MASTER OF SCIENCE IN
Sustainability Management

THE EARTH INSTITUTE
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Understanding Challenges and Opportunities for Nature and Nature-Based Infrastructure in New York City

Prepared for

The Nature Conservancy
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Final Report

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Executive Summary

The Nature Conservancy's New York City program is currently assessing the feasibility of developing the first-ever comprehensive view of the city's natural resources—a "Greenprint" for New York City that can inform and serve as the foundation for similar efforts in other Nature Conservancy urban programs. There is currently no mapping tool that captures the current and future state of urban natural resources, open spaces and environmental assets. The Conservancy wants to understand whether such a tool would help improve the management of natural resources in New York City.

As part of the Greenprint feasibility assessment, The Conservancy worked with a team of students enrolled in the Capstone Workshop for Sustainability Management, a required course of Columbia University's M.S. in Sustainability Management program. In this course, students, under the supervision of a faculty advisor, undertake sustainability projects for governments, companies and non-profit organizations on a pro bono basis. The so-called Capstone Team set out to answer three questions that were posed by The Conservancy:

- What are the needs and priorities of organizations that manage natural resources in New York City?
- Would a comprehensive mapping tool be useful to managers of natural resources?
- Are these organizations interested in collaborating with The Nature Conservancy on the development of such a mapping tool?

The Capstone Team conducted a survey of organizations that manage natural resource in New York City, including city, state and federal agencies, environmental and civic organizations, academic institutions, and private firms. The project's components were as follows:

1. Conduct background research on urban natural resource management, both generally and specific to New York City.
2. Identify stakeholders involved in natural resource management in New York City—the potential users of a mapping tool.
3. Design and administer a survey that would collect descriptive statistics about natural resource management in New York City.
4. Analyze and summarize survey data.
5. Make recommendations to The Nature Conservancy based on survey results.

The Capstone Team generated a list of 453 stakeholders in NYC, and received 108 survey responses, a 24% response rate. Of the survey respondents, 85% were non-profits, 10% were government agencies, 3% were private firms and 2% were academic institutions. The types of spaces being managed by these organizations were overwhelmingly parks, gardens, and wetlands. Over 30% of organizations worked on a neighborhood scale and were small in size with between 1-5 paid staff. Some 69% of organizations were active in natural resource conservation, and 60% were focused on education and outreach.

Generally, the survey results helped identify the needs and priorities of over 100 stakeholders in New York City. The top three objectives of respondents were maintaining and enhancing green spaces, improving quality of life for residents, and advancing environmental education. In addressing threats to natural resources in the city, the top three capacities of respondents were government support for local stewardship efforts, public awareness

of threats to natural resources, and understanding government policies and plans. The data also indicated that most respondents would be interested in collaborating with The Nature Conservancy on the creation of a new mapping tool. However, the data was inconclusive on the question of whether a comprehensive mapping tool would improve natural resource management. While such a tool might be helpful, it may not be the only, or most effective, means of addressing the priorities and needs of the respondents.

The Capstone Team's findings suggest that if The Nature Conservancy pursues the development of a comprehensive mapping tool to address the priorities and needs of these respondents, then it may have to demonstrate to users that the tool could lead to increased government funding and increased public awareness of environmental threats.

Based on its findings, the Capstone Team recommends the following:

1. Gain a better understanding of urban natural resource management issues.
2. Determine who the users of a comprehensive mapping tool could be.
3. Organize and facilitate discussion of the lack of a comprehensive view of natural resources in New York City.

As this report explains, implementing these recommendations would further advance The Nature Conservancy's assessment of the feasibility of developing a comprehensive view of natural resources in New York City that enhances the capacity of managers to protect nature in the city.

Introduction

New York City's natural systems are currently operating at a net loss: the city is losing natural resources faster than it is replacing them.[1] Among the concrete and cars, nature still abounds, but it is being threatened by development, pollution, and extreme weather events, such as storms and heat waves. This is an alarming development as cities rely on natural resources for biodiversity and ecosystem services, which are, in turn, essential for economic, social and environmental sustainability.[2] Nature provides provisioning, regulating, supporting and cultural services that translate to medicines, agricultural support, species habitat, air and water purification, and recreational opportunities in the everyday lives of city residents.[3] To maintain these benefits of nature, it is imperative to manage the city's natural resources effectively and efficiently.

To enhance the conservation and restoration of natural systems in urban areas, The Nature Conservancy, a leading conservation organization with over 1 million members,[4] has created the New York City program and North American Urban Network (13 cities in the U.S.).[5] The New York City program is assessing the feasibility of developing the first-ever comprehensive view of New York City's natural resources. The Conservancy is positing that a new mapping tool, which provides comprehensive information about the city's natural resources, open spaces and other environmental assets, would improve the management of natural resources in New York City. Other tools exist that provide various types of information, but none offers a comprehensive view.[6] The envisioned mapping tool could potentially offer information about the following:[7]

- The environmental and ecological potential of New York City
- A baseline of the city's current natural assets
- The city's missing natural resource opportunities (rooftops, underutilized property, etc.)
- A quantitative baseline of ecosystem services
- The distribution of flora and fauna
- Corridor issues and opportunities to enhance connectivity for people and wildlife
- The potential for increasing green spaces in the midst of competing uses
- Scenario based projections to help inform management decisions and impact
- Climate change projections

A mapping tool with these features could serve several important functions: it could allow investors and policy makers to attain metrics needed to better determine where nature-based solutions and strategies hold the greatest promise;[8] it could enhance the ability of planners and city leaders to assess the tradeoffs of alternative sizes, configurations and compositions of natural infrastructure;[9] and it could provide community leaders with tools to explore various scenarios in advocating for improvements to neighborhoods and the city generally.[10] Most importantly, perhaps, such a tool could help improve the understanding of, build consensus around, and help prioritize the best ways to manage natural resources in New York City.

As part of its scoping project, The Nature Conservancy sought to collect information from organizations that are involved in natural resource management in the city. The Conservancy collaborated with a Columbia University Capstone Workshop in Sustainability Management team (the Capstone Team) to design and administer a survey to these organizations. The purpose of the survey was to understand the priorities, needs and interests of natural resource managers, help identify prospective partners for future mapping tool development, learn from the experience of other practitioners, and help strengthen the natural resource stewardship community in New York City. The organizations to which the Capstone Team administered the survey include city, state and federal agencies, environmental and civic organizations, academic institutions, and private firms—all potential users of a comprehensive mapping tool. Specifically, the Capstone Team:

- Identified 453 organizations in the public, private, and non-profit sectors that are involved in some aspect of natural resource management in New York City.
- Designed a survey to better understand the priorities and needs of user groups as they relate to environmental resources and how a mapping tool could address management concerns.
- Analyzed and summarized the survey data.
- Made recommendations to The Nature Conservancy to advance its feasibility assessment.

This report provides a detailed account of the Capstone Team's research, methodology, survey administration, survey data, analysis approach, and important findings. The results will be used to inform The Nature Conservancy's scoping project in the coming months.

Background Research

Overview of Natural Resource Management in New York City

To better design a survey that would collect information about the priorities and needs of organizations involved in the management of natural resources, the Capstone Team researched the state of natural resources and natural resource management in New York City.

The city has already lost much of its natural heritage. Upland oak forests once covered over 10,000 acres in Manhattan, from present-day Wall Street to Harlem.[11] The New York-New Jersey harbor has lost roughly 85 percent of coastal wetlands and over 90 percent of freshwater wetlands in the last century.[12] Between 1984 and 2002, 9,000 acres of green cover were lost,[13] as well as 43 percent of native flora since 1925.[14]

New York City still has vitally important natural areas and depends on them for essential ecosystem services—some 5,300 acres of trees, 3,100 acres of wetlands and river systems, over 2000 species of plants, and 350 bird species.[15] Altogether, New York City's natural areas—large enough to cover Manhattan from its southernmost tip to 125th street in Harlem[16]—provide countless benefits for the people that live there.

The Capstone Team identified many of these benefits for inclusion in the survey, including:

- Microclimate regulation
- Stormwater runoff reduction
- Air and water filtration
- Carbon sequestration and storage
- Moderation of extreme events such as storms and heat waves
- Pollination
- Educational and recreational opportunities
- Species habitat
- Maintenance of biodiversity

These benefits are provided through natural areas such as parks, gardens, urban farms and forests, wetlands, rivers and harbors, estuaries, vacant lots, rooftop gardens and more. Thus, in order to preserve these benefits, it is important to manage and protect the ecosystems and natural areas that provide them.

However, successful management and protection is increasingly challenging due to many threats to natural areas and ecosystem services in New York City. Threats identified include:

- Soil and water pollution
- Climate change
- Coastal flooding
- Extreme temperatures
- Biodiversity loss
- Invasive species
- Coastal erosion
- Overpopulation
- Overuse of natural areas
- Development and land use changes

New York City is vulnerable to many impacts of climate change, including higher temperatures, extreme weather, sea level rise and increased coastal and flash flooding. Ecosystem services act as a line of defense against such impacts. If New York City is to continue thriving in the face of increasing threats, it will be critical to maintain the resources and natural services on which the city depends.[17]

Unlike several other large US cities,[18] however, New York City has no overarching conservation plan for its natural areas and resources. In fact, "there is no

governmental agency with overall planning authority for all physical sites or natural resources, which creates the challenge of coordination between individual actions, organizational networks, and policy-makers."[19]

Several studies have shed light on the current state of natural resource management in the city. The organizations involved are highly variable in size, age, and area of focus, and "have become an essential component of the governance structure that regulates ecosystem services in cities," the New York City itself being no exception.[20] The large number of groups can act as an impediment to effective organization and coordination, though they fill an important role in enhancing the city's natural environment and quality of life.[21]

Various mapping tools for natural resource management are used in cities around the world, including New York. In 2001, the Open Accessible Space Information Systems (OASIS) was created in New York City to help "nonprofits, community groups, educators, students, public agencies, and local businesses develop a better understanding of their environment with interactive maps of open spaces, property information, transportation networks and more."[22]

While many organizations use OASIS, it lacks the capacity to monitor and plan for different scenarios, or to visualize threats such as climate change or competing land uses.[23] At least seven mapping tools are available in New York City,[24] most of which allow users to the identify trade-offs in natural resource management and planning.[25] One of the benefits of these tools is the visual information they provide, which, when supplemented with additional data like non-spatial ecosystem information, can increase the efficiency in communication and incorporation of ecosystem services into decision-making processes.[26]

Identification of Environmental Stakeholder Organizations

The Capstone Team identified 453 organizations involved in the management of New York City's natural resources that would be appropriate respondents of the survey. The Team identified these organizations by examining the lists of respondents in other recent surveys related to natural resource management in New York City; through Internet searches, particularly Idealist.org, OASIS and Google; and through partner lists on the websites of large organizations. The identified organizations' areas of focus included the following types of natural resources:

- Water
- Parks
- Urban Forests
- Gardens
- Green Buildings and Rooftops
- Wildlife
- Brownfields and Vacant Lots

The Team further categorized organizations by sector—public, private, non-profit, and academic. The Team also gathered the names, emails, and addresses of contacts for the organizations. Once this information was assembled, The Nature Conservancy reviewed the list, revising contact information based on its knowledge of these organizations. For further information on natural resource categories, see Appendix A.

Survey Design

The Capstone Team researched survey design methodology and online survey administration, while its research on natural resource management in New York City informed survey questions about organizational priorities and needs.

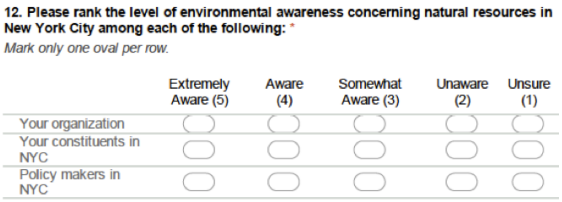
The survey was designed to collect descriptive statistics, which describe information about survey respondents from a selected group of organizations. Thus, data collected could not be used to make inferences about the greater population of natural resource management organizations,[27] unlike inferential surveys.

Survey Design Best Practices

Surveys are most effective when questions are ordered from simple to most complex, and from least to most sensitive. This structure encourages survey completion.[28] Such ordering may also help overcome the hesitation to respond to the survey among respondents who may initially be "a bit suspicious about the study."[29] By starting with simple, informational questions, a survey can build respondent confidence and trust.[30]

Moreover, the shorter the survey, the more complete and accurate the resulting information will be.[31] In particular, "longer questionnaires put an unfair burden on the time and memory of the respondent and will inevitably result in higher response errors."[32]

It is also usually best to avoid asking combined questions and instead break complex questions into separate questions. In an effort to keep questions short and easy to respond to, survey design experts suggest using matrix-style questions.[33] An example of this type of question is presented in Figure 1.



12. Please rank the level of environmental awareness concerning natural resources in New York City among each of the following: *

Mark only one oval per row.

	Extremely Aware (5)	Aware (4)	Somewhat Aware (3)	Unaware (2)	Unsure (1)
Your organization					
Your constituents in NYC					
Policy makers in NYC					

Figure 1. Example of a matrix-style question.

When presenting respondents with multiple-choice questions—such as the above matrix—best practices include the following:

- Provide a 'don't know' choice when giving respondents an option to evaluate, to ensure more accurate responses.[34]
- Include a 'none' or 'other' alternative when this is a logical possibility.[35]
- Use close-ended questions whenever possible, which facilitate data uniformity.[36]
- Rating scales provide a common means of 'measuring attributes such as quality, satisfaction, or level of agreement.'[37] Harvard University, for instance, recommends a five-point rating scale to provide a good balance between nuance and brevity.[38]

Despite the advantages of close-ended questions, experts suggest occasionally using open-ended questions. In this way, the survey avoids potential respondent frustration from an inaccurate list of alternatives, which does not reflect the respondent's possible answers to questions. Open-ended questions also provide a respondent the opportunity to provide information that would not have been otherwise elicited by close-ended questions.[39]

Avoiding respondent bias is another important component of survey design.

Respondent bias consists of "any error in a study that is a result of participants' inability, or unwillingness to provide accurate or honest answers to a survey."[40] Bias can result from question format and sequencing. It is important to avoid questions that lead respondents to a particular answer. Research suggests that when faced with multiple-choice questions, survey respondents tend to select the first few options they are given in a list of choices.[41] To counter this potential bias, the order of answer choices should be randomized for each respondent.

Other best practices include avoiding the use of emotionally charged words and evocative language.[42] Similarly, it best to avoid the word 'agree,' which is often used in surveys to ascertain the level to which a respondent approves of a statement. It has been shown that people have a certain bias toward the word 'agree,' which can produce misleading results.[43] Even mentioning a concept (e.g. an idea, an issue, a brand) in one question can bias respondents toward thinking of the same concept in later questions.[44]

Survey Content

While the survey's primary goal was to determine whether a comprehensive mapping tool is the best way to address the priorities and needs of organizations that manage natural resources in New York City, in order to avoid bias, the survey could not include questions that asked about the desirability of a mapping tool directly. Specifically, respondents would not have enough information about the functionality of a mapping tool as The Nature Conservancy envisions it, and may not be able to consider alternatives to such a tool.

Therefore, the Capstone Team designed the survey so that it would gather information about the need for and usefulness of the functionalities a mapping tool could provide, without asking about such a tool directly. These pertinent questions sought to understand the management capacities that concerned respondents, such as the need for baseline data about natural resources or climate change projections. The survey also sought to collect data about existing methods and tools that organizations use to manage natural resources. All of these data would together help the Capstone Team determine the extent to which a comprehensive mapping tool would meet the needs of respondents.

The survey was ultimately organized into four parts, which reflected both best practices in survey design and the objectives of the project:

- Part I: Basic information about each organization
- Part 2: Organizations' priorities and needs
- Part 3: Information resources used by each organization
- Part 4: Organizations' willingness to collaborate with The Nature Conservancy

The finalized survey was composed of 47 questions (see Appendix G). The approximate time to complete the survey was 10-15 minutes.

Survey Administration

To save time and easily collect information, the survey was designed to be administered by email with responses submitted online. After evaluating several online survey platforms, the Capstone Team chose to administer the survey using Google Forms due to its flexible programming, unlimited number of responses, and user friendliness. Electronic surveys come with a number of advantages over paper-based mail surveys,

as explained in further detail in Appendix B. Given The Nature Conservancy's importance and reputation in the field of natural resource management, to maximize response rate the survey was sent to respondents from a Nature Conservancy email account. The survey included a cover letter that introduced its purpose, of the survey, provided instructions, gave an estimated time of completion, and assured the confidentiality information.[45] See Appendix F.

Distribution

The Capstone Team tested the survey for one week among themselves and Nature Conservancy staff before administering it publicly on November 5th, 2015. The survey closed on November 19th at midnight.

Best practices for email response rate suggest that recipients are most likely to open them after 12pm, particularly between 2pm and 5pm.[46] Additionally, emails sent on Tuesdays and Thursdays have a greater chance of being opened.[47] The Capstone Team followed these guidelines.

Once the survey had been administered, the Capstone Team worked with The Nature Conservancy to email the survey twice more to organizations that had yet to respond. The Capstone Team also made phone calls to all non-respondents, urging them to complete the survey. The literature indicates that using different methods to elicit responses is helpful in increasing response rate.[48] See Appendix B.

Email reminders were sent out on November 9th and16th, and follow-up calls were made on November 10th and 17th. After each round of follow-up calls, the Capstone Team received up to 45 new or corrected email addresses. As a result of these efforts, survey response rate increased by 114% on November 11th, and by 39% on November 19 (see Figure 2).

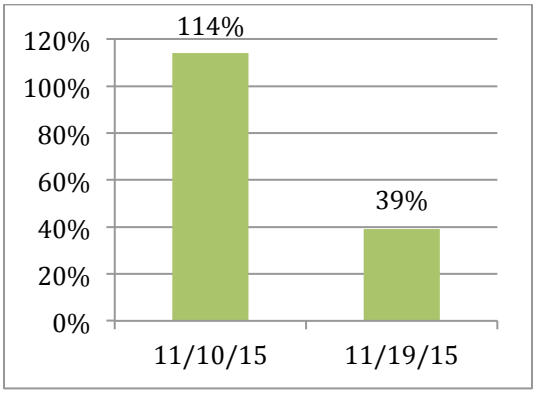


Figure 2. Increased survey response rate after follow-up calls.

After 16 days of survey administration with a sample size of 453 stakeholders, the survey reached a total of 108 responses, resulting in a 24% response rate.

Survey Findings

Among the 108 survey responses, all of New York City's major city and state governmental environmental agencies responded, including the Department of Parks and Recreation, the Department of Environmental Conservation and the Department of Environmental Protection. There were 11 total government responses out of 32 government organizations in the original stakeholder list—a 34% response rate. The large majority of respondents were non-profit and civic sector organizations, accounting for 85% of responses.

For some questions, the Capstone Team used a ranking system to summarize responses and to allow for comparative analysis among response choices. For example, when respondents were asked about the level of concern for threats to natural resources, a response of 'extremely concerned' received 10 points, 'concerned'

received 6.6 points, 'somewhat concerned' received 3.3 points, and 'not concerned' received 0 points. The point tallies were added and divided by the total number of responses, and a rating value was assigned to each answer choice. In order to identify the most important choices, the third quartile—or 75th percentile—was determined and all options with scores above that threshold (the top 25% of data) were selected. In the findings, these responses are listed with their respective weights, rather than as percentages.

Information About Respondents

Of the 108 organizations that responded to the survey, 85% (92 organizations) were non-profit or civic groups and 10% (11 organizations) were government agencies (see Figure 3). (For the names of individual organizations, see Appendix D. For all graphs showing survey findings, see Appendix H).

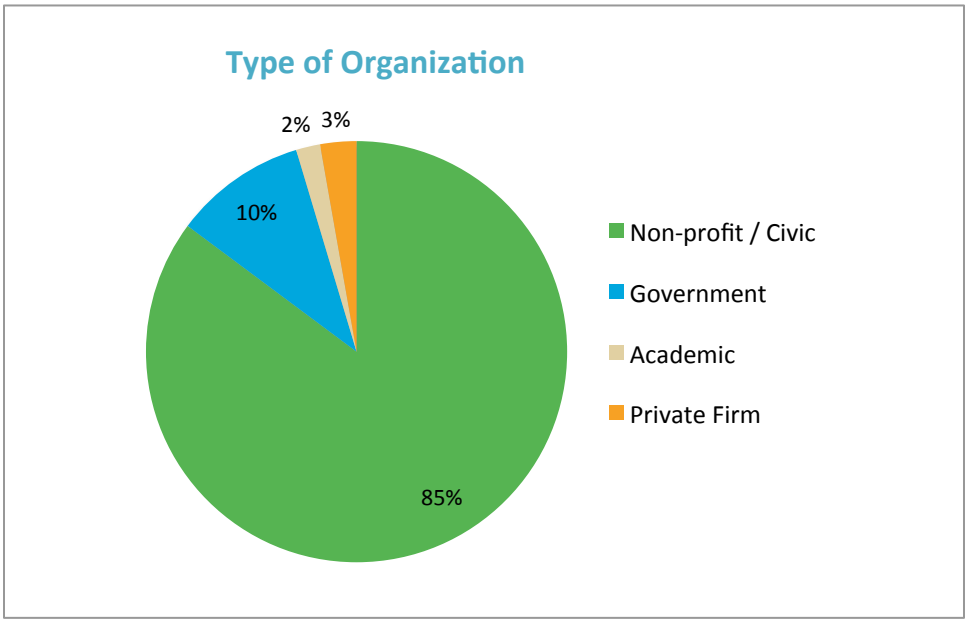


Figure 3.

Many of the organizations that responded operated at more than one scale, ranging from neighborhood to global. The majority of respondents indicated that they worked on a neighborhood scale (51%), while 46% worked on a city scale, and 30% work on a borough scale.[1] Most of the organizations reported small staffs, with 26% having between 1-5 paid employees, 22% with 6-50 employees, and only 11% having more than 101 employees.

Respondents focused on the following areas of natural resource management: environmental conservation (69%), education and outreach (60%), environmental restoration (54%), and environmental protection (54%) (see Figure 4). Respondents indicated that the most important natural resources they managed were parks (76%), followed by gardens (58%), wetlands (54%), and coastlines (51%). Next were estuaries (49%) and rivers and harbors (48%).

[1] For many questions respondents could choose more than one answer. Therefore, percentages do not always equal 100%.

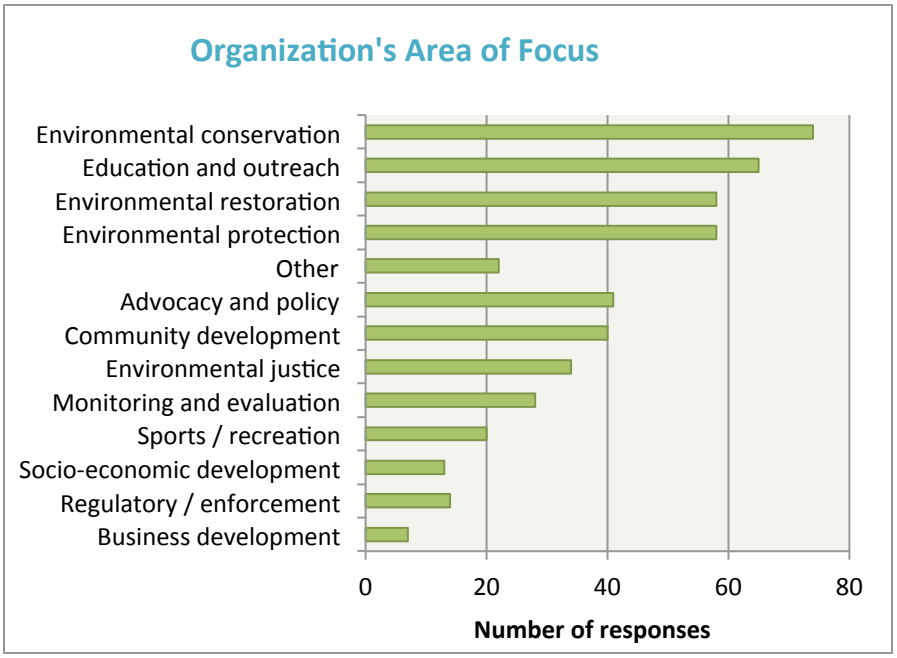


Figure 4.

For large organizations with 101-1000 employees, the most managed natural resources were rivers and harbors, coastlines and gardens (75% for each). Of organizations with over 1000 employees, 63% considered rivers and harbors, forests, flora, gardens and parks to be most important.

Small organizations (1-5 paid employees) overwhelmingly managed parks (68% of respondents) and gardens (64%), followed by wetlands (46%). Organizations with 6-10 paid employees focused primarily on natural resources pertaining to water, though a large majority (78%) also focused on forests. Further, 78% of this group managed rivers and harbors, while 67% each managed streams and ponds, coastlines and wetlands.

Some 69% of respondents indicated that they were concerned with land owned by the municipal government. The other types of land ownership were state-owned (41%), owned by a non-profit organization (37%), and privately owned (32%) (see Figure 5).

Figure 5.

Priorities and Needs of Respondents

Respondents identified a diverse array of priorities for their work in New York City, the most important of which were maintaining and enhancing green spaces (72%), improving quality of life for residents (71%), advancing environmental education (68%), increasing awareness of the benefits of natural resources (67%), and improving equitable access to green space (60%). Respondents were also concerned with coastal flooding (67%), flash flooding (49%) and

heat waves (46%), all of which are expected to worsen due to climate change.

Organizations reported relatively high levels of awareness among policymakers and their constituents in New York City regarding natural resources. While respondents said that only 12% of constituents and 7% of policymakers were 'extremely aware' of natural resources in the city, they also reported that 44% of their constituents and 31% of policymakers were 'aware.' Only 5% of constituents and 4% of policymakers were deemed to be 'unaware.'

Organizations ranked climate change, coastal flooding and water pollution as the most concerning threats to natural resources in New York City (see Figure 6 for a comprehensive list of threats). Threats varied by the type of organization responding. Government agencies and private firms were most concerned about climate change for instance, while non-profit and civic organizations were most concerned about the lack of public funding for environmental and conservation initiatives, followed by climate change and a lack of awareness of environmental issues.

The top priorities overall were maintaining and enhancing green spaces (72%), improving the quality of life for residents (71%), advancing environmental education (68%), increasing the awareness of the benefits of natural resources (67%), and improving equitable access to green space (60%).

For large organizations with over 100 paid employees (11% of respondents), the highest priority was improving environmental regulation (82%), followed by improving coordination and collaboration between environmental stewardship stakeholders, improving water quality, improving air quality, and advancing environmental education—all with 73%.

For small organizations with 10 or fewer employees, improving quality of life for residents ranked first (76%), followed by maintaining and enhancing green spaces (70%) and advancing environmental

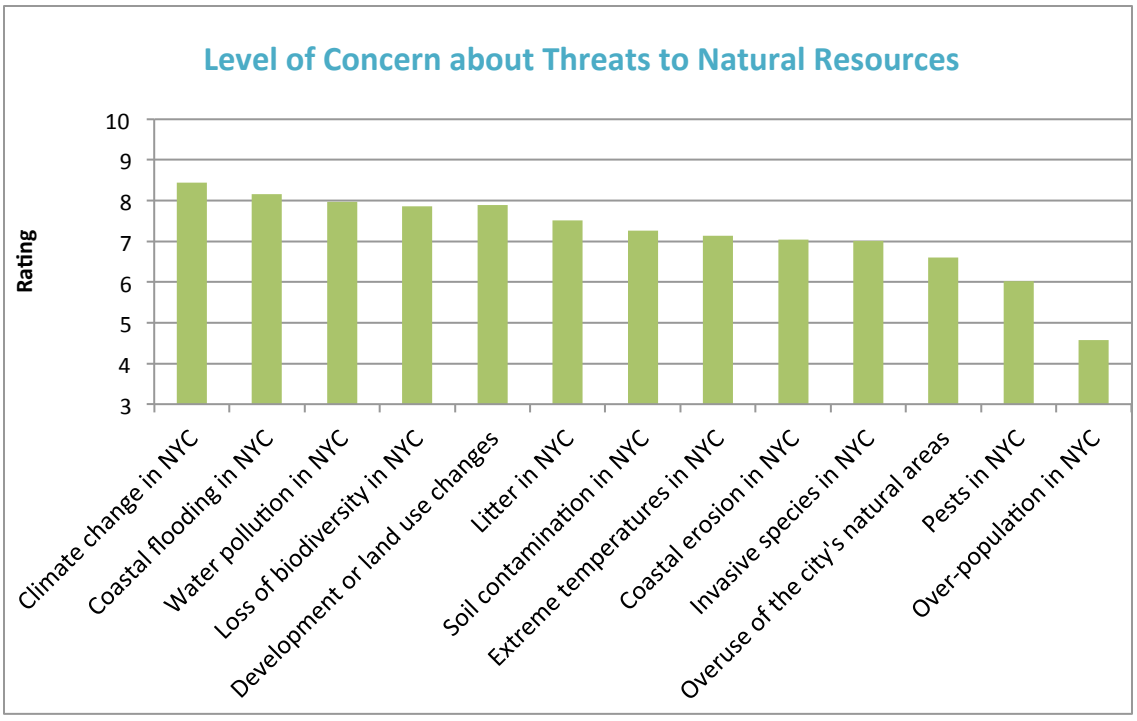


Figure 6.

education (68%). Thus, the only overlap between the two groups was in advancing environmental education.

Top Natural Resource Management Priorities

Overall	
Maintaining and enhancing green spaces	72%
Improving quality of life for residents	71%
Advancing environmental education	68%
Increasing awareness of the benefits of natural resources	67%
Improving equitable access to green space	60%
Large Organizations	
Improving environmental regulation	82%
Improving coordination and collaboration between environmental stewardship stakeholders	73%*
Improving water quality	73%*
Improving air quality	73%*
Advancing environmental education	73%*
Small Organizations	
Improving quality of life for residents	76%
Maintaining and enhancing green spaces	70%
Advancing environmental education	68%

Table 1. Top natural resource management priorities according to respondents. * indicate ties among responses and thus more than the top three priorities for large organizations.

The three biggest threats that organizations identified overall were climate change (8.9 on a 10-point scale[2]), coastal flooding (8.6), and water pollution (8.2), followed by biodiversity loss (7.9) and public funding for environmental and conservation initiatives (7.6).

For large organizations (over 100 paid employees), the top threats were similar to those reported overall, with climate change (9), coastal flooding (8.8), water pollution (8.3) and public funding for environmental and conservation initiatives ranking highest (8.3). For small organizations (1-10 paid employees), climate change also ranked highest (9), followed by public funding for environmental and conservation initiatives (8.5), development or land use changes (8.3), and coastal flooding (8.3).

Top Threats to Natural Resources in New York City

Overall	
Climate change	8.9
Coastal flooding	8.6
Water pollution	8.2
Biodiversity loss	7.9
Public funding for environmental and conservation initiatives	7.6
Large Organizations	
Climate change	9
Coastal flooding	8.8
Water pollution	8.3*
Public funding for environmental and conservation initiatives	8.3*
Small Organizations	
Climate change	9
Public funding for environmental and conservation initiatives	8.5
Development or land use changes	8.3*
Coastal flooding	8.3*

Table 2. Top threats to natural resources. * indicate ties among responses and therefore

[2] Some survey results are best expressed as weights rather than percentages, as the weights correspond to a scale where respondents were asked to rank capacities and threats as 'extremely important,' important,' 'somewhat important,' 'not important,' and unsure,' thus allowing for a single metric for each response option.

more than the top three threats for large and small organizations.

