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The organisational structure of urban environmental stewardship

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How is the organisational structure of urban environmental stewardship groups related to the diverse ways that civic stewardship is taking place in urban settings? The findings of the limited number of studies that have explored the organisational structure of civic environmentalism are combined with the research on civic stewardship to answer this question. By bridging these relatively disconnected strands of research and testing their expectations on a structured sample of civic groups that were surveyed in New York City, a statistically significant relationship is found between the organisational structure of groups and both the organisational characteristics, as well as the types of environmental work they are doing. How these findings advance the research on urban environmental stewardship is discussed, as well as what these results tell us about the ways civil society engages in urban stewardship more broadly.

Keywords: urban stewardship; local environmentalism; civil society organisations

Introduction

In their report on 'Everyday Choices: Opportunities for Environmental Stewardship', the US Environmental Protection Agency's Innovation Action Council begins: 'We believe environmental stewardship offers great potential for solving some of our most challenging problems and that it can help galvanize collaborations with a broader range of stakeholders' (US EPA 2005). As the report outlines, environmental stewardship has emerged as a leading tool for communities to contribute to the sustainability of their local environments. Although this policy report looks at efforts to reduce environmental impacts by a range of stakeholders, including those from the civil society and business sectors, recent scholarship has focused specifically on civic environmentalism and social movement activity at the local level (see

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particularly Weber 2000, Kempton *et al*. 2001, Sirianni and Friedland 2001, Horton 2004, Corburn 2005, Andrews and Edwards 2005, Kramer 2007, Svendsen and Campbell 2005, 2008). Even with these recent studies, however, local civic efforts are not well understood. In particular, although local policymakers are often mandated to allow for public comment by civic groups in the development of policy, scholars have found that citizen groups are often marginalised or excluded from meaningful involvement in public decision-making on environmental issues (John 1994, Fischer 2000, Chaskin *et al*. 2001).

Also, it is still unclear what civic groups actually serve as environmental stewards, conserving, managing, monitoring, advocating for, and educating local people about a wide range of quality-of-life issues related to public and private resources in their local areas. Research has found local environmental groups to have a diversity of organisational structures, with many of them employing paid staff (e.g. Salazar 1996, Andrews and Edwards 2005, see also Brulle 2000). Although studies have assessed the differences in the organisational structure of local environmental groups, they have yet to do so within an urban context. In addition, research has not explored how the structure of these groups is related to the ways that organisations actually steward their local environments. Accordingly, this article combines two relatively disconnected literatures to provide a more nuanced understanding of urban environmental stewardship. Through this approach, we are able to assess how the structure of urban environmental stewardship is related to both the organisational characteristics of these groups and the ways they actually steward.

Building on the research on civic stewardship and the limited number of studies that come from a social movements perspective to understand the organisational structure of local environmentalism, this study presents the results of a census of civic stewardship groups in one of the largest cities in the world and the largest city in the United States: New York City. It is separated into three sections. First, we review the ways that scholars from these two perspectives have studied environmental stewardship. This section presents two hypotheses that are derived from these literatures and proposes a third hypothesis that bridges these separate strands of research to understand urban environmental stewardship more fully. Second, we present the results of our study of stewardship groups in New York City. Third and finally, we discuss how our findings advance the research on urban environmental stewardship, as well as what these results teach us about environmental stewardship in New York City specifically.

Understanding environmental stewardship

In the decades following the first Earth Day and the establishment of new regulatory frameworks governing the environment, organisations and individuals from American civil society have struggled to work formally within the emerging environmental protection, restoration and management regimes

(Hays 1989, Dunlap and Catton 1994, Shabecoff 2003, John 2004). During this post-1970s era, civic environmentalism has tended to take the form of social movements that combined the issues of conservation, civil rights, anti-toxics, and social justice (e.g. Bullard 1990, Schnaiberg and Gould 1994, Szasz 1994, Cable and Cable 1995, Epstein 1997, Libby 1998, Brulle 2000, Mertig *et al.* 2001, Dunlap 2002). More recently, however, scholars have identified a trend in civic environmentalism that has emerged in response to a much wider range of socio-cultural desires, environmental conditions, perceived risks and economic opportunities (e.g. Brechin and Kempton 1994, Beck 1995, 1997, Mol 2000, Evans 2002, O'Rourke and Macy 2003). Although concern for the environment remains the primary focus for many civic groups, issues related to ecological restoration and environmental protection have become embedded within larger, quality-of-life concerns for numerous organisations and informal groups representing a wide variety of sectors, scales, geographies and notions of sustainability. In the words of Kempton and his colleagues (2001, p. 558): 'local groups are also the key to building the social and cultural infrastructure necessary for sustained environmental practices' (see also Greenberg 2005, US EPA 2005).

