmental injustice and climate change.

Environmental justice: efforts including protecting nature, protecting human health where we live, work and play through a collaborative, democratic process open to all

*Climate Change: significant changes in climate measures such as temperature, precipitation, and wind changes, for example, over decades or longer.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

There is common ground between ecological justice and environmental justice efforts.

Ecological justice: efforts including protecting, restoring, and conserving nature, biodiversity, species and ecosystems

Environmental justice: efforts including protecting nature, protecting human health where we live, work and play through a collaborative, democratic process open to all

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

There is common ground between advocacy and education.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

Does your organization address ecological justice? Ecological justice can be associated with conservation, endangered species protection and natural area restoration, for example.

- ☐ Always
- ☐ Sometimes
- ☐ Never

How does your organization address ecological issues? Select all that apply.

- ☐ Education Programs, Classes, Lectures, Science Cafes
- ☐ Land Management, Land Stewardship
- ☐ Interpretation (e.g. sign, literature, etc.)
- ☐ Exhibits
- ☐ Other _____
- ☐ Addressing ecological issues is unnecessary in our community
- ☐ This is not part of our mission.

Does your organization address environmental injustice issues? Environmental justice addresses harms to both nature and people with an interest in removing the harm to both, particularly in the interest of public health.

- ☐ Always
- ☐ Sometimes
- ☐ Never

How does your organization specifically address environmental justice issues? Select all that apply

- ☐ Education Programs / Classes / Lectures / Science Cafes
- ☐ Interpretation (e.g. signs, literature, etc.)
- ☐ Exhibits
- ☐ Other _____
- ☐ Addressing environmental justice is not necessary in our community
- ☐ This is not part of our mission

Appendix D
CASE STUDY INTERVIEW

Expanded Narratives of Case Studies

Then the questions I identified for each case were:

- A. How does the organization define advocacy?
- B. How does the organization define justice?
- C. How does the organization define environmental justice?
- D. What was the impetus for the organization's interest and activities in the area of environmental justice advocacy?
- E. How has the environmental programming (if any) evolved since its beginning?
- F. Does the organization partner with other organizations for the purpose of environmental advocacy?
 - a. If so what types of organizations?
 - b. Please describe the nature of the partnership
 - c. What are the benefits of the partnerships
 - d. Are the partnerships evaluated?
 - e. How are they evaluated?
- G. Please describe your relationship with public and botanic gardens
- H. How has the organization had an impact on public gardens, arboretums etc.
- I. Has the organization had an impact on community related environmental issues?
- J. What local, regional or national policy has the organization impacted
- K. How does the organization relay policy information to constituents/ advocates?
- L. In addition to the desired outcomes and goals stated on the website,

Case Study 1: Delaware Nature Society (DNS)

Mission

This category explains the organizations mission and position on advocacy in a historical context. These discussions illuminated the organization's role and function regarding the environmental justice advocacy and evolutionary process. Delaware Nature Society has a proven track record of solid advocacy work from its inception until the present. Its stance and experience is rare in an industry where few make their organization work advocacy-based. Alongside other notable organizations, DNS continues to maintain commitment to its mission:

DNS was founded in 1964 as a non-profit environmental organization in the state. It has a proven track record of long-term active preservation, conservation and advocacy programs. Its mission is “to foster understanding, appreciation, and enjoyment of the natural world through education, to preserve ecologically significant areas, to advocate stewardship and conservation of natural resources.” DNS is unique in the way it integrates education as a vital element in its role in preservation, conservation and advocacy. (Lorraine Fleming, **DNS Board Member**)

History of DNS & Advocacy

[In] The very beginning when Lynn Williams was putting together the first activities of the society [in 19 -- was it 1966,] DNS opposed an amendment that would weaken the federal land and water conservation fund law...[T]here's much a foundation for any -- any of our advocacy.... (Lorraine Fleming, Board Member DNS)

The original certificate of incorporation... to preserve and maintain land areas in their natural state for the aesthetic, moral, spiritual and economic benefit of the people of the surrounding community.