The top capacities that were important for organizations in New York City overall were government support for local stewardship efforts (8.6), public awareness of threats to natural resources (8.5), understanding government policies and plans that affect operations (8.3), understanding the impacts of climate change (8.1), and the ability to influence environmental policy and zoning regulations (8.1)

Large organizations ranked highest public awareness of threats to natural resources (8.3), understanding the impacts of climate change (8.3), access to baseline data (7.7), and government support for local stewardship efforts (7.7). For small organizations, understanding government policies and plans that affect operations (8.6), government support for local stewardship efforts (8.6), and public awareness of threats to natural resources (8.5) were most important.

Top Capacities in Addressing Threats to Natural Resources in New York City

Overall	
Government support for local stewardship efforts	8.6
Public awareness of threats to natural resources	8.5
Understanding government policies and plans that affect operations	8.3
Understanding the impacts of climate change	8.1*
The ability to influence environmental policy and zoning regulations	8.1*
Large Organizations	
Public awareness of threats to natural resources	8.3*
Understanding the impacts of climate change	8.3*
Access to baseline data	7.7*
Government support for local stewardship efforts	7.7*
Small Organizations	
Understanding government policies and plans that affect operations	8.6*
Government support for local stewardship efforts	8.6*
Public awareness of threats to natural resources	8.5

Table 3. Top threats to natural resources. * indicate ties among responses and thus more than the top three capacities.

For government agencies, the top priorities, threats and capacities were as follows. Ninety-one percent of government agencies identified improving the quality of life for residents and advancing environmental education as top priorities, while 82% reported the most important objectives as increasing awareness of the benefits of natural resources and improving water quality.

In terms of threats, government respondents ranked climate change (9.4), water pollution (9.4), and public funding for environmental and conservation initiatives (9.1) as most important. Other important threats were coastal flooding (8.8) and soil contamination (8.8).

Top capacities for government agencies were public awareness of threats to natural resources (8.8), understanding the impacts of climate change (8.8), and government support for local stewardship efforts (8.5). Interestingly, two of the next three top ranked capacities were also concerned with issues regarding the government and environmental regulations: the ability to influence environmental policy and zoning regulations (8.2) and understanding government policies and plans that affect operations in New York City (7.9).

Top Priorities, Threats, and Capacities Identified by Government Respondents

Priorities	
Improving quality of life for residents	91%
Increasing awareness of the benefits of natural resources	82%
Improving water quality	82%
Threats	
Climate change	9.4
Water pollution	9.4
Public funding for environmental and conservation initiatives	9.1
Capacities	
Public awareness of threats to natural resources	8.8
Understanding the impacts of climate change	8.8
Government support for local stewardship efforts	8.5

Table 4. Top threats to natural resources according to government respondents.

Mapping Tool Usage Among Respondents

Fifty-nine percent of respondents reported using a mapping tool (64 out of 108 organizations). Within the last twelve months, OASIS was the most frequently used mapping tool (37 responses), followed by GreenMap (22 responses), and NYC Climate Smart Cities (14 responses) (see Figure 7). Of the 64 organizations that use a mapping tool, 50 organizations were non-profits/civic groups (78%) and 10 were government agencies (16%). Government agencies used mapping tools at a far higher rate than civic/non-profit groups: 10 out of 11 government agencies compared to 48 of 108 non-profit or civic organizations. Such tools were used most frequently by organizations that manage parks (49 organizations), gardens (37), wetlands (36), wildlife (36), and watersheds/sewersheds (35).

Organizations also said they use social media (90%), media (70%), and conferences/seminars (61%) to support their work.

Important capacities for respondents can be divided into ones that could potentially be met with a mapping tool and ones that cannot. For the former, understanding the impacts of climate change (8.1), access to baseline data (7.8) and stakeholder collaboration (7.8) ranked highest overall. Of the capacities not directly tied to a mapping tool, the highest ranked were government support for local stewardship efforts (8.6), public awareness of threats to natural resources (8.5), and understanding government policies and plans that affect the work of the organizations surveyed (8.3), though it is possible that these too could be enhanced by a mapping tool.

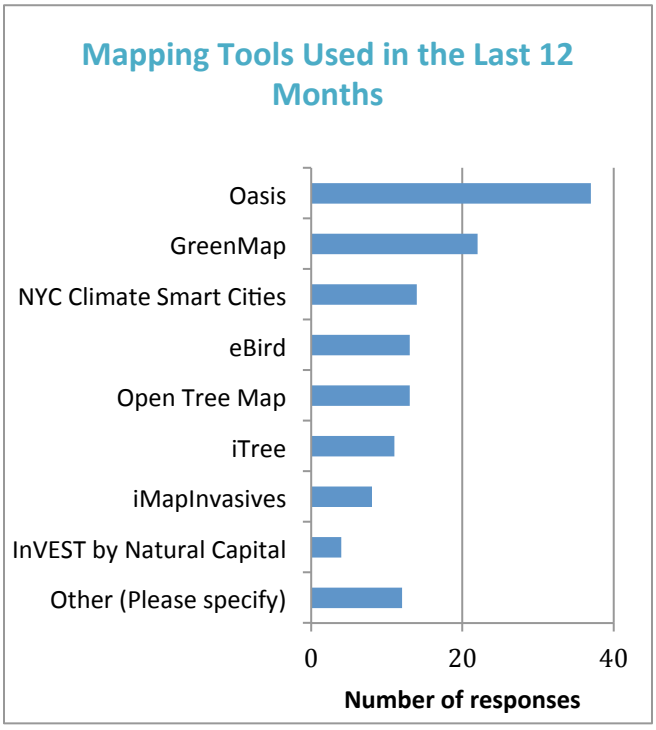


Figure 7.

Respondents' Interest in Working with The Nature Conservancy

Some 90% of respondents indicated that they were interested in collaborating with The Nature Conservancy and other organizations in developing a comprehensive view of natural resources in New York City. Of these organizations, 39% (42 respondents) said they were 'extremely interested' in collaboration. In addition, 65% (70 respondents) indicated that they were 'extremely interested' or 'interested' in providing baseline data that could inform the development of a comprehensive view.

Of the organizations interested in collaborating to develop a comprehensive view, six were government agencies, 31 were non-profit/civic organizations, one was a private firm and the other an academic institution.

Sixty-two percent of these organizations reported already using mapping tools. Among this 62%, for non-profit and civic organizations, the most important capacities were government support for local stewardship efforts in New York City (9.1), understanding government policies and plans that affect operations (9), and public awareness of threats to natural resources (8.9). For government agencies, the most important capacities were understanding the impacts of climate change (9), public awareness of threats to natural resources, government support for local stewardship efforts, and the ability to influence environmental policy and zoning regulations, all with an 8.7 rating.

The Capstone Team identified four organizations that The Nature Conservancy can target for follow up interviews regarding collaboration on a mapping tool. Three of these are large organizations, with over 100 employees, including New York City Parks, the National Parks Conservation Association, and Grow NYC. All three indicated that they were interested in working with The Conservancy in 1) providing additional information in the development of a mapping tool so that it could meet some of the organization's informational needs and 2) developing a comprehensive view of New York City's natural and environmental resources.

The fourth organization, Gotham Whale, though it did not indicate its size in number of employees, provided compelling responses. It listed three mapping tools that it has used in the past year, including SeaMap, ARCGIS, and GE. Further, on all collaboration questions, Gotham Whale indicated that it is 'extremely interested' in working with The Conservancy. One of its open-ended responses read: "we develop software tools to manage and integrate data, and actively pursue funding for its development. Our database of sighting information depends on map location and behavioral activities, to give a comprehensive picture of the activity, location, and numbers of marine mammals around NYC."

Conclusion

The findings of the Capstone Team's survey suggest that a new mapping tool could help to address some of the most pressing priorities and needs of the respondents.

For instance, climate change was identified as the most significant threat for organizations overall (8.9), as well as for large and small organizations (both 9). The next largest threats identified for all organizations were coastal flooding (8.6), water pollution (8.2), biodiversity loss (7.9) and public funding for environmental and conservation initiatives (7.6).

Apart from climate change, large organizations were most concerned with coastal flooding (8.8), water pollution (8.3) and public funding for environmental and conservation initiatives (8.3)—similar to the top threats identified overall. For small organizations, public funding for environmental and conservation initiatives (8.5), development or land use changes (8.3), and coastal flooding (8.3) ranked highest after climate change.

The most important capacities overall were understanding the impacts of climate change (8.2), public awareness of threats to natural resources (8.1), and understanding government policies and plans that affect operations (7.9). For large organizations, most important were public awareness of threats to natural resources (8.3), understanding the impacts of climate change (8.3), access to baseline data (7.7), and government support for local stewardship efforts (7.7). For small organizations, most important were understanding government policies and plans (8.6), government support for local stewardship efforts (8.6) and public awareness of threats to natural resources (8.5).

Broadly speaking, many of the top threats and capacities identified could potentially be addressed by a comprehensive mapping tool. The following are threats identified by organizations, along with the threat's corresponding ranking. Threats that are more traditionally tied to mapping tool are listed in bold, and while not as closely related to a mapping tool, it is possible that a mapping tool could also address threats not listed in bold, such as public funding for environmental initiatives and public awareness of environmental issues in New York City.

Overall Threats	Ranking
Climate change	**8.4**
Public funding for environmental/conservation initiatives	8.3
Coastal flooding	**8.2**
Lack of knowledge/awareness of environmental issues	8.1
Water pollution	**8**
Loss of biodiversity	**7.9**
Development or land use changes	**7.9**
Lack of coordination in managing natural resources	**7.8**
Lack of stewardship of natural resources	7.7
Litter	7.5

Table 5. Top threats identified by organizations, with threats that could potentially be addressed by a mapping tool in bold.

As shown in Table 5, a mapping tool could potentially address six of the top 10 threats that organizations identified. In terms of important capacities, half of the top capacities identified link to a mapping tool, as shown below in Table 6. Furthermore, a mapping tool could potentially address eight of the top 12 capacities identified, though again it should be noted that other capacities could potentially be enhanced by a mapping tool—such as government support for local stewardship efforts or understanding government policies and plans that affect operations—even though they may not be as closely or traditionally related to a mapping tool.

Overall Capacities	Ranking
Government support for local stewardship efforts	8.6
Public awareness of threats to natural resources	**8.5**

Understanding government policies and plans that affect operations	8.3
Understanding the impacts of climate change	**8.1**
Ability to influence environmental policy and zoning regulations to support ecosystem services	8.1
Access to baseline data on natural resources	**7.8**
Stakeholder collaboration within NYC	**7.8**
Scientific research on NYC's natural resources	7.8
Information about planned and existing real estate development	**7.5**
Access to maps of natural resources	**7.3**
Information about other environmental stewardship organizations	**7.3**
Access to maps of private land (including brownfields and vacant lots)	**6.5**

Table 6. Organizations highlighted the capacities above in addressing threats to natural resources. Capacities that could potentially be enhanced by a mapping tool are listed in bold.

These findings suggest that if The Nature Conservancy is to pursue the development of a comprehensive mapping tool as a means of addressing the priorities and needs of these respondents, then The Conservancy should demonstrate to respondents that the tool could help them meet their most important needs.

The data are inconclusive, however, as to whether a new mapping tool would be the most effective way to meet these needs.

Potential Alternatives to a Mapping Tool

One alternative tool that could be used to improve natural resource management in New York City is an annual or semiannual report or newsletter, issued by The Nature Conservancy and distributed to the same group or a larger group of environmental stewardship stakeholders in the city. Two findings in the Capstone Team's analysis support this potential course of action.

First, four the top six most important capacities could be satisfied by such a report—public awareness of threats to natural resources, understanding government policies and plans that affect operations, understanding the impacts of climate change, and access to baseline data on natural resources. The other two top capacities—government support for local stewardship efforts and the ability to influence environmental policy and zoning regulations—likely would not be satisfied by either a mapping tool or an annual/semi-annual report.

The second concerns the responses of organizations when asked if they would be interested in collaborating with The Nature Conservancy in four different ways. Respondents rated their interest in the following higher than their interest in providing additional information that could be used to develop a mapping tool that could meet some of the organization's informational needs: 1) collaborating with The Conservancy and other organizations in developing a comprehensive view of the city's natural resources; 2) providing baseline data about natural resources that could inform the development of a comprehensive view of natural resources; and 3) testing and providing feedback about the functionality of a tool that offered a

comprehensive view of natural resources in the city.

The first three of these forms of collaboration could be applied to the development of a periodically distributed report or newsletter. Further, respondents rated their interest in these forms of collaboration more highly than in collaborating to develop a mapping tool. This could indicate that these organizations are more willing to collaborate on a project like a report than a mapping tool. Additionally, development of a report or newsletter could also likely be achieved at a lower cost than could the development of a mapping tool.

Other means of improving natural resource management could include lobbying, protesting, and campaigns surrounding public awareness and education. The Capstone Team could not assess, however, whether such tools might be more effective in improving the management of natural resources in New York City than could a comprehensive mapping tool. The development of a mapping tool, however, could provide a comprehensive view of natural resources in New York City, something that tactics such as protesting and educational campaigns would not.

Recommendations

Based on its analysis of survey results, the Capstone Team proposes three recommendations for The Nature Conservancy in order to inform its feasibility assessment over the coming months.

1. Gain a better understanding of urban natural resource management problems.

Creating a new mapping tool to improve the management of natural resources in New York City would require a more detailed understanding of the management problems faced by prospective users of the tool. By understanding these problems, The Nature Conservancy could then determine if and how the envisioned functions of the new mapping tool would help users solve these problems. The data suggest that, in better understanding management problems, it may be useful to distinguish between small and large organizations, as they have different priorities and needs. Important aspects of this management study are as follows:

- The functionalities of a mapping tool that are being used by organizations.
- The functionalities of existing tools that might help organizations not using a tool.
- The functionalities of existing tools that need improvement.
- The need for additional functionalities beyond those of existing tools.

Similarly, The Nature Conservancy could seek to better understand the specific functionalities of mapping tools that organizations are currently using that either do not meet their needs or that could be improved upon. As the Nature Conservancy enhances its own vision for the way a comprehensive tool might take shape, it could chart these missing and inadequate functionalities to then determine whether a comprehensive tool could help meet some of the gaps that organizations using mapping tools currently face.

2. Determine the appropriate users of a comprehensive mapping tool.

The disparity in responses between small and large organizations, as well as the important differences between these two

types of organizations, suggests that The Conservancy must determine whether a new mapping tool would best serve some types of organizations more than others.

It will therefore be important to determine who the intended users of a comprehensive mapping tool would be—whether The Conservancy is trying to help all groups who manage natural resources in New York City or whether it would be most effective to focus on groups whose needs and priorities could best be addressed by a mapping tool.

3. Organize a conference to broaden the discussion about the potential benefits of developing a comprehensive view of natural resources in New York City.

A conference could allow The Nature Conservancy to better understand the priorities and needs of natural resource management issues in New York City. It would also provide a forum where The Conservancy could present its vision for a comprehensive tool, thereby engaging stakeholders in a dialogue about the usefulness of such a tool and potentially increasing buy-in and willingness to collaborate from potential users.

This recommendation would contribute to the implementation of the first two recommendations, as it would allow The Nature Conservancy to gain a better understanding of natural resource management problems, and to determine the appropriate users of a comprehensive tool.

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Appendix A: Natural Resource Categories Further Defined

Brownfields and Vacant Lots

This category applies to currently unoccupied land, possibly facing issues of environmental contamination, but with the potential for rehabilitation into a productive urban natural resource.[1] The Nature Conservancy voiced an interest in including these non-traditional resources in the study.

Gardens

The garden category subdivided further into Botanical Gardens and Community Gardens. The Botanical Garden categorization applied to gardens primarily focused on biodiversity, preservation, and environmental education. Specific examples include the Queens Botanical Garden and New York Botanical Garden. The Community Garden categorization applied to gardens primarily focused on food production, neighborhood improvement, and community engagement and included many small plots throughout the city.

Green Buildings and Rooftops

The Green Roofs for Healthy Cities organization provides a useful definition for this category as "an extension of the existing roof which involves a high quality water proofing and root repellant system, a drainage system, filter cloth, a lightweight growing medium and plants."[2]

Parks

New York City boasts an impressive number of parks. This category included all publicly and privately managed parks, defined as protected areas intended for recreational use by city residents.[3] Specific examples include Central Park, Riverside Park, and Prospect Park and Inwood Hill Park.

Urban Forests

The American Forests Organization defines urban forests as "ecosystems of trees and other vegetation in and around community that may consist of street and yard trees, vegetation within parks and along public rights of way and water systems."[4] Urban forests exist in Far Rockaway, St. Nicholas Park and Stapelton among many other locations.[5]

Water

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The water category served as an umbrella category subdivided further into the categories of waterways, bodies of freshwater, wetlands, and shoreline. By far the most expansive category, it included the broadest range of natural resources. The waterway subcategory, defined as a way or channel for water, included all rivers, streams, channels, and important runoff within the geographic boundary. Specific examples include the Hudson River and the Bronx River. The bodies of freshwater subcategory, defined here as low sodium concentrations of surface water, included all ponds and lakes within the city.[6] Specific examples include The Pond in Central Park and Baisley Pond. The wetlands subcategory was defined as areas of standing water that support aquatic plants. Wetlands historically covered much of New York City's coastline as part of New York-New Jersey Harbor Estuary.[7] Finally, the shoreline subcategory, defined here as the land along the edge of an area of water,[8] specifically applies to all parts of the city where land meets the Atlantic Ocean.

Wildlife

The wildlife category refers to native fauna within the region. Many organizations' sole focus is on protecting and preserving wildlife and the lands on which they depend, while others focus on wildlife along with a host of other environmental issues. New York City is home to a diverse array of wildlife, some of which are endangered, and serves as a critical migratory route for many birds and other species.

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Appendix B: Summary of Advantages of Electronic Surveys and Google Forms

Advantages of Electronic Surveys

First and foremost, electronic surveys distributed via e-mail offer the possibility of instantaneous transmission at no cost. Second, an electronic survey facilitates the data collection process significantly through instantaneous data tracking following a recipient's response. Third, an electronic survey allowed the Capstone team to apply e-mail best-practices, such as carefully chosen sending times and days of the week, which is a component that cannot be easily and cheaply controlled for paper surveys that are sent by mail. Fourthly, electronic surveys tend to decrease delivery and response times of survey respondents. Lastly, electronic surveys allowed the team to create an advanced user interface, which in return can lead to a higher participation rate.[9]

Advantages of Google Forms Compared to Other Web-Based Survey Tools

A Costless Tool

Google Forms provides a free survey platform that allows for unlimited questions and responses. Other tools like Survey Monkey allow the administrator to only create 10 questions and receive 100 responses.

Unlimited Amount of Survey Participants, Questions and Responses

Google Forms allows the administrator to send the survey to an unlimited amount of survey participants. Moreover, the tool did not constrain the Capstone Team by the amount of survey questions that could be asked and the number of survey responses that could be received.

Different Types of Questions

Google Forms contains nine different question types, which satisfied the Capstone Team's needs in designing the survey, which included choices of text, paragraph, multiple choices, checkboxes, list, scale, grid, time and data questions.

Automatic Data Collection

Google Forms provides automatic, fast data collection directly after survey respondents have submitted their entries online. Their responses are then automatically transferred to the online database, where they can be downloaded into an excel sheet and the data aggregated by date and time of entry. Moreover, Google Forms provided helpful data analysis summaries with suggestions of various visualizations.

Design and Formatting

Google Forms allowed the Capstone Team to create a survey with style. For instance, the team chose a green city for the background theme of the survey to fit the project's goal. Besides, a set of curated themes in Google Forms, survey administrators can also insert a company logo to

[9] Schonlau, M., & Fricker, R. (2002). Literature Review of Web and E-Mail Surveys. In *Conducting research surveys via e-mail and the web*. Santa Monica, CA: Rand.

create a unique form. In the survey, The Nature Conservancy's logo was inserted, enhancing the professionalism of the survey.

Appendix C: Stakeholder List (453 Organizations)

11 BC Community Garden
34th Street Partnership
462 Halsey Community Garden
52 People For Progress, Inc.
6/15 Green Gardens
6th St Ave B Garden
78th Precinct Youth Council
79th Street Boat Basin Flora & Fauna Society
7C Garden Corp
9th St. Community Garden
A Leahey Community Garden
Abingdon Square Alliance
Added Value and Herban Solutions, Inc.
Alice Austen House Museum
ALIGN: The Alliance for a Greater New York
All Peoples Garden
Alliance for Coney Island, Inc.
American Community Gardening Association
American Institute of Architects New York Chapter (AIANY)
American Littoral Society NE Chapter
American Planning Association (APA)
Animal Care Centers of New York City
Appalachian Mountain Club, NY-No Jersey Chapter
Arrow
Asian American Youth Center
Association of New Jersey Environmental Commissions
Association of State and Territorial Solid Waste Management Officials (ASTSWMO)
Audubon New York, For the Birds! Program
Baldwin Community Garden
Bathgate Industrial Park Local Development Corporation
Battery Park City Parks Conservancy
Bay Improvement Group, Inc.
Bayshore Regional Watershed Council
Beachside Bungalow Preservation Association of Far Rockaway, Inc.
Beczak Environmental Education Center

Bedford Downing Block Association
Big Initiatives
Billion Oyster Project
Bissel Gardens Inc.
BK Farmyards
BK ROT
Botanical Garden, Snug Harbor Cultural Center
Brighton Neighborhood Association
Bronx Green-Up
Bronx River Alliance
Brooklyn Bear's Community Gardens
Brooklyn Bird Club
Brooklyn Bridge Park Conservancy
Brooklyn Greenway Initiative
Brooklyn Heights Association, Inc.
Brooklyn Queens Land Trust
Brooklyn Rescue Mission Urban Harvest Center Inc.
Brooklyn Waterfront Research Center
Brownfield Coalition of the North East
Bryant Park Corporation
Build It Green!
Building Movement Project
Bushwick City Farms
Business & Human Rights Resource Centre
Butterfly Project NYC
Campos Community Garden
Care For Earth
Carpenter Avenue Organizing Committee
Carrie McCracken TRUCE Garden
Carroll Gardens Association
Center for Community Progress
Center for Family Life in Sunset Park
Center for Popular Democracy
Center for Public Environmental Oversight (CPEO)
Center for Urban Research - CUNY Graduate Center
Central Park East 1

Charlton Street Block Association
Children's Magical Garden
Christodora, Inc.
Christopher Park Alliance
Citizens Advisory Committee - Penn/Fountain Avenues Landfills Remediation Project
Citizens Against Graffiti Everywhere(CAGE)
Citizens Committee for New York City
City Year
Clean Ocean Action
Clean Sound, Inc.
Clinton Community Garden
Coastal Preservation Network
Coastal Research and Education Society of Long Island
Columbia University
Columbia University Ecology, Evolution and Environmental Biology Department
Columbia Water Center
Committee to Improve Carroll Park
CommonWise Education
Community Resource Exchange - New York City
Community Vision Council
Coney Island Beautification Project
Coney Island Brighton Beach Open water Swimmers
Coney Island History Project
Conscience Point Shellfish Hatchery
Corporate Wetlands Restoration Partnership - NY Chapter
Council on the Environment of New York City
CREATIVE LITTLE GARDEN
Cub Scout Pack 255
CUNY Institute for Sustainable Cities
CURES: Civic organizations United for Railroad Environmental Solutions
Cypress Hills Local Development Corporation
Department of Cultural Affairs DCLA
Design Trust for Public Space
Earth Celebrations
Earth Day New York

Earth to City
Earthjustice Northeast Office
EarthPledge
East Fourth Street Community Garden
East Midtown Partnership
East River Community Recreation and Education on the Water (C.R.E.W.)
East Sixties Neighborhood Association, Inc.
East Village Parks Conservancy
Eastern Long Island Audubon Society
Eastern Queens Alliance, Inc.
Echoing Green
Eibs Pond Education Program
El Jardin Del Paraiso
Eldert Street Garden
Elizabeth River/Arthur Kill Watershed Association
Empire Clean Cities
Energy in Common
ESRI (Environmental Systems Research Institute)
Farm School NYC
Feedback Farms
Flatbush Community Garden
Floral Vineyard Garden
Floyd Bennett Gardens Association, INC
Flushing Meadows - Corona Park Conservancy
For A Better Bronx
Fordham Bedford Housing Corporation
Fort Greene Park Conservancy
Fort Tryon Park Trust
Four Freedoms Park Conservancy
Friends of Brook Park
Friends of Clove Lakes Park
Friends of Cooper Triangle
Friends of Cunningham Park, Inc.
Friends of Dag Hammarskjold Plaza
Friends of Douglass/Greene Park
Friends of Duane Park
Friends of Ferry Point Park (West Coalition)

Friends Of Fort Totten Parks
Friends of Gantry Neighborhood Parks, Friends of Gantry Plaza State Park
Friends of Hudson River Park
Friends of Maple Grove Cemetery
Friends of Mosholu Parkland
Friends of Payson Avenue
Friends of Sherman Creek Conservatory
Friends of the High Line
Friends of Van Cortlandt Park
Gateway National Recreation Area - National Park Service
Gerritsen Beach Cares, Inc.
Going Coastal, Inc.
Gotham Whale
Governors Island Alliance
Gowanus Canal Conservancy
Gowanus Dredgers Canoe Club
Great South Bay Audubon Society
Greater Astoria Historical Society
Greater Jamaica Development Corporation (GJDC)
Greater Woodhaven Development Corp. Woodhaven Business Improvement District
Green Apple Corps (NYC Parks and Recreation initiative)
Green City Challenge
Green Guerillas
Green Jobs Training Program @ LaGuardia CC
Green NYCHA
Green Resource Hub of the Finger Lakes
Green Shores NYC
Green Thumb/ Grow NYC
Green Worker Cooperatives
Green-Wood Historic Fund
Greenbelt Conservancy
Greene Acres Community Garden
GreenFaith
Greenpoint Waterfront Association for Parks and Planning
Greenway Group
Groundwork Hudson Valley/Saw Mill River Coalition

Groundwork USA
GrowNYC
habitatmap.org
Hackensack Riverkeeper
Harlem Children Society
Harlem Seeds
Harris Community Garden
Hattie Carthan Community Garden
Heights and Hills
Henry Hudson Parkway Task Force
Herbal Garden of Eny Community Garden
Herking-Alagantic Community Garden
Historic Districts Council of New York City
Historic House Trust of New York City
Hollenback Community Garden
Horticulture Society of New York
Hoyt Street Association
Hudson River Fishermen's Association
Hudson River Foundation
Hudson River Heritage
Hudson River National Estuarine Research Reserve
Hudson River Park
Hudson River Presbytery
Hudson River Watershed Alliance
Hudson River Watertrail Association
Human Compass Community Garden
Hyde Park Community Garden
IDEA - The Institute for the Development of Earth Awareness
Into the Woods
Inwood Canoe Club
Jackson Heights Beautification Group, LTD
Jamaica Bay Eco Watchers
Jamaica Estates Civic organization Association
Jamaica Hill Community Association
Jane Bailey Memorial Garden
Jefferson Market Garden
JFK High School

Joseph Lentol Garden
Kingsbridge Armory International Village Gardens (KAIVG)
Krystal Community Garden
La Plaza Cultural
LaGuardia Corner Gardens
Lincoln Institute of Land Protection
Lincoln Square Neighborhood Center
Living City Block Brooklyn
Liz Christy Community Garden
Local 32BJ Thomas Shortman Training Program
Local development Corporation of East New York
Long Island City Interblock Association
Long Island City Roots
Long Island Progressive Coalition
Lower East Side Ecology Center
M'Finda Kalunga Community Garden/RPCC
Madison Square Park Conservancy
Manhattan College
Manhattan Land Trust
Manhattan Wetlands and WildLife Association
Marcus Garvey Park Alliance
Mat Dragon School Garden
Meadowlands Environment Center
Metropolitan Historic Structures Association Inc.
Metropolitan Waterfront Alliance
Million Trees New York City
Miracle Garden
More Gardens!
Municipal Art Society of New York
Murray Hill Neighborhood Assoc.
Muskrat Cove "Muskrateers"
Myrtle Avenue Brooklyn Partnership
Nassau Land Trust
National Association of Counties (NACo)
National Association of Development Organizations
National Environmental Directory – NY State
National Parks Conservation Association- Northeast Region

Native Plant Society of New Jersey
Natural Areas Conservancy
Natural Areas Volunteers-NYC PARKS
Natural Resources Defense Council (NRDC)
Neighborhood Economic Development Advocacy Project
Neighborhood Neighbors
Neighbors Allied for Good Growth
New Jersey Department of Environmental Protection (NJDEP)
New Jersey Future
New Partners for Community Revitalization (NPCR)
New York - New Jersey Trails Conference (Alley Pond Park Maintainers is a part of)
New York Botanical Garden
New York Cares
New York City Audubon
New York City Department of Environmental Protection (NYDEP)
New York City Department of Housing Preservation and Development
New York City Department of Parks and Recreation - GreenThumb Program
New York City Environmental Defense Fund
New York City Soil and Water Conservation District
New York City Urban Park Rangers
New York City Water Trail Association (NYCWTA)
New York Council of Dog Owner Groups
New York Lawyers for Public Interest, Inc. (NYLPI)
New York Public Library Map Warper
New York Restoration Project
New York State Department of Environmental Conservation
New York State Department of State Office of Planning and Development - Local Waterfront Revitalization Program
New York State Urban Forestry Council
New York Tree Trust
New York WILD Film Festival
New York Wildlife Rescue Center
New York-New Jersey Harbor Estuary Program (HEP)
New Yorkers for Parks
Newtown Creek Alliance
Noble Maritime Collection

North Pacific Garden
NY State Department of Environmental Conservation
NY WasteMatch
NY/NJ Baykeeper
NYC Brownfield Partnership
NYC Community Gardens Coalition
NYC Compost Project (New York Botanical Garden)
NYC Compost Project at Brooklyn Botanical Garden
NYC CoolRoofs
NYC Department of Sanitation
NYC Friends of Clearwater, Inc.
NYC Industrial & Technology Assistance Corp.
NYC Office of Environmental Remediation (OER)
NYC Soil and Water Conservation District
NYC Swim
NYU Bioethics Master's Program: Life, Health & Environment
NYU Earth Week Planning Committee
NYU Hudson
NYU Sustainability Task Force
Oasis Community Garden
Office of Environmental Justice
Old Stone House and Washington Park
Olympus Garden Club
Open Space Alliance of North Brooklyn (OSA)
Open Space Institute
Pacific Street Brooklyn Bear’s Community Garden
Parque de Tranquilidad
Partnership for Parks
Passaic River Coalition
Pelham Parkway South Neighborhood Association
People for Pigeons
Pier Park and Playground Association
Pleasant Village Community Garden
Portside New York
Prospect Heights Community Farm
Prospect Park Alliance
Prospect Park YMCA New Americans Welcome Center