It is this perspective on environmentalism that we aim to capture when we explore environmental stewardship. We define environmental stewards as civic groups that conserve, manage, monitor, advocate for, and educate about a wide range of quality of life issues in urban areas.[1] This definition includes all of the functions of civic environmental engagement that are possible in an urban context. These functions are pursued by expressly environmental groups (e.g. park conservancy groups, community garden groups, or harbour estuary groups), as well as other civic groups that take on environmental issues (e.g. block associations that do tree plantings and maintenance, or youth groups that conduct neighbourhood park clean-ups).

There are two distinct strands of research in this area that are relevant to our study. On the one hand, many studies of environmental movements and civic groups have focused on more traditional tactics, such as lobbying, letter writing, media campaigns, protests, boycotts, sit-ins, as well as Internet-based tactics (e.g. Gould *et al.* 1996, Coban 2003). On the other hand, and in contrast to these studies that tend to come from a social movements perspective, there is a growing body of work that incorporates elements of civic education, self-help, and community capacity-building to contribute to the environmental restoration and sustainability of local communities through participation in collaborative, locally based resource management (e.g. Burch and Grove 1993, Westphal 1993, Shutkin 2000, Sirianni and Friedland 2001, Evans 2002, Sirianni 2006, see also Lichterman 1996, Mertig *et al.* 2001). This paper bridges these two relatively disconnected literatures to look at how environmental stewardship groups in urban settings are organised and how their specific organisational structure is related to the ways they actually steward. In the pages that follow, we review these strands of the research and present three hypotheses that will be tested in our study.

Civic stewardship

Research coming from what we are calling the 'civic stewardship' perspective focuses on how locally grounded civic groups around the United States have responded to public problems by working along with, and outside of government agencies and the private business sector (see particularly John 1994, Sirianni and Friedland 2001, Sirianni 2006, Svendsen and Campbell 2008). It is this type of collaborative, site-specific work that makes up the central component of most environmental stewardship today. Such research has focused specifically on the stewardship taking place in urban parks (e.g. Cranz 1982, Rosenzweig and Blackmar 1992, Cranz and Boland 2004), urban gardens (Lawson 2005), and urban greenways (Svendsen 2010).[2] As this literature shows, a diversity of civic groups are taking action to manage ecosystems, protect human and ecosystem health, and educate broader publics through what has come to be known as 'civic innovation' (Boyte 1999, Sirianni and Friedland 2001, Boyte 2004). Boyte (2004, p. 5), for example, notes a shift in the role of the public as citizens, whereby 'people [see] themselves as the co-creators of democracy, not simply as customers or clients, voters, protestors, or volunteers'. In particular, citizens get involved in politics and decision-making through their actual work.

Even though the reach of these civic associations is broad, the efforts are primarily visible at the local scale where abstract environmental principles and values intersect immediate quality-of-life concerns. Such a vibrant 'backyard' environmentalism in the United States goes well beyond NIMBYism (not in my backyard) and the rubric of environmental justice (for a discussion of these types of movements, see e.g. Bullard 1990, Freudenberg and Steinsapir 1992, Boone *et al.* 2009). Civic stewardship includes groups that are proactively managing sections of the landscape and planning for sustainability, both in urban and rural areas (Grove and Burch 1997, Weber 2000, Dalton 2001, Agyeman and Angus 2003). Such stewardship is taking place in a diversity of areas and on a diversity of site types (see particularly Grove *et al.* 2005, Svendsen and Campbell 2008).

The importance of locally based stewardship becomes all the more visible in urban settings, where many environmental problems tend to emerge and people live in very close proximity to one another (Molotch *et al.* 2000, Evans 2002, Klinenberg 2002, see also Shutkin 2000, Checker 2001). It is within this setting that dense networks of environmental stewards create, manage and maintain land within an increasingly complex mix of property jurisdictions, regulations, and user demands. The emergence of civic innovation as it is embodied in stewardship groups working in urban settings has the capacity to contradict the many scholars who have concluded that participation in civic associations is declining in America, as is the number of civic organisations (Putnam 1995, 1996, 2000, but see Paxton 1999, 2002, Rotolo 1999, Skocpol and Fiorina 1999, Fischer 2005). Putnam (1995, 2000) actually discusses environmental groups as an example of what he calls 'countertrends' in his observations of America's declining social capital. However, his analysis

focuses specifically on national environmental organisations that have paid members (see particularly Putnam 2000, chapter 9).

Sirianni and Friedland (2001, p. 86) focus their attention on local civic environmentalism more broadly. They point out that such groups 'operate through many specific forms . . . civic environmentalism has increasingly engaged the energies of long-established environmental groups and civic associations, as well as community development groups and neighborhood associations'. Building on the results of this literature we present our first hypothesis:

> Civic stewardship groups are numerous and steward their local environments over diverse areas in varied ways.

