

# **UNDERSTANDING THE SOCIAL BENEFITS OF URBAN GREEN SPACE:** COMMUNITY STEWARDSHIP AND RESILIENCE IN NYC

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ACES: A Community on Ecosystem Services  
Linking Science, Practice and Decision-making  
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# NYC Urban Field Station



*"To improve quality of life in urban areas by conducting and supporting research about social-ecological systems and natural resource management"*



# **Social Benefits of Green Space**

# Social Benefits of Green Space

**Aesthetics** (Schroeder 1983)

**Real Estate & Development** (Anderson and Cordell 1988)

**Psycho-Social & Well-Being** (Dwyer et al 1991; Ulrich 1994; Kaplan and Kaplan 1989; Kuo and Sullivan 2001)

**Self Fulfilment** (Westphal 1999; 2003)

**Social cohesion** (Sampson 2012)

**Crime & Community** (Troy, Grove and O'Neill-Dunne 2012)

**Resilience** (Tidball and Kransy 2014)

**Civic Engagement** (Fisher, Svendsen & Connolly 2015)

# Urban Environmental Stewardship



Liz Christy, founder of Green Guerillas, in the Lower East Side



Mayor Bloomberg marking the halfway point in MillionTreesNYC



Shoreline cleanup in Queens, sponsored by private companies

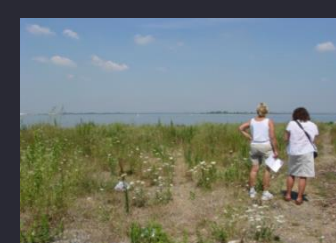
Source: From left to right— Green Guerillas, NY daily News, © Meg Cotner

Urban environmental stewards conserve, manage, monitor, advocate for or educate the public about the local environment (Fisher et al. 2007).

New York, Baltimore, Chicago, Seattle, and Philadelphia  
San Juan and Los Angeles



# Stewardship: A co-production of ecosystem services



# Cultural Ecosystem Services

“**Non-material benefits** people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experiences” (MEA 2005)

From cultural to **socio-cultural** ecosystem services

Often only **easy-to-measure** services are included in assessments (Chan et al. 2012)

Cities are increasingly where humans directly interact with ecosystems – **urban ecosystem services** (Gomez-Baggenhun et al. 2013)

# Individual Park Users





## City-wide Social Assessment of NYC Parklands (2013-2015) **Research questions**

What are the uses, functions, and values of parkland as conveyed through people's *behaviors, descriptions, and narratives*?

**2013:** How have perceptions of and interactions with parkland been influenced by Hurricane Sandy?

**2014:** How do visitors use, perceive, and value natural areas in NYC Parks?

## Study Area

- Parks surveyed
  - 39
- People interviewed
  - 1600+
- Acres surveyed
  - 9503



# Methods

- Spatially explicit:
  - Interior zones
  - Edge
- Observations of:
  - Human activities
  - Signs of human use
- Randomized interviews



High Rock Park

DIRECT HUMAN OBSERVATION – 2014			
<input type="checkbox"/> INTERIOR <input type="checkbox"/> EDGE		<input type="checkbox"/> WEEKDAY	<input type="checkbox"/> EVENING <input type="checkbox"/> WEEKEND
Team Name:	Park Name:		Zone:
Date (MM/DD/YYYY):	Camera #	First Photo #:	Last Photo #:
DIRECT HUMAN OBSERVATION	# Kids (<18)	# Adults (18-65)	# Seniors (>65)
Bicycling			
Jogging / Running			
Walking / Dog Walking			
Sports & Recreation (soccer, tennis, cricket, baseball, volleyball, football, frisbee, playground use, tag, etc.)			
Educational Group / Tour (remember primary purpose, note the activity - count each individual)			
Nature Recreation (birding, launching or landing boat, fishing, digging, building w nature, climbing, etc.)			
Plant Collection / Foraging / Gathering			
Stewardship (gardening, tree care, weeding, trash removal, watering, volunteers in parks)			
Sitting / Resting / Standing / Waiting / Keeping Watch (alone, not socializing)			
Socializing in Place (people talking, barbecuing, party, in groups, children in free play)			
Working (parks maintenance, vendor, utility, repair, building, re-building)			
Other Activity (homeless person sleeping, musician on street, washing or fixing car)			
Encounter with Resident: <u>positive</u> (remember to record what they are doing)			
Encounter with Resident: <u>negative</u> (remember to record what they are doing)			
SOCIAL OBSERVATION			
# of pairs			
# of small groups (3-10)			
# of large groups (10+)			
# of dogs			
Field Notes:			