Prospect Park Zoo
Protectors of Pine Oak Woods
Queens Botanical Garden
Queens Coalition for Parks and Green Spaces
Queens County Bird Club Inc.
Queens County Farm Museum
Randall's Island Park Alliance
Raritan Riverkeeper
Rebuilding Together NYC
Recycle This!
Red Shed Community Garden
Regional Plan Association
Remsen Park Coalition
Renaissance Rooftop Garden
Ridgewood Property Owners and Civic organization Association
Riverhead Foundation for Marine Research and Preservation
Rivers Alive!
Rivers, Trails, and Conservation Assistance Program National Park Service NYC/Metro Field Office
Riverside Park Conservancy
Riverside Park Fund
Riverside Park Tiemann Place Volunteers
Riverside-Inwood Neighborhood Garden (RING)
Robrette Garden
Rockaway Waterfront Alliance
Rocking the Boat, Inc.
Rutgers Environmental Stewards
Sam and Sadie Koenig Garden
Save a Rock Save a Child
Scenic Hudson
Sean Casey Animal Rescue
Sheepshead Bay/Plumb Beach Civic organization Association, Inc.
Sherman Creek Project SECYE: Friends of Sherman Creek
Shiloh Garden Inc.
Shore Road Parks Conservancy
Shorewalkers, Inc.
Siempre Verde Garden
Socrates Sculpture Park
Sound Science

Soundkeeper, Inc.
South Bronx Unite
South Brooklyn Children's Garden
Southern Bronx River Watershed Alliance
Southern Queens Park Association, Inc.
Spoke the Hub Dancing, Inc.
Staten Island Museum
Staten Island OutLOUD
Staten Island Urban Park Rangers
Strawtown Art & Garden Studio
Stuy Cove Kayaking
Sunnyside Gardens Park
SUNY Center for Brownfield Studies
Surfrider Foundation
Sustainable Flatbush
Sustainable Tompkins
Temple of David Community Garden
The Alchemical Nursery Project
The Battery Conservancy
The Bluestone Organization
The Climate Ribbon
The Friends of Roy Wilkins Park, Inc.
The Gaia Institute
The Garden of Union
The Garden People
The Honeybee Conservancy
The Little Green Garden / Rock Garden
The Lower Eastside Girls Club of NY
The Lowline
The National Parks of New York Harbor Conservancy
The Nature Company
The New School
The Overbrook Foundation
The Pratt Center for Community Development
The Rev. Linnette C. Williamson Memorial Park Association, Inc.
The River Project
The Scherman Foundation
The Trust for Public Land

The Urban Divers Estuary Conservancy
The Van Cortlandt Park Conservancy
The Water Works Conservancy, Inc.
The Woodbine Street Block Association Garden
The Zoological Lighting Institute
Time's Up!
Tishman Environment and Design Center
TransitCenter
Trashbusters
Tree Kit
Trees New York
Trees Not Trash
Turnaround Friends Inc.
Two Coves Garden
U.S. Fish and Wildlife Service - NY Field Office
Udalls Cove Preservation Committee, Inc.
Union Square Partnership
Union Theological Seminary's Edible Churchyard
United Federation Of Teachers Outdoor Environmental Education Committee
United Neighborhood Houses
United States Geological Survey- New York Water Science Center
United States Green Building Council Long Island Chapter
United States Green Building Council New York Upstate Chapter
UPROSE
Urban Agenda
Urban Assembly New York Harbor School
Urban Ecology Collaborative
Urban Garden Center
Urban Green Council (USGBC New York Chapter)
Urban Utopia Wildlife Rehabilitation
US Army Corps of Engineers- North Atlantic Division
Village Community Boathouse
VivaVegie Society
Warren St. Marks Community Garden
Washington Heights Gardening Crew
Washington Square Park Conservancy
Waterfront Museum
Wave Hill

WE ACT For Environmental Justice
WeeRow
West 181 St Beautification Project Inc.
West 75th Street Block Association
West Harlem Community Preservation Organization
West Side Community Garden
Westerleigh Improvement Society
Wild Bird Fund
Wildlife Alliance
Wildlife Conservation Film Festival
Wildlife Conservation Society
Windsor Terrace Greenway Project
Women's Environment and Development Organization (WEDO)

Appendix D: List of Survey Respondents (108 Organizations)

462 Halsey Community Garden
All People's Garden, Inc.
Alley Pond Environmental Center
Appalachian Mountain Club
Arcadis
Audubon New York
Bayside Historical Society
Beachside Bungalow Preservation Association of Far Rockaway, Inc.
BIohabitats
Broadway Mall Association
Bronx River Alliance
Brooklyn Bird Club
Brooklyn Greenway Initiative
Casey Trees
Civics United for Railroad Environmental Solutions
Coastal Research and Education Society of Long Island
Columbia Water Center at Columbia University
Coney Island Beautification Project, Inc.
Coney Island Brighton Beach Open Water Swimmers
Coney Island History Project
East River Community Recreation & Education on the Water
East Village Parks Conservancy
Eastern Long Island Audubon Society
Eibs Pond Education Restoration Program
El Jardín del Paraíso
Empire Clean Cities
Feedback Farms
Fort Greene Park Conservancy
Four Freedoms Park Conservancy
Friends of Cunningham Park, Inc.
Friends of Fort Totten Parks Inc.
Friends of Maple Grove Cemetery
Friends of Mosholu Parkland
Friends of Van Cortlandt Park

Future City Inc.
Gotham Whale
Gowanus Canal Conservancy
Green City Challenge
Green Shores NYC
Greene Acres Community Garden
GreenFaith
GreenHomeNYC Inc.
Groundwork Hudson Valley
GrowNYC
Hoyt Street Garden
Hudson River Watershed Alliance
Hutchinson River Restoration Project (HRRP)
Inwood Canoe Club
Jamaica Bay Ecowatchers
Just Food
LIC Community Boathouse
Liz Christy Community Garden
Margert Community Corporation
More Gardens! Fund
Municipal Art Society
National Park Service
National Parks Conservation Association
Natural Areas Conservancy
Neighbors Allied for Good Growth
New York City Housing Authority
New York Harbor Foundation
New York State Department of State
New York University
New Yorkers for Parks
Noble Maritime Collection
NY-NJ Harbor & Estuary Program
NY/NJ Baykeeper
NYC Compost Project hosted by the Lower East Side Ecology Center
NYC Department of Environmental Protection
NYC Department of Parks and Recreation
NYC Parks

NYC Soil & Water Conservation District
NYC Water Trail Association
NYCHA
NYS DEC
NYSDEC Hudson River Estuary Program
Open Space Alliance for North Brooklyn
P.W. Grosser Consulting
Pleasant Village Community Garden
Project Harmony, Inc.
Prospect Heights Community Farm
Protectors of Pine Oak Woods
Queens Coalition for Parks and Green Spaces
Rockaway Waterfront Alliance
Sam and Sadie Koenig Garden
Soundkeeper, Inc.
Staten Island Museum
Staten Island OutLOUD
Sustainable Flatbush
The Friends of Roy Wilkins Park, Inc.
The Garden of Union
The Horticultural Society of New York
The Manhattan Land Trust
The New York Tree Trust
The Old Stone House
The River Project
Two Coves Community Garden
Udalls Cove Preservation Committee
Urban Park Rangers
Urban Utopia Wildlife Rehabilitation
Van Cortlandt Park Conservancy
VivaVegie Society Inc.
Volunteers for Wildlife
Washington Square Park Conservancy
Waterfront Museum
Wave Hill
West Harlem Community Preservation Organization
Westerleigh Improvement Society

Appendix E: List of Government Respondents

National Park Service
New York State Department of Environmental Conservation
New York State Department of Environmental Conservation Hudson River Estuary Program
New York State Department of State
NYC Department of Environmental Protection
NYC Department of Parks and Recreation
NYC Housing Authority
NYC Parks
NYC Soil & Water Conservation District
Urban Park Rangers

Appendix F: Survey Email Message from The Nature Conservancy

The Nature Conservancy, in collaboration with students from the M.S. in Sustainability Management program of Columbia University, is conducting a study to understand the priorities and needs of organizations, such as yours, in relation to nature, nature-based infrastructure and natural resources in New York City. The questions in this survey concern the issues and informational needs that bear on your organization's work. The information collected will inform The Nature Conservancy in assessing the feasibility of developing tools or resources that provide a comprehensive view of New York City's natural resources. The survey should take about 10 – 15 minutes to complete. Thank you for participating in this effort.

I've invited you to fill out the form **UNDERSTANDING CHALLENGES AND OPPORTUNITIES FOR NATURE AND NATURE-BASED INFRASTRUCTURE IN NEW YORK CITY** . To fill it out, visit: https://docs.google.com/forms/d/12OMk55ItJXBc3RuZgB_kncjho7kIWGqrkWeoDZZ_Y0A/viewform?c=0&w=1&usp=mail_form_link

Appendix G: Original Web-based Survey

UNDERSTANDING CHALLENGES AND OPPORTUNITIES FOR NATURE AND NATURE-BASED INFRASTRUCTURE IN NEW YORK CITY

The Nature Conservancy, in collaboration with students from the M.S. in Sustainability Management program of Columbia University, is conducting a study to understand the priorities and needs of organizations, such as yours, in relation to nature, nature-based infrastructure and natural resources in New York City. The questions in this survey concern the issues and informational needs that bear on your organization's work. The information collected will inform The Nature Conservancy in assessing the feasibility of developing tools or resources that provide a comprehensive view of New York City's natural resources. The survey should take about 10 – 15 minutes to complete. Thank you for participating in this effort.

* Required

The Nature Conservancy
nature.org

Section 1: Information about your Organization

1. **1. What is the name of your organization?** *

   .....

2. **2. What type of organization is it?** *
   Mark only one oval.

   - ◯ Non-profit / Civic Group
   - ◯ Government Agency
   - ◯ Academic
   - ◯ Private Firm
   - ◯ Other: .....

3. **3. What is your organization's area of focus? (Please choose all that apply)** *
Check all that apply.

- [ ] Advocacy and policy
- [ ] Business development
- [ ] Community development
- [ ] Education and outreach
- [ ] Environmental conservation
- [ ] Environmental protection
- [ ] Environmental restoration
- [ ] Environmental justice
- [ ] Monitoring and evaluation
- [ ] Regulatory / enforcement
- [ ] Social-economic development
- [ ] Sports / recreation
- [ ] Other: _____

4. **4. How many paid employees are there in your organization?** *
Mark only one oval.

- ◯ 1-5
- ◯ 6-10
- ◯ 11-50
- ◯ 51-100
- ◯ 101-1000
- ◯ More than 1000
- ◯ Not applicable

5. **5. How many volunteers (unpaid individuals) support the work of your organization?** *
Mark only one oval.

- ◯ 1-5
- ◯ 6-10
- ◯ 11-50
- ◯ 51-100
- ◯ 101-1000
- ◯ More than 1000
- ◯ Not applicable

6. **6. What is the geographic scope of your organization? (Please choose all that apply)** *
   Check all that apply.

   - [ ] Neighborhood
   - [ ] Borough
   - [ ] City
   - [ ] State
   - [ ] Region
   - [ ] Country
   - [ ] Global

7. **7. Who owns the land that your organization is concerned with? (If applicable, please check all that apply)** *
   Check all that apply.

   - [ ] Non-profit organization
   - [ ] Private individual
   - [ ] Private firm
   - [ ] Municipal government
   - [ ] State government
   - [ ] Federal government
   - [ ] Not applicable
   - [ ] Other: _____

8. **Please feel free to share any other information you would like us to know about your organization.**

   _____

   _____

   _____

   _____

   _____

Section 2: Your Organization's Priorities and Needs

9. **8. Which of the following issues represent important objectives of your organization's work in New York City? (Please choose all that apply)** *

Check all that apply.

- [ ] Improving quality of life for residents
- [ ] Improving environmental regulation and policy
- [ ] Improving air quality
- [ ] Improving water quality
- [ ] Increasing the number of trees
- [ ] Preserving biodiversity
- [ ] Maintaining and enhancing green spaces
- [ ] Reducing or filtering stormwater runoff
- [ ] Improving equitable access to green spaces
- [ ] Protecting wetlands
- [ ] Combating invasive species
- [ ] Improving water use
- [ ] Increasing awareness of the benefits of natural resources
- [ ] Increasing opportunities for recreational activities
- [ ] Increasing access to the waterfront
- [ ] Advancing environmental education
- [ ] Improving coordination and collaboration among environmental stewardship stakeholders
- [ ] Providing access to locally grown food
- [ ] Other: _____

10. **9. Which of the following climate change impacts are relevant to your organization's work in New York City? (Please choose all that apply)** *

Check all that apply.

- [ ] Heat waves
- [ ] Coastal flooding
- [ ] Flash flooding
- [ ] Not applicable
- [ ] Other: _____

11. **10. A) Which provisional ecosystem services (products obtained from ecosystems) does your organization seek to preserve or enhance? (Please choose all that apply)** *

Check all that apply.

- [ ] Food
- [ ] Raw materials (e.g. lumber, fertilizer etc.)
- [ ] Fresh water
- [ ] Energy
- [ ] Medicinal sources
- [ ] Not applicable
- [ ] Other: _____

12. **10. B) Which regulating ecosystem services (benefits obtained from the regulation of ecosystem processes) does your organization seek to preserve or enhance? (Please choose all that apply)** *

Check all that apply.

- [ ] Microclimate regulation
- [ ] Stormwater runoff reduction
- [ ] Noise reduction
- [ ] Air filtration
- [ ] Carbon sequestration and storage
- [ ] Moderation of extreme events, such as storms and heat waves
- [ ] Waste-water treatment
- [ ] Erosion prevention and maintenance of soil fertility
- [ ] Pollination
- [ ] Pest and disease control
- [ ] Not applicable
- [ ] Other: _____

13. **10. C) Which cultural ecosystem services (non-material benefits obtained from ecosystems) does your organization seek to preserve or enhance? (Please choose all that apply)** *

Check all that apply.

- [ ] Aesthetic
- [ ] Improving real estate value
- [ ] Tourism
- [ ] Community-building
- [ ] Educational
- [ ] Recreational
- [ ] Not applicable
- [ ] Other: _____

14. **10. D) Which supporting or habitat ecosystem services (benefits necessary for the production of all other ecosystem services) does your organization seek to preserve or enhance? (Please choose all that apply)** *

Check all that apply.

- [ ] Species habitat
- [ ] Maintenance of biodiversity
- [ ] Not applicable
- [ ] Other: _____

15. **11. Which of the following types of areas and natural resources are central to your organization's work? (Please choose all that apply)** *

Check all that apply.

- [ ] Parks
- [ ] Gardens
- [ ] Urban farms
- [ ] Wildlife
- [ ] Flora
- [ ] Forests
- [ ] Rivers & harbors
- [ ] Coastlines
- [ ] Wetlands
- [ ] Estuaries
- [ ] Streams and ponds
- [ ] Watersheds / sewersheds
- [ ] Housing grounds
- [ ] Brownfields
- [ ] Vacant lots
- [ ] Green buildings
- [ ] Rooftops
- [ ] Not applicable
- [ ] Other: _____

16. **12. Please rank the level of environmental awareness concerning natural resources in New York City among each of the following:** *

Mark only one oval per row.

	Extremely Aware (5)	Aware (4)	Somewhat Aware (3)	Unaware (2)	Unsure (1)
Your organization	◯	◯	◯	◯	◯
Your constituents in NYC	◯	◯	◯	◯	◯
Policy makers in NYC	◯	◯	◯	◯	◯

17. **13. Please indicate your organization's level of concern about each of the following threats to natural resources in New York City.** *

Please choose the level of concern about each applicable option.
Mark only one oval per row.

	Extremely Concerned	Concerned	Somewhat Concerned	Not Concerned	Unsure
A) Water pollution in NYC	◯	◯	◯	◯	◯
B) Soil contamination in NYC	◯	◯	◯	◯	◯
C) Climate change in NYC	◯	◯	◯	◯	◯
D) Coastal flooding in NYC	◯	◯	◯	◯	◯
E) Extreme temperatures in NYC	◯	◯	◯	◯	◯
F) Loss of biodiversity in NYC	◯	◯	◯	◯	◯
G) Invasive species in NYC	◯	◯	◯	◯	◯
H) Pests in NYC	◯	◯	◯	◯	◯
I) Coastal erosion in NYC	◯	◯	◯	◯	◯
J) Litter in NYC	◯	◯	◯	◯	◯
K) Overpopulation in NYC	◯	◯	◯	◯	◯
L) Overuse of natural areas in NYC	◯	◯	◯	◯	◯
M) Development or land use changes in NYC	◯	◯	◯	◯	◯

18. **If other, please specify and provide the level of concern**

_____

19. **14. Please indicate your organization's level of concern about each of these additional threats to natural resources in New York City.** *

Please choose the level of concern about each applicable option.
Mark only one oval per row.

	Extremely Concerned	Concerned	Somewhat Concerned	Not Concerned	Unsure
A) Lack of stewardship of natural resources in NYC	◯	◯	◯	◯	◯
B) Environmental regulations in NYC	◯	◯	◯	◯	◯
C) Public funding for environmental and conservation initiatives	◯	◯	◯	◯	◯
D) Lack of knowledge / awareness of environmental issues in NYC	◯	◯	◯	◯	◯
E) Lack of information and baseline data for natural resources in NYC	◯	◯	◯	◯	◯
F) Lack of coordination among stakeholders to help manage natural resources in NYC	◯	◯	◯	◯	◯

20. **If other, please specify and provide the level of concern**

_____

21. **15. How important is each of the following capacities in addressing threats to natural resources in NYC?** *

Please choose the level of importance for each applicable option.
Mark only one oval per row.

	Extremely Important	Important	Somewhat Important	Not Important	Unsure
A) Access to baseline data on natural resources (e.g. tree cover, biodiversity) in NYC	⬭	⬭	⬭	⬭	⬭
B) Access to maps of natural resources in NYC	⬭	⬭	⬭	⬭	⬭
C) Understanding government policies and plans that affect operations in NYC	⬭	⬭	⬭	⬭	⬭
D) Understanding the impacts of climate change in NYC	⬭	⬭	⬭	⬭	⬭
E) Information about other environmental stewardship organizations working in NYC, including their geographic reach	⬭	⬭	⬭	⬭	⬭
F) Scientific research on NYC's natural resources	⬭	⬭	⬭	⬭	⬭
G) Information about planned and existing real estate development in NYC	⬭	⬭	⬭	⬭	⬭
H) Access to maps of private land in NYC, including brownfields and vacant lots	⬭	⬭	⬭	⬭	⬭
I) Ability to influence environmental policy and zoning regulation to support ecosystem services in NYC	⬭	⬭	⬭	⬭	⬭
J) Stakeholder collaboration within NYC	⬭	⬭	⬭	⬭	⬭
K) Government support for local stewardship efforts in NYC	⬭	⬭	⬭	⬭	⬭
L) Public awareness of threats to natural resources in NYC	⬭	⬭	⬭	⬭	⬭

22. **If other, please specify and provide the level of concern.**

_____

23. **Please provide any other information you would like us to know about your organization's priorities and needs related to your work in NYC.**

_____

_____

_____

_____

_____

Section 3: Your Organization's Information Resources in New York City

24. **16. Does your organization use peer reviewed research publications for its work in NYC?** *

Mark only one oval.

- ◯ Yes
- ◯ No

25. **If yes, please specify which ones**

_____

26. **17. Does the organization use government publications (e.g. policies, resource guides, city plans) for its work in NYC?** *

Mark only one oval.

- ◯ Yes
- ◯ No

27. **If yes, please specify which ones.**

_____

28. **18. Does your organization utilize expert technical assistance (e.g. biologists, geologists) for its work in NYC?** *

Mark only one oval.

- ◯ Yes
- ◯ No

29. **If yes, please specify which ones.**

_____

30. **19. Does your organization use mapping tools (e.g. Oasis/GreenMap) for its work in NYC?** *

Mark only one oval.

- ◯ Yes
- ◯ No

31. **If yes, please specify which ones.**

_____

32. **20. Does your organization use media (e.g. news, radio, or television) for its work in NYC?** *

Mark only one oval.

- ◯ Yes
- ◯ No

33. **If yes, please specify which ones.**

_____

34. **21. Does your organization use newsletters or mailings from non-governmental organizations (e.g. The Nature Conservancy Newsletter) for its work in NYC?** *

Mark only one oval.

- ◯ Yes
- ◯ No

35. **If yes, please specify which ones.**

_____

36. **22. Does your organization use social media (e.g. Facebook, Twitter) for its work in NYC?** *

Mark only one oval.

- ◯ Yes
- ◯ No

37. **If yes, please specify which ones.**

_____

38. **23. Does your organization use municipal or state government proceedings (e.g. proposed legislation, bills) for its work in NYC?** *

Mark only one oval.

- ◯ Yes
- ◯ No

39. **If yes, please specify which ones.**

_____

40. **24. Does your organization use conferences/seminars (e.g. Invasive Species Summit) for its work in NYC?** *

Mark only one oval.

- ◯ Yes
- ◯ No

41. **If yes, please specify which ones.**

_____

42. **25. What benefits do these informational resources provide? (Please choose all that apply)** *

Check all that apply.

- ☐ Access to data that helps inform management decisions and plans
- ☐ Visual representation of your organization's current or prospective projects / natural resources
- ☐ Improved collaboration with other stakeholders
- ☐ Establishment of conservation targets or guidelines by location (e.g. oyster population in NYC harbor)
- ☐ Assessment of environmental risks to specific locations (e.g. flooding, sea-level rise, storm surge etc.)
- ☐ Better estimates of return on investment for environmental projects (e.g. cost benefit analysis/net present value)
- ☐ Prioritization of locations to implement projects
- ☐ Enabling planning for multiple resource management scenarios
- ☐ My organization does not use any specialized tools or resources for natural resource management
- ☐ Other: _____

43. **26. Which of the following mapping tools (e.g. Oasis/ GreenMap) has your organization used in the past 12 months? (Please choose all that apply)** *

Check all that apply.

- [ ] Oasis
- [ ] GreenMap
- [ ] NYC Climate Smart Cities
- [ ] Open Tree Map
- [ ] iTree
- [ ] iMapInvasives
- [ ] InVEST by Natural Capital Project
- [ ] eBird
- [ ] Not applicable
- [ ] Other: _____

44. **27. How frequently does your organization use online mapping tools? (Please choose one)** *

Mark only one oval.

- ◯ Everyday
- ◯ Once a week
- ◯ Once a month
- ◯ Once a year
- ◯ Not Applicable

45. **Please provide any other information you would like us to know about your organization's use of tools and spatial information management resources for its work in New York City.**

_____

_____

_____

_____

_____

Section 4: Understanding Your Organization Better

46. **28. Please rank your organization's level of interest in working with The Nature Conservancy in any of the following ways?** *

Mark only one oval per row.

	Extremely Interested (5)	Interested (4)	Somewhat Interested (3)	Not Interested (2)	Unsure (1)
A) Providing baseline data about natural resources that could inform the development of a comprehensive view of natural resources in New York City	◯	◯	◯	◯	◯
B) Providing additional information in the development of a mapping tool so that it could meet some of the organization's informational needs	◯	◯	◯	◯	◯
C) Testing and providing feedback about the functionality of a tool that offered a comprehensive view of natural resources in New York City	◯	◯	◯	◯	◯
D) Collaborating with The Nature Conservancy and other organizations in developing a comprehensive view of New York City's natural and environmental resources	◯	◯	◯	◯	◯

47. **Please provide any other information that would you would like us to know about opportunities to collaborate on natural resource management in New York City.**

_____

_____

_____

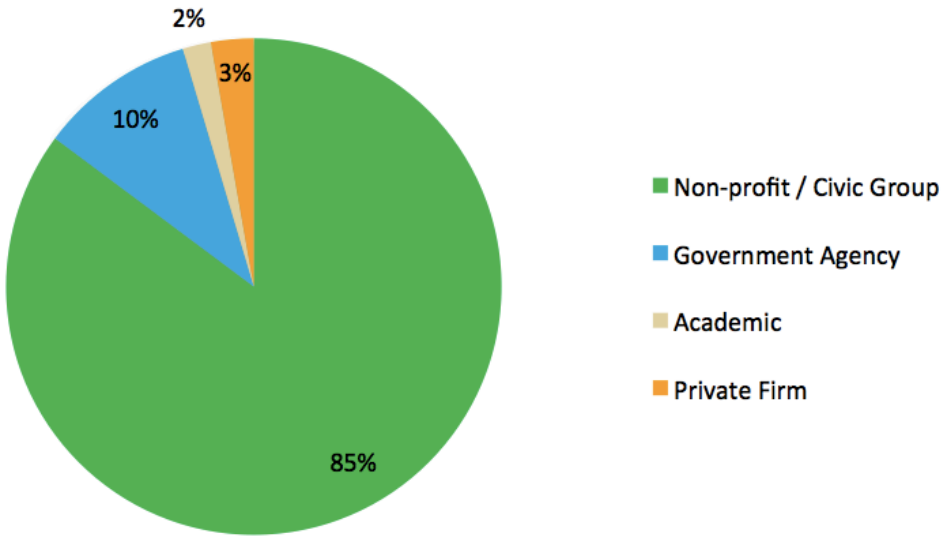
_____

_____

Thank you for completing this survey.

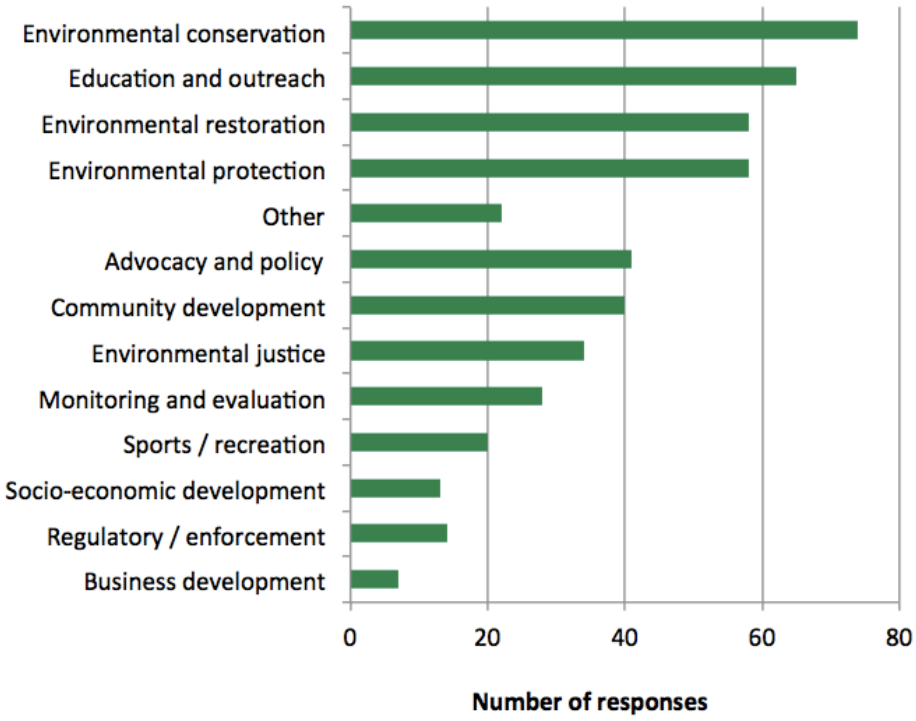
Appendix G: Survey Graphs and Charts

Type of Organization



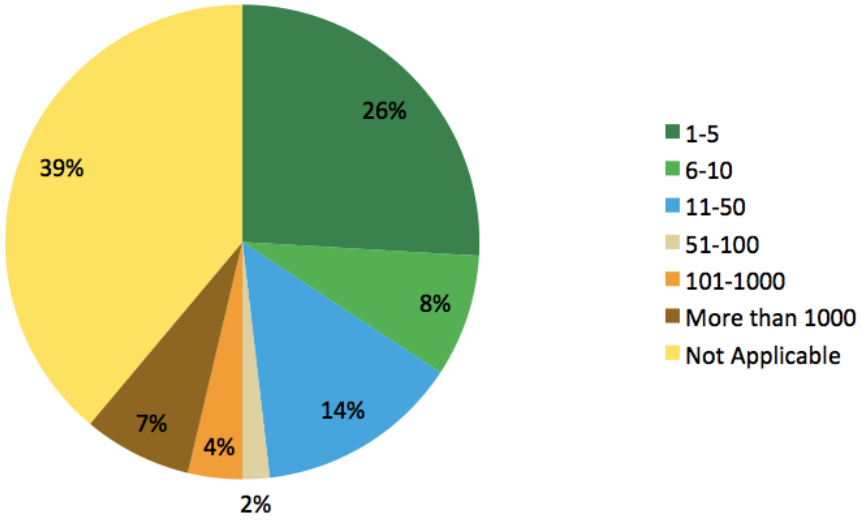
	# of Responses	% of Respondents
Non-profit / Civic	92	85%
Government	11	10%
Academic	2	2%
Private Firm	3	3%
Other	0	0%
TOTAL	108	100%

Organizations' Area of Focus



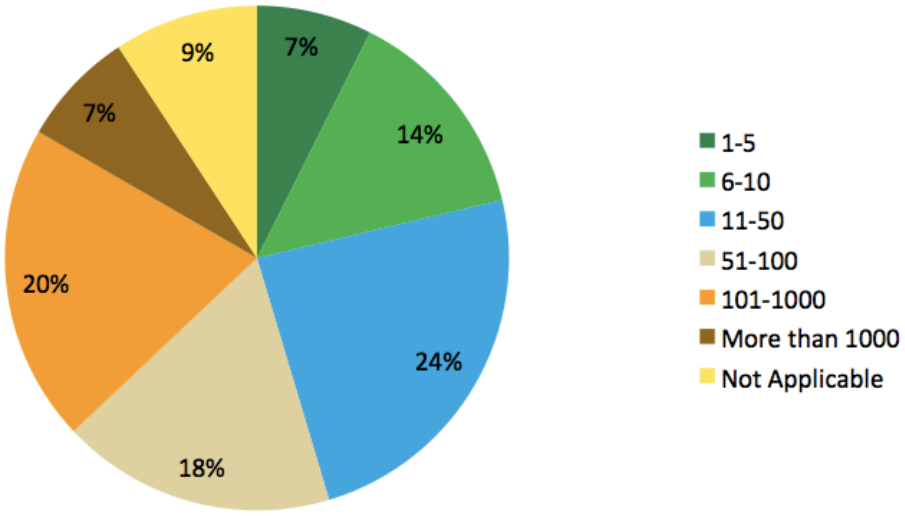
	# of Responses	% of Respondents
Business development	7	6%
Regulatory / enforcement	14	13%
Socio-economic development	13	12%
Sports / recreation	20	19%
Monitoring and evaluation	28	26%
Environmental justice	34	31%
Community development	40	37%
Advocacy and policy	41	38%
Other	22	20%
Environmental protection	58	54%
Environmental restoration	58	54%
Education and outreach	65	60%
Environmental conservation	74	69%