Local environmentalism

Although the literature on civic stewardship discusses the manifold ways that groups steward their local environments, most of the research is based on case studies and tends to be relatively descriptive. Studying similar areas and organisations but coming from what we are calling the 'local environmentalism' perspective, there are a limited number of studies that use more structured samples of local environmental groups (e.g. Salazar 1996, Kempton *et al.* 2001, Andrews and Edwards 2005). Within this literature, the authors apply organisational characteristics that have been developed to understand social movement organisations and their levels of professionalisation/institutionalisation, with the aim of understanding how organisational structure is related to their activities (for a full discussion of the broader research on the professionalisation of social movement organisations see especially McCarthy and Zald 1977, Oliver 1983, Cable 1984, Jenkins and Eckert 1986, Staggenborg 1988, see also Andrews and Edwards 2004).

In their study of environmental groups in North Carolina, for example, Andrews and Edwards (2005, p. 224) look at how local organisations are structured, finding that they include voluntary groups, professional groups, and mixed groups, which 'have paid staff, but also rely on volunteers to carry out organizational activities and administration'. The authors conclude that, in contrast to professionalised groups that have a paid staff, voluntary groups, which have no paid staff, are the 'most distinctive organizational type' in terms of their involvement in coalitions, their involvement in partisan politics, and the plurality of environmental philosophies they hold (Andrews and Edwards 2005, p. 226).

Salazar (1996) also looks at the organisational structure of local environmentalism in her study of Washington State. In contrast to Andrews and Edwards' three categories of local environmental groups, Salazar (1996) compares 'grassroots groups' in the state, to the 24 groups that were most active in the state legislature in the 1987–1988 session, which she calls 'institutionalized groups'. The author concludes that 'the grassroots groups

have fewer members and smaller staffs, are less bureaucratized, and derive less of their revenue from external sources than the institutionalized groups' (Salazar 1996, p. 641, see also Carmin 1999 for a comparison between voluntary and professional groups in the environmental movement in America). Based on the findings from these two studies, we present our second hypothesis:

> The organisational structure of local stewardship groups is related to the groups' specific organisational characteristics.

Bridging these two literatures

As is becoming increasingly clear, environmental stewardship does not emerge from local civil society actors working in isolation. Instead, environmental stewardship is the product of collaboration among a much broader exchange of information and ideas, or what has been called the 'coevolution of environmental organizations and state institutions' (Andrews and Edwards 2005, p. 215, see also Hajer 1995, Evans 1996, Rose 2000, Woolcock and Narayan 2000, Spaargaren *et al*. 2006, Bomberg and Schlosberg 2008, p. 340). Urban environmental stewardship involves a combination of larger public agencies operating at the citywide, regional and state-scales along with civil society groups, which are both large formal non-profit organisations and informal community groups, operating in ecological regions, across cities, and in specific neighbourhoods. Although the extant research teaches us a lot about how organisational structure is related to organisational characteristics, as well as the diversity of ways stewardship happens, research has yet to explore how the organisational structure of civic stewardship is related to how, exactly, groups steward their local environments (but see Carmin 1999 for a comparison of environment issues addressed by professional and voluntary organisations in the United States).

This article, accordingly, builds on the findings from the research on civic stewardship and local environmentalism, combining them to understand more specifically how civic groups are working to steward their city. To that end, we present our third hypothesis, which is based on a combination of these two relatively disconnected literatures:

> The organisational structure of stewardship groups is related to the ways that groups steward their local environments.

In the sections that follow, we test the three hypotheses that are presented above by studying a structured sample of local environmental groups in an urban setting. These data were collected from the first urban stewardship census ever conducted in New York City. In the remainder of this article, we present our methodology, which is consistent with the literature on local environmentalism. Then, we present our analyses of these data on stewardship groups in New York City to test our hypotheses. We conclude by discussing how our approach helps us to understand urban civic stewardship better.

Case selection and research methods

This study focuses specifically on one of the largest cities in the world and the largest city in the United States – New York City – to explore the full breadth and complexity of the organisational structure of environmental stewardship in urban settings. It builds on the findings of a pilot assessment of urban stewardship in six cities in the north-eastern United States that was conducted in 2004 with the Urban Ecology Collaborative Research Committee to gain a deeper understanding of urban stewardship (for a full discussion, see Svendsen and Campbell 2008).

Sampling frame

The first phase of the project was devoted to enumerating the population for sampling. Building on the extant research on local environmentalism discussed above, this study focuses on civil society organisations, including both formal non-profits and informal community groups that serve any of the following stewardship functions: conserving, managing, monitoring, advocating for, or educating their friends, neighbours, or public officials about the local environment. As previous studies of local environmentalism have found national directories of non-profit groups to represent local groups inadequately (Kempton *et al*. 2001, Andrews and Edwards 2005, see also Andrews 1998, Brulle *et al*. 2007), we began our study by compiling a list of all stewardship groups in New York City. To develop the citywide sample of civic stewardship organisations, all of the public agencies and non-profits that work at the city-wide or borough-wide scale on issues related to the environment and natural resource management were approached with a request to utilise their lists of organisational partners. Using multiple sources to compile our list of organisations ensures that there are no potential biases in our data based on any particular source (see particularly Brulle *et al*. 2007). A snowball sampling method was also used, whereby each of these large scale data providers was asked to suggest additional potential data providers within the city, until we reached saturation. This approach was applied to capture the core network of stewardship groups that are connected to the citywide environment and natural resource management community (see Table 1 for a description of all of the databases used to develop the sampling frame).