# Direct human observation



Pelham Bay Park



Van Cortlandt Park



Flushing Meadows Park



# Signs of human use



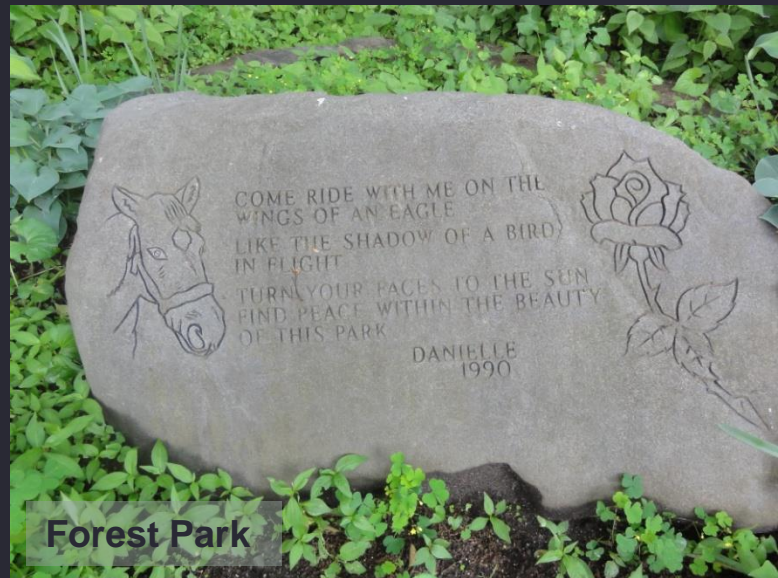
Alley Pond Park



Conference House Park



Pelham Bay Park



Forest Park



# Interviews



# Interactions Between Community and Park Edge

Mirroring



Blurred Boundaries





# Zone delineation



## Jamaica Bay SSA

Canarsie Park Infrastructure

Map created May 6, 2013



City of New York Parks & Recreation  
Michael R. Bloomberg, Mayor  
Barbara M. Wilson, Commissioner

# Interview Analysis: **Park Use**

- Local
- Amenities
- Nature – Outdoors
- Refuge
- Enjoyment
- Activity
- Place attachment
- Sociability
- Social Ties

## Cultural Service (MEA 2005)

Cultural diversity

Spiritual and religious values\*

Knowledge systems

Educational values

Inspiration

Aesthetic values\*

Social relations

Sense of place

Cultural heritage values

Recreation and ecotourism\*





# What does it mean?

## Provisioning



## Regulating



## Habitat / Supporting

## Socio-Cultural



# Stewardship Groups

# City-wide Stewardship Organizations

## Green Space

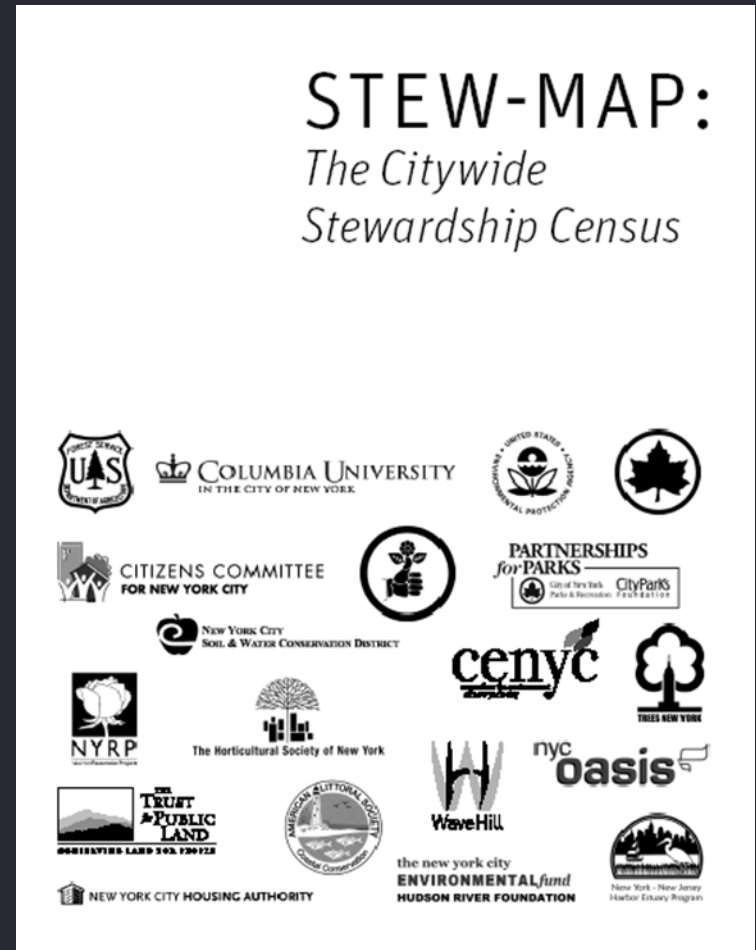


## Social Space



# Data and Methods

- ▶ Online and mail-in survey
- ▶ Combined org databases of 20 umbrella groups, snowballed to saturation among data providers
- ▶ Initial N = 5,861
- ▶ Final N = 2,517