Perfect entree to do this in the name of environmental justice. And then improve waste or impoverished areas of land by the application of known, accepted or approved conservation practices. Restoration. Conduct research or experimental projects and programs on land areas in order to develop new conservation practices or use known conservation practices. And that's certainly what we have been doing. (Lorraine Fleming, Board Member, DNS)

DNS is the rarity in that world (Nature Center Administrators) of getting involved in advocacy. Most of my peers, I would say 95 percent of ANKA members and my peers in nature centers do not get involved in advocacy... That often excludes you, your government partner won't allow you to have an advocacy voice, so a lot of nature centers have that support and a lot of other centers are quite honestly afraid of making a stand and alienating donors, members. (Brian Winslow, Executive Director, DNS)

There's a misconception in the Delaware environmental community too. (Brenna Goggin, Environmental Advocate, DNS)

Because a 501c(3) organization can't do anything like that. (Lorraine Fleming, Board Member, DNS)

When you go to the National Wildlife Federation (our affiliate) meetings and what blew me away when I went last year was, these are two different worlds. The National Wildlife Federation, is the common affiliate coordinator for the state...we're getting a few education associations whose foundation is, as the land conservation, wildlife management and that group is very comfortable in that world of advocacy. (Brian Winslow, Executive Director, DNS)

Environmental Justice

The individuals interviewed at DNS are forthright in their growing awareness for Environmental Justice and its relationship to the organizational

structure, message and how that organization delivers that information to the constituents, stakeholders and clients it aims to reach.

I have to say that much of what was done when I was responsible for the environmental justice aspects were a by-product. We were aware of it and for example the work that I did on the task force for the future of the Brandywine and the Christina rivers which focused on the city, strongly on the city, which really was all about environmental justice. The advocacy did that in the name of the DNS and what Lynn did on the main task force was done in the name of DNS and the Christina Conservancy. (Lorraine Fleming, Board Member, DNS)

I think there's been a real recognition in the environmental community that we've dropped the ball and have missed an opportunity to garner more support and grassroots activists because we haven't combined the message of a healthy environment means a healthy person. And so how the health impact from a negative environment impacts people and let's face it, mostly under-served people... (Brenna Goggin, Environmental Advocate, DNS)

[S]o instead of talking about how horrible it is to throw stuff away and making an argument for recycling and combining that with health impact and look at what you know, Cherry Island has done for Southbridge or what have you. It's always been two separate issues. (Brenna Goggin, Environmental Advocate, DNS)

And so I think there in the last, I can say in the last five years, certainly there's been an awareness now in the environmental scene that needs to combine those two and it only strengthens your argument and also broadens your base of support at the exact same time. (Brenna Goggin, Environmental Advocate, DNS)

I think that DNS running the DuPont Environmental Educational Center certainly provides a greater opportunity for being more involved and provides that awareness and recognition amongst the greater part of the state because of the role we play there. Where we didn't have that before. (Brenna Goggin, Environmental Advocate, DNS)

[A] task force study began a serious study of the contaminated sites on the lower Christina of which there were many, many, many from long

past industrial uses of the river front. And a clean up program began which made --And later through work on the Christiana conservancy primarily, a great emphasis on trying to clean up the combined sewer overflow from the city of Wilmington. (Lorraine, Fleming, Board Member, DNS)

Modes of Advocacy & Points of Impact

Through education and through public awareness of important issues, even when that means litigation, DNS maintains a strong advocacy practice.

The most nature centers took the angle that through education we will improve the environment. (Brian Winslow, Executive Director, DNS).