Once the individual databases were gathered, we applied several criteria in constructing the sampling frame:

(1) location, groups outside of the five boroughs of New York City were removed, although we did include groups located in New York City whose reach was regional, national, or international;
(2) organisation status, individuals without a group affiliation were removed;
(3) civil society actors, we excluded all public agencies, private businesses, and quasi-governmental entities such as local community boards; and

Table 1. Data providers for lists of stewardship groups in New York City.

Data provider	Data description
American Littoral Society Captains	Citywide shoreline clean-up groups
Brooklyn Botanic Garden	Community gardens registered with the group and groups in 'greenest block in Brooklyn' contest
Citizens for New York City	Citywide community groups
Council on the Environment of New York City	Citywide community gardens
EarthPledge	Partners interested in green roofs
Environmental Protection Agency Region 2	2005 environmental education grant applicants and environmental justice grantee list
Forest Service NYC partners	Citywide stewardship groups
Historic Districts Council	Citywide historic preservation groups
Horticulture Society of New York partners	Citywide stewardship groups
Hudson River Foundation New York City Environmental Fund	Citywide non-profit and community group grantees
Just Food	Citywide community supported agriculture groups
National Environmental Directory – NY State	Statewide environmental groups
Neighborhood Open Space Coalition HUB website	Citywide stewardship groups
New York City Department of Parks and Recreation GreenThumb Program	Citywide community gardens
New York City Environmental Justice Alliance	Citywide environmental justice groups
New York City Housing Authority Garden and Greening Groups	Citywide gardens on public housing grounds
New York City Small Business Association	Citywide business improvement districts (BID) groups
New York City Soil and Water Conservation District	Citywide stewardship groups
New York City Zero Waste Campaign	Citywide participating members
New York Restoration Project	Citywide greening groups
New York-New Jersey Harbor Estuary Program	Estuary-wide stewardship groups
Open Accessible Space Information System meeting attendees	Citywide partners interested in open space mapping
Partnerships for Parks	Citywide park-based groups
Trees New York	Citywide tree stewardship groups
Trust for Public Land	Citywide 'cityspaces' groups and Citywide stewardship groups
United Neighborhood Houses	Citywide settlement houses
Urban Ecology Collaborative Education Group List - NYC	Citywide environmental education groups
Wave Hill Stewardship Partners	Citywide stewardship and environmental education groups

(4) complete addresses, groups with incomplete mailing information were removed from the sample.[3]

Unique identifiers were assigned at the beginning of this process to ensure accurate tracking of groups. In order to merge duplicate listings across different data providers, groups were matched by organisation name, contact name, and address. There is some possibility for error in this process due to the fact that informal groups tend to change names frequently. In some cases, groups were listed under different names by different data providers. However, every attempt was made to reconcile these duplicates and name changes. Starting with an initial N of 4788 groups, the application of these criteria and data clean-up resulted in a final N of 2796 groups.

Organisational survey

Next, we conducted a citywide census of all of the groups in the sample. The survey builds off of the previous research summarised above, asking questions about the organisations' stewardship activities, capacity, organisational characteristics, as well as where they engage in stewardship, and their ties to other civic organisations, businesses, and government agencies. The survey was pre-tested in one neighbourhood in New York City. After receiving a response rate of only 5% in this pre-test, the survey was refined, shortened, and re-designed, and a decision to conduct follow-up outreach phone calls was reached. The final survey was comprised of 20 questions, most of which were in a close-ended format. This article addresses those survey questions that are focused on the organisational characteristics of these groups and how they relate to their stewardship activities. The full survey instrument is available on the project website: http://www.cse.umd.edu/stew-map.html.

The citywide survey was administered both online (using SurveyMonkey) and via the US mail, with a standardised recruitment text, over a period of six months from July to December 2007.[4] Whenever possible, email was the preferred method of contact. If an organisation did not have an email address or the email address was determined to be invalid (i.e. 'bounceback' messages were received), organisations were then contacted via the US mail. All organisations received reminders: up to three reminders at intervals of two weeks via email, and one postcard reminder after one month via US mail. All organisations with a valid phone number in the database received follow-up phone call reminders over the course of the six months. In addition, a description of the study was included in local newsletters and listservs, including the Council on the Environment of New York City's newsletter and the New Yorkers for Parks' 'e-blast'. Overall, 506 groups participated in the stewardship census of New York City, representing a response rate of 18.3%. This response rate is within the common range for mail-in and Internet surveys of organisations (for a full discussion, see Hager *et al.* 2003).[5] The response rate was relatively consistent across the five boroughs of New York City.[6] Data

were entered into a spreadsheet and, where appropriate, given a numerical code. Data were analysed using PASW Statistics 17 (SPSS) statistical software.