## Organizational Characteristics

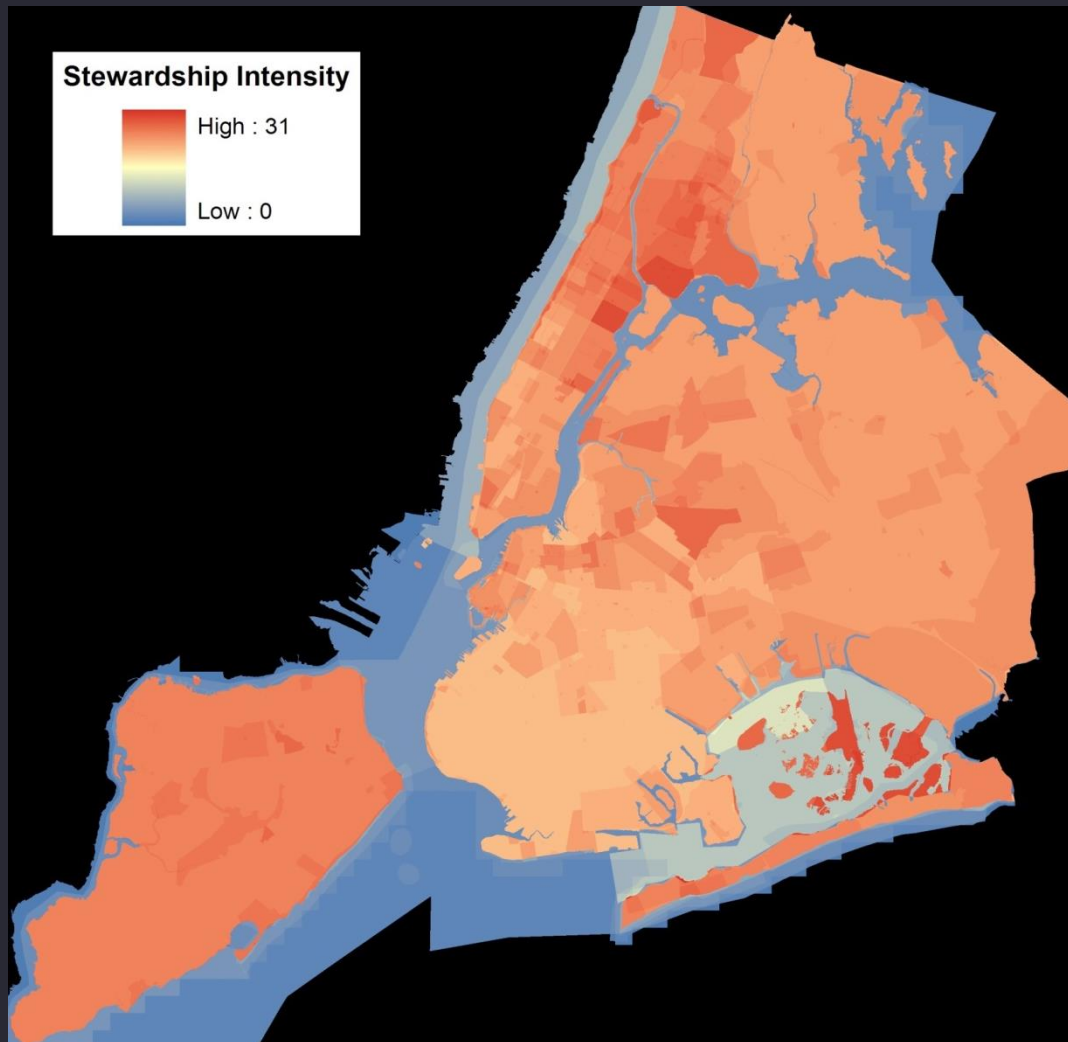
- ▶ About 1/3 of the groups have 0-1 paid staff
- ▶ 32% have budgets of < \$1000
- ▶ About half the groups have 501(c)3 status
- ▶ The # of organizations founded increased throughout the 1970s, 80s, 90s
- ▶ The most common stewardship sites were parks (41.3%), community gardens (40.5%), and street trees (23.9%)