[T]hree kinds of advocacy: a quarterly newsletter to membership, outreach to public, targeted education for decision makers. (Lorraine Fleming, Board Member, DNS)

We are the only organization with a staffed environmental advocate in the State of Delaware. Leading the environment working group provides opportunities for other organizations that would not otherwise participate publically. (Brenda Goggin, Environmental Advocate, DNS)

It's a lack of understanding and fear of what advocacy consists of, all the components of advocacy. Because they think it's lobbying, period (Brenna Goggin, Environmental Advocate, DNS)

We are fortunate to have the (legal) aide which we enter into litigation as sort of a last resort, yes. Absolutely (Brenna Goggin, Environmental Advocate, DNS)

Evolving into actually having a paid advocate, you now have a dedicated staff member who can do the research, who can make sure you're right on with the issues, you understand the issues and you have time to be in front of the legislators and develop those relationships and tell that story more than once. And that's the next step, I have a much greater comfort level as the executive director when the advocacy committee and Brenna, review and evaluate issues (Brian Winslow, Executive Director, DNS).

What my predecessors at DNS have done so well was to create like the advocacy committee that was a great idea. You want to have the right people who have the right science looking at them and I think that's a really. There's an advantage to having a paid advocate on staff whose sole responsibility is advocacy (Brian Winslow, Executive Director, DNS).

There's a study that says no two people are environmentally aware and what are the common denominators? It's not environmental education. The common denominator is hands on nature experiences as a child and that that creates the awareness. In order to become environmentally aware at the level of recycling and caring about your environment, you've got to start with environmental awareness. In other words, if you have no nature experience but just environmental education you have no content (Brian Winslow, Executive Director, DNS).

We are organizations who want to see behavior change towards the environment and I think what we can do, just in a very, very simple way (Brian Winslow, Executive Director, DNS).

When we're talking about advocacy we're not talking about policy. We're talking about action. Any way, shape or form. And so we provide those alternatives to people who say well, you know, well, certify your backyard, your wildlife, your backyard is a backyard wildlife habitat. That's an action item. You've accomplished something. You've cut down the pesticide and fertilizer use. You've been able to attract different types of birds and created a habitat corridor for them (Brenna Goggin, Environmental Advocate, DNS).

There was an ANCA (Association of Nature Center Administrators) conference at DNS. We had a seminar on advocacy and how easy it is to take the grass roots option to cover you totally, legally, etcetera. (Lorraine Fleming, Board Member, DNS)

Partnerships & Public Horticulture

For DNS, partnerships range from political figures, national affiliates and communities of Wilmington. Public gardens and nature centers united to protect endangered species.

Well, where it brought us together was the endangered species, the federal Endangered Species Act. Many public gardens were strong advocates particularly for plant conservation and that is one place where we did manage to work together, with Longwood (Brian Winslow, Executive Director, DNS)

Because we met with Mayor Williams, the new mayor, a week or two ago and Brenna came along and we wanted Brenna to have the opportunity to talk about advocacy and that's the partnership that -- the newest partnership. Brenna did a nice job talking about how sea level rises and what that the Southbridge community and how making sure that community isn't left out of the discussion. (Brian Winslow, Executive Director, DNS)

When Governor Mike Powell put out a call of action to the Nature Society and said please start talking with one voice in the environmental community. So we brought together ten environmental organizations to meet with the secretary and review kind of priorities with the department in the state (Brenna Goggin, Environmental Advocate, DNS)

As a result, the secretary outlined forty-two items that he wanted the environmental community to look at and focus on. Sea Level Rise will be the area of focus (Brenna Goggin, Environmental Advocate, DNS).

Sea level rise encompasses research, saturation, preservation, and advocacy. It utilizes the variety of skills of the environmental working group. Sea level rise will impact more than beach communities. Therefore an awareness campaign is critical. People who are disadvantaged will inordinately affected (Brenna Goggin, Environmental Advocate, DNS).

Well, where it brought us together was the endangered species, the federal Endangered Species Act. Many public gardens were strong advocates particularly for plant conservation and that is one place where we did manage to work together, with Longwood (Brian Winslow, Executive Director, DNS)

Measurable outcomes

DNS explains the linkages between measurable outcomes and maintaining momentum with constituents.