Creating a professionalisation index

As has been previously mentioned, this article builds off of the limited work on local environmentalism in the United States to understand how the organisational structure of stewardship groups is related to organisational characteristics, as well as how these groups actually steward. To that end, we focus on the level of professionalisation of the groups that work as stewards in New York City. In her influential article from the *American Sociological Review*, Staggenborg (1988, p. 585) provides a definition: '"Professional" social movement organizations (SMOs) rely primarily on paid leaders and "conscience" constituents who contribute money and are paper members rather than active participants'. Building off of the work by Andrews and Edwards (2005, p. 224), we agree that the 'dichotomous conceptualization of professionalized versus voluntary does not reflect the major organizational forms in the environmental arena'. As a result, in this article, we add to Andrews and Edwards' interpretation and construct an index that reflects stewardship organisations' overall degree of professionalisation.

Although one of the most common indicators of the professionalisation of a group is its membership in terms of its supporters, respondents to the New York City stewardship census defined membership differently than the work on professionalisation, which tends to focus on 'paper members' (Staggenborg 1988, p. 585, see also Weir and Ganz 1997, Fisher 2006). For civic stewardship groups in New York City, members are the more active participants who earned their membership status by contributing time, labour, and expertise. One such example can be seen in the case of the numerous community gardens in New York City where membership is not based on financial contributions, it is based on work. In fact, over three-quarters of all of the respondents reported having more than 11 members (77.2%). Even though these numbers tell us something about stewardship in New York City, they do not tell us much about the groups' level of professionalisation. Thus, we do not include membership as part of the professionalisation index. Instead, the index includes two organisational characteristics: paid staff and annual budget.

Paid staff

Consistent with the study by Andrews and Edwards (2005, see also Salazar 1996, Carmin 1999), our professionalisation index includes a variable that reflects whether the staff of the organisation was paid. Respondents were given ranges for how many staff members their organisation employed. The ranges fall into five categories: 0–1, 2–3, 4–5, 6–10, and 11 or more; these categories were vetted with input from key stakeholders and the New York City environmental umbrella groups that were data providers for this study. These ranges were then

coded numerically from 1 to 5. Most stewardship groups in New York City reported having a small staff, if any at all. More than half of all of the groups reported having zero or one person working at the organisation (58%). Although the majority of the groups in New York City have few if any paid staff, almost a fifth of the groups reported having 11 or more paid staff members (19.7%).

Annual budget

Consistent with the work of Salazar (1996), we look at the budget of an organisation as another indicator of the level of professionalisation of the group. In our work, however, we look specifically at the *size* of the budget: without financial resources, professionalisation is not possible. Respondents were asked to identify the range for their organisations' budgets. Respondents were asked to situate their annual budgets within the categories that were developed and pretested in a multi-city pilot study of urban environmental stewardship (Svendsen and Campbell 2008). These categories were also vetted with input from key stakeholders. In order to maintain consistency with the data on paid staff and to simplify data analysis, they were then collapsed into five categories: $0– $1000, $1000–$10,000, $10,000–$100,000, $100,000–$1 million, and more than $1 million. Like the paid staff variable, these ranges were then coded numerically from 1 to 5. Over half of all of the civic stewardship groups reported having a budget of less than $10,000 (54.2%). On the other end of the spectrum, 11.6% of the organisations reported having an annual budget that was greater than $1,000,000.

Professionalisation index

The Professionalisation Index was constructed by taking the mean of each group's response to the paid staff and annual budget questions so that each group scored between 1 and 5. By taking the mean, an organisation with few paid staff but a high annual budget could score the same as a group with a smaller annual budget but many paid staff-members. To make our results more easily interpretable, the means were then collapsed into three categories: low, medium, and high. Groups with a mean of 1–2, were classified as low, groups with a mean of 2.5–3.5 were classified as medium, and groups with a mean of 4–5 were classified as high. Overall, the civic stewardship groups in New York City were not very professionalised: about 65% of the groups scored low on the index. However, about a fifth scored high on the index, meaning that they had a number of paid staff members and a large annual budget. The remaining 15% scored medium on the professionalisation index.

Results

Analysis of these data directly follows the three hypotheses developed from the literature. We begin by looking at the ways civic groups in New York City care

for the local environment, in terms of the physical site types in which they do their stewarding. Then, to understand the organisational structure of urban civic stewardship in New York City, we analyse how the professionalisation of these groups is related to their organisational characteristics. Finally, we look at how organisational structure is related to the ways that these groups engage in stewardship itself.

Where do they steward?

