



# Green Responders: Examining the role of stewardship groups during acute and chronic disturbances

December 16, 2021

Forest Ecosystem Monitoring Cooperative (FEMC)

Conference Theme: **Facing Change – Reimagining forested communities in a time of disturbance**

Dr. Erika S. Svendsen, plenary speaker

Research Team: Dr. Lindsay K. Campbell and Dr. Michelle L. Johnson

USDA Forest Service, Northern Research Station

# Talk Outline

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- Green Responders - Rationale and 3 Cases from Research
- Stewardship Mapping as a tool for NRM - and response / recovery
- Reflections





Inwood Park, New York City







Gwynns Falls - Leakin Park, Baltimore MD 1993. Photo by Steffi Graham







***Fallen Forest:*** A memorial for trees struck by a cyclone in Northeastern Italy on 2 Nov 2018.

On display, weeks later, at the World Forestry Congress in Montava, Italy.

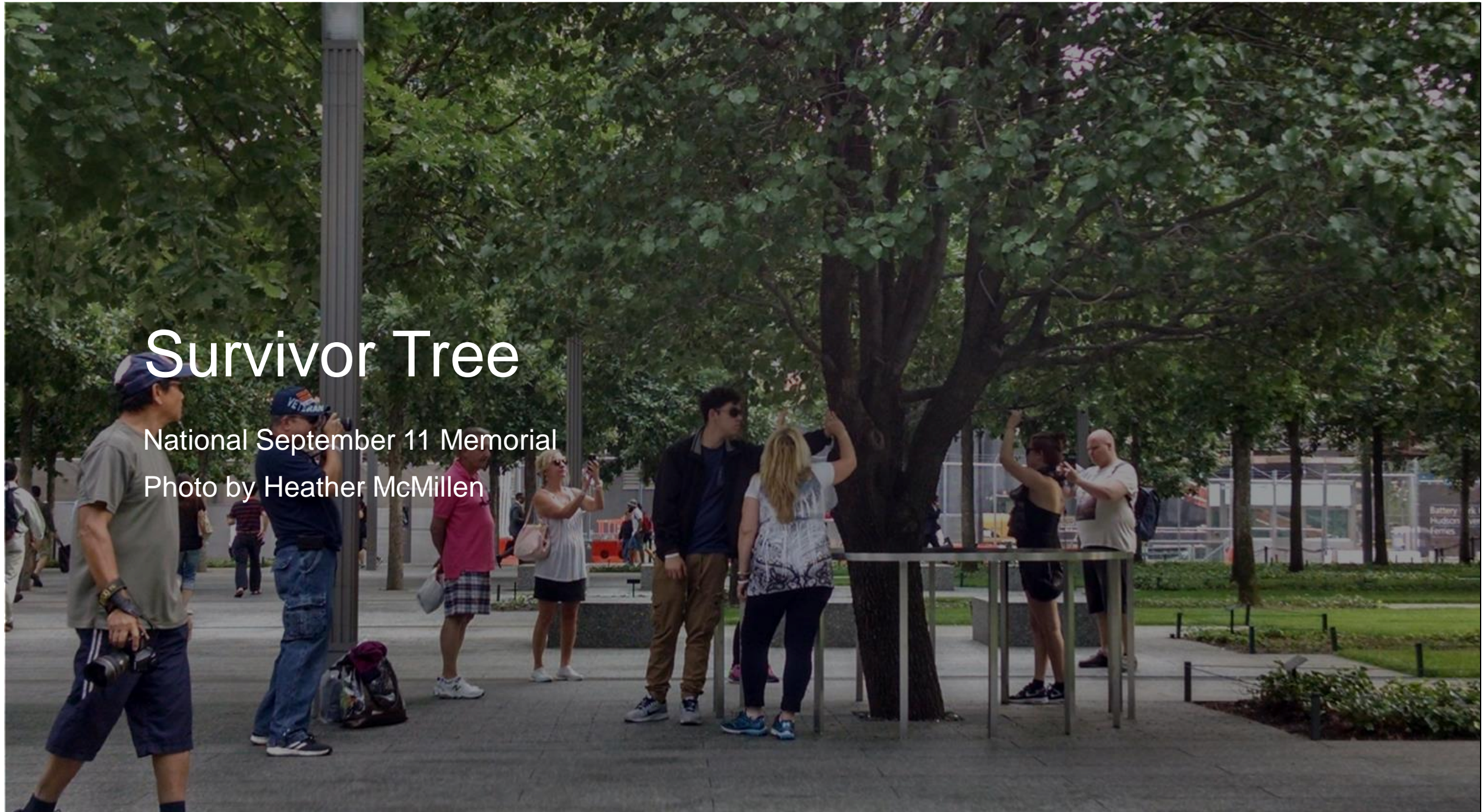
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# Survivor Tree