In order to build power and to keep people interested, thanking people for their efforts and telling them when their efforts made a difference is important. With the advocacy committee I always put together a chart that outlines the bill number, what the bill does and the DNS position on that. That is an internal document primarily for the advocacy committee. I do send out a final report that says this is what we've done, the final count on bills, what passed, what didn't pass (Brenna Goggin, Environmental Advocate, DNS).

Case Study 2: Creative Learning Engagement Opportunities Institute (CLEO)

The interview for Creative Learning Engagement Opportunities Institute, CLEO was provided primarily by Caroline Lewis, Founder and Executive Director.

Mission

This category explains the CLEO's mission and position on advocacy. It provides the history of its founder and her expertise in environmental education.

Our Mission: to advance environmental literacy and civic engagement by developing transformative initiatives that can be scaled and replicated. Our Vision: a world in which people, communities and organizations are engaged and literate about our environment. (Caroline Lewis, CLEO)

History of CLEO & Advocacy

In the beginning of 2010 I asked, what else can I do to promote, provoke, and celebrate with an environmental focus using my expertise on environment and engagement. I looked for a program that was scalable, replicable and transformative but there wasn't one. Action

oriented, I wisely decided to create one here in Pinecrest Gardens. Creative learning and engaging opportunities CLEO Institute was born.

Our mission became amplifying civic engagement using.... The purpose was not to create a program but find the exemplary ones. So we created that CLEO project on climate.

We consider cause, advocacy. Advocacy for a cause clearly defined target. We advocate for Climate Change awareness. Advocacy for means engaging everyone from government to businesses, schools, colleges and university to participate in to take that on.

Environmental Justice

In this section, CLEO expresses the need, position and understanding of environmental justice as well as their position on social justice matters.

It is extremely timely for institutes like CLEO at Pinecrest Gardens to make sure that environmental justice is in our basket of things we take on intentionally not randomly. Originally, CLEO was designed with the goal of civic engagement on environmental issues. We wanted people to care about stewardship, people caring about environmental issues, stewardship, environmental footprints, not being so consumer oriented... to rally people toward for climate. Climate scientist influenced CLEO. Food, water and energy fit under climate. CLEO considers climate literacy in the climate conversations, the biggest umbrella. It is almost synonymous with environmental justice, climate justice, because every thing we are doing now is affecting climate. And the vulnerability of some populations and some areas, we don't take lightly. It is disproportionate.

Environmental Justice is more about treatment and consideration of all communities.

Not caring about the social class, income or influence but that the environment is the same for everyone. Make it an even playing field. Not buying out the more vulnerable communities for a short-term gain for a long-term hazard. Vulnerable communities are more susceptible to make in these deals more so than affluent communities.

Social Justice and Environmental Justice

We are talking about environmental justice for all, climate change impacts on all. We are not concerned with affluent folks adapting to climate change. We are concerned about the poor, vulnerable un-resourced, uneducated people having to deal with it. It is our major drive for this conversation. Rich people have the resources to move / relocate in the climate adaptation much faster than others. We are looking at the vulnerability factor, in populations.

Modes of Advocacy & Points of Impact

The vocal leadership of CLEO demonstrates the means by which they engage business based and political constituents, the scientific community as well as the general public.

We are lucky to be housed here at Pinecrest Gardens, who says help us with outreach. So we can bring in aspects of the community to share this bounty in the tropical worldwe can engage in forums, panel discussion, and workshops on the issues of climate literacy. More importantly giving them the tools, inviting every body to become part of the conversation. Allowing everyone to answer what he or she believes climate change is all about and what they believe their role is. Everyone can find his or her voice.

We created this fact sheet that summarizes what they're trying to do in order to get people to own a portion of the climate change conversation. We are able to reach an interdisciplinary audience. We reach out to anyone whose readiness level is there. We work together to set higher targets for both short-term and long-term. We do trainings forums workshops cafés. We do all the social learning opportunities to insight interests and training in the climate of science in the community and the world in general.