To test our first hypothesis, which is derived from the research on civic stewardship and predicts that stewardship groups will take care of a diversity of areas in their local environments, we look at where, exactly, groups in New York City steward their local environments. To restate our review of the literature, much of the work on civic stewardship focuses on specific site types, like parks or greenways. This paper, however, analyses data from a census of stewardship groups to get a better sense of how and where stewardship happens. Building off of the work of Grove *et al*. (2005) and Svendsen and Campbell (2008), an exhaustive list of urban stewardship site types was developed and then refined with input from key citywide stewardship groups. Consistent with the findings of these studies and with hypothesis 1, groups reported working in all different types of sites in and around New York City, across the landscape, water, and built environment. By looking at all of the stewardship groups working in New York City, we learn about the depth of stewardship activities taking place throughout the city and the distribution of these activities. The most common sites for stewardship were parks (41.3%), community gardens (40.5%), and street trees (23.9%). The least common sites for stewardship were rooftops (4.5%) and dog runs (3.8%). Table 2 presents these results.

Organisational characteristics

To test our second hypothesis, which builds on the limited studies of local environmentalism that have explored the organisational characteristics of these groups, we look at how the organisational structure of the groups – as operationalised by the professionalisation index – is related to specific organisational characteristics.

Tax status

We start with whether or not the groups have registered for formal non-profit, 501(c)3 tax status. This tax status is a specific provision of the US Internal Review code for non-profit organisations, which exempts eligible and registered organisations from some federal income taxes.[7] A little more than half of all of the participants in the civic stewardship census of New York City reported having 501(c)3 tax status (53.5%). In contrast to the work of Andrews

Table 2. Where these groups steward.

Site type	
Park	41.3% (209)
Community garden	40.5% (205)
Street tree	23.9% (121)
Waterfront/beach/shoreline	19.0% (96)
'Natural'/restoration area	17.4% (88)
Public right of way (e.g. street ends, roadside, traffic island, greenstreet)	17.2% (87)
Flower box/planter	15.0% (76)
Front yard/back yard	11.9% (60)
Watershed/sewershed	11.5% (58)
School yard	11.1% (56)
Vacant lLand	10.9% (55)
Stream/river/canal	10.5% (53)
Apartment grounds	7.5% (38)
Botanical garden	7.5% (38)
Greenway/rail-trail	7.5% (38)
Green building	7.1% (36)
Playing field/ballfield	6.7% (34)
Urban farm	6.5% (33)
Courtyard/atrium/plaza	5.3% (27)
Rooftop	4.5% (23)
Dog run	3.8% (19)

and Edwards (2005), who find no significant difference in the tax status of groups based on their organisational structure, we find significant differences in civic stewardship groups in New York City. In particular, most of the organisations without formal non-profit tax status scored low on the professionalisation index (90%); and most of the groups that had formal tax status scored medium to high on the professionalisation index (57.1%). It is likely that the difference between our results and those of Andrews and Edwards is due to differences in the organisational landscape in New York City. Although there are organisations, such as the Open Space Institute, that provide support to smaller organisations who may want to file for 501(c)3 status,[8] these results are what might be expected in a large urban area where more professionalised groups are likely to feel pressure to adhere to tax code. In a Pearson chi-square test, the results are very significant and the null hypothesis that groups had the same tax status whatever their levels of professionalisation is rejected ($\chi^2 = 99.341$ with 2 degrees of freedom). Table 3 presents these findings.

Age of the group

Also like earlier studies of local environmentalism (e.g. Salazar 1996, Andrews and Edwards 2005), we look at the relationship between the levels of professionalisation of the groups and the years that the groups were founded.

Table 3. Relationship between professionalisation and tax status ($N = 409$).

	Professionalisation score			
	Low	Medium	High	Pearson's χ^2
No 501(c)3	90.0% (171)	5.3% (10)	4.7% (9)	
Yes 501(c)3	42.9% (94)	22.8% (50)	34.2% (75)	
Total	265	60	84	99.341**

*Chi-square is significant at the 0.01 level. **Chi-square is significant at the 0.001 level.

Although respondents provided the exact year that each group was founded, the ages of the groups were collapsed into three categories based on the different stages of the environmental movement in America: before 1970, 1970–1990, and after 1990 (for a full discussion of these stages, see Mertig *et al.* 2001).

The results of the comparisons between the ages of the organisations and their levels of professionalisation are not particularly surprising. Most of the older groups that were founded prior to 1970 scored high on the professionalisation index (51.2%). The younger groups tended to score low on the index: more than half of the groups that were founded between 1970 and 1990 scored low on the index (59.2%) and an overwhelming majority of the groups that were founded since 1990 scored low on the index (72.0%). These results are consistent with Salazar's (1996, p. 630) study of environmental groups in Washington State, where she finds 'institutionalized' groups to be older than 'grassroots groups'.

The findings, however, are inconsistent with Andrews and Edwards' (2005, p. 225) study of local environmentalism in North Carolina, where the oldest groups in their sample fell into the category in between voluntary and professional. Also, in contrast to Andrews and Edwards' findings that the relationship between organisational age and organisational structure is not statistically significant, our analyses of stewardship groups in New York City is. Again, these differences may be the product of the organisational density in New York City: the groups that have survived the highly competitive civic environment in New York City are those that are more professionalised. In a Pearson chi-square test of when the organisations were founded, the results are very significant and the null hypothesis that the year of the organisations' founding were the same no matter their levels of professionalisation is rejected ($\chi^2 = 33.656$ with 4 degrees of freedom). Table 4 presents the comparison between the professionalisation of the organisations and the years they were founded.