National September 11 Memorial

Photo by Heather McMillen

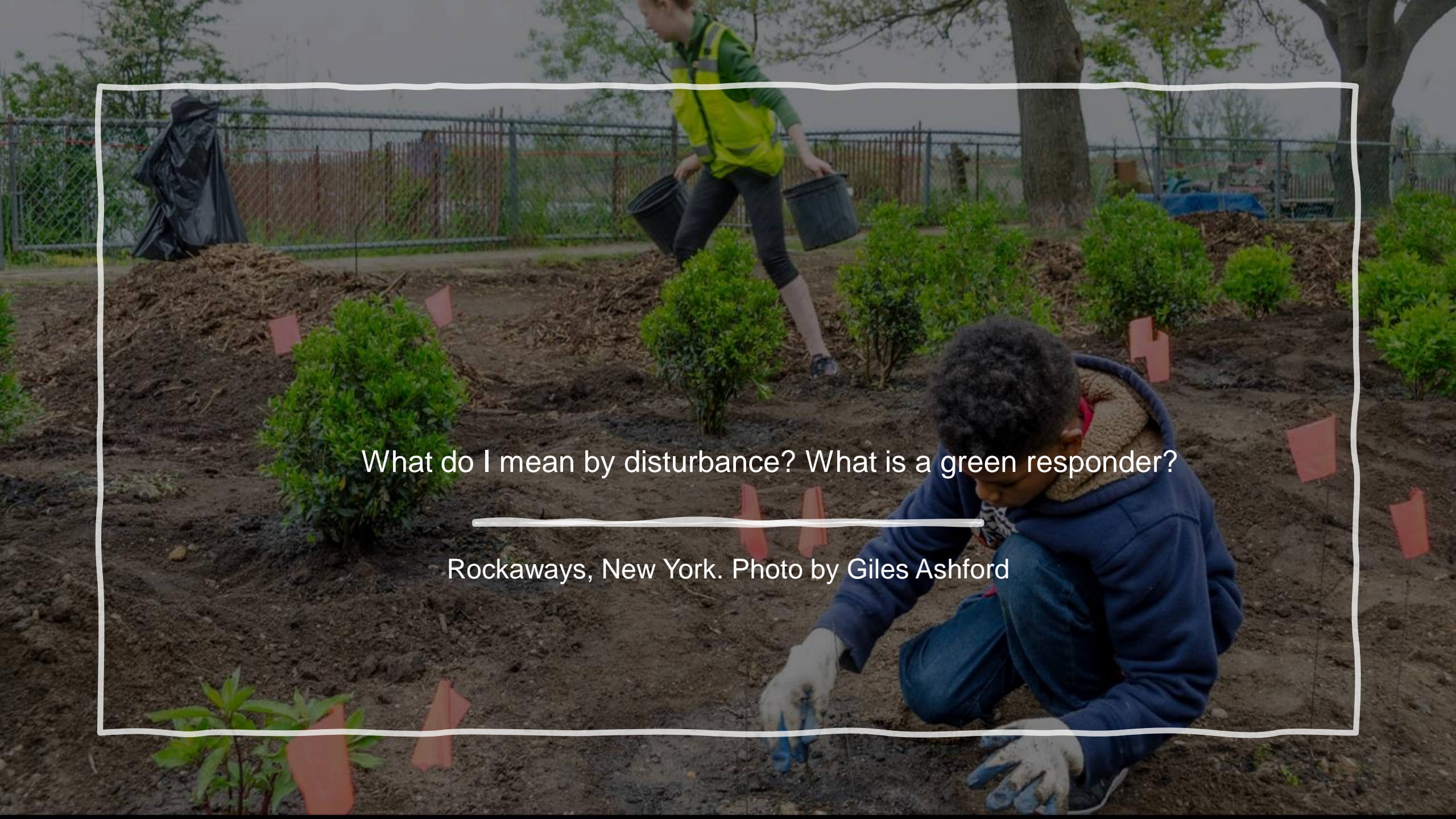






Human Capacity for Care  
Brooklyn, New York





What do I mean by disturbance? What is a green responder?

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Rockaways, New York. Photo by Giles Ashford





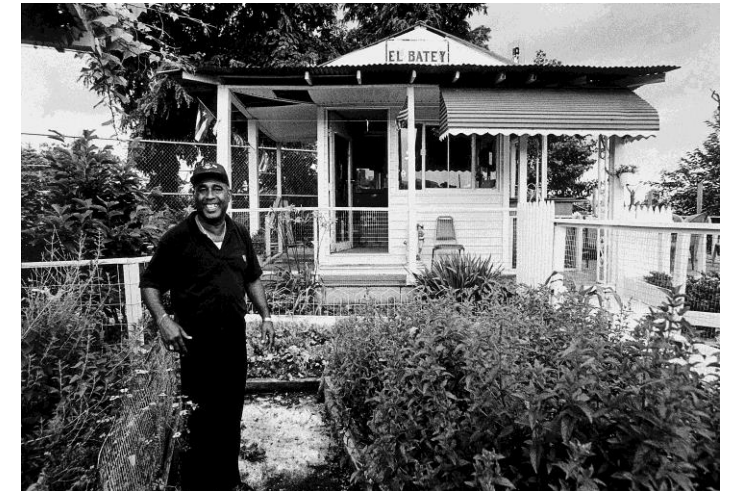
(Svendsen and Campbell 2008. Understanding Local Ecological Stewardship)



# Sept 11 Terrorist Attack and 1970s Fiscal Crisis

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- Public mourning
- To be in the company of others (regain control, care, legacy)
- Social resilience (place, identity, trust)



Top left, 9/11 Memorial Tree Planting

Top right, 9/11 Sunflower Project

Lower right, 1970s NYC Fiscal Crisis