Number of Paid Employees



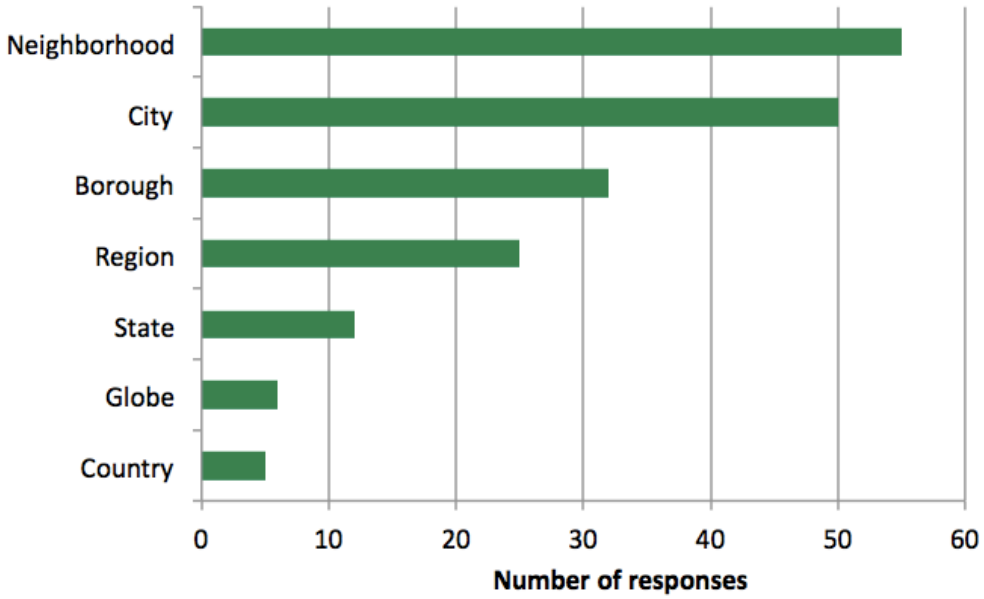
	# of Responses	% of Respondents
1-5	28	26%
6-10	9	8%
11-50	15	14%
51-100	2	2%
101-1000	4	4%
More than 1000	8	7%
Not Applicable	42	39%
TOTAL	108	100%

Number of Unpaid Employees



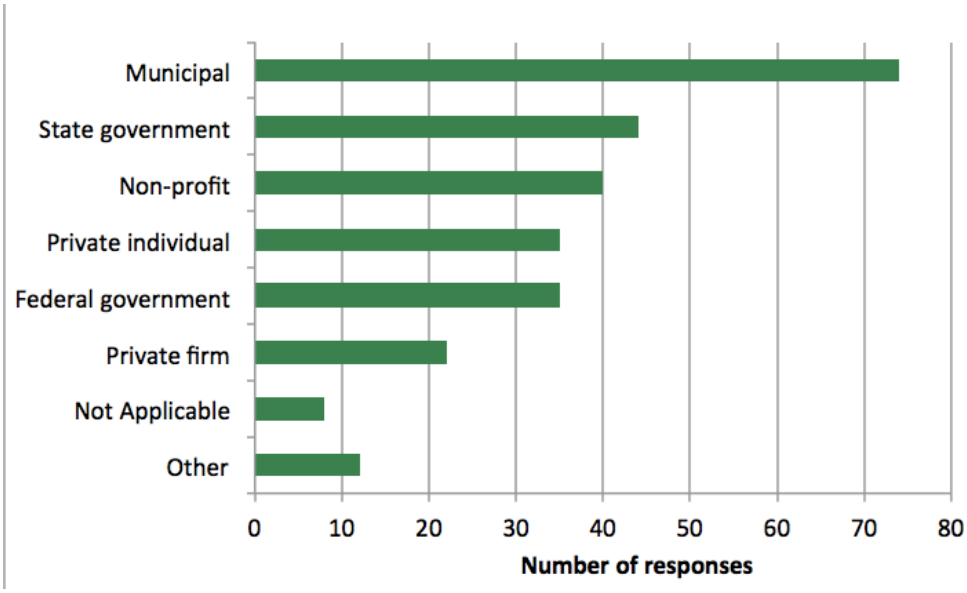
	# of Responses	% of Respondents
1-5	8	7%
6-10	15	14%
11-50	26	24%
51-100	19	18%
101-1000	22	20%
More than 1000	8	7%
Not Applicable	10	9%
TOTAL	108	100%

Geographic Scope



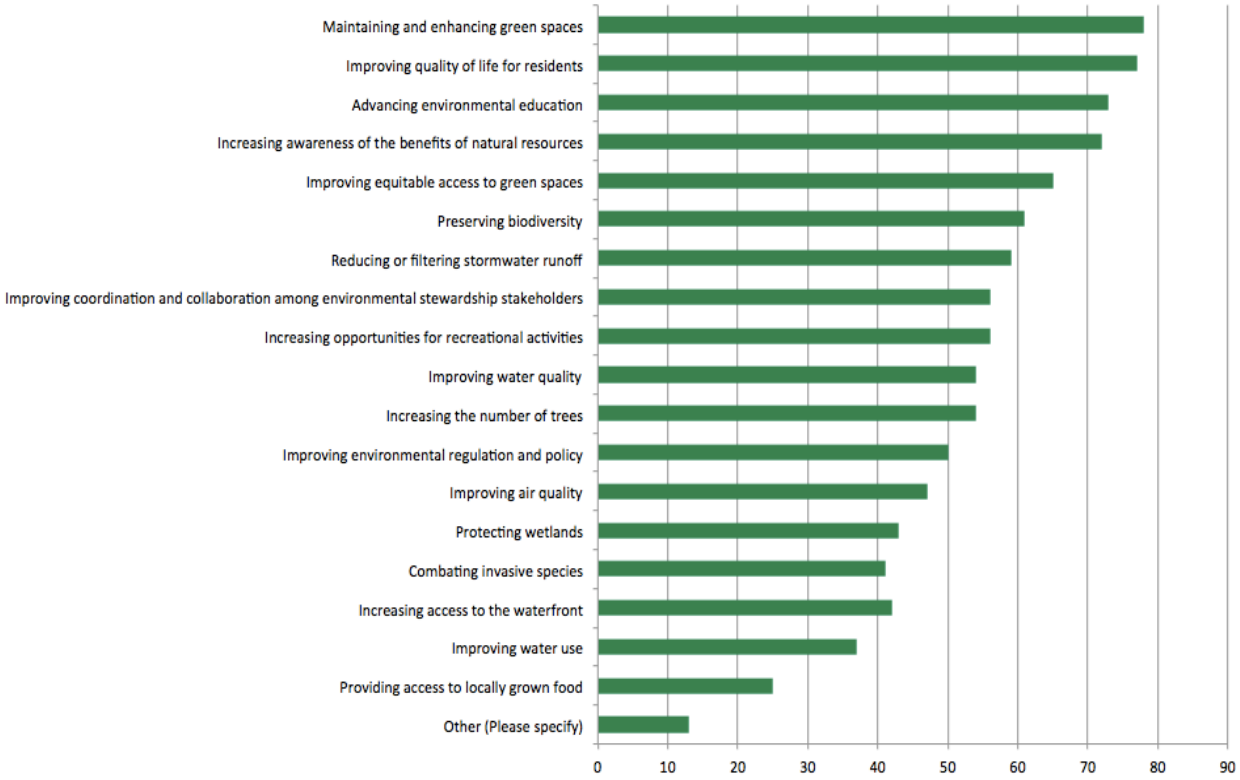
	# of Responses	% of Respondents
Country	5	5%
Globe	6	6%
State	12	11%
Region	25	23%
Borough	32	30%
City	50	46%
Neighborhood	55	51%

Who Owns the Land the Organization is concerned with



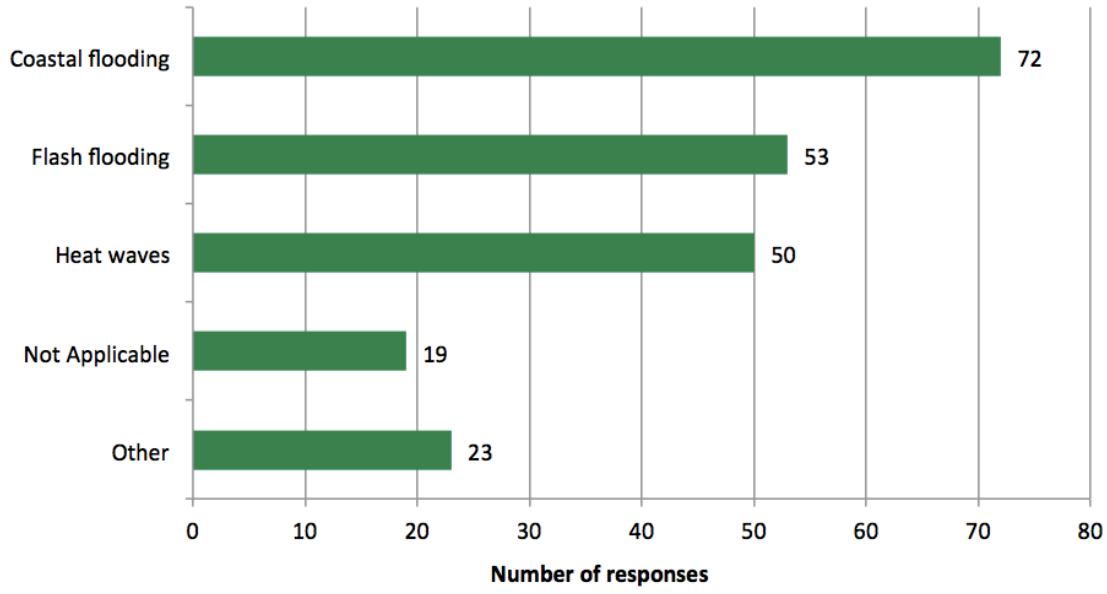
	# of Responses	% of Respondents
Other	12	4%
Not Applicable	8	3%
Private firm	22	8%
Federal government	35	13%
Private individual	35	13%
Non-profit organization	40	15%
State government	44	16%
Municipal government	74	27%

Important Objectives



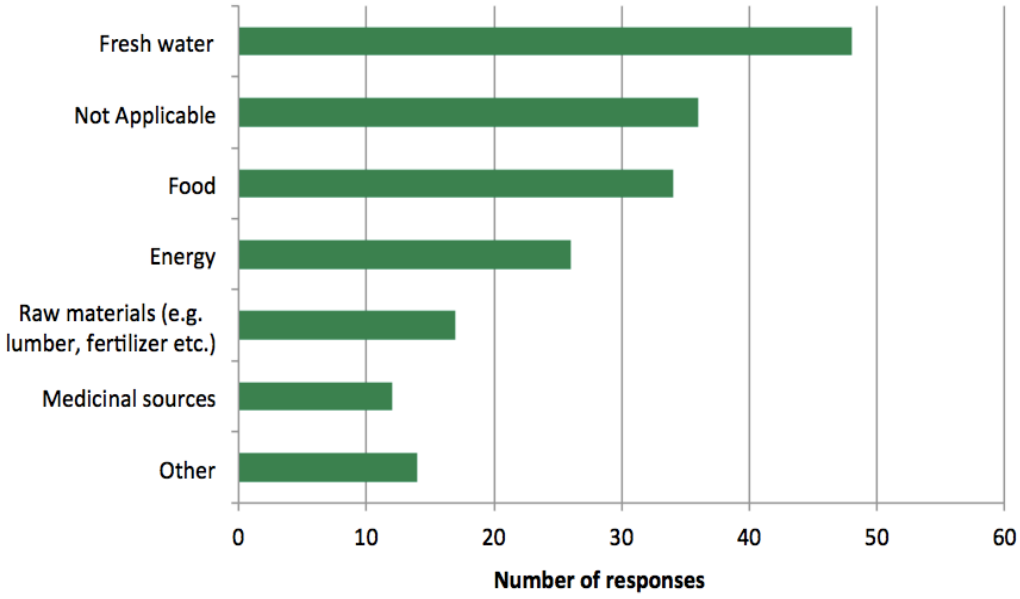
	# of Responses	% of Respondents
Other (Please specify)	13	12%
Providing access to locally grown food	25	23%
Improving water use	37	34%
Increasing access to the waterfront	42	39%
Combating invasive species	41	38%
Protecting wetlands	43	40%
Improving air quality	47	44%
Improving environmental regulation and policy	50	46%
Increasing the number of trees	54	50%
Improving water quality	54	50%
Increasing opportunities for recreational activities	56	52%
Improving coordination and collaboration among environmental stewardship stakeholders	56	52%
Reducing or filtering stormwater runoff	59	55%
Preserving biodiversity	61	56%
Improving equitable access to green spaces	65	60%
Increasing awareness of the benefits of natural resources	72	67%
Advancing environmental education	73	68%
Improving quality of life for residents	77	71%
Maintaining and enhancing green spaces	78	72%

Relevant Climate Change Impacts



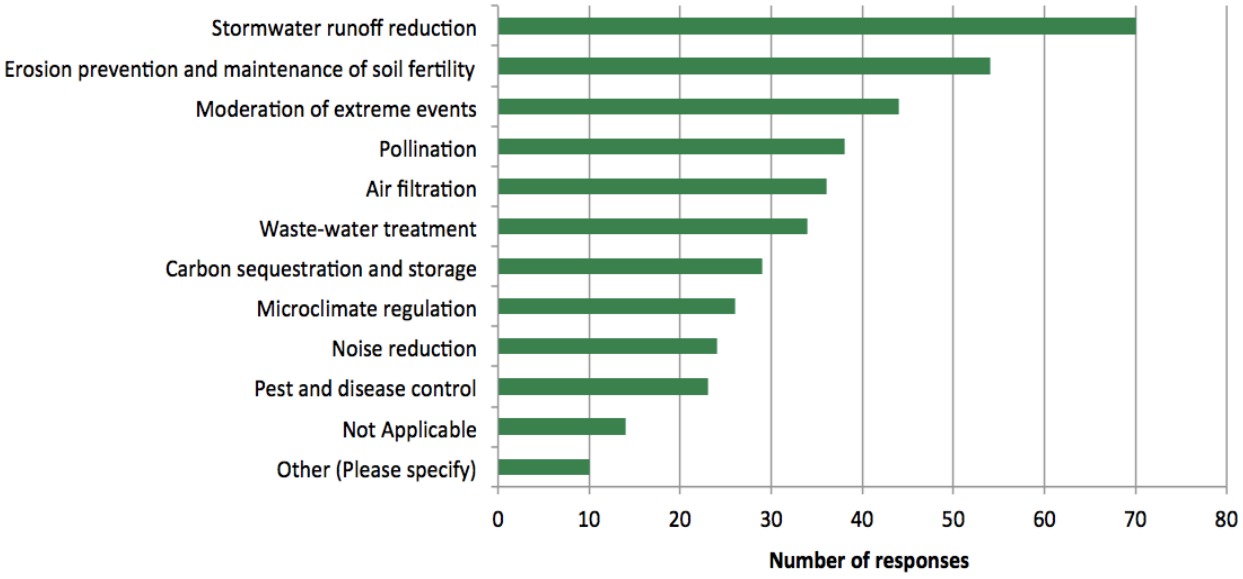
	# of Responses	% of Respondents
Other	23	21%
Not Applicable	19	18%
Heat waves	50	46%
Flash flooding	53	49%
Coastal flooding	72	67%

Provisional Ecosystem Services



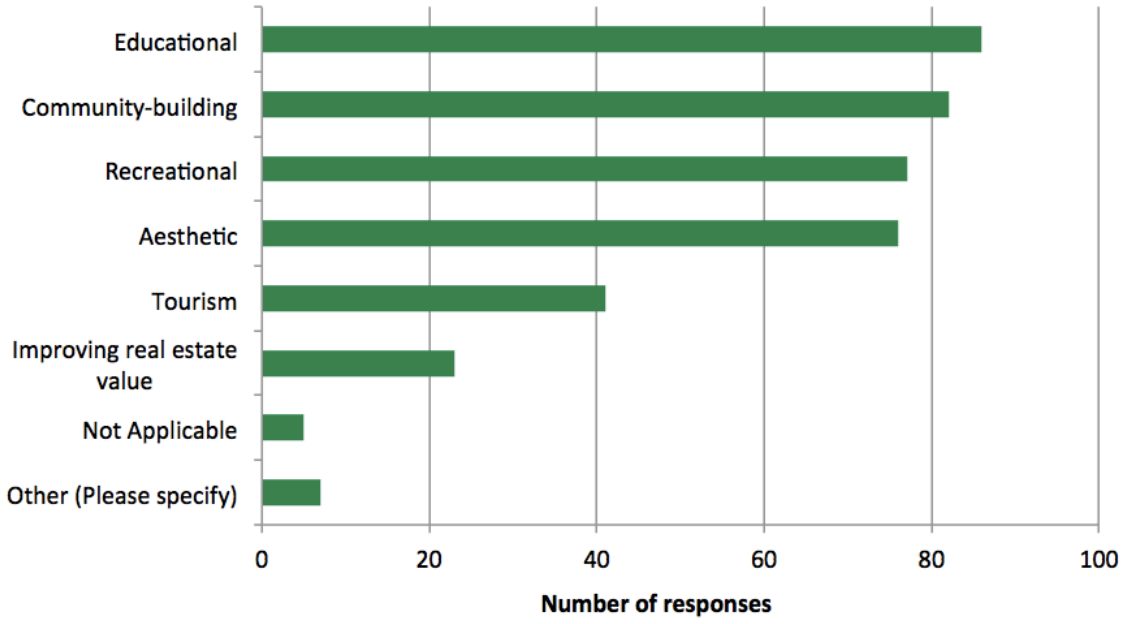
	# of Responses	% of Respondents
Other	14	13%
Medicinal sources	12	11%
Raw materials (e.g. lumber, fertilizer etc.)	17	16%
Energy	26	24%
Food	34	31%
Not Applicable	36	33%
Fresh water	48	44%

Regulating Ecosystem Services



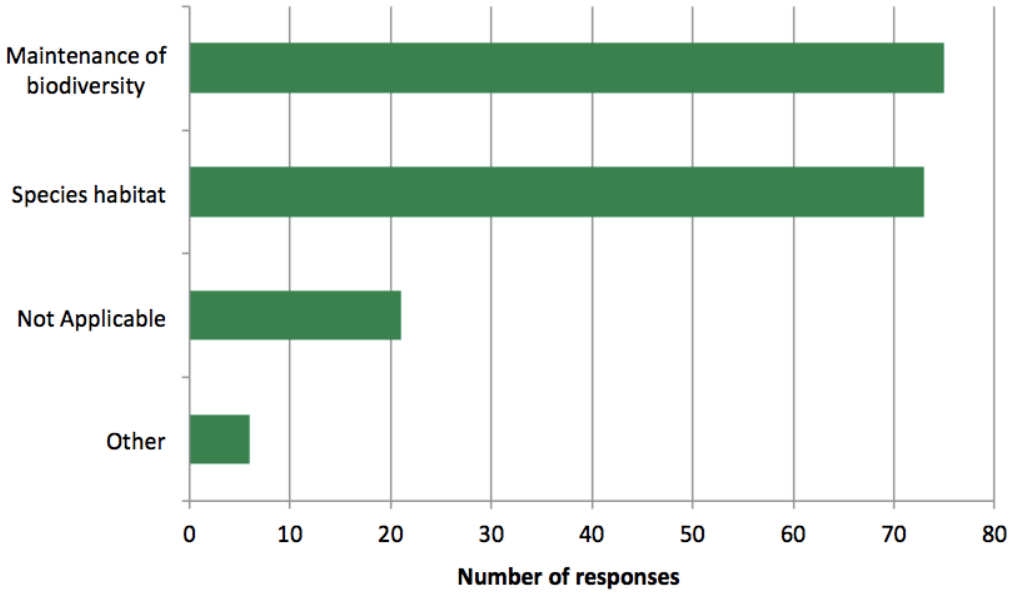
	# of Responses	% of Respondents
Other (Please specify)	10	9%
Not Applicable	14	13%
Pest and disease control	23	21%
Noise reduction	24	22%
Microclimate regulation	26	24%
Carbon sequestration and storage	29	27%
Waste-water treatment	34	31%
Air filtration	36	33%
Pollination	38	35%
Moderation of extreme events	44	41%
Erosion prevention and maintenance of soil fertility	54	50%
Stormwater runoff reduction	70	65%

Cultural Ecosystem Services



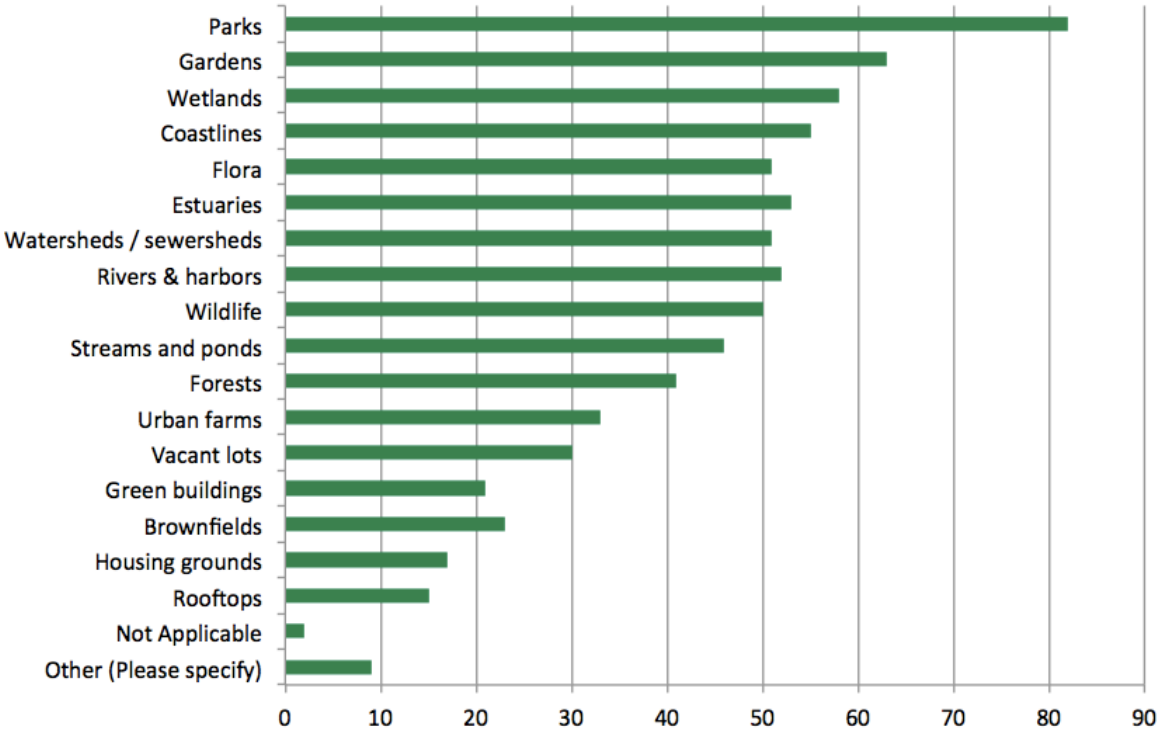
	# of Responses	% of Respondents
Other (Please specify)	7	6%
Not Applicable	5	5%
Improving real estate value	23	21%
Tourism	41	38%
Aesthetic	76	70%
Recreational	77	71%
Community-building	82	76%
Educational	86	80%

Supporting and Habitat Ecosystem Services



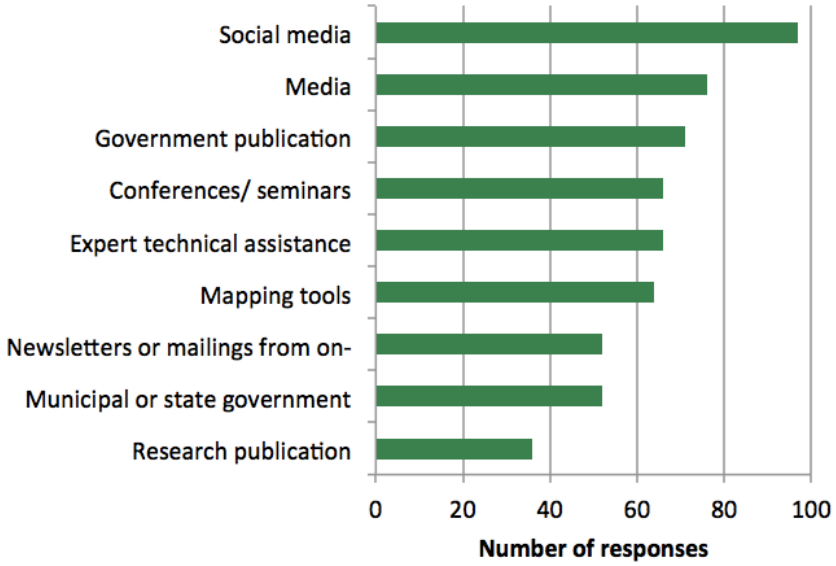
	# of Responses	% of Respondents
Other	6	6%
Not Applicable	21	19%
Species habitat	73	68%
Maintenance of biodiversity	75	69%

Natural Resources Central to the Organization's Work



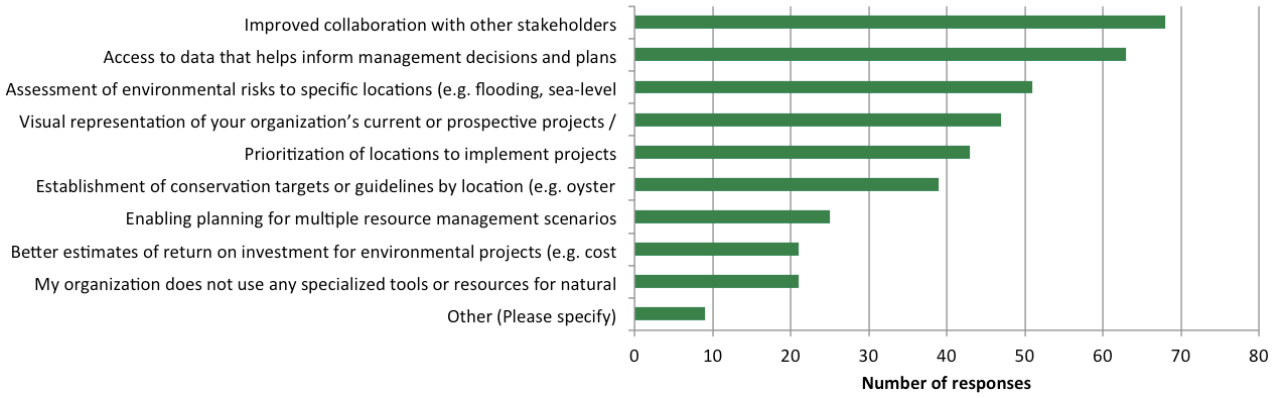
	# of Responses	% of Respondents
Other (Please specify)	9	8%
Not Applicable	2	2%
Rooftops	15	14%
Housing grounds	17	16%
Brownfields	23	21%
Green buildings	21	19%
Vacant lots	30	28%
Urban farms	33	31%
Forests	41	38%
Streams and ponds	46	43%
Wildlife	50	46%
Rivers & harbors	52	48%
Watersheds / sewersheds	51	47%
Estuaries	53	49%
Flora	51	47%
Coastlines	55	51%
Wetlands	58	54%
Gardens	63	58%
Parks	82	76%

Tools Used by Organizations



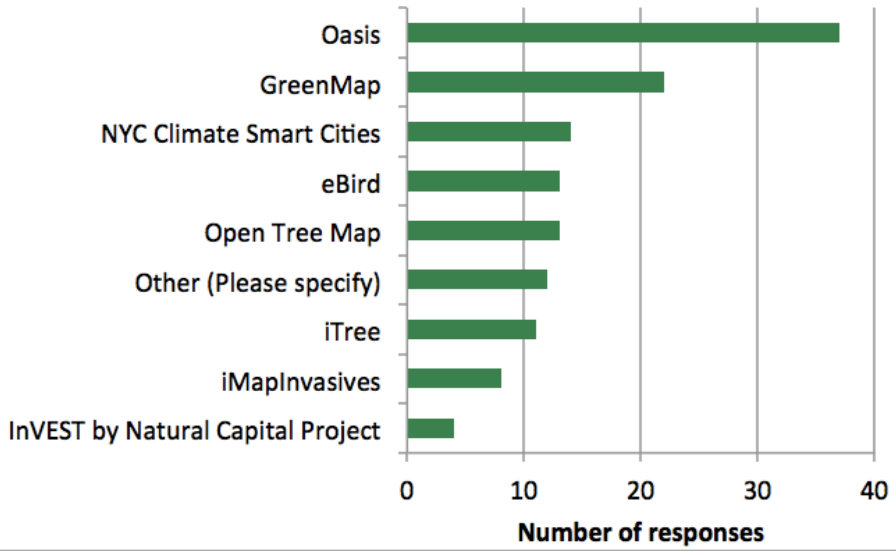
	# of Responses	% of Respondents
Research publication	36	33%
Municipal or state government proceeding	52	48%
Newsletters or mailings from on-governmental organization	52	48%
Mapping tools	64	59%
Expert technical assistance	66	61%
Conferences/ seminars	66	61%
Government publication	71	66%
Media	76	70%
Social media	97	90%

Benefits of Informational Resources



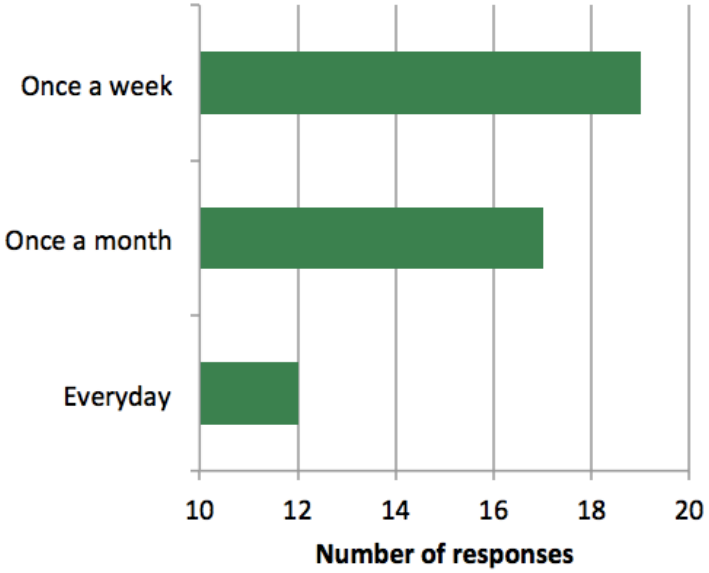
	# of Responses	% of Respondents
Other (Please specify)	9	8%
My organization does not use any specialized tools or resources for natural resource management	21	19%
Better estimates of return on investment for environmental projects (e.g. cost benefit analysis/net present value)	21	19%
Enabling planning for multiple resource management scenarios	25	23%
Establishment of conservation targets or guidelines by location (e.g. oyster population in NYC harbor)	39	36%
Prioritization of locations to implement projects	43	40%
Visual representation of your organization's current or prospective projects / natural resources	47	44%
Assessment of environmental risks to specific locations (e.g. flooding, sea-level rise, storm surge etc.)	51	47%
Access to data that helps inform management decisions and plans	63	58%
Improved collaboration with other stakeholders	68	63%