# Stewardship Legends and Legacies

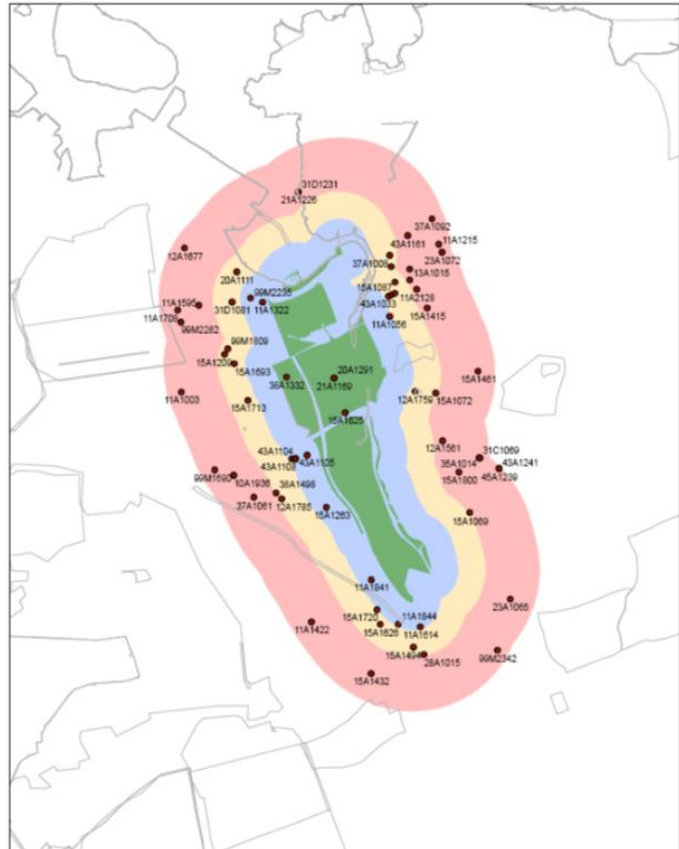
- 19<sup>th</sup> Century Parks Movement
  - Progressive Era
    - Technocrats and Power Brokers
      - Homeowner Associations
        - Anything Goes
          - It's Us vs. Them
            - Coalition and Collaboration



# Geopolitical Spheres of Influence: Stewardship Turf and Intensity



## Stewards in Proximity to Flushing Meadows Park



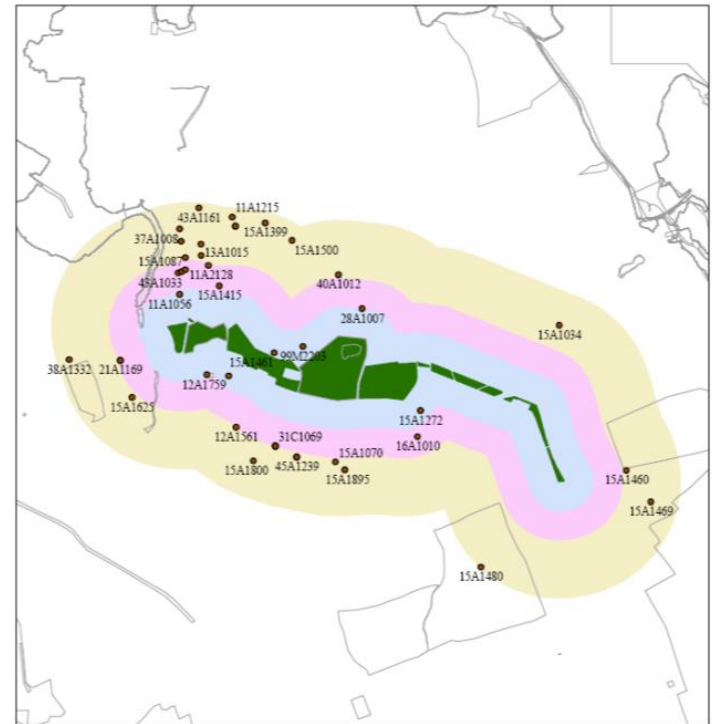
0 3,200 6,400 12,800 Feet

Data Source: USDA Forest Service New York City Field Station, Stewardship Mapping Initiative  
Prepared on 1 August 2008

Stewardship Spheres  
Stewardship Organizations  
Flushing Meadows Park  
One Mile Buffer  
Half Mile Buffer  
Quarter Mile Buffer



## Stewards in Proximity to Kissena Park



0 2,500 5,000 10,000 Feet

Stewardship Spheres  
Kissena Park  
Quarter Mile Buffer  
Half Mile Buffer  
One Mile Buffer  
Stewardship Organization



Data Source: USDA Forest Service New York City Field Station, Stewardship Mapping Initiative  
Prepared on 1 August 2008

[Link to this Map Print](#)

[Stewardship Search](#)