Overall, we find that the organisational characteristics of stewardship groups in New York City is related to their organisational structure, which is consistent with hypothesis 2. In other words, the more professionalised the groups, the more likely they are to have formal tax status and to be older. To restate once again, the differences between our findings and those of previous

Table 4. Relationship between professionalisation and organisation's age ($N = 370$).

	Professionalisation score			
	Low	Medium	High	Pearson's χ^2
Founded pre 1970	39.5% (17)	9.3% (4)	51.2% (22)	
Founded 1970–1990	59.2% (71)	20.8% (25)	20.0% (24)	
Founded since 1990	72.0% (149)	13.51% (28)	14.5% (30)	
				33.656**

*Chi-square is significant at the 0.01 level. **Chi-square is significant at the 0.001 level.

work (e.g. Andrews and Edwards 2005) is likely to be due to the differences between the organisational landscape of a relatively rural state and the largest city in the United States.

Who stewards where

As has been previously stated, scholarly research has yet to explore how the organisational structure of local environmental groups is related to how groups actually steward (but see Carmin 1999). Thus, to test our third hypothesis, we specifically look at how the organisational structure of these groups is related to their stewardship activities. Although groups in New York City ran the gamut in terms of the ways in which they steward their environments, there were particular differences between the physical site types on which they steward based on the groups' organisational structure. We compare differences in the degree of professionalisation of these groups working on three illustrative site types: from the built environment (green buildings), the aquatic environment (streams, rivers, and canals), and the landscape or terrestrial environment (community gardens). We find that the majority of groups that reported working on green buildings scored medium or high on the professionalisation index (81.3%). Those groups that reported working as stewards of streams, rivers and canals were bimodal in terms of their levels of professionalisation: almost half (48.8%) scored low on the professionalisation index and about two-fifths (39.5%) scored high. Finally, most of the groups that worked on community gardens scored low on the professionalisation index (71.9%).

These results are not particularly unexpected. It makes logical sense that the more professionalised groups, which tend to have more staff and funding overall, to be the groups that work in places that require more budgetary and staff resources, such as green buildings. They do, however, show that there are some clear patterns to the diversity of stewardship activities observed by the civic stewardship literature when we analyse a structured sample of groups and disaggregate them based on their organisational structure. These findings provide strong support for hypothesis 3, which expects there to be a relationship between the organisation structure of stewardship groups and

Table 5. Relationship between professionalisation and where these groups steward ($N = 469$).

	Professionalisation score			
	Low	Medium	High	Pearson's χ^2
Green building: No	68.7% (259)	13.3% (50)	18.0% (68)	
Yes	18.8% (6)	31.3% (10)	50.0% (16)	
				32.536**
Steam, river, canal: No	66.7% (244)	15.0% (55)	18.3% (67)	
Yes	48.8% (21)	11.6% (5)	39.5% (17)	
				10.635**
Community garden: No	59.9% (145)	15.7% (38)	24.4% (59)	
Yes	71.9% (120)	13.2% (22)	15.0% (25)	
				6.865*

*Chi-square is significant at the 0.05 level. **Chi-square is significant at the 0.005 level.

how they steward. In Pearson chi-square tests of where these groups reported working, the results are significant and the null hypothesis that the site types on which they worked were the same no matter their levels of professionalisation is rejected. Table 5 presents the comparison between the professionalisation of the organisations and the specific sites where they reported working.

Discussion and conclusion

The findings from this study of civic stewardship in New York City provide much more information about the organisational structure of local environmentalism in an urban setting. They help us understand the diversity of groups working within this urban setting and the range of ways that civic stewardship groups are actually conserving, managing, monitoring, advocating for, and educating the public about their local environments. In contrast to the research on civic engagement in America, which has focused on the role of large national membership organisations (e.g. Skocpol and Fiorina 1999, Putnam 2000), our study finds that there are many voluntary groups with small budgets working in New York City, but there are also a number of large, professionalised organisations with paid staff and sizeable annual budgets. By looking at a structured sample of civic environmental stewardship in this urban setting, we learn more about what Putnam (1995, 2000) has called the countertrends in America's declining social capital. Moreover, our analyses expand the research on environmental stewardship in three ways.

First, through our analysis of stewardship groups in New York City, we can see the diversity of ways that stewardship is taking place in this urban setting. In contrast to the largely case study-focused literature on civic stewardship, we include the full range of civic groups involved in stewardship in our analysis. As a result, we are able to assess the full range of their stewardship activities, as well as the patterns of such activities.