Mapping Tools Used in Last 12 Months



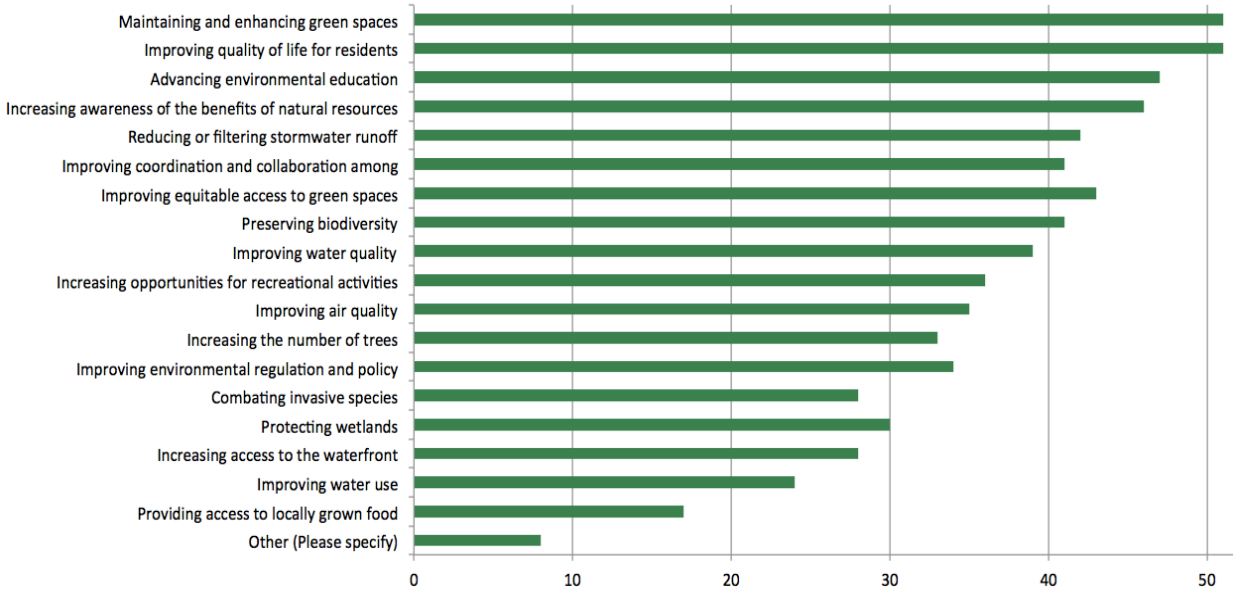
	# of Responses	% of Respondents
InVEST by Natural Capital Project	4	4%
iMapInvasives	8	7%
iTree	11	10%
Other (Please specify)	12	11%
Open Tree Map	13	12%
eBird	13	12%
NYC Climate Smart Cities	14	13%
GreenMap	22	20%
Oasis	37	34%
Not Applicable	46	43%

Frequency of Mapping Tool Use



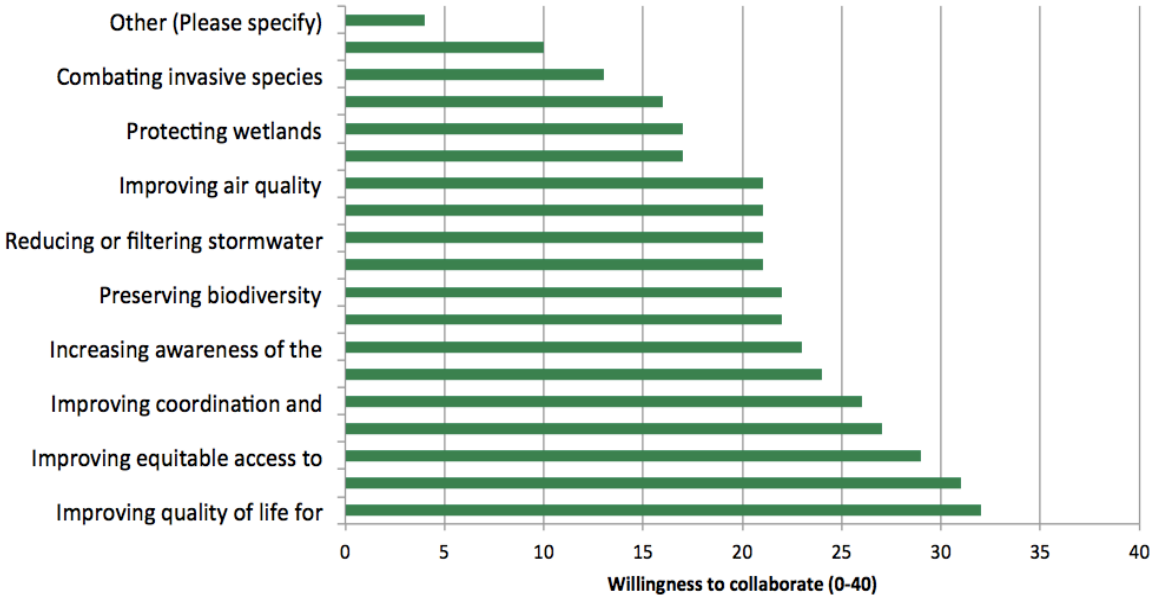
	# of Responses	% of Respondents
Everyday	12	11%
Once a month	17	16%
Once a week	19	18%
Not Applicable	44	41%

Objectives Important to Organizations that Use Mapping Tools



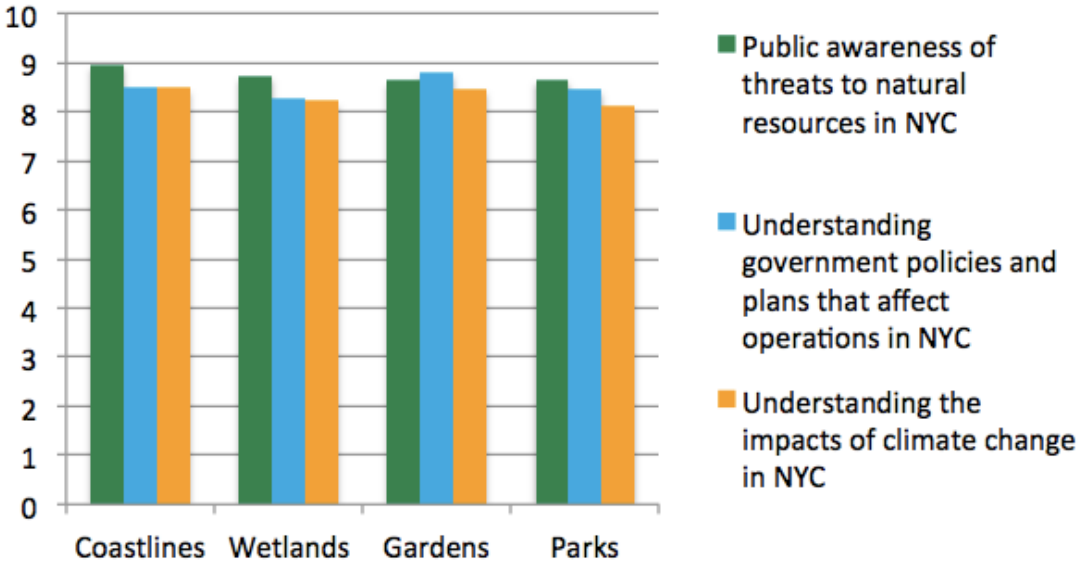
Objectives of Organizations	Uses Mapping Tool? Yes	No
Other (Please specify)	8	5
Providing access to locally grown food	17	8
Improving water use	24	13
Increasing access to the waterfront	28	14
Protecting wetlands	30	13
Combating invasive species	28	13
Improving environmental regulation and policy	34	16
Increasing the number of trees	33	21
Improving air quality	35	12
Increasing opportunities for recreational activities	36	20
Improving water quality	39	15
Preserving biodiversity	41	20
Improving equitable access to green spaces	43	22
Improving coordination and collaboration among environmental stewardship stakeholders	41	15
Reducing or filtering stormwater runoff	42	17
Increasing awareness of the benefits of natural resources	46	26
Advancing environmental education	47	26
Improving quality of life for residents	51	26
Maintaining and enhancing green spaces	51	27

Objectives Important to Organizations Interested in Collaborating with The Nature Conservancy



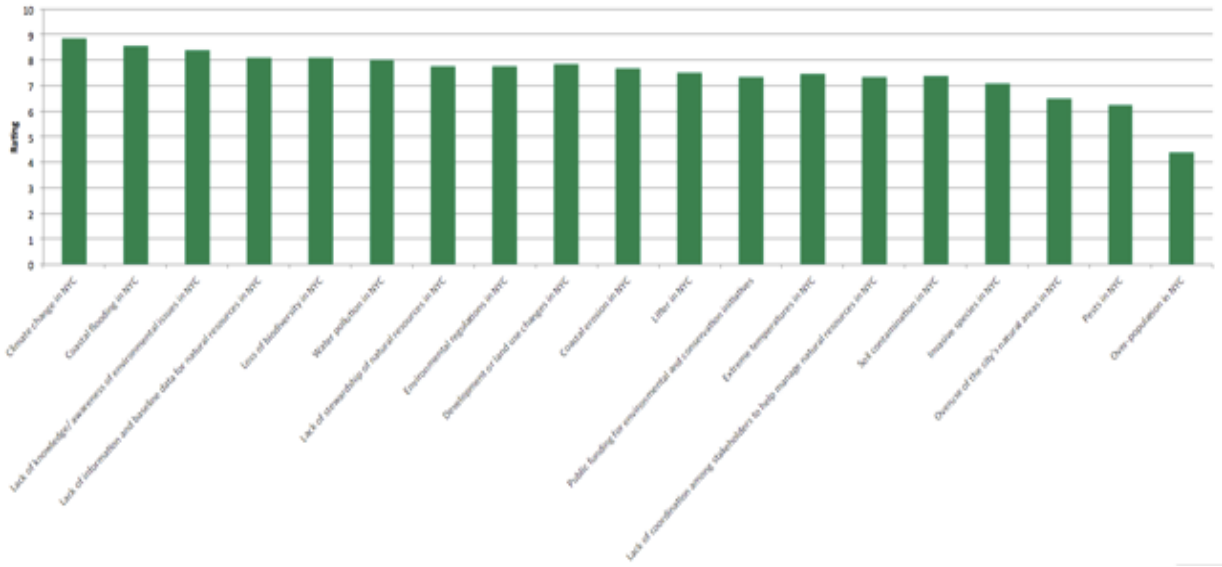
Objectives of Organizations	# of Responses
Improving quality of life for residents	32
Maintaining and enhancing green spaces	31
Improving equitable access to green spaces	29
Advancing environmental education	27
Improving coordination and collaboration among environmental stewardship stakeholders	26
Improving water quality	24
Increasing awareness of the benefits of natural resources	23
Improving environmental regulation and policy	22
Preserving biodiversity	22
Increasing the number of trees	21
Reducing or filtering stormwater runoff	21
Increasing opportunities for recreational activities	21
Improving air quality	21
Improving water use	17
Protecting wetlands	17
Increasing access to the waterfront	16
Combating invasive species	13
Providing access to locally grown food	10
Other (Please specify)	4

Capacities Important to Organizations that Use Mapping Tools



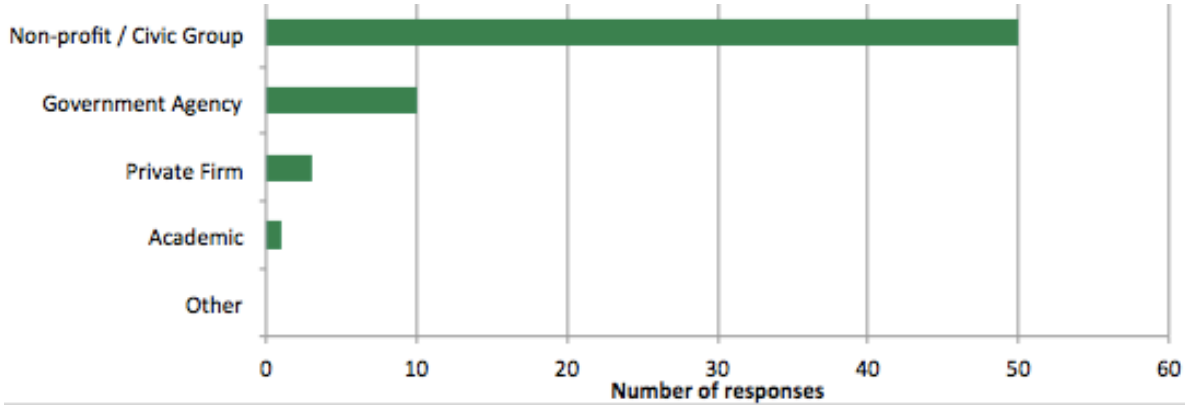
Capacities	Uses Mapping Tool? Yes	No
Public awareness of threats to natural resources in NYC	8.7	8.7
Understanding the impacts of climate change in NYC	8.5	8.5
Stakeholder collaboration within NYC	8.4	8.4
Access to baseline data on natural resources (e.g. tree cover, biodiversity) in NYC	8.0	8.0
Information about planned and existing real estate development in NYC	7.8	7.8
Access to maps of natural resources in NYC	7.7	7.7
Information about other environmental stewardship organizations working in NYC, including their geographic reach	7.4	7.4
Access to maps of private land in NYC, including brownfields and vacant lots	7.1	7.1
Government support for local stewardship efforts in NYC	8.8	8.8
Understanding government policies and plans that affect operations in NYC	8.7	8.7
Ability to influence environmental policy and zoning regulations to support ecosystem services in NYC	8.5	8.5
Scientific research on NYC's natural resources	8.0	8.0

Threats Important to Organizations that Use Mapping Tools



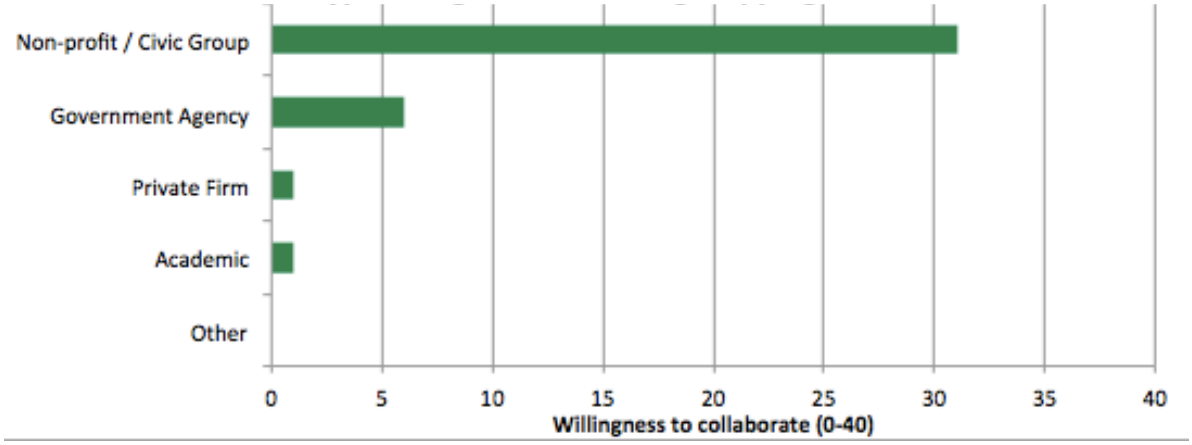
Threats	Uses Mapping Tool?	
	Yes	No
Climate change in NYC	8.9	7.8
Coastal flooding in NYC	8.5	7.6
Lack of knowledge/ awareness of environmental issues in NYC	8.4	8.1
Lack of information and baseline data for natural resources in NYC	8.1	8.1
Loss of biodiversity in NYC	8.1	7.5
Water pollution in NYC	8.0	7.9
Lack of stewardship of natural resources in NYC	7.8	7.7
Environmental regulations in NYC	7.8	7.7
Development or land use changes in NYC	7.8	7.9
Coastal erosion in NYC	7.7	6.1
Litter in NYC	7.5	7.5
Public funding for environmental and conservation initiatives	7.4	7.3
Extreme temperatures in NYC	7.4	6.7
Lack of coordination among stakeholders to help manage natural resources in NYC	7.4	7.0
Soil contamination in NYC	7.4	7.1
Invasive species in NYC	7.1	6.9
Overuse of the city's natural areas in NYC	6.5	6.7
Pests in NYC	6.2	5.7
Over-population in NYC	4.4	4.8

Types of Organizations that Use Mapping Tools



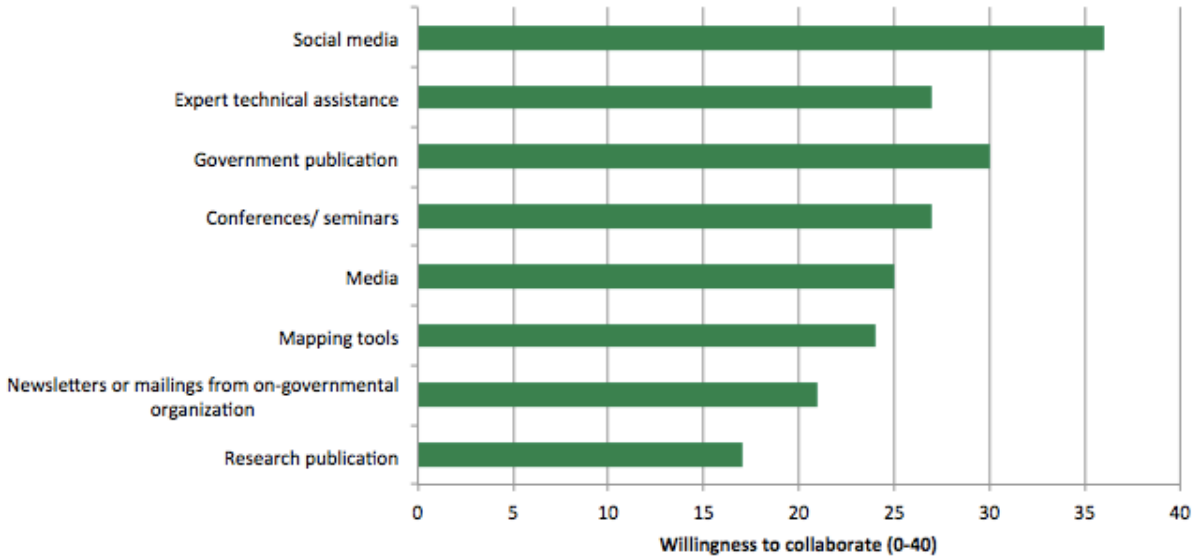
Type of Organization	Uses Mapping Tool? Yes	No
Other	0	0
Academic	1	1
Private Firm	3	0
Government	10	1
Non-profit / Civic	50	42

Types of Organizations Interested in Collaborating with The Nature Conservancy



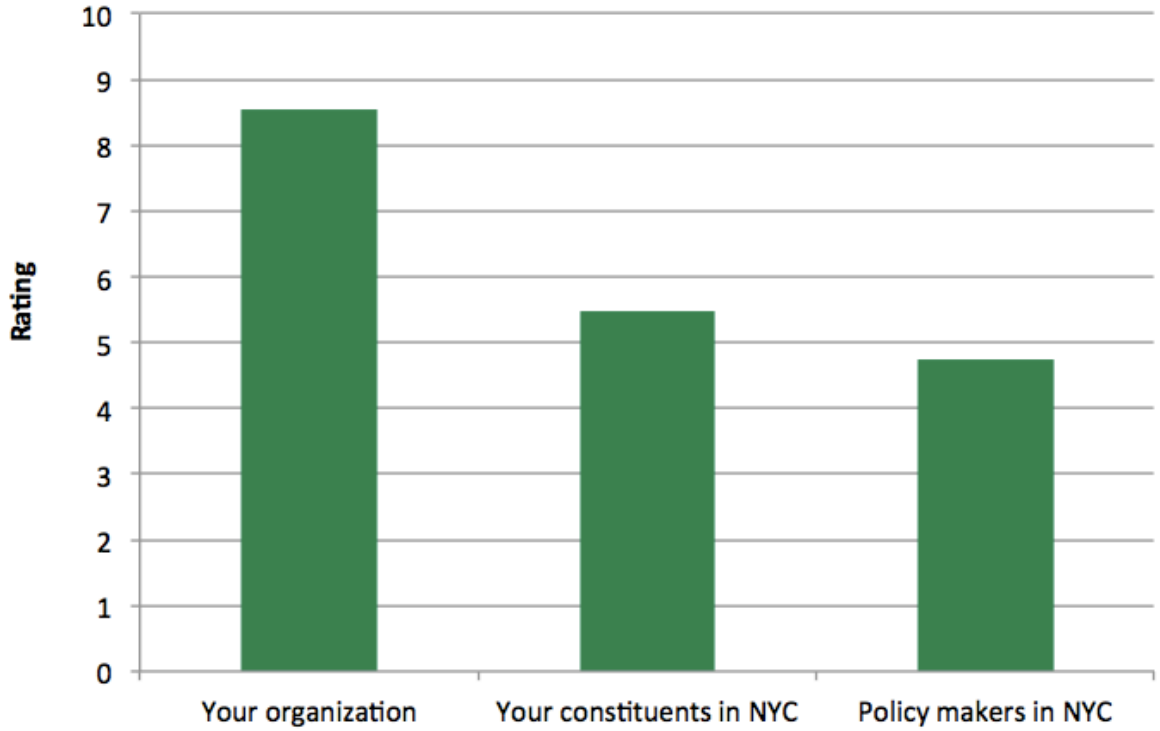
	# of Responses	% of Respondents by Type
Other	0	-
Academic	1	50%
Private Firm	1	33%
Government	6	55%
Non-profit / Civic	31	34%

Tools Used by Organizations Interested in Collaborating with The Nature Conservancy



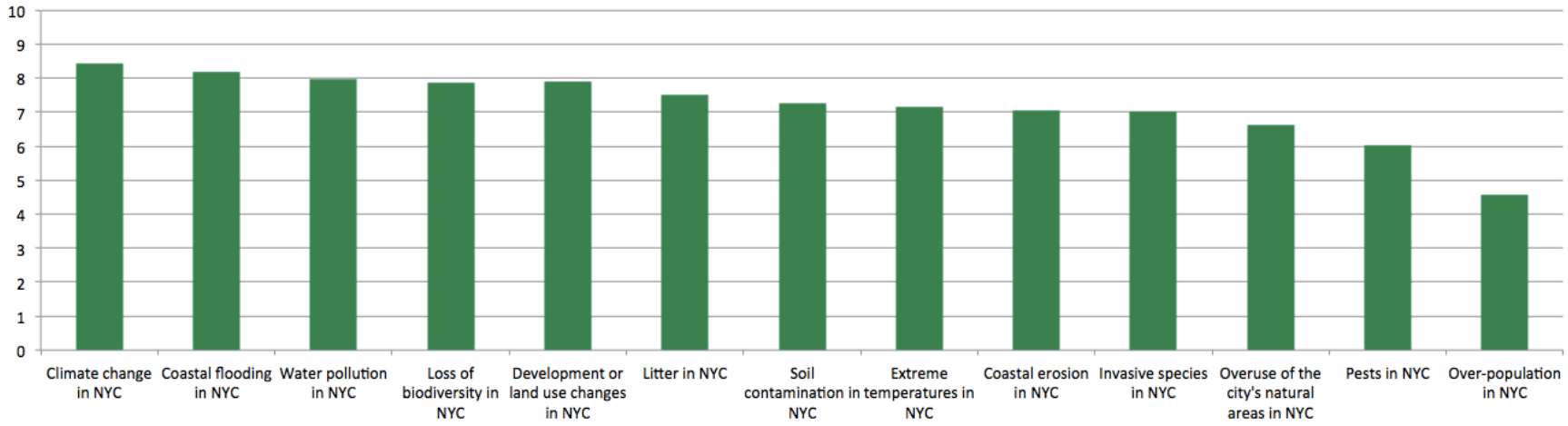
	# of Responses	% of Organizations Willing to Collaborate
Municipal or state government proceeding	16	41%
Research publication	17	44%
Newsletters or mailings from on-governmental organization	21	54%
Mapping tools	24	62%
Media	25	64%
Conferences/ seminars	27	69%
Government publication	30	77%
Expert technical assistance	27	69%
Social media	36	92%

Level of Environmental Awareness Among Stakeholders



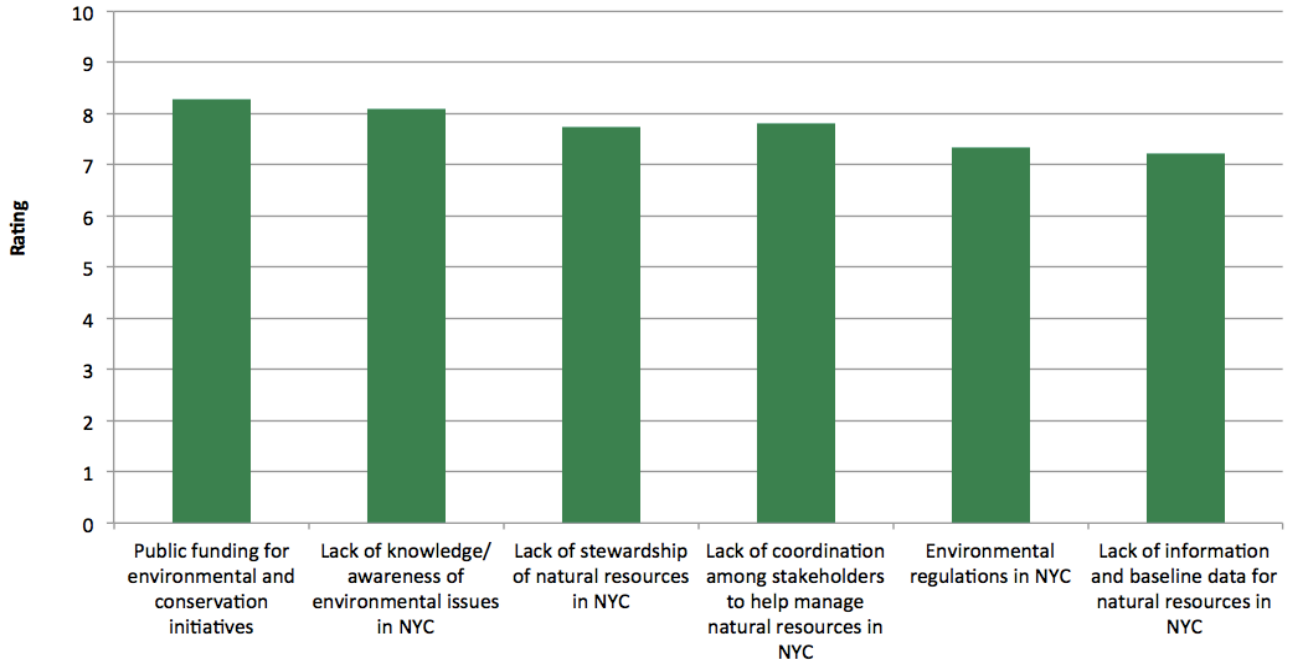
	Rating	Extremely Aware (5)	Aware (4)	Somewhat Aware (3)	Unaware (2)	Unsure (1)	TOTAL	% of Aware Respondents
Your organization	8.5	65	39	4	0	0	108	100%
Your constituents in NYC	5.5	13	47	43	4	1	108	95%
Policy makers in NYC	4.7	8	34	59	5	2	108	94%

Level of Concern Surrounding Threats



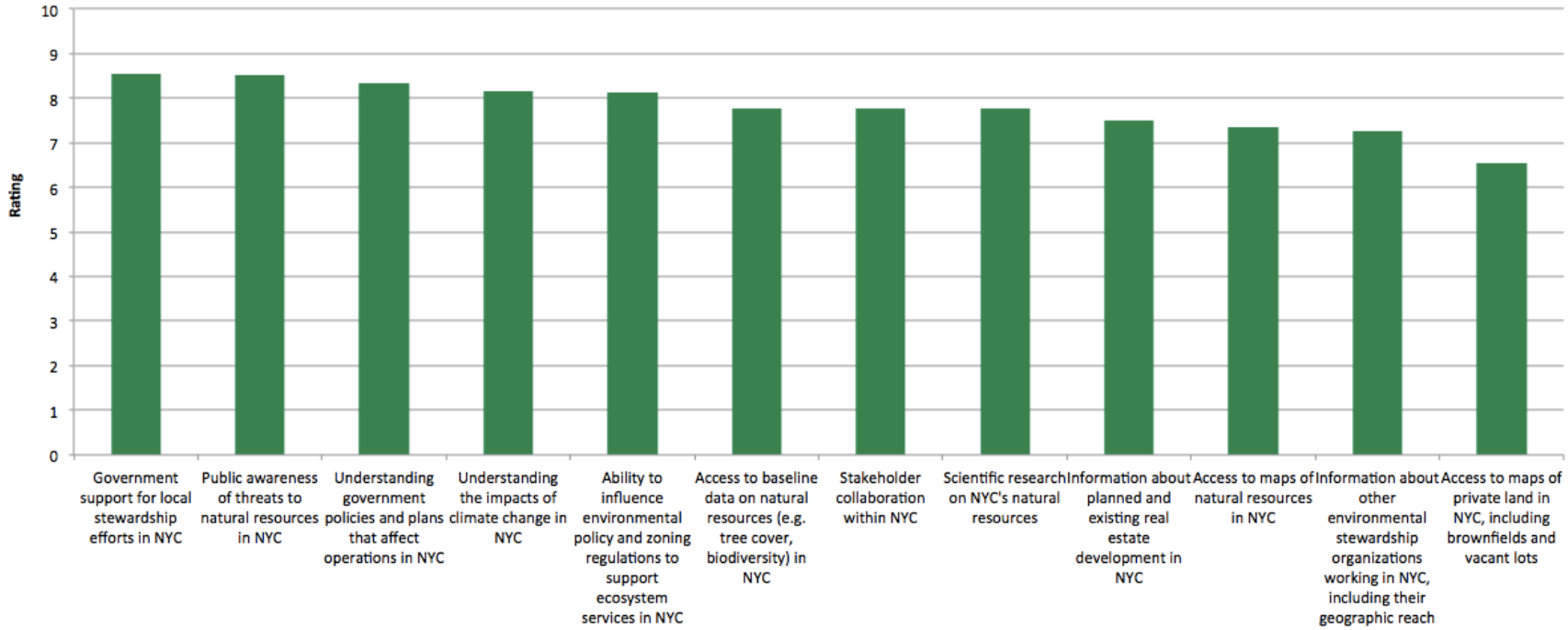
	Rating	Extremely Concerned	Concerned	Somewhat Concerned	Not Concerned	Unsure	TOTAL	% of Concerned Respondents
Climate change in NYC	8.4	67	31	8	1	1	108	98%
Coastal flooding in NYC	8.2	66	26	12	3	1	108	96%
Water pollution in NYC	8.0	57	37	11	2	1	108	97%
Loss of biodiversity in NYC	7.9	52	42	10	2	2	108	96%
Development or land use changes in NYC	7.9	62	22	16	4	4	108	93%
Litter in NYC	7.5	54	27	25	1	1	108	98%
Soil contamination in NYC	7.3	48	36	17	6	1	108	94%
Extreme temperatures in NYC	7.1	44	39	19	5	1	108	94%
Coastal erosion in NYC	7.0	39	45	19	4	1	108	95%
Invasive species in NYC	7.0	41	38	24	3	2	108	95%
Overuse of the city's natural areas in NYC	6.6	40	29	28	7	4	108	90%
Pests in NYC	6.0	30	32	34	8	4	108	89%
Over-population in NYC	4.6	16	24	37	20	11	108	71%