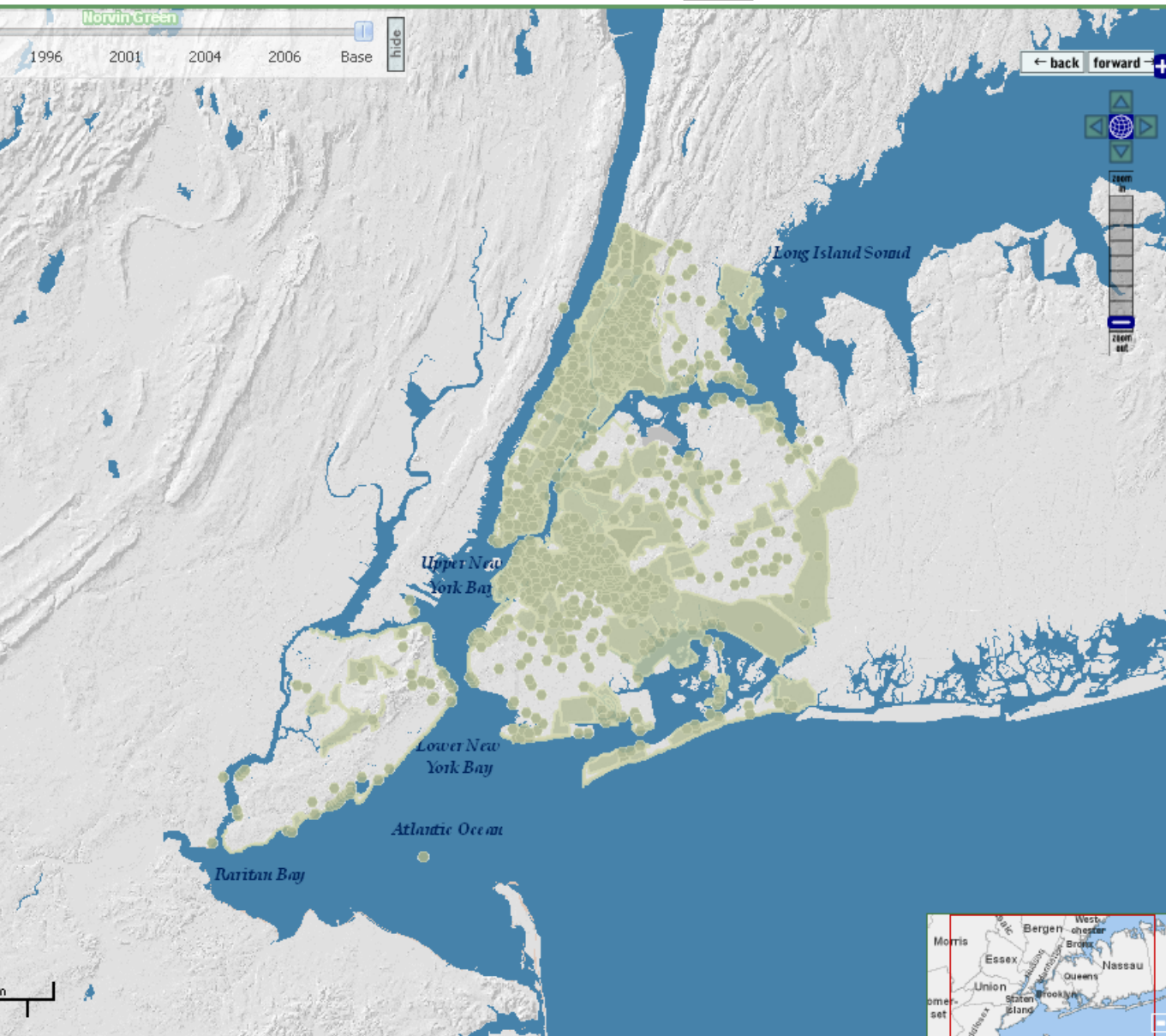


Address Block & Lot Zip Code Neighborhood Community District County/Borough

enter address

Select a borough...

Search



Legend

Location Report

layer label Turn map layers on & off by clicking in the checkboxes

☒ Transportation

☒ Parks, Playgrounds, & Open Space [Show All](#) [Hide All](#)

- ☐ Parks & Public Lands
- ☐ Other NYC Open Space (City Planning)
- ☐ Forested Areas (NJ)
- ☐ Federal Land
- ☐ Community Gardens
- ☐ Playgrounds
- ☐ Green Spaces Along Streets
- ☐ Golf Courses
- ☐ Baseball/Soccer Fields
- ☐ Tennis/Basketball Courts & Tracks
- ☐ Cemeteries

☒ Environmental Stewardship Groups [Show All](#) [Hide All](#)

- ☐ STEW-MAP Density
- ☒ Stewardship Turf
- ☐ Turf density testing
- ☐ Living Memorials to 9/11

☒ Environmental Characteristics [Show All](#) [Hide All](#)

☒ Land Use [Show All](#) [Hide All](#)

☒ Social services, Education, Housing [Show All](#) [Hide All](#)

☒ Population Characteristics [Show All](#) [Hide All](#)