Second, our results provide clear evidence of the ways that the organisational structure of civic stewardship groups in New York City is related to their organisational characteristics. In contrast to the limited number of studies that have looked at local groups in states in the United States (Salazar 1996, Andrews and Edwards 2005), there is a statistically significant difference between the levels of professionalisation of these groups and their age and tax status. In particular, the groups that scored higher on the professionalisation index also tended to be older and to have formal non-profit tax status. Although they do not conduct analyses of a structured sample of civic groups in their study, this finding is consistent with the work of McCarthy and Wolfson (1996, p. 1072), who argue that 'older organizations are expected to be better at mobilizing resources because of increased skill levels, increased visibility and legitimacy, and because of an accumulation of resources'. However, our results are different from the conclusions of Andrews and Edwards (2005), who find that that older groups in their study of North Carolina are more likely to fall into the category between voluntary and professional.

As we have already noted, these differences are likely the result of the broader differences between the state of North Carolina and New York City more generally. In particular, New York City is the largest metropolitan area in the country with rapid real estate development cycles and changing neighbourhood demographics. It is possible that the local development cycle may have a strong influence on the formation and dissolution of civic stewardship groups. At the same time, the density of civic groups found in urban areas may also explain the dissolution of less professionalised groups once their aims have been achieved. Because there are so many civil society organisations active in this city, dissolution of one group may not be seen as leaving a hole in the stewardship landscape. Overall, our results provide clear support to the notion that environmental stewardship in urban settings has specific organisational characteristics. Moreover, they suggest that the findings from studies outside of urban settings may be of limited utility to understanding urban environmental stewardship.

Third, our results provide details about how civic environmental groups actually engage in local environmentalism. We have expanded the research on urban environmental stewardship by examining the relationship between the organisational structure of civic stewardship groups and the physical sites on which they work. On the one hand, we find that highly professionalised groups are more likely to work on green buildings, which may potentially be due to the fact that such work requires access to technology, expertise, permitting, and legal systems to create and maintain these resource-intensive sites. The process of building new green buildings or retrofitting existing buildings is an environmental practice, but also a complex, real estate development practice requiring high capital investment and expertise in planning, contracting, development, financing, the tax code, and regulatory compliance. On the other hand, the less professionalised groups in New York City more often take care

of community gardens, which are a quintessential case of community-managed urban open space and stewardship. Gardens have a history of grassroots neighbourhood activism and are largely managed through the work of volunteers, as well as materials and plants that are often donated (see e.g. Lawson 2005).

The site type 'stream, river, canal' is bimodal in terms of groups' levels of professionalisation, suggesting that both grassroots, on-the ground stewardship, as well as more formalised, large-scale conservation and advocacy are taking place on these sites. One such example can be seen in the Gowanus Canal in Brooklyn, where the Gowanus Dredgers – an on-water recreation and stewardship group – conducts clean-ups and raises awareness of the resource. At the same time, the more professionalised Gowanus Canal Community Development Corporation advocates for the redevelopment of the canal and surrounding lands through brownfield restoration, neighbourhood planning, and the incubation of a new environmental non-profit: the Gowanus Canal Conservancy (Campbell 2006). Overall, these results gives a sense of the diversity of civic groups that are conducting stewardship in a variety of ways – conservation, education, management, advocacy, and education – across the many different site types that exist in urban settings. By analysing a structured sample of stewardship groups in one urban setting, we clearly see the patterns of stewardship activities and how they are related to the organisational structures of these groups.

This study is a first step in understanding civic stewardship in urban settings and the first to look at how organisational structure is related to engagement in environmental stewardship. Future research must expand this research in two important ways. First, more research is needed to understand the geographic patterns and physical site types on which civic stewardship groups work in New York City. Very little is known about where, how, and with whom civic stewardship groups collaborate, as well as how they evolve over time, and what the implications of these patterns are for environmental and social outcomes in this city. Second, future research must examine structured samples of local civic stewardship groups in other urban settings to compare to our findings in New York City to other places in the United States and other cities around the world. Through such future research, we will learn significantly more about civic environmental stewardship and urban environmentalism more broadly.

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Notes

1. For more details on this definition of stewardship and how it was conceptually developed, see Fisher *et al*. (2007).
2. This list is not meant to be exhaustive.
3. Only groups that had complete mailing addresses were included in the sample (as the primary method of data collection was a mail-in survey). However, if group also had a working email address, the survey was sent to them by email first.
4. Data were collected in accordance with Columbia University's IRB protocol # IRB-AAAC3985.
5. Other studies of local environmentalism have used other methods of data collection and have achieved higher response rates (e.g. Salazar 1996, Kempton *et al*. 2001, Andrews and Edwards 2005). However, these methodologies are not possible for a census of all of the stewardship groups in a major metropolitan area like New York City.
6. Response rates per borough were: 22% in Manhattan and Staten Island, 21% in Queens, 16% in Brooklyn, and 14% in the Bronx.
7. For more information, see http://www.irs.gov/charities/charitable/article/0,,id 96099,00.html [Accessed 16 November 2010].
8. See www.osiny.org/site/PageServer?pagename = Issues_citizen_action [Accessed 20 January 2011].

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