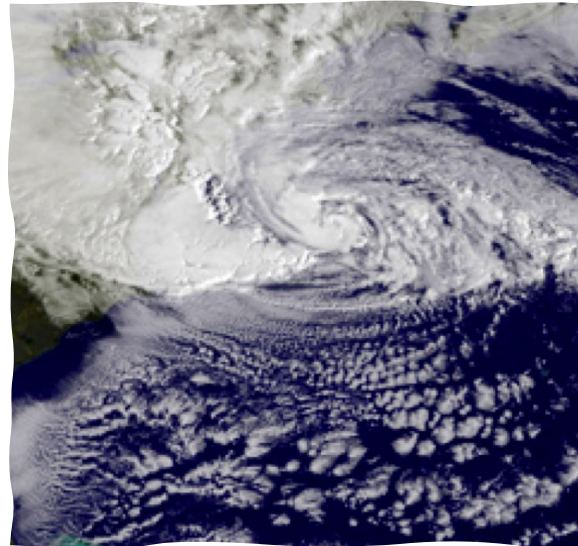
Lower left, El Batey Borincano Community Garden

(Svendsen and Campbell 2006, 2008, 2010; McMillen et al 2016)



# Superstorm and Sunny Day Flooding

- Rapid Response – Govt+
- Slower – restoration and recovery, at scale
- Hyperlocal – local ecological knowledge, adapting to a new normal



**JAMAICA BAY  
COMMUNITY FLOOD  
WATCH PROJECT**

Using community knowledge to address flooding in coastal communities

The Jamaica Bay Community Flood Watch Project helps empower residents to report flooding events in their neighborhoods. By training citizens to document flooding, linking local observations and community knowledge to scientists and city leaders working on flooding issues, will allow their voices and concerns to be heard.