☒ Historical Land Use [Show All](#) [Hide All](#)

☒ Water & Wetlands [Show All](#) [Hide All](#)

☒ Boundaries [Show All](#) [Hide All](#)

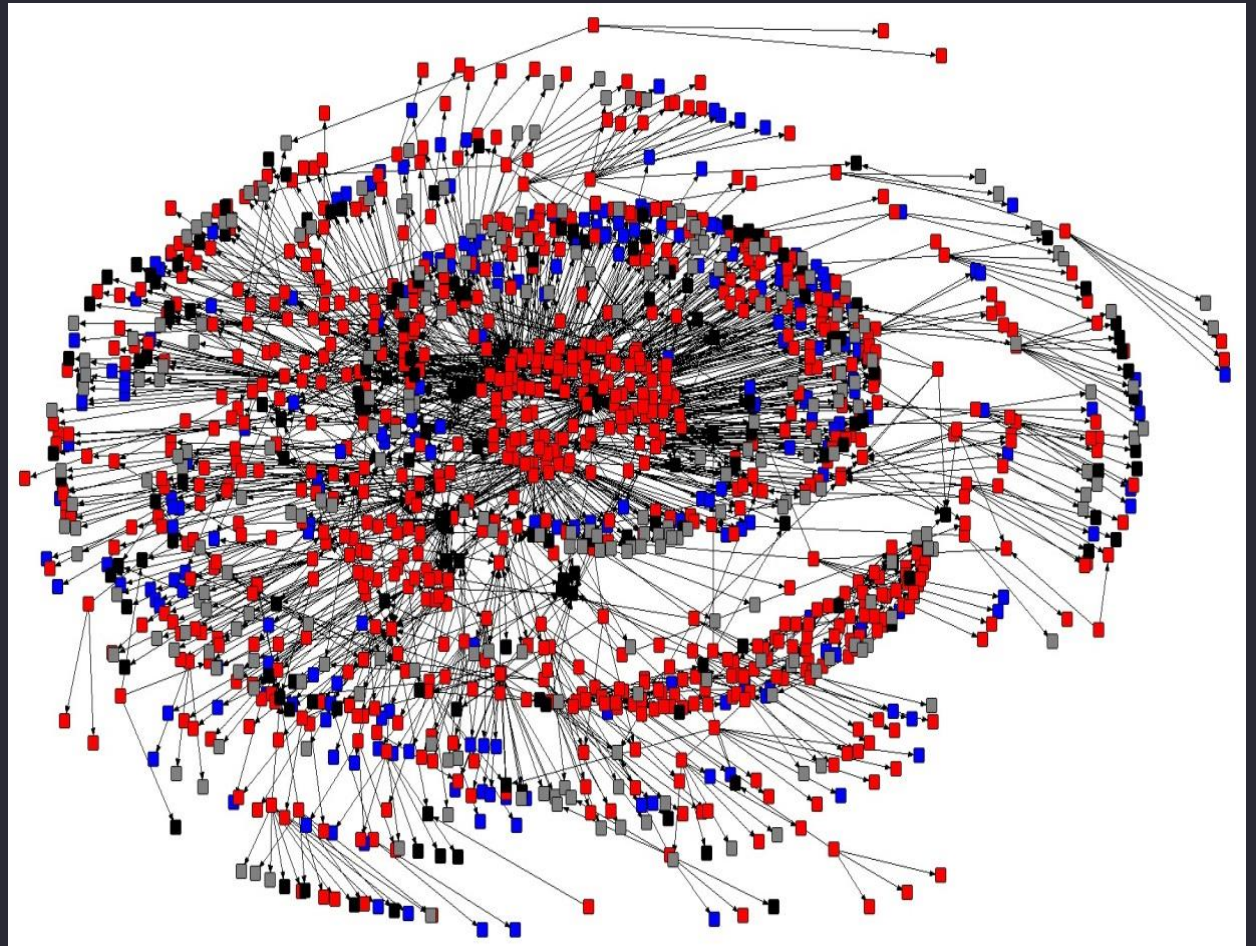
Transparency Control



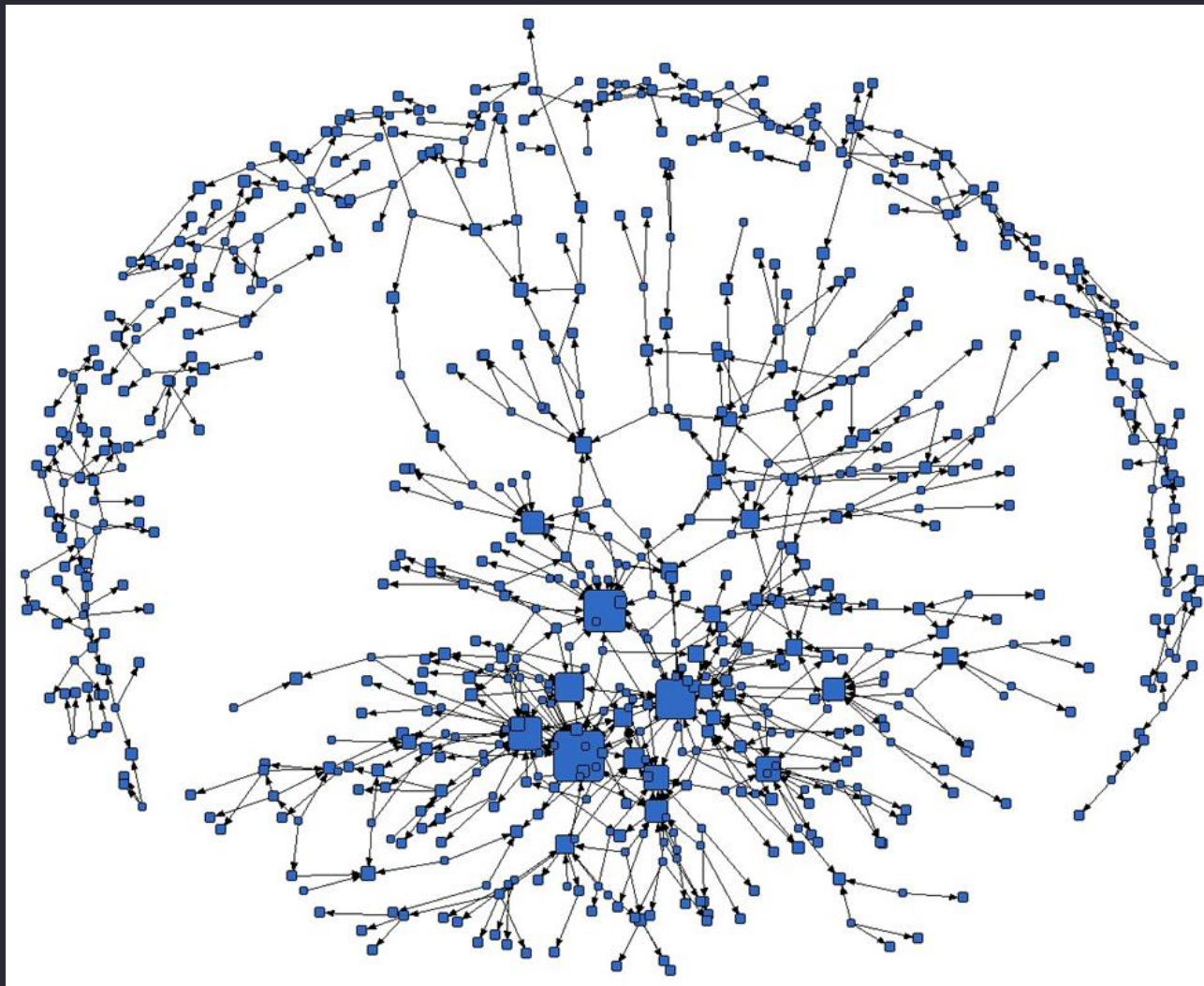


# Networked Stewardship

**Networks & Hybridity**  
*a social innovation*



# Civic to Civic Network

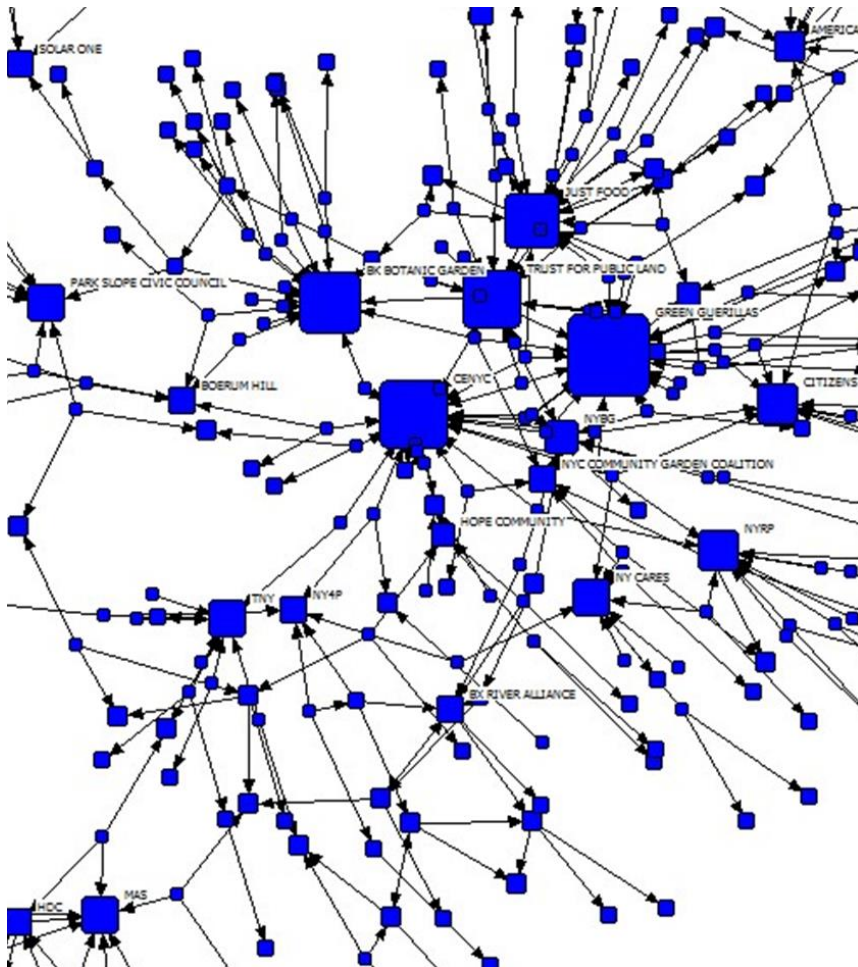


N=704, with 316 respondents

11% of all stewardship  
groups



# Most connected organizations



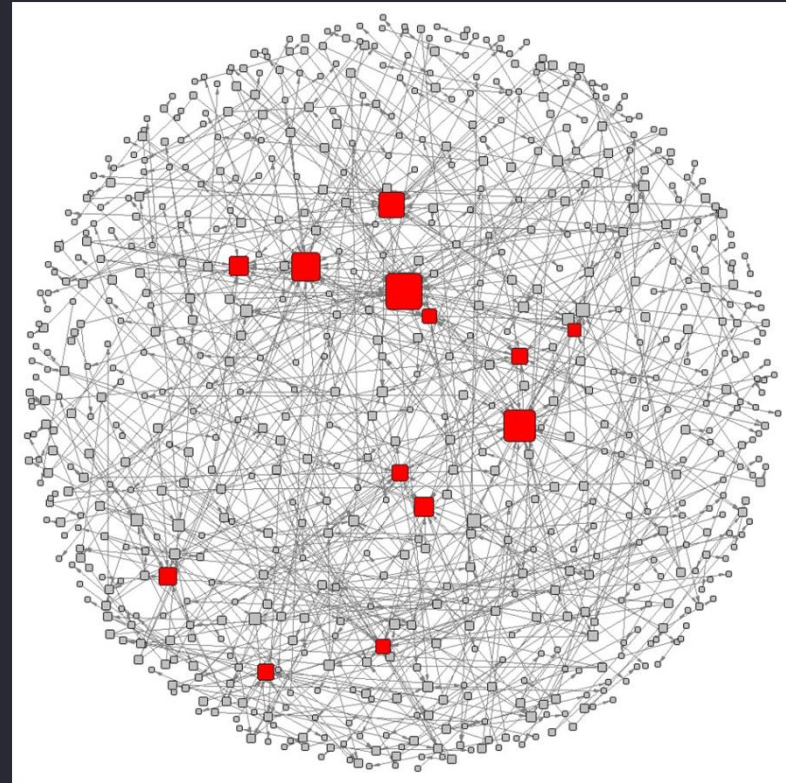
Green Guerillas  
Brooklyn Botanic Garden  
Grow NYC  
Just Food  
Trust for Public Land  
NY Cares  
New York Restoration Project  
Trees New York  
Citizens Committee for NYC  
Park Slope Civic Council  
American Littoral Society  
Municipal Arts Society

~identified organizations 2 standard deviations or above with number of “in-degree” ties

# Co-Production of Services: Governance

## Bridge, broker, and bi-modal governing

- Mid-level brokerage is increasing
- These groups create links across scales and sectors – share information, resources, & materials
- Hybrid (civic-gov't) role for bridge organizations



This figure identifies the groups with the most ties and the greatest “betweenness” measures in the civic stewardship network of New York City.

# Socio-cultural Ecosystem Services: Application for Resilience Planning & Land Use Development

- Land Use Coalitions, Trusts and Alliances

*STEW-MAPing on the rise*

- Urban Resiliency Planning and Development

*Urban design & civic engagement*

- Emergency Response Community

*Greening as a recovery mechanism / restoration*

- Civic Ecology / Democracy Organizations

*Greening as a mediating mechanism / conflict*



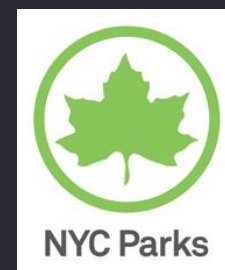
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