Level of Concern Surrounding Additional Threats



	Rating	Extremely Concerned	Concerned	Somewhat Concerned	Not Concerned	Unsure	TOTAL	% of Concerned Respondents
Public funding for environmental and conservation initiatives	8.3	62	34	9	1	2	108	97%
Lack of knowledge/ awareness of environmental issues in NYC	8.1	53	45	6	1	3	108	96%
Lack of stewardship of natural resources in NYC	7.7	46	48	10	1	3	108	96%
Lack of coordination among stakeholders to help manage natural resources in NYC	7.8	48	43	11	1	5	108	94%
Environmental regulations in NYC	7.3	41	46	14	3	4	108	94%
Lack of information and baseline data for natural resources in NYC	7.2	44	36	21	3	4	108	94%

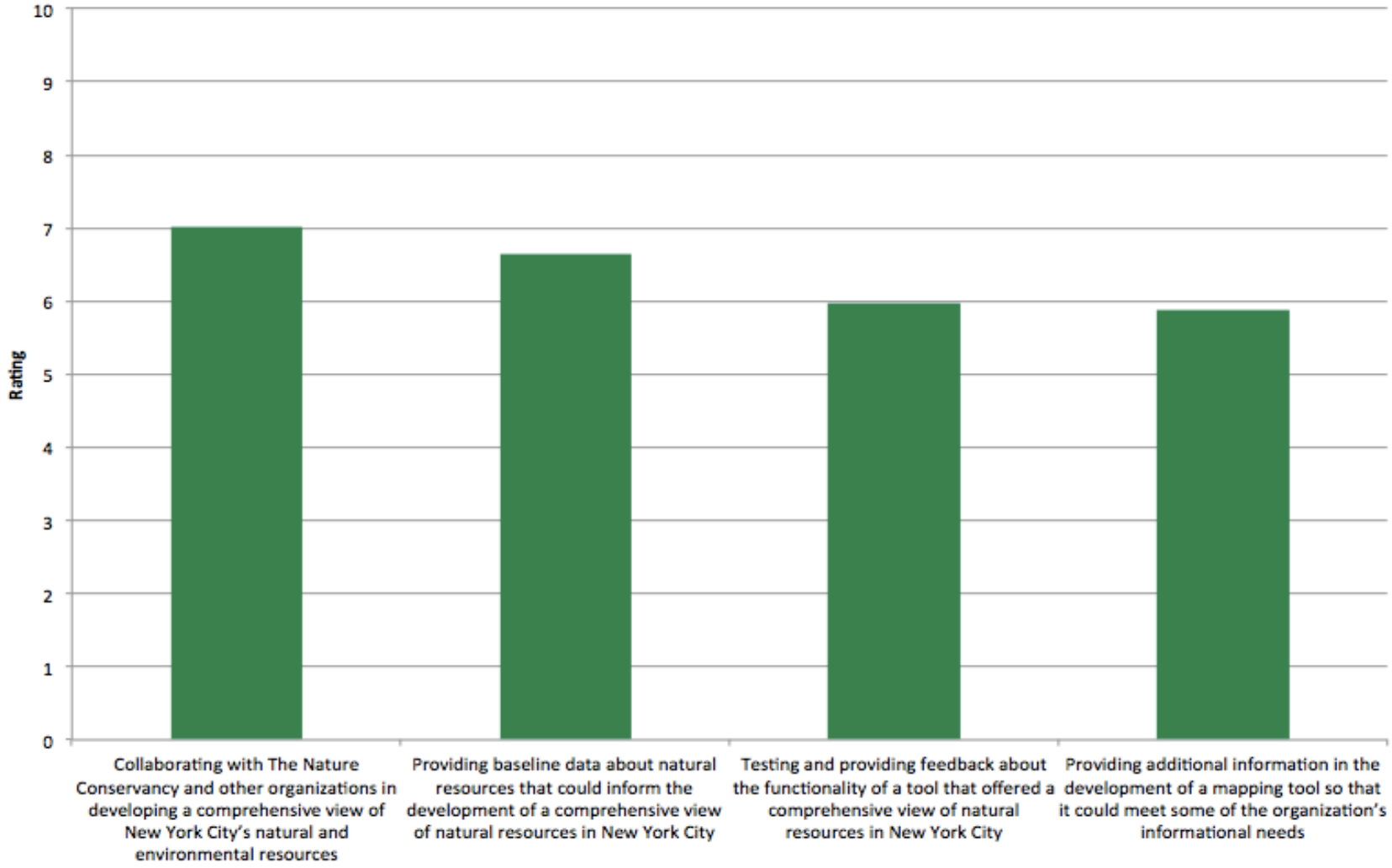
Level of Importance of Capacities



Level of Importance of Capacities

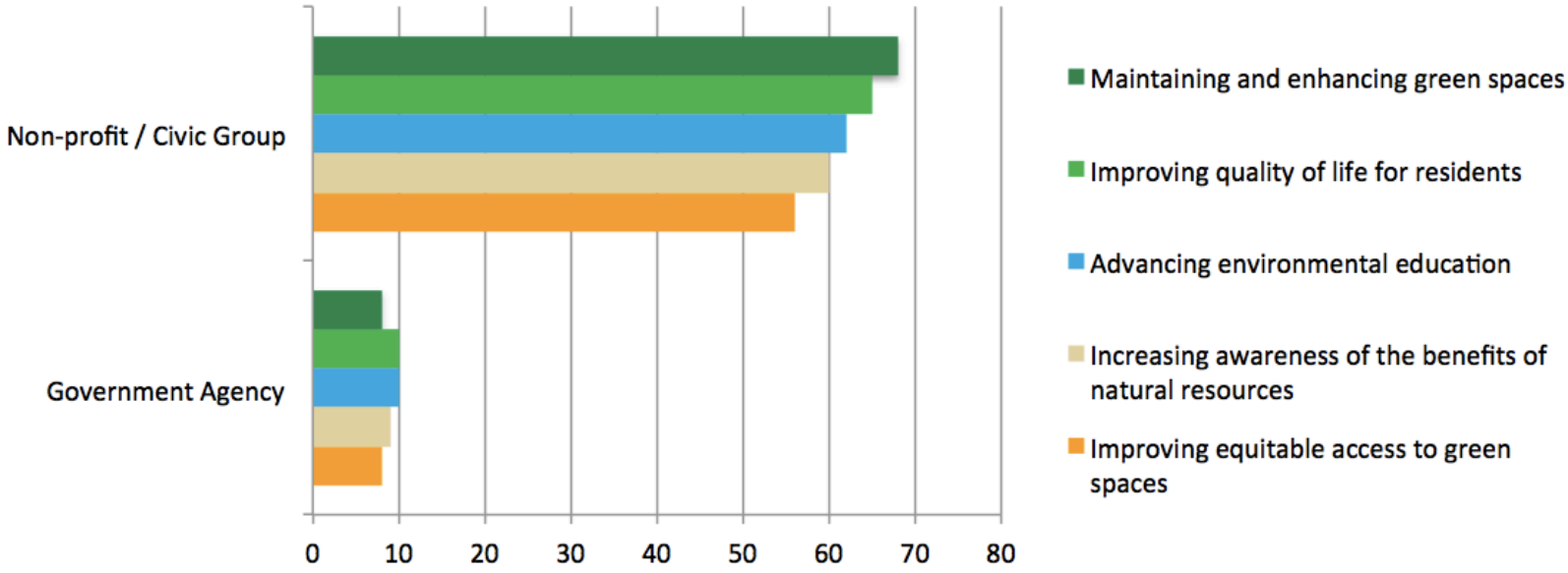
	Rating	Extremely Important	Important	Somewhat Important	Not Important (2)	Unsure (1)	TOTAL	% of Respondents who Considered Important
Government support for local stewardship efforts in NYC	8.6	69	28	9	0	2	108	98%
Public awareness of threats to natural resources in NYC	8.5	65	35	6	0	2	108	98%
Understanding government policies and plans that affect operations in NYC	8.3	60	40	5	1	2	108	97%
Understanding the impacts of climate change in NYC	8.1	56	43	5	2	2	108	96%
Ability to influence environmental policy and zoning regulations to support ecosystem services in NYC	8.1	61	32	11	2	2	108	96%
Access to baseline data on natural resources (e.g. tree cover, biodiversity) in NYC	7.8	44	49	10	0	5	108	95%
Stakeholder collaboration within NYC	7.8	51	38	11	3	5	108	93%
Scientific research on NYC's natural resources	7.8	45	52	8	1	2	108	97%
Information about planned and existing real estate development in NYC	7.5	48	35	20	1	4	108	95%
Access to maps of natural resources in NYC	7.3	39	49	14	2	4	108	94%
Information about other environmental stewardship organizations working in NYC, including their geographic reach	7.3	39	49	16	2	2	108	96%
Access to maps of private land in NYC, including brownfields and vacant lots	6.5	34	38	24	7	5	108	89%

Level of Interest in Working With The Nature Conservancy



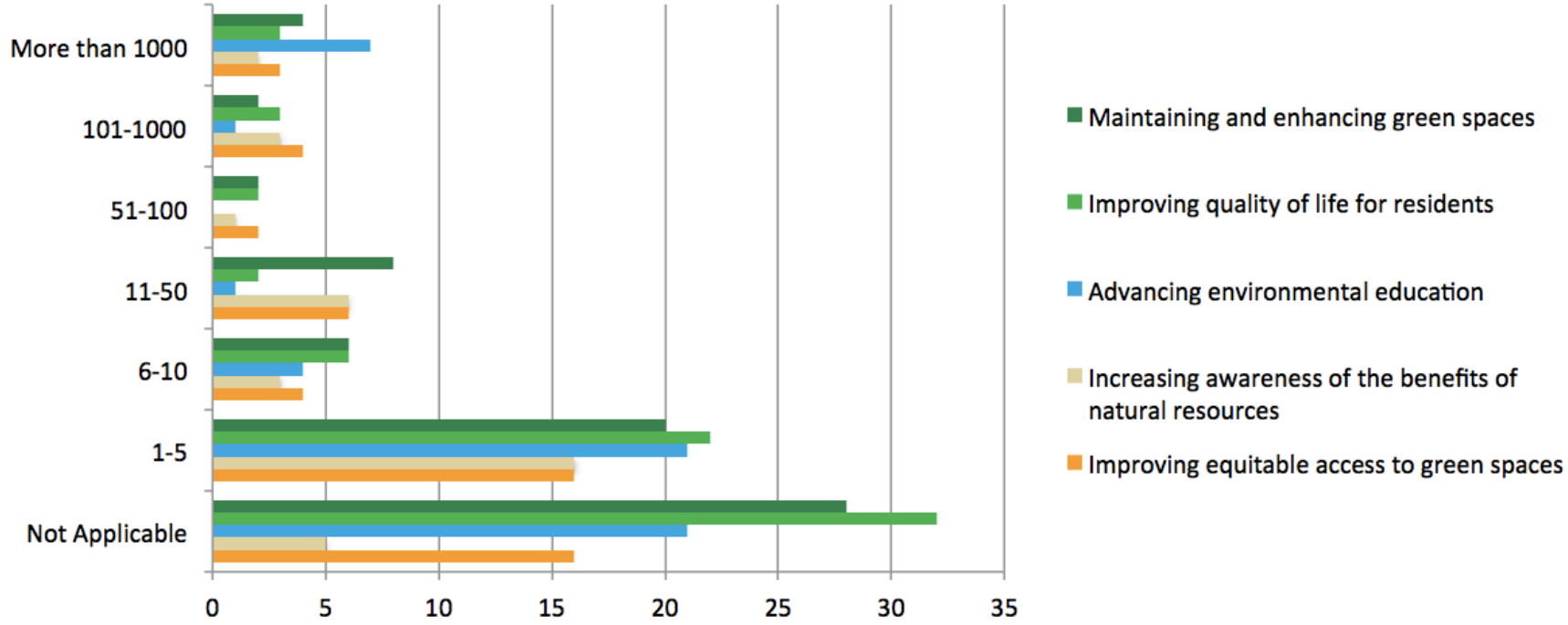
	Rating	Extremely Interested (5)	Interested (4)	Somewhat Interested (3)	Not Interested (2)	Unsure (1)	TOTAL	% of Interested Respondents
Collaborating with The Nature Conservancy and other organizations in developing a comprehensive view of New York City's natural and environmental resources	**7.0**	42	36	19	6	5	108	**90%**
Providing baseline data about natural resources that could inform the development of a comprehensive view of natural resources in New York City	**6.6**	35	35	24	6	8	108	**87%**
Testing and providing feedback about the functionality of a tool that offered a comprehensive view of natural resources in New York City	**6.0**	29	32	30	10	7	108	**84%**
Providing additional information in the development of a mapping tool so that it could meet some of the organization's informational needs	**5.9**	27	33	33	9	6	108	**86%**

Objectives by Organizational Type



Objectives of Organizations	Type of Organization					
	Government	Non-profit / Civic	Private Firm	Other (Please specify)	Academic	TOTAL
Other (Please specify)	1	11	0	0	1	13
Providing access to locally grown food	2	23	0	0	0	25
Improving water use	5	29	3	0	0	37
Increasing access to the waterfront	5	36	1	0	0	42
Protecting wetlands	7	33	3	0	0	43
Combating invasive species	5	33	3	0	0	41
Improving air quality	7	38	2	0	0	47
Improving environmental regulation and policy	7	40	2	0	1	50
Increasing the number of trees	8	45	1	0	0	54
Improving water quality	9	41	3	0	1	54
Increasing opportunities for recreational activities	6	49	1	0	0	56
Improving coordination and collaboration among environmental stewardship stakeholders	6	48	2	0	0	56
Reducing or filtering stormwater runoff	7	48	3	0	1	59
Preserving biodiversity	6	53	2	0	0	61
Improving equitable access to green spaces	8	56	1	0	0	65
Increasing awareness of the benefits of natural resources	9	60	2	0	1	72
Advancing environmental education	10	62	1	0	0	73
Improving quality of life for residents	10	65	2	0	0	77
Maintaining and enhancing green spaces	8	68	2	0	0	78
TOTAL	126	838	34	0	5	

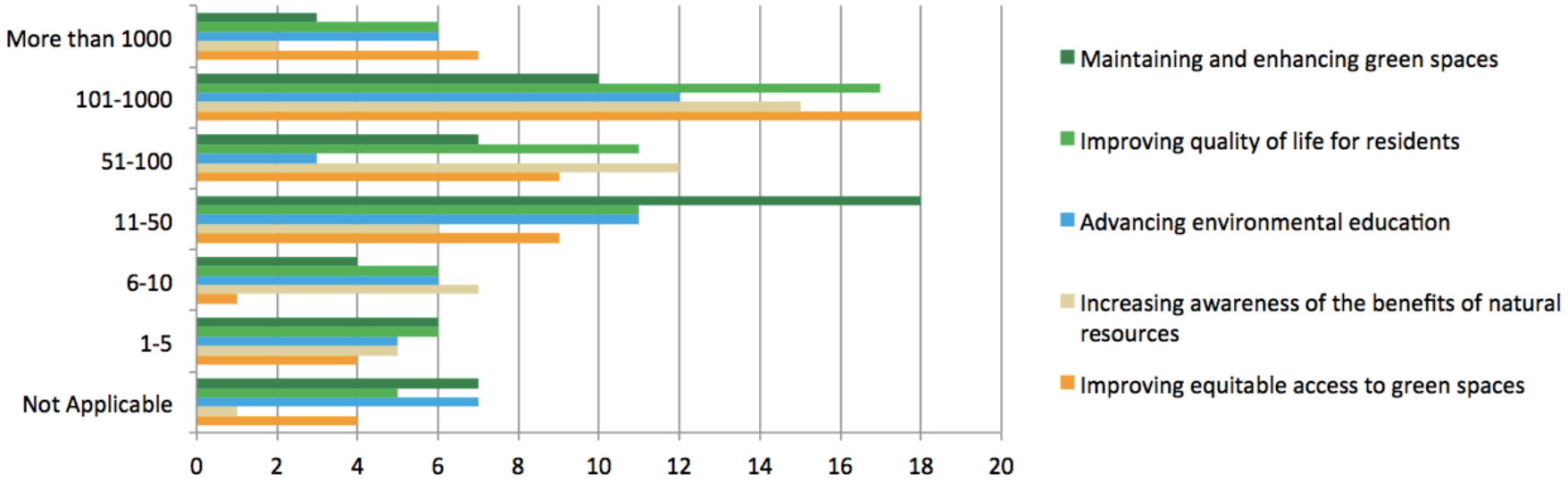
Objectives by Number of Paid Employees



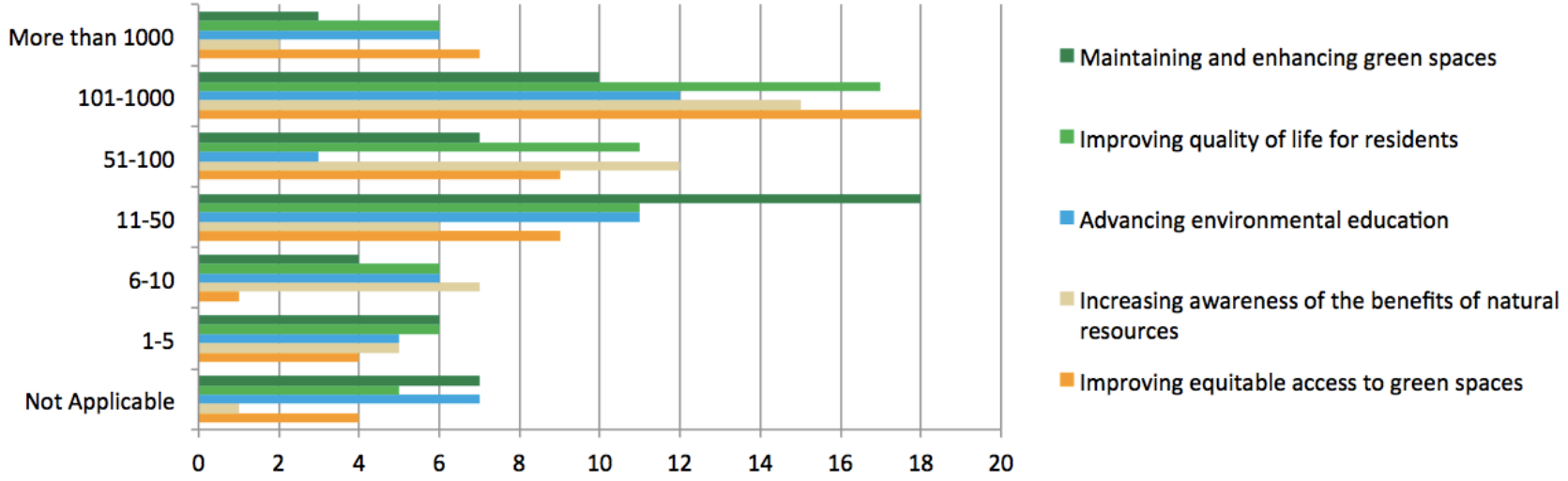
Objectives by Number of Paid Employees

Objectives of Organizations	Scale (paid)							
	Not Applicable	1-5	6-10	11-50	51-100	101-1000	More than 1000	TOTAL
Improving coordination and collaboration among environmental stewardship stakeholders	10	12	2	2	1	3	5	25
Providing access to locally grown food	9	8	2	4	2	2	1	19
Other (Please specify)	15	3	5	10	1	1	1	21
Improving water use	11	11	8	8	0	3	3	33
Preserving biodiversity	15	15	5	5	0	2	3	30
Protecting wetlands	28	8	3	2	1	4	3	21
Increasing opportunities for recreational activities	20	12	5	9	2	1	1	30
Improving environmental regulation and policy	25	9	3	4	0	3	6	25
Improving water quality	16	15	4	6	1	2	6	34
Combating invasive species	23	8	2	10	0	2	5	27
Increasing access to the waterfront	26	10	6	9	0	0	4	29
Increasing the number of trees	17	16	6	10	2	2	4	40
Reducing or filtering stormwater runoff	26	15	5	7	2	1	5	35
Improving air quality	28	15	6	5	1	4	4	35
Improving equitable access to green spaces	16	16	4	6	2	4	3	35
Increasing awareness of the benefits of natural resources	5	16	3	6	1	3	2	31
Advancing environmental education	21	21	4	1	0	1	7	34
Improving quality of life for residents	32	22	6	2	2	3	3	38
Maintaining and enhancing green spaces	28	20	6	8	2	2	4	42
TOTAL	343	232	79	106	18	41	66	

Objectives by Number of unpaid Employees

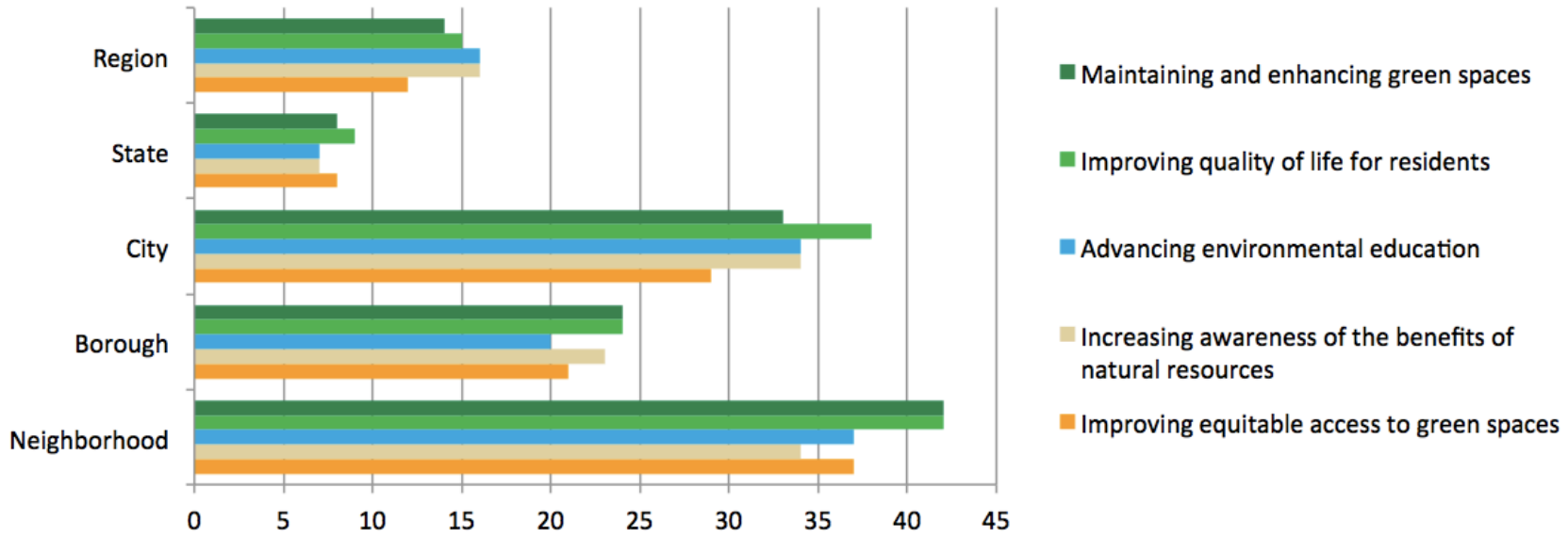


Objectives by Number of unpaid Employees



Objectives of Organizations	Scale (unpaid)							
	Not Applicable	1-5	6-10	11-50	51-100	101-1000	More than 1000	TOTAL
Improving coordination and collaboration among environmental stewardship stakeholders	2	3	1	2	7	17	4	34
Reducing or filtering stormwater runoff	4	4	4	7	4	5	7	31
Other (Please specify)	5	1	8	16	8	1	1	35
Increasing access to the waterfront	9	4	9	11	5	1	4	34
Providing access to locally grown food	1	0	3	12	9	15	2	41
Increasing opportunities for recreational activities	5	5	3	18	10	6	2	44
Protecting wetlands	5	3	4	7	14	14	5	47
Combating invasive species	5	3	4	13	8	12	6	46
Improving water use	0	3	8	11	8	18	6	54
Improving environmental regulation and policy	8	1	6	11	5	17	7	47
Preserving biodiversity	6	4	8	13	10	13	6	54
Improving air quality	4	3	3	13	11	20	6	56
Improving water quality	6	4	6	13	11	15	6	55
Increasing the number of trees	5	4	5	21	9	19	6	64
Improving equitable access to green spaces	4	4	1	9	9	18	7	48
Increasing awareness of the benefits of natural resources	1	5	7	6	12	15	2	47
Advancing environmental education	7	5	6	11	3	12	6	43
Improving quality of life for residents	5	6	6	11	11	17	6	57
Maintaining and enhancing green spaces	7	6	4	18	7	10	3	48
TOTAL	65	42	72	168	119	173	68	

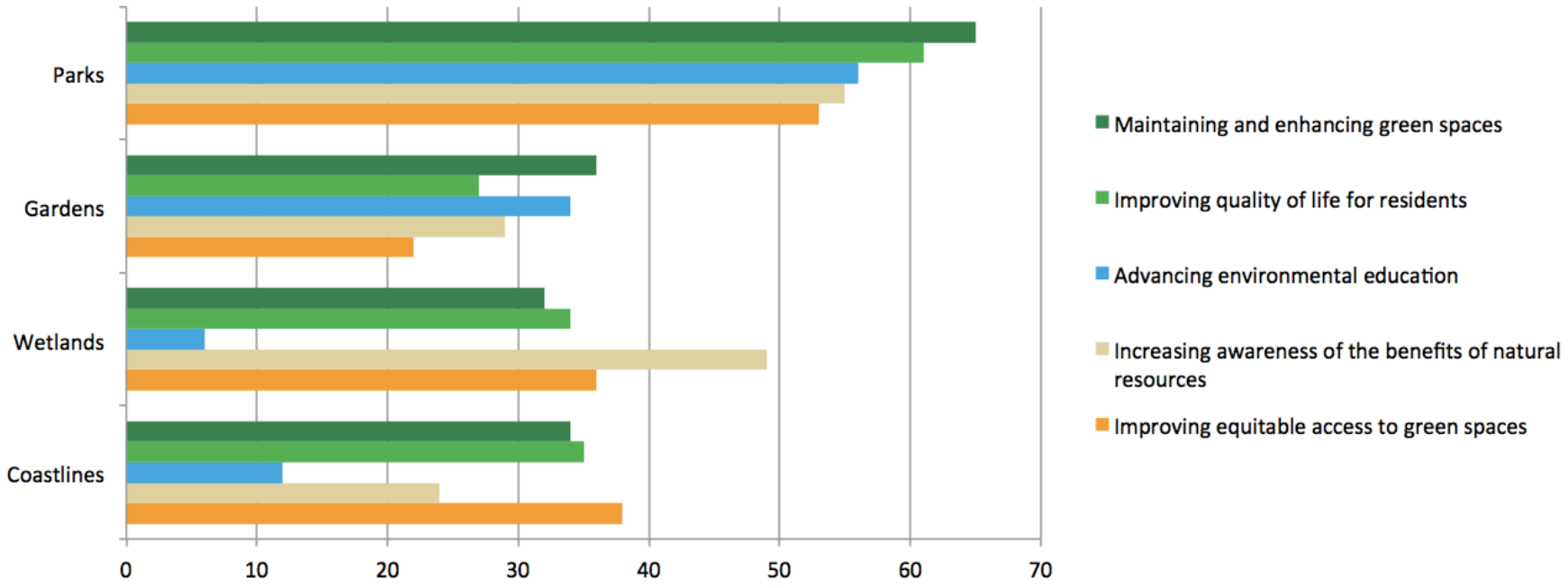
Objectives by Geographic Scope



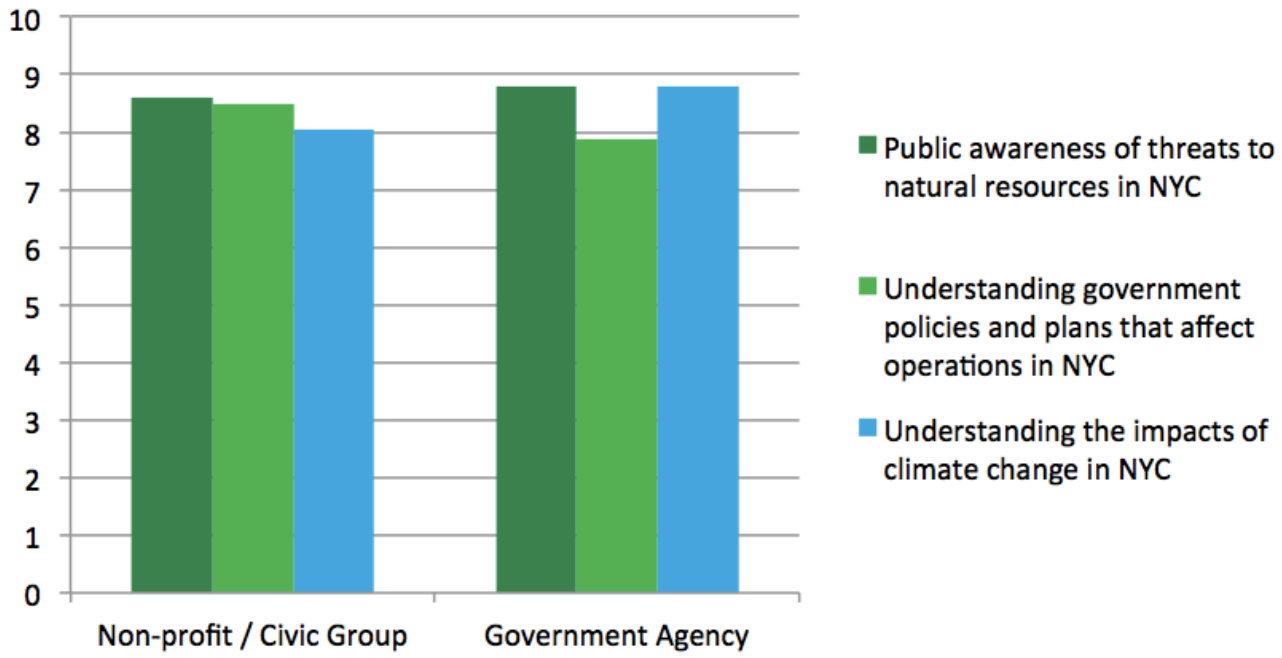
Objectives by Geographic Scope

Objectives of Organizations	Reach							
	Neighborhood	Borough	City	State	Region	Globe	Country	TOTAL
Other (Please specify)	8	5	6	3	3	2	0	27
Providing access to locally grown food	18	6	10	1	1	3	1	40
Combating invasive species	19	11	13	5	7	2	4	61
Improving water use	18	10	17	4	9	3	3	64
Protecting wetlands	15	9	18	6	11	3	4	66
Increasing access to the waterfront	19	12	20	5	11	1	2	70
Improving environmental regulation and policy	20	13	22	4	16	4	4	83
Improving air quality	26	13	19	6	10	4	2	80
Improving water quality	21	16	22	7	17	4	4	91
Increasing the number of trees	32	20	26	8	8	3	1	98
Increasing opportunities for recreational activities	31	16	25	5	13	1	2	93
Preserving biodiversity	31	15	23	6	13	3	4	95
Improving coordination and collaboration among environmental stewardship stakeholders	30	18	23	6	13	1	4	95
Reducing or filtering stormwater runoff	30	16	20	7	16	5	4	98
Improving equitable access to green spaces	37	21	29	8	12	4	2	113
Increasing awareness of the benefits of natural resources	34	23	34	7	16	4	4	122
Advancing environmental education	37	20	34	7	16	3	3	120
Improving quality of life for residents	42	24	38	9	15	2	1	131
Maintaining and enhancing green spaces	42	24	33	8	14	3	4	128
TOTAL	510	292	432	112	221	55	53	