For more information, please contact:  
**HELEN CHENG**  
Science and Resilience Institute at Jamaica Bay – New York Sea Grant  
helen.cheng@cornell.edu  
(718) 951-5415  
www.srjrb.org

**When submitting your photo, remember to include:**

- Date of the photo
- Time of the photo
- Who took the photo
- Location of the photo (cross streets, address, closest landmarks, etc.)
- Approx. depth of flooding (inches)
- Approx. duration of flooding
- What is affected by the flooding?
- What are additional causes of flooding?
- Keywords describing weather conditions

\*Remember to take a photo at the same place every time!

**SEND YOUR PHOTOS TO**  
helen.cheng@cornell.edu

**Tips on taking your photo**

- Include a vertically, stable object, like a sign post of a fire hydrant
- Or try using a ruler, bring a friend to hold it



Top left, Hurricane Sandy, 2012

Top right, Rockaway Tree Planning, after Sandy

Lower right, Hamilton/Howard Beach High Tide

Lower left, Flood Watch Community Flyer



# COVID-19 and BLM

- Strong response by Stewardship Networks
- Mutual Aid Groups
- Key Issues address by stewards:
  - Inequities in funding, access, design and program
- Affirmed the critical role of pre-existing partnership networks, transparency, reflective learning, openness and shared leadership



Prospect Park, Brooklyn, NY



Carroll Park, Brooklyn NY

(Landau et al 2021; Svendsen et al 2021; Sachdeva and Johnson 2021; Campbell et al, pending)



# Planning for the Unplanned

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# Map, Track and Integrate Environmental Stewardship with Forest Ecosystem Management







# The Power of Stewardship

Research has shown that stewardship can:

- Build and strengthening communities
- Provide a means to contribute to a purpose
- Catalyze change in communities
- Serve as a form of empowerment
- Play a key role in helping communities recover from disturbances and disasters