The forums also have segments of brainstorming for the active partners to address means of deeper engagement. This is step one or Phase I of the larger call to action by CLEO Institute, which is training on the science of climate.

We promote the challenge as a competition between businesses. County officials, banks, universities and law firms engage in Phase I of challenge. The result is a fun, social and learning opportunities with and across institutions.

It is difficult to get funding for a program that wants to amplify climate change. It will come because I think the people who are rapidly interested in climate science are recognizing the power public will and public understanding. They cannot get the traction at the national level national level and global levels. So they're starting to see value in the grassroots, access that we provide for underserved and underrepresented people... In order to have at the kids they need to have access in the invited to the table.

RCAP is our big policy push. RCAP is our regional climate action plan. It has 108 action points. This is four counties: Miami Beach, Broward, Monroe, and Palm Beach. What they did was bring together elected officials, city workers, lawyers, planners, scientists, everybody that cared - meteorologists, to talk about how do we make southeast Florida resilient to deal with what's coming. With respect to both mitigation and adaptation. Pretty much they are trying to get Federal funding for infrastructure improvements at readiness level. CLEO was very active in pushing the 108 point plan out to the public for comment. We use social media, internet, and the website. And we do a lot of e-blasts and constant contact - information sharing.

Additionally, we advocate for specific details such as the Regional Climate Action Plan to be implemented. We advocate for causes and specifics within causes that give traction. We are about traction.

Partnerships & Public Horticulture

United with CLEO, Pinecrest Gardens is deliberately engaging it's audience in discussions and education about climate change and environmental justice.

Pinecrest Gardens has a mighty agenda of being a horticulture, historic, cultural hub in South Florida... They felt they were missing environmental education and planned science outreach. They were doing a lot culturally, but they weren't doing enough in true education and engagement. With schools and the public at large. So they

approached me as the director of CLEO to come talk, to see if I would help them with education and outreach. And they fell in love with the idea and offered office space in return for my help and a small monthly stipend for me to advise them. This year to help work with their five public schools.

Pinecrest Garden has the amazing plant collections. Facilities that could draw audiences of different interests and disciplines, and we could be some glue.

We have a Memorandum of Understanding (MOU), of partner institutions and we give them the right to tweak it. ... And I would say the MOU is when we say you're serious and we'll play with you. And we'll even write plans together and so on.

It's pretty much saying you will have at least one of the workshops or forums or film screenings, then you will promote the phase one of people answering the questions and you will send some people to phase two.

I think APGA has the leadership knowledge, the board and the executive director to really make advocacy something that is embraced and not run from.... APGA has been in attendance in DC at Million Advocacy day for the past two or three years. We're shoulder to shoulder with the museums and the zoos and the aquariums and all that. And in a lot of cases APGA on behalf of a lot of public gardens is making the most connections with elected officials. They think zoos and museums are more topic focused. Where gardens tend to be the place for reflection, and soul searching, and collections, and biodiversity - that type of thing. Now what they're advocating for, in that case, is government support for gardens and garden related causes like funding for the SPN, the Sentinel Plant Network or funding for NAPCC, the North American Plant Collections Consortium.

Once you start looking at plant pests and the migratory patterns, and the devastation of trees and forests and woods and sources of food for farmers. So if you get APGA and public gardens the money to be the eyes ears nose mouth of invasive species and holding that, you are saving a lot of ... lives.

So what I've been saying to APGA to plan on climate change, the science and the integrity. The role public gardens can and should play providing the conversation and the education of the public at large, but leave garden leaders to decide how far they can go with each and every message they can put out.

Measureable Outcomes

CLEO created very specific goals to reach a target audience and impact policies with verifiable data.

We created a program for climate change at the end of year 2011 so we could run it for 2012, 2013, and 2014. We hope to reach 10,000 people with the phase 1 questions every year. If we have reached 30,000 people at the end of this project, that is verifiable data. More than that, an unarticulated goal is that RCAP is acted on robustly.

Then CLEO celebrates partners. Given certificates and highlight them in the showcase.