Objectives by Areas and Natural Resources Managed



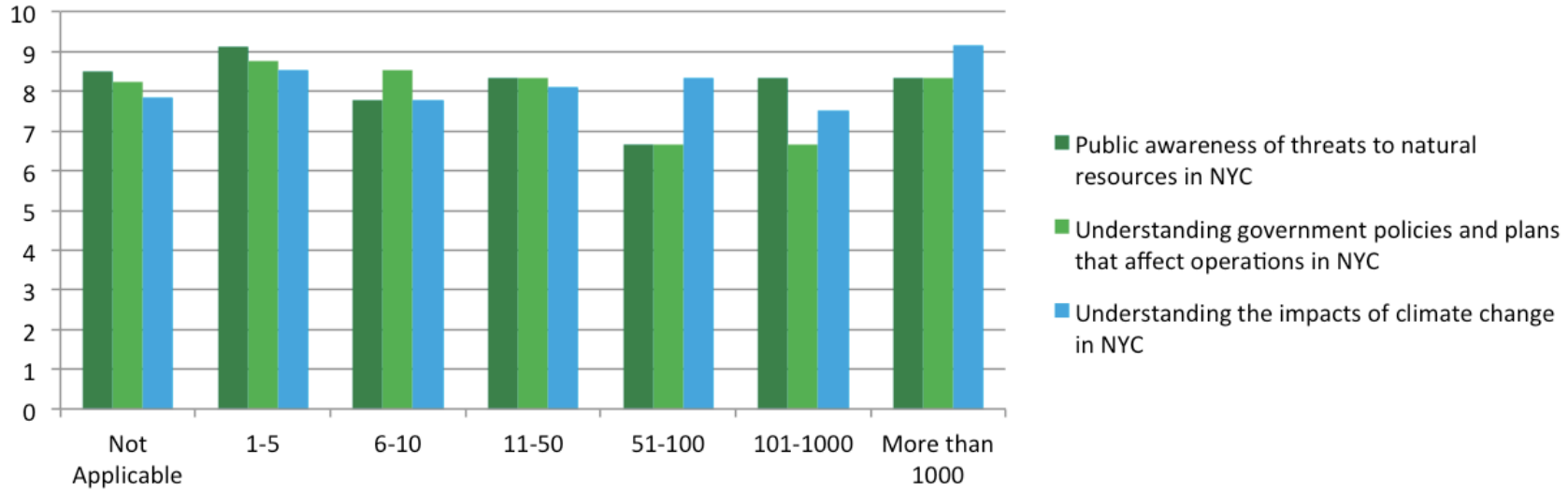
Capacities by Organizational Type



Capacities by Organizational Type

Capacities	Type of Organization: Government	Non-profit / Civic	Private Firm	Other	Academic	AVERAGE
Public awareness of threats to natural resources in NYC	8.6	8.8	6.7	8.5	6.7	7.8
Understanding the impacts of climate change in NYC	8.0	8.8	8.9	8.1	8.3	8.4
Access to baseline data on natural resources (e.g. tree cover, biodiversity) in NYC	7.9	7.3	5.6	-	6.7	6.9
Access to maps of natural resources in NYC	7.5	6.7	6.7	7.3	6.7	7.0
Information about other environmental stewardship organizations working in NYC, including their geographic reach	7.4	7.3	4.4	7.3	6.7	6.6
Access to maps of private land in NYC, including brownfields and vacant lots	6.8	5.2	5.6	6.5	3.3	5.5
Stakeholder collaboration within NYC	7.9	7.9	5.6	7.8	6.7	7.1
Information about planned and existing real estate development in NYC	7.8	6.1	4.4	7.5	5.0	6.2
Government support for local stewardship efforts in NYC	8.7	8.5	5.6	8.6	8.3	7.9
Understanding government policies and plans that affect operations in NYC	8.5	7.9	6.7	8.3	6.7	7.6
Ability to influence environmental policy and zoning regulations to support ecosystem services in NYC	8.2	8.2	5.6	8.1	8.3	7.7
Scientific research on NYC's natural resources	7.9	7.3	6.7	7.8	8.3	7.6
AVERAGE	7.9	7.5	6.0	7.8	6.8	

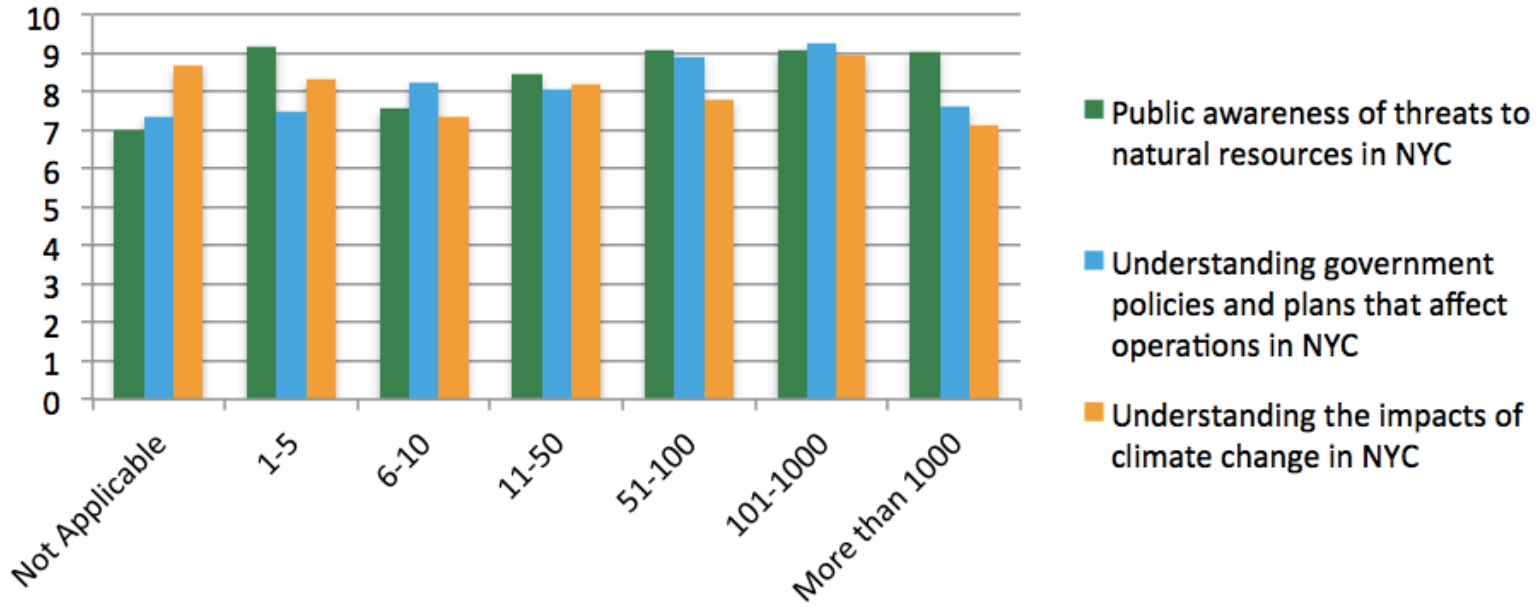
Capacities by Number of Paid Employees



Capacities by Number of Paid Employees

Capacities	Scale (paid)							
	Not Applicable	1-5	6-10	11-50	51-100	101-1000	More than 1000	AVERAGE
Public awareness of threats to natural resources in NYC	8.5	9.1	7.8	8.3	6.7	8.3	8.3	8.1
Understanding the impacts of climate change in NYC	7.9	8.5	7.8	8.1	8.3	7.5	9.2	8.2
Access to baseline data on natural resources (e.g. tree cover, biodiversity) in NYC	7.7	8.0	7.4	8.1	5.0	7.5	7.9	7.3
Access to maps of natural resources in NYC	7.5	7.5	7.0	6.9	5.0	6.7	8.3	6.9
Information about other environmental stewardship organizations working in NYC, including their geographic reach	7.1	8.3	6.7	6.9	5.0	5.8	7.1	6.6
Access to maps of private land in NYC, including brownfields and vacant lots	6.9	6.9	6.3	5.7	5.0	4.2	6.7	5.8
Stakeholder collaboration within NYC	7.8	8.3	7.8	7.6	5.0	4.2	8.3	6.9
Information about planned and existing real estate development in NYC	8.2	8.1	6.7	6.9	5.0	4.2	6.3	6.2
Government support for local stewardship efforts in NYC	8.6	9.0	8.1	8.8	5.0	6.7	8.8	7.7
Understanding government policies and plans that affect operations in NYC	8.3	8.8	8.5	8.3	6.7	6.7	8.3	7.9
Ability to influence environmental policy and zoning regulations to support ecosystem services in NYC	8.5	8.4	8.1	7.9	5.0	4.2	8.3	7.0
Scientific research on NYC's natural resources	8.1	7.9	8.1	6.9	6.7	6.7	7.5	7.3
AVERAGE	7.6	8.1	7.2	7.3	5.8	6.7	7.9	

Capacities by Number of Unpaid Employees



Capacities by Number of Unpaid Employees

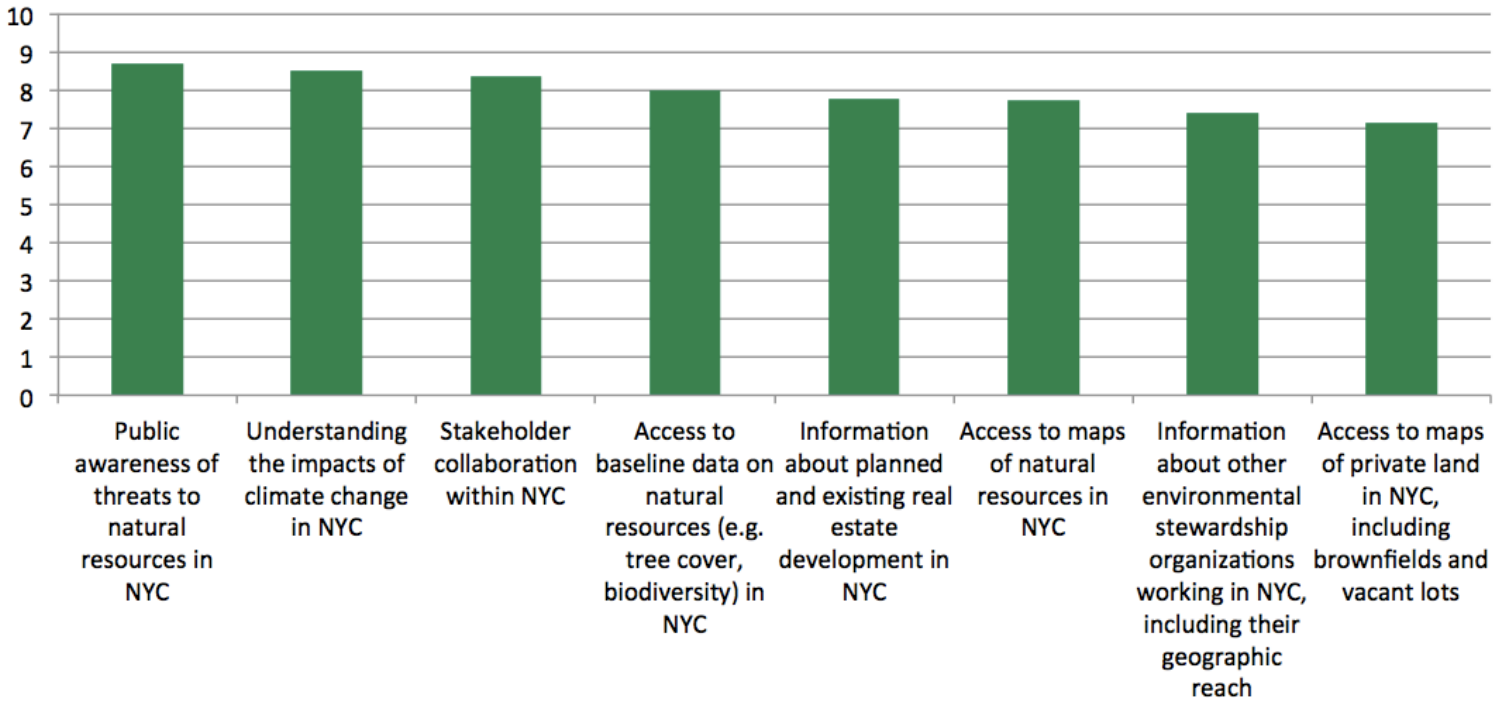
Capacities	Scale (unpaid)							
	Not Applicable	1-5	6-10	11-50	51-100	101-1000	More than 1000	AVERAGE
Public awareness of threats to natural resources in NYC	7.0	9.2	7.6	8.5	9.1	9.1	9.0	8.7
Understanding the impacts of climate change in NYC	8.7	8.3	7.3	8.2	7.8	8.9	7.1	8.0
Access to baseline data on natural resources (e.g. tree cover, biodiversity) in NYC	6.7	6.3	7.1	7.9	8.3	8.5	8.1	7.7
Access to maps of natural resources in NYC	6.7	6.3	7.1	7.4	7.3	8.2	7.1	7.2
Information about other environmental stewardship organizations working in NYC, including their geographic reach	5.3	7.1	6.7	7.7	7.0	8.3	7.1	7.3
Access to maps of private land in NYC, including brownfields and vacant lots	4.3	6.3	6.2	7.3	5.7	7.6	6.7	6.6
Stakeholder collaboration within NYC	7.3	7.1	6.4	8.7	7.8	8.2	7.1	7.6
Information about planned and existing real estate development in NYC	5.3	8.8	7.1	8.1	7.3	8.0	6.7	7.7
Government support for local stewardship efforts in NYC	7.0	8.3	8.0	8.7	8.9	9.4	8.1	8.6
Understanding government policies and plans that affect operations in NYC	7.3	7.5	8.2	8.1	8.9	9.2	7.6	8.3
Ability to influence environmental policy and zoning regulations to support ecosystem services in NYC	7.3	7.5	7.6	8.2	8.7	8.8	7.1	8.0
Scientific research on NYC's natural resources	7.3	6.7	7.8	7.7	7.6	8.8	7.1	7.6
AVERAGE	6.7	7.4	7.3	8.0	7.9	8.6	7.4	

Capacities by Geographic Scope

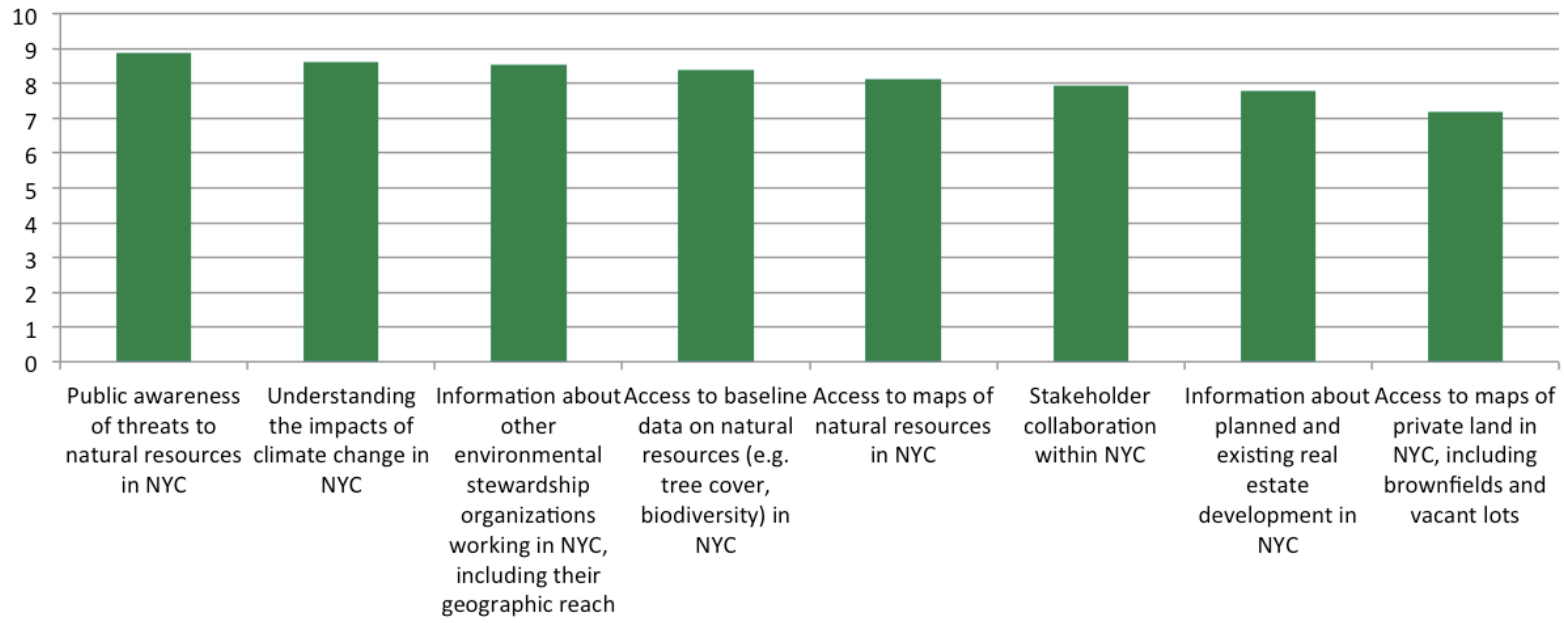
Capacities by Geographic Scope

Capacities	Reach: Region	State	City	Borough	Neighborhood	Globe	Country	AVERAGE
Public awareness of threats to natural resources in NYC	8.7	8.8	8.8	8.8	8.6	7.8	8.0	8.1
Understanding the impacts of climate change in NYC	7.6	7.9	8.2	7.6	8.0	9.4	9.3	8.9
Access to baseline data on natural resources (e.g. tree cover, biodiversity) in NYC	8.2	8.1	7.8	7.4	7.8	6.1	6.7	6.9
Access to maps of natural resources in NYC	7.5	7.8	7.2	7.5	7.4	6.7	6.7	6.9
Information about other environmental stewardship organizations working in NYC, including their geographic reach	6.5	7.3	7.5	8.0	7.8	6.1	5.3	6.4
Access to maps of private land in NYC, including brownfields and vacant lots	5.6	5.7	7.1	7.6	7.0	6.7	4.2	5.9
Stakeholder collaboration within NYC	7.8	7.7	8.0	8.2	7.9	7.3	5.8	7.0
Information about planned and existing real estate development in NYC	6.7	6.7	7.7	7.6	8.0	6.0	4.2	6.0
Government support for local stewardship efforts in NYC	8.1	8.8	8.9	8.9	8.5	8.9	8.0	8.5
Understanding government policies and plans that affect operations in NYC	8.3	8.2	8.6	8.7	8.5	7.2	7.3	7.7
Ability to influence environmental policy and zoning regulations to support ecosystem services in NYC	7.5	7.9	8.7	8.4	8.0	8.9	6.0	7.6
Scientific research on NYC's natural resources	7.7	7.6	8.0	8.6	7.9	7.8	8.0	7.9
AVERAGE	7.3	7.6	7.8	7.8	7.8	7.1	6.7	

Capacities by Areas and Natural Resources Managed



Capacities Important to Organizations Interested in Collaborating with The Nature Conservancy



Capacities Important to Organizations Interested in Collaborating

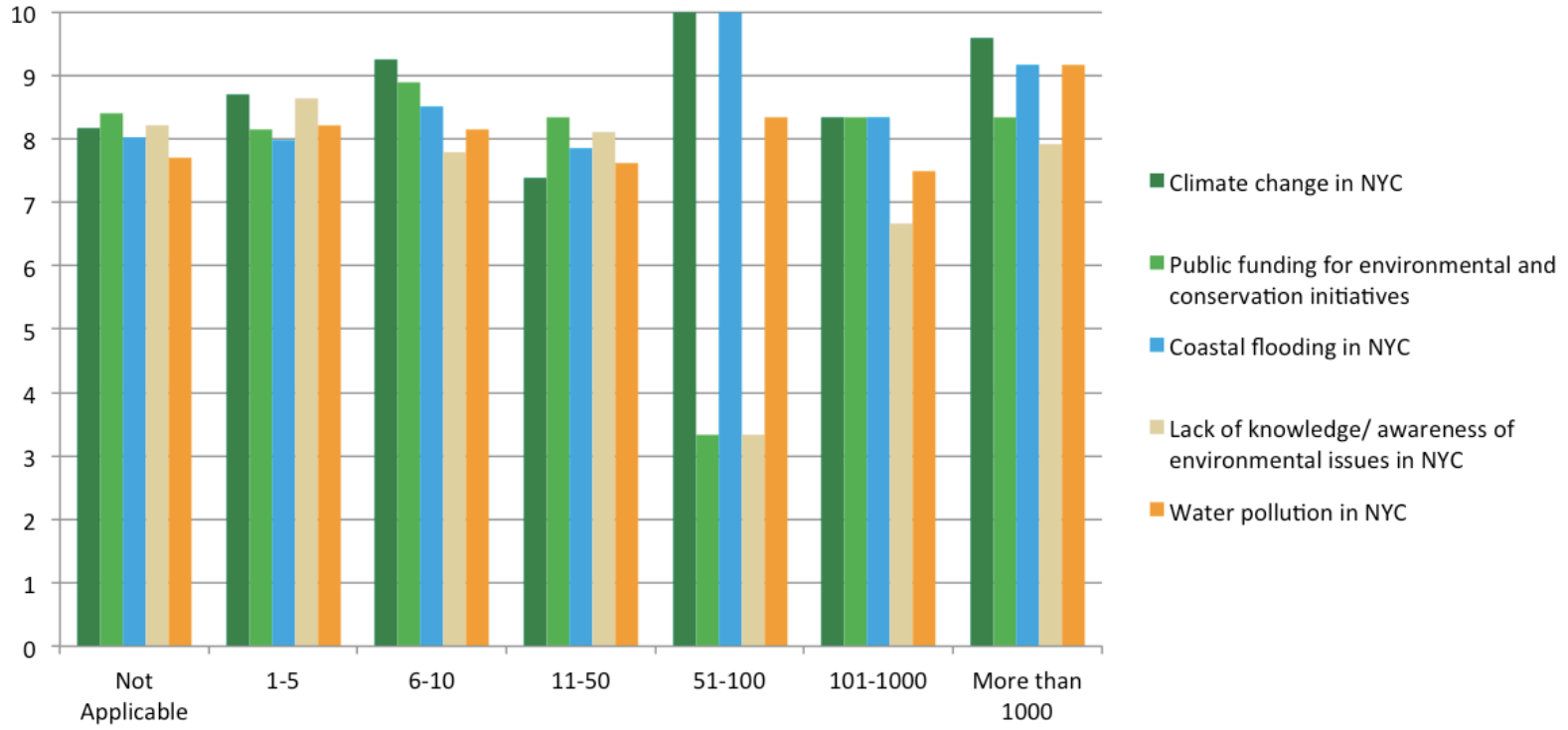
Capacities	Rating	Extremely Important	Important	Somewhat Important	Not Important	Unsure	TOTAL
Public awareness of threats to natural resources in NYC	8.9	28	9	2	0	0	39
Understanding the impacts of climate change in NYC	8.6	24	14	1	0	0	39
Information about other environmental stewardship organizations working in NYC, including their geographic reach	8.5	26	9	4	0	0	39
Access to baseline data on natural resources (e.g. tree cover, biodiversity) in NYC	8.4	21	17	1	0	0	39
Access to maps of natural resources in NYC	8.1	20	16	3	0	0	39
Stakeholder collaboration within NYC	7.9	21	13	4	1	0	39
Information about planned and existing real estate development in NYC	7.8	20	12	7	0	0	39
Access to maps of private land in NYC, including brownfields and vacant lots	7.2	17	12	9	1	0	39
Government support for local stewardship efforts in NYC	9.0	28	10	1	0	0	39
Understanding government policies and plans that affect operations in NYC	8.7	24	15	0	0	0	39
Ability to influence environmental policy and zoning regulations to support ecosystem services in NYC	8.1	23	11	4	1	0	39
Scientific research on NYC's natural resources	8.4	22	15	2	0	0	39

Threats by Organizational Type

Threats by Organizational Type

Threats	Type of Organization: Government	Non-profit / Civic	Private Firm	Other (Please specify)	Academic	AVERAGE
Climate change in NYC	9.4	8.3	10.0	8.4	8.3	8.9
Public funding for environmental and conservation initiatives	9.1	8.4	3.3	8.3	6.7	7.1
Coastal flooding in NYC	8.8	8.0	10.0	8.2	8.3	8.7
Lack of knowledge/ awareness of environmental issues in NYC	8.5	8.2	4.4	8.1	6.7	7.2
Water pollution in NYC	9.4	7.8	8.9	-	8.3	8.6
Coastal erosion in NYC	8.2	6.8	8.9	7.0	6.7	7.5
Loss of biodiversity in NYC	8.2	7.9	7.8	7.9	5.0	7.3
Extreme temperatures in NYC	7.6	7.1	7.8	7.1	6.7	7.2
Soil contamination in NYC	8.8	7.1	7.8	7.3	5.0	7.2
Litter in NYC	7.6	7.6	5.6	7.5	6.7	7.0
Lack of coordination among stakeholders to help manage natural resources in NYC	7.6	7.9	5.0	7.8	6.7	7.0
Environmental regulations in NYC	8.5	7.3	4.4	7.3	6.7	6.8
Development or land use changes in NYC	8.2	8.0	5.6	7.9	5.0	6.9
Invasive species in NYC	7.9	7.0	6.7	7.0	5.0	6.7
Lack of stewardship of natural resources in NYC	8.2	7.9	3.3	7.7	5.0	6.4
Lack of information and baseline data for natural resources in NYC	7.7	7.3	3.3	7.2	6.7	6.4
Overuse of the city's natural areas in NYC	7.3	6.6	4.4	6.6	5.0	6.0
Pests in NYC	6.4	6.0	6.7	6.0	3.3	5.7
Over-population in NYC	3.3	4.7	4.4	4.6	6.7	4.7
AVERAGE	7.9	7.4	6.2	7.3	6.2	

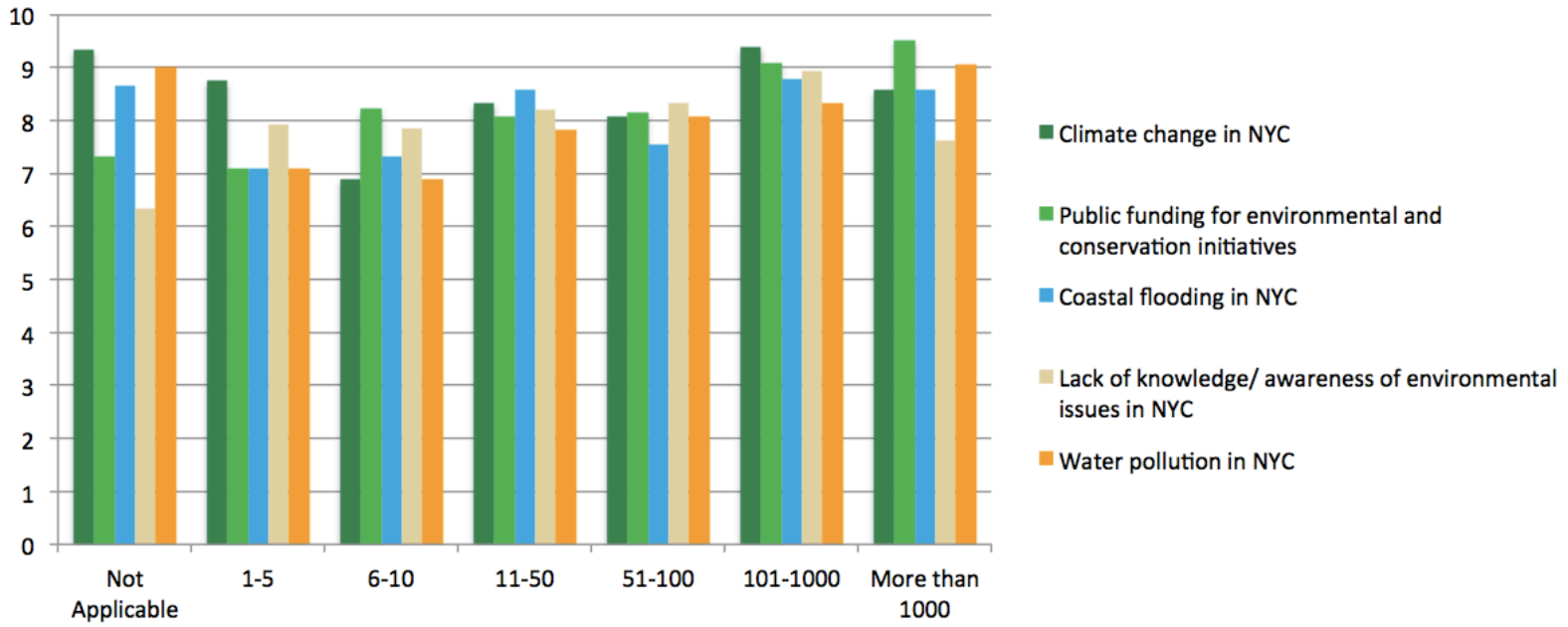
Threats by Number of Paid Employees



Threats by Number of Paid Employees

Threats	Scale (paid)							
	Not Applicable	1-5	6-10	11-50	51-100	101-1000	More than 1000	AVERAGE
Climate change in NYC	8.2	8.7	9.3	7.4	10.0	8.3	9.6	8.9
Public funding for environmental and conservation initiatives	8.4	8.1	8.9	8.3	3.3	8.3	8.3	7.6
Coastal flooding in NYC	8.0	8.0	8.5	7.9	10.0	8.3	9.2	8.6
Lack of knowledge/ awareness of environmental issues in NYC	8.2	8.6	7.8	8.1	3.3	6.7	7.9	7.1
Water pollution in NYC	7.7	8.2	8.1	7.6	8.3	7.5	9.2	8.2
Loss of biodiversity in NYC	7.9	7.9	7.8	7.9	8.3	7.5	7.9	7.9
Lack of coordination among stakeholders to help manage natural resources in NYC	7.9	8.1	6.7	7.6	6.7	8.3	7.5	7.5
Soil contamination in NYC	7.1	7.9	5.9	6.2	8.3	7.5	8.8	7.4
Litter in NYC	7.8	8.3	6.3	5.5	6.7	7.5	8.3	7.1
Development or land use changes in NYC	8.8	7.7	7.0	6.9	5.0	5.8	8.8	6.9
Lack of stewardship of natural resources in NYC	7.6	8.8	7.8	7.4	3.3	7.5	7.1	7.0
Extreme temperatures in NYC	7.0	7.4	6.3	6.7	8.3	7.5	8.3	7.4
Coastal erosion in NYC	7.1	6.8	7.0	6.9	8.3	5.8	8.3	7.2
Invasive species in NYC	6.8	7.1	6.3	7.4	6.7	6.7	7.9	7.0
Environmental regulations in NYC	7.4	7.5	7.4	6.9	3.3	5.0	9.2	6.6
Lack of information and baseline data for natural resources in NYC	7.9	6.4	6.7	7.1	3.3	6.7	8.6	6.5
Overuse of the city's natural areas in NYC	7.0	7.0	5.9	5.2	5.0	5.0	7.5	6.0
Pests in NYC	6.6	5.6	4.6	5.2	6.7	5.0	7.9	5.8
Over-population in NYC	5.0	5.7	4.2	1.5	5.0	3.3	4.4	4.0
AVERAGE	7.5	7.6	7.0	6.7	6.3	6.8	8.1	