# Six functions of stewardship



**Manage**



**Conserve**



**Monitor**



**Transform**



**Advocate**

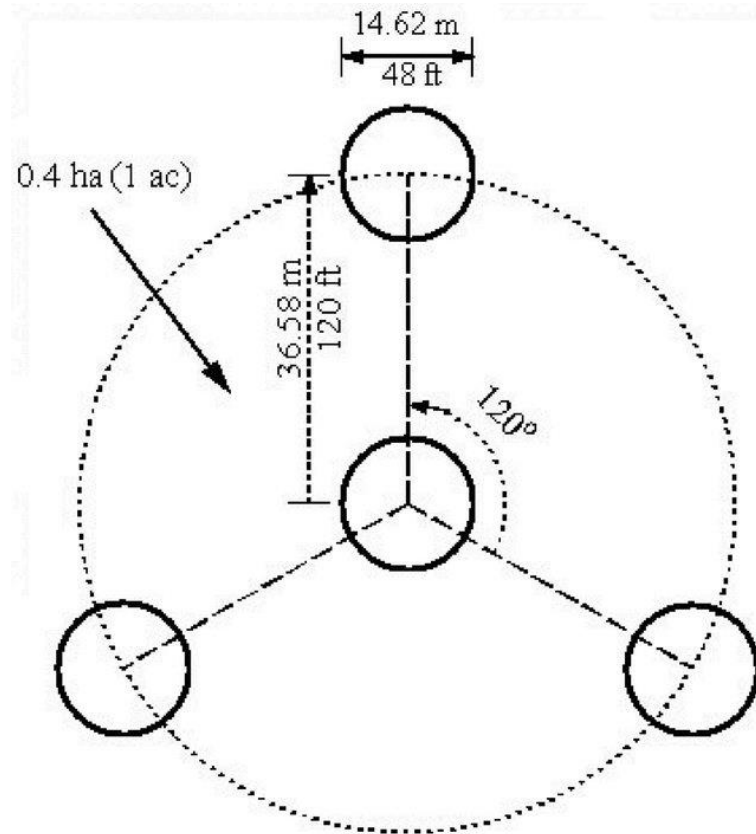


**Educate**



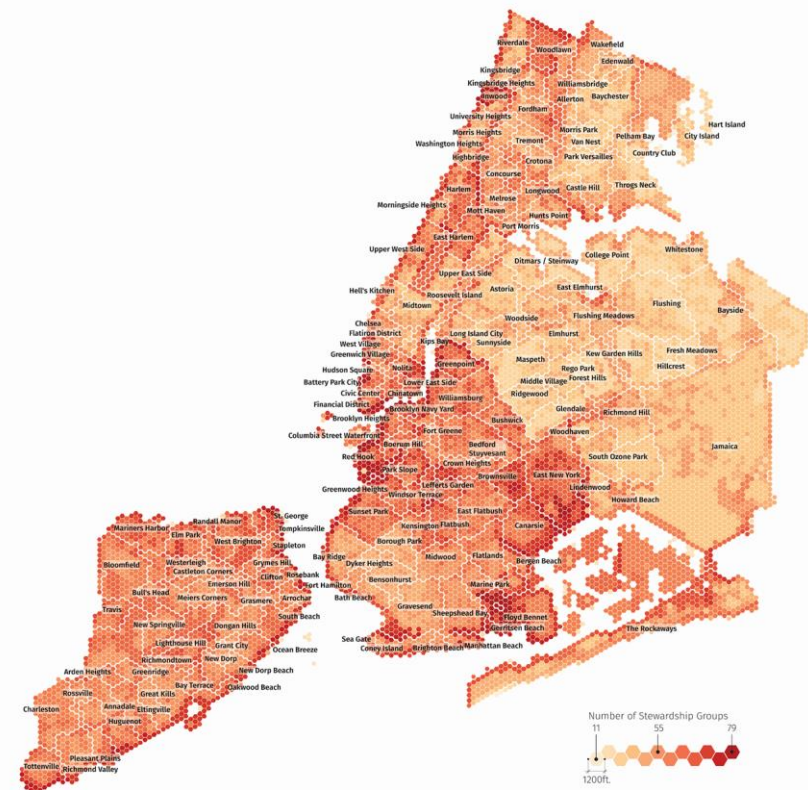
# Making stewardship visible with the same precision that we monitor and care for our natural resources

## Forest Inventory and Analysis



(Standard FIA plot design)

## Stewardship Mapping and Assessment Project

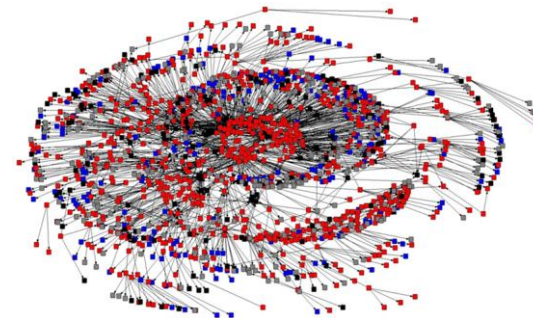
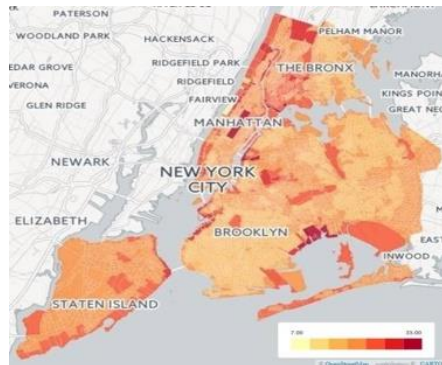
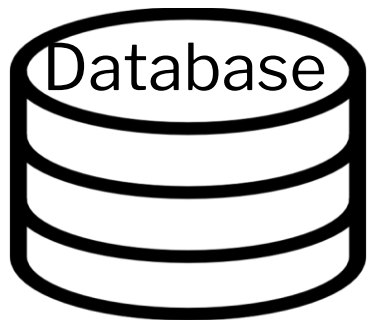