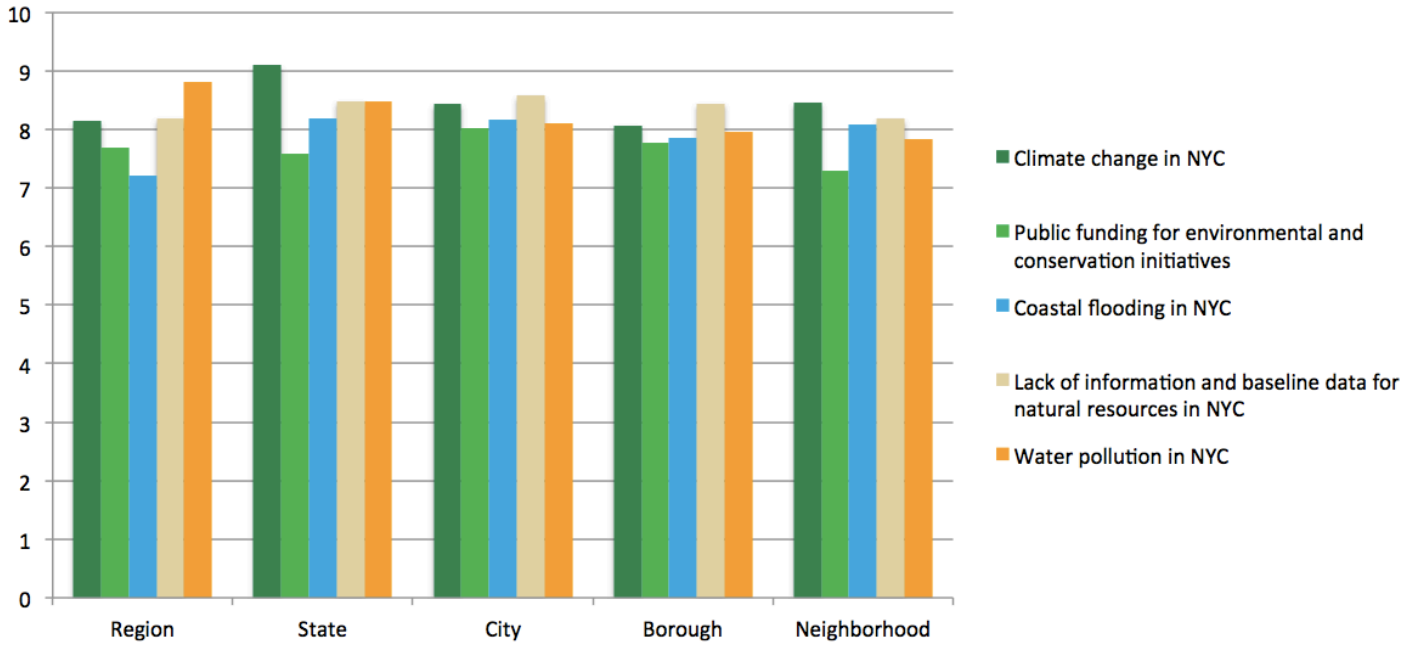
Threats by Number of Unpaid Employees



Threats by Number of Unpaid Employees

Threats	Scale (unpaid)							
	Not Applicable	1-5	6-10	11-50	51-100	101-1000	More than 1000	AVERAGE
Climate change in NYC	9.3	8.8	6.9	8.3	8.1	9.4	8.6	8.3
Public funding for environmental and conservation initiatives	7.3	7.1	8.2	8.1	8.1	9.1	9.5	8.4
Coastal flooding in NYC	8.7	7.1	7.3	8.6	7.5	8.8	8.6	8.0
Lack of knowledge/ awareness of environmental issues in NYC	6.3	7.9	7.9	8.2	8.3	8.9	7.6	8.1
Water pollution in NYC	9.0	7.1	6.9	7.8	8.1	8.3	9.0	7.9
Development or land use changes in NYC	6.3	7.1	7.3	7.9	8.2	8.6	9.0	8.0
Lack of coordination among stakeholders to help manage natural resources in NYC	5.9	7.1	7.1	8.1	8.0	8.9	7.1	7.7
Loss of biodiversity in NYC	7.7	6.3	6.0	8.5	8.1	8.9	7.6	7.6
Lack of stewardship of natural resources in NYC	5.0	6.7	7.1	8.3	8.1	8.6	8.1	7.8
Litter in NYC	6.7	7.9	6.9	7.4	8.1	7.7	7.6	7.6
Environmental regulations in NYC	6.3	6.7	7.6	7.1	8.2	7.4	7.6	7.4
Soil contamination in NYC	7.3	6.7	6.7	7.3	6.7	7.7	9.0	7.3
Coastal erosion in NYC	7.7	6.7	6.4	6.9	6.7	7.7	7.1	6.9
Extreme temperatures in NYC	7.7	5.4	7.3	7.2	6.5	7.9	7.1	6.9
Lack of information and baseline data for natural resources in NYC	6.3	5.4	6.2	7.7	7.2	8.5	6.7	6.9
Invasive species in NYC	6.7	6.3	5.3	8.0	6.3	8.0	7.1	6.8
Overuse of the city's natural areas in NYC	5.7	5.4	5.8	7.3	6.1	7.4	7.1	6.5
Pests in NYC	5.6	6.3	5.8	6.2	5.3	6.5	6.7	6.1
Over-population in NYC	3.8	5.0	4.4	5.2	4.0	4.4	5.0	4.7
AVERAGE	6.8	6.7	6.7	7.6	7.2	8.1	7.7	

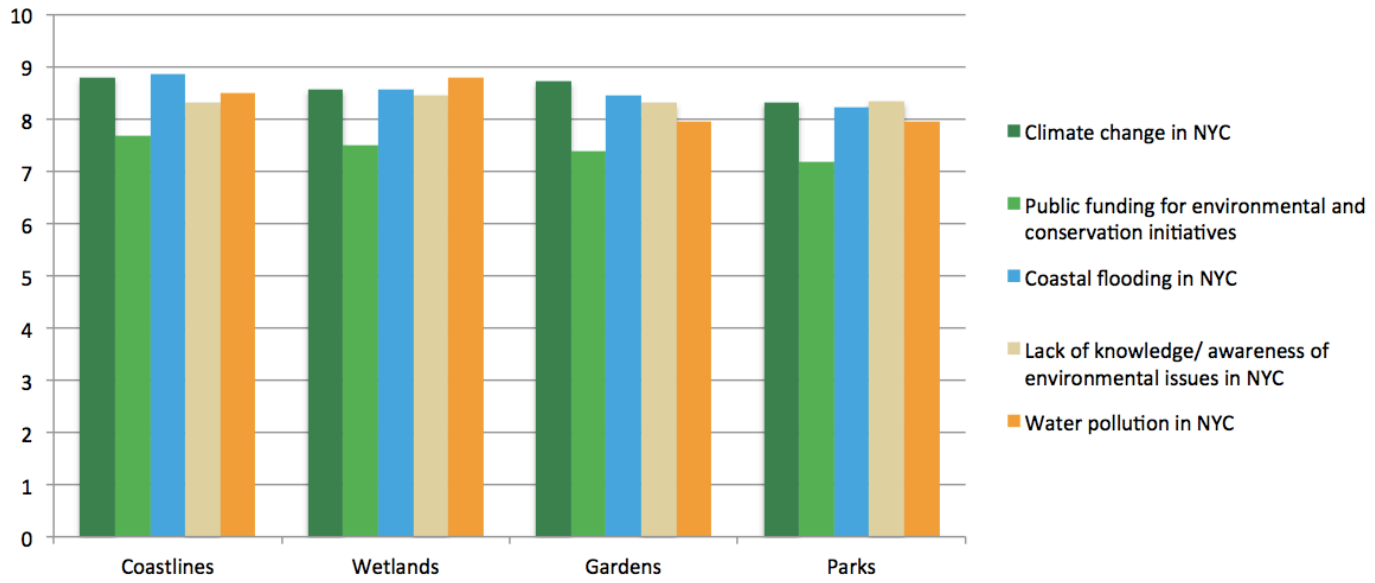
Threats by Geographic Scope



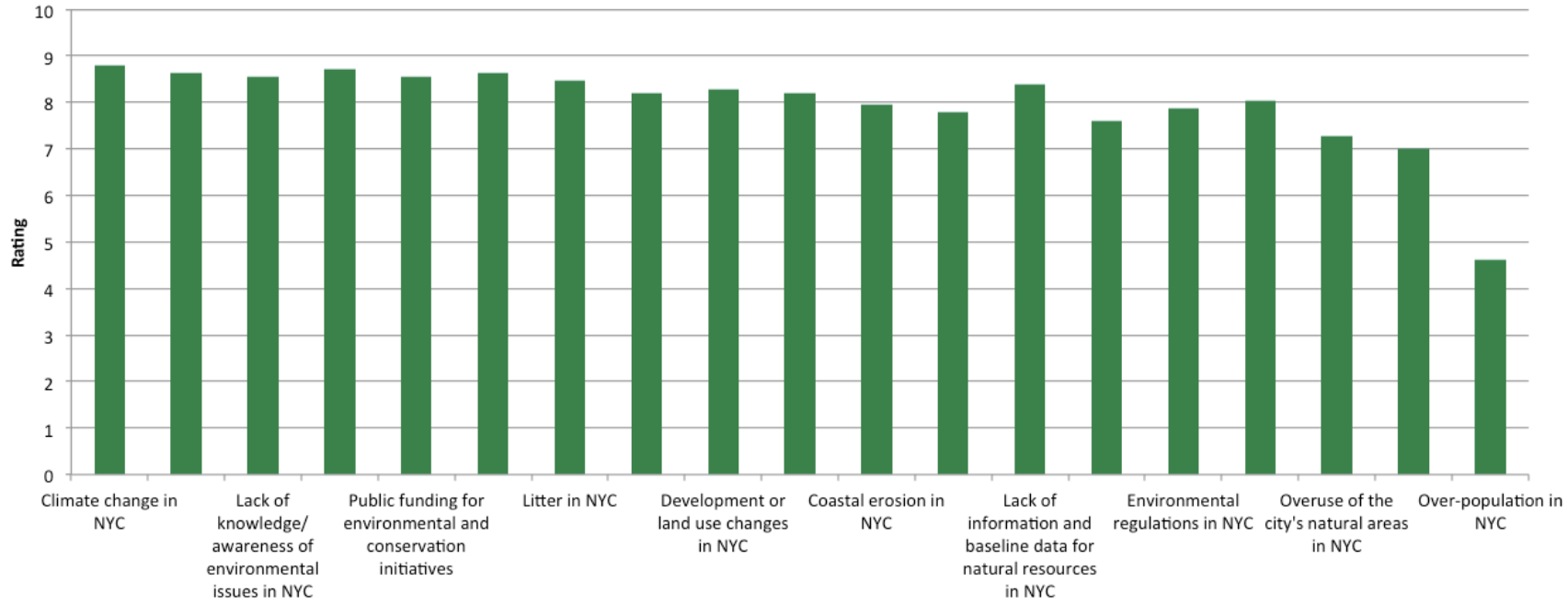
Threats by Geographic Scope

Threats	Reach							
	Region	State	City	Borough	Neighborhood	Country	Globe	AVERAGE
Climate change in NYC	8.1	9.1	8.4	8.1	8.5	10.0	8.9	9.1
Public funding for environmental and conservation initiatives	7.7	7.6	8.0	7.8	7.3	5.3	7.2	6.6
Coastal flooding in NYC	7.2	8.2	8.2	7.8	8.1	10.0	8.9	9.0
Lack of information and baseline data for natural resources in NYC	8.2	8.5	8.6	8.4	8.2	6.7	7.8	7.5
Water pollution in NYC	8.8	8.5	8.1	8.0	7.8	7.3	8.9	8.0
Lack of knowledge/ awareness of environmental issues in NYC	8.4	8.5	8.4	8.4	8.1	6.7	7.8	7.5
Loss of biodiversity in NYC	8.0	7.6	7.9	8.2	7.8	9.3	6.1	7.8
Lack of stewardship of natural resources in NYC	7.6	7.6	7.8	7.9	8.1	6.7	6.7	7.1
Environmental regulations in NYC	7.6	7.6	7.8	7.9	8.1	6.7	6.7	7.1
Extreme temperatures in NYC	6.7	8.2	7.4	7.2	7.3	8.0	7.8	7.7
Lack of coordination among stakeholders to help manage natural resources in NYC	7.7	7.6	7.2	7.8	7.3	7.3	6.1	6.9
Development or land use changes in NYC	7.6	8.2	8.6	8.2	8.2	4.7	6.1	6.3
Litter in NYC	6.8	6.7	7.1	8.1	8.0	7.3	6.1	7.2
Invasive species in NYC	6.5	7.6	7.1	8.0	7.3	8.7	5.0	7.0
Soil contamination in NYC	6.5	7.3	7.3	7.3	7.7	7.3	7.2	7.4
Coastal erosion in NYC	6.9	7.0	6.9	7.0	7.0	7.3	6.1	6.8
Overuse of the city's natural areas in NYC	6.3	7.0	7.1	8.0	7.4	5.3	4.4	5.7
Pests in NYC	4.8	5.8	6.0	6.9	6.8	5.3	3.3	5.2
Over-population in NYC	3.8	4.3	4.4	5.7	5.3	3.3	3.9	4.2
AVERAGE	7.1	7.5	7.5	7.7	7.6	7.0	6.6	

Threats by Areas and Natural Resources Managed



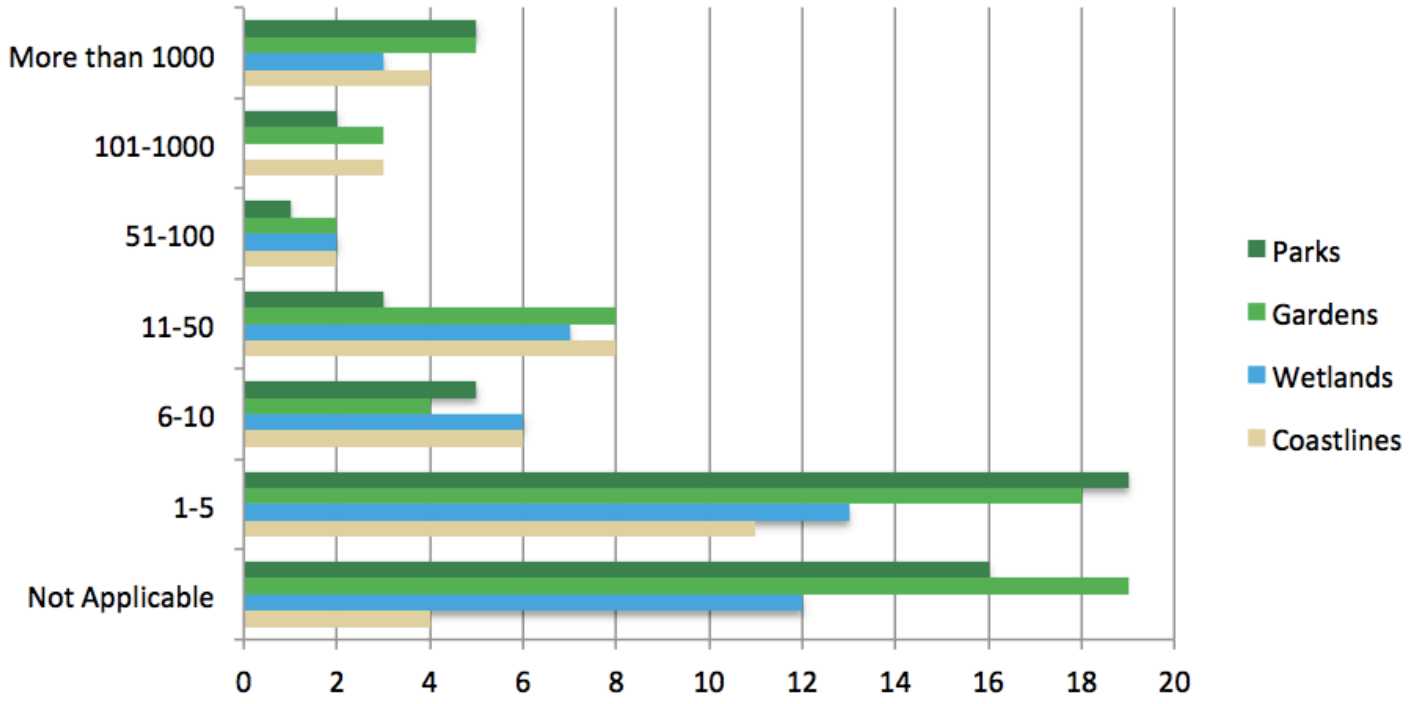
Threats Important to Organizations Interested in Collaborating with The Nature Conservancy



Threats Important to Organizations Interested in Collaborating with The Nature Conservancy

Threats	Rating	Extremely Concerned	Concerned	Somewhat Concerned	Not Concerned	Unsure	TOTAL
Climate change in NYC	8.8	28	8	3	0	0	39
Coastal flooding in NYC	8.6	28	7	3	1	0	39
Lack of knowledge/ awareness of environmental issues in NYC	8.5	23	15	1	0	0	39
Water pollution in NYC	8.7	27	9	3	0	0	39
Public funding for environmental and conservation initiatives	8.5	24	13	2	0	0	39
Loss of biodiversity in NYC	8.6	23	16	0	0	0	39
Litter in NYC	8.5	27	6	6	0	0	39
Lack of stewardship of natural resources in NYC	8.2	21	15	3	0	0	39
Development or land use changes in NYC	8.3	25	9	4	1	0	39
Lack of coordination among stakeholders to help manage natural resources in NYC	8.2	21	15	3	0	0	39
Coastal erosion in NYC	7.9	19	17	2	1	0	39
Invasive species in NYC	7.8	17	18	4	0	0	39
Lack of information and baseline data for natural resources in NYC	8.4	24	11	4	0	0	39
Extreme temperatures in NYC	7.6	19	14	4	2	0	39
Environmental regulations in NYC	7.9	18	18	2	1	0	39
Soil contamination in NYC	8.0	24	8	6	1	0	39
Overuse of the city's natural areas in NYC	7.3	17	12	10	0	0	39
Pests in NYC	7.0	15	14	9	1	0	39
Over-population in NYC	4.6	7	10	13	8	1	39

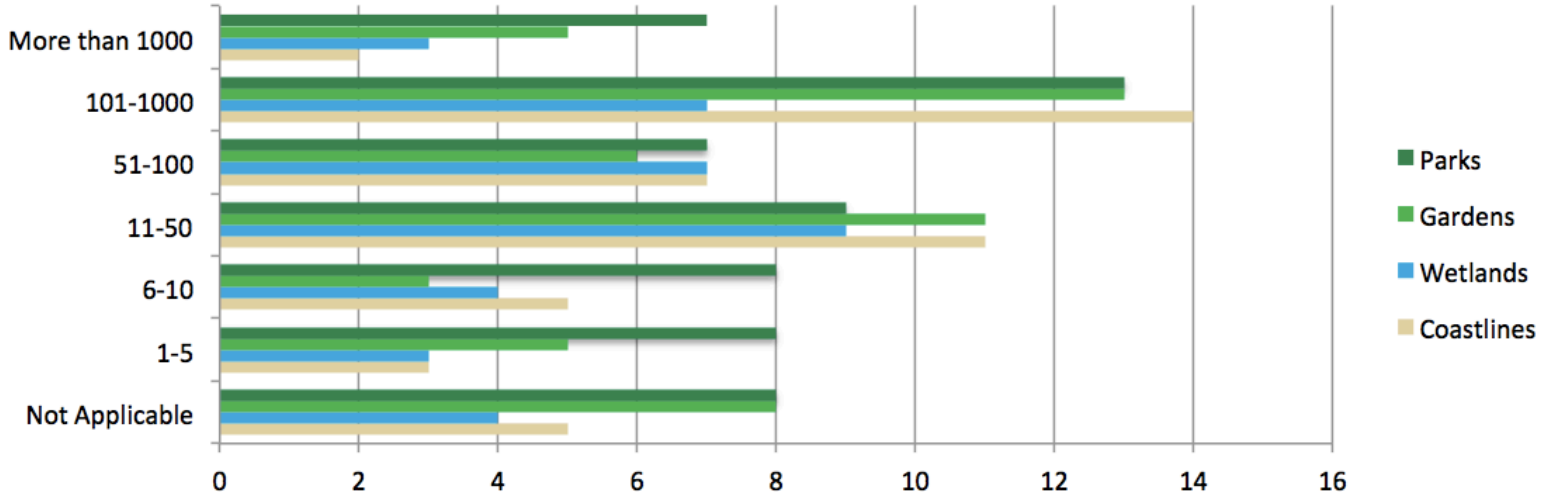
Natural Resources Managed by Number of Paid Employees



Natural Resources Managed by Number of Paid Employees

Natural Resource/ Space Managed	Scale (paid)							
	Not Applicable	1-5	6-10	11-50	51-100	101-1000	More than 1000	TOTAL
Other (Please specify)	0	4	0	0	0	0	0	4
Not Applicable	0	2	0	0	0	0	0	2
Rooftops	0	3	0	0	0	0	0	3
Green buildings	0	6	0	0	0	0	0	6
Housing grounds	0	3	1	5	1	1	1	12
Vacant lots	0	6	1	4	0	0	0	11
Brownfields	0	7	2	4	1	0	0	14
Watersheds / sewersheds	4	14	2	6	2	1	3	28
Streams and ponds	3	9	6	4	2	1	4	26
Estuaries	4	12	4	8	0	0	2	26
Rivers & harbors	4	12	7	9	2	3	5	38
Forests	13	8	7	10	2	2	5	34
Flora	16	9	4	8	2	3	5	31
Urban farms	20	10	3	9	2	2	4	30
Wildlife	18	11	3	9	2	2	5	32
Coastlines	4	11	6	8	2	3	4	34
Wetlands	12	13	6	7	2	0	3	31
Gardens	19	18	4	8	2	3	5	40
Parks	16	19	5	3	1	2	5	35
TOTAL	117	158	56	99	22	21	46	

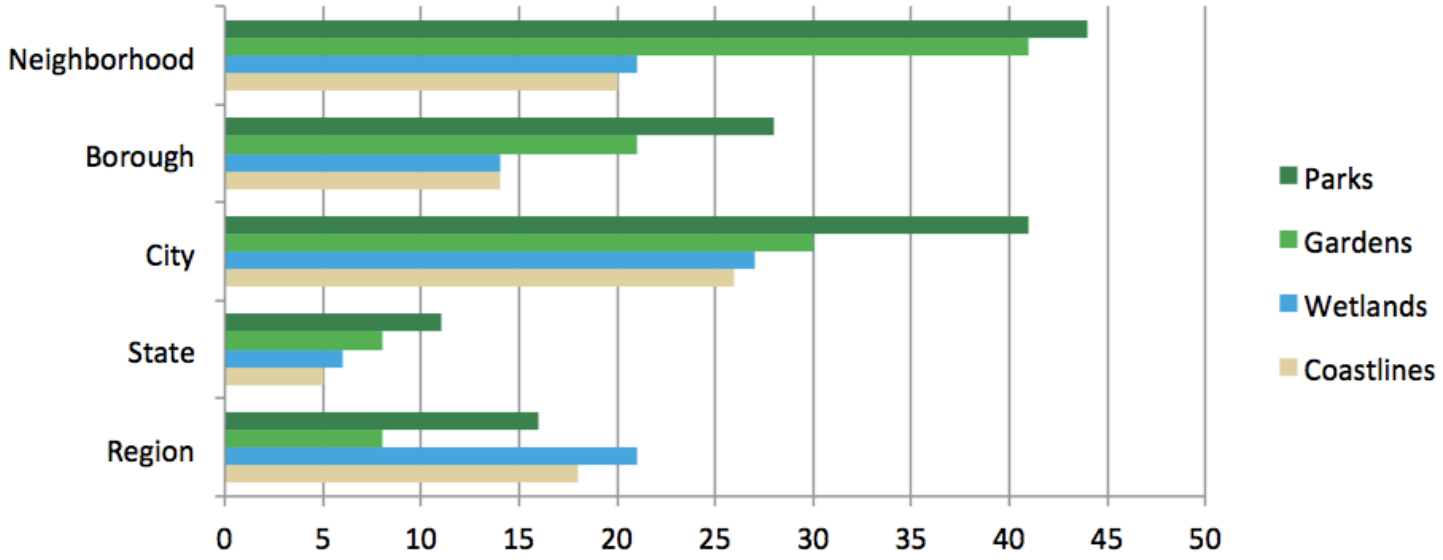
Natural Resources Managed by Number of Unpaid Employees



Natural Resources Managed by Number of Unpaid Employees

Natural Resource/ Space Managed	Scale (unpaid)							
	Not Applicable	1-5	6-10	11-50	51-100	101-1000	More than 1000	TOTAL
Rooftops	0	0	1	0	0	0	0	1
Not Applicable	0	0	0	0	0	0	0	0
Other (Please specify)	0	0	2	0	0	0	0	2
Green buildings	0	1	2	4	0	0	0	7
Vacant lots	0	2	3	2	3	0	0	10
Brownfields	0	1	4	2	1	0	0	8
Housing grounds	0	0	2	6	3	3	0	14
Streams and ponds	3	1	3	1	3	7	4	19
Watersheds / sewersheds	1	4	3	3	4	5	4	23
Estuaries	3	4	3	9	2	6	3	27
Urban farms	8	2	4	11	3	13	5	38
Rivers & harbors	2	1	7	12	8	12	6	46
Flora	8	2	3	10	10	15	5	45
Forests	8	1	6	10	9	13	6	45
Wildlife	8	3	5	7	9	12	6	42
Coastlines	5	3	5	11	7	14	2	42
Wetlands	4	3	4	9	7	7	3	33
Gardens	8	5	3	11	6	13	5	43
Parks	8	8	8	9	7	13	7	52
TOTAL	66	41	68	117	82	133	56	

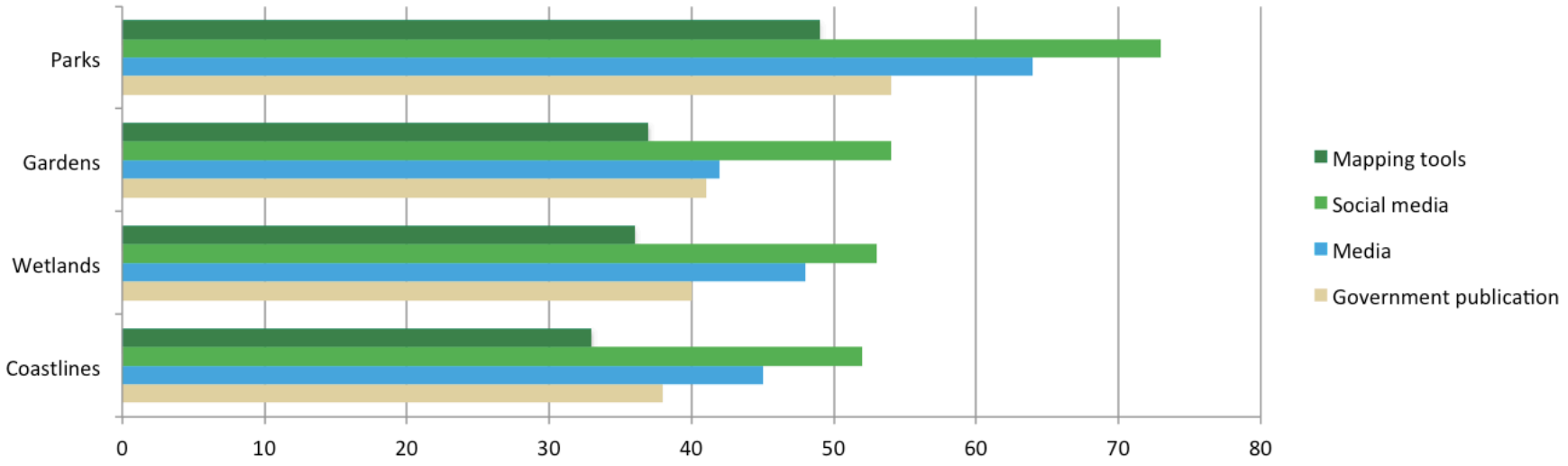
Natural Resources Managed by Geographic Scope



Natural Resources Managed by Geographic Scope

Natural Resources Central to Respondent's Work	Reach							
	Region	State	City	Borough	Neighborhood	Country	Globe	TOTAL
Not Applicable	1	0	0	0	1	0	0	1
Other (Please specify)	3	3	4	3	5	1	2	8
Rooftops	2	4	10	5	4	1	0	5
Housing grounds	3	3	10	6	8	0	0	8
Brownfields	6	3	8	5	9	3	3	15
Green buildings	1	4	12	7	9	1	3	13
Vacant lots	5	3	14	8	19	2	1	22
Urban farms	3	4	20	10	21	1	1	23
Forests	12	6	20	12	16	4	1	21
Streams and ponds	16	5	21	13	14	5	3	22
Wildlife	12	5	22	13	24	3	2	29
Rivers & harbors	18	5	25	12	16	5	3	24
Watersheds / sewersheds	19	7	21	12	19	5	3	27
Estuaries	19	5	26	13	17	5	3	25
Flora	8	5	25	16	26	3	2	31
Coastlines	18	5	26	14	20	5	3	28
Wetlands	21	6	27	14	21	5	3	29
Gardens	8	8	30	21	41	2	1	44
Parks	16	11	41	28	44	5	1	50
TOTAL	191	92	362	212	334	56	35	

Tools Used by Organizations by Natural Resources Managed



Capacities Important to Organizations that Use a Mapping Tool, by Organizational Type

	Type of Organization				
	Government	Non-profit / Civic	Private Firm	Academic	Other (Please specify)
Public awareness of threats to natural resources in NYC	8.9	8.7	6.7	6.7	-
Understanding the impacts of climate change in NYC	8.4	9.0	8.9	6.7	-
Access to baseline data on natural resources (e.g. tree cover, biodiversity) in NYC	8.4	7.0	5.6	6.7	-
Stakeholder collaboration within NYC	8.6	8.0	5.6	6.7	-
Information about planned and existing real estate development in NYC	8.3	6.3	4.4	6.7	-
Access to maps of natural resources in NYC	8.1	6.3	6.7	6.7	-
Information about other environmental stewardship organizations working in NYC, including their geographic reach	7.7	7.0	4.4	6.7	-
Access to maps of private land in NYC, including brownfields and vacant lots	7.6	5.3	5.6	6.7	-
Government support for local stewardship efforts in NYC	9.1	8.7	5.6	6.7	-
Understanding government policies and plans that affect operations in NYC	9.0	8.0	6.7	6.7	-
Ability to influence environmental policy and zoning regulations to support ecosystem services in NYC	8.7	8.7	5.6	6.7	-
Scientific research on NYC's natural resources	8.3	7.3	6.7	6.7	-