(Map created by SAVI - STEW-MAP 2017; Johnson et al. 2019)



# Stewardship Mapping and Assessment Project (STEW-MAP)

- Survey and interview-based methodology
- Measures how, where, and why civic groups care for local environment
- Began in New York City in 2007 – now in more than 15 locations

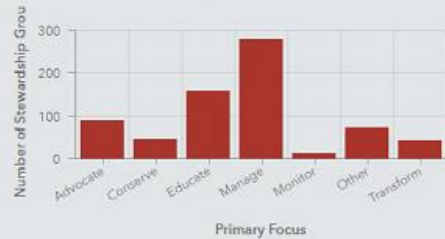




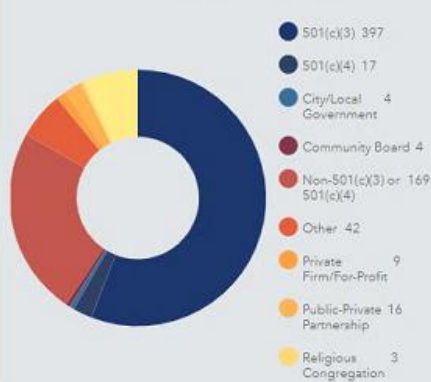
# 718

## Total Stewardship Groups

### Stewardship Groups by Primary Focus



### Stewardship Groups by Type of Organization



Statistics Raw Attributes List

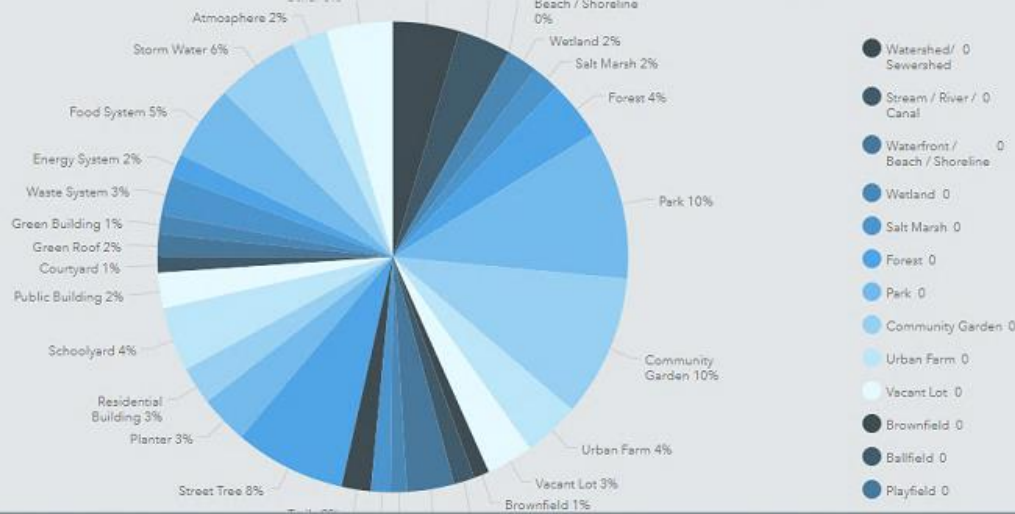
1 of 20

Activity Area: City or Region-wide Turf

**Regional Plan Association**  
One Whitehall, 16th Floor  
New York, NY 10004  
Email | 212-253-2727  
<http://rpa.org>

Primary Stewardship Function: **ADVOCATE**  
Primary Focus: Community improvement and capacity building  
Primary Stewardship: Other  
Mission: RPA improves the New York Metropolitan

### Stewardship Groups by Stewardship Focus



### Stewardship Groups

**Trout Unlimited - Trout in the Classroom**  
59-17 Junction Blvd  
Flushing, NY 10689

Primary Focus: **EDUCATE**  
150000 Members  
50 Volunteers  
[Website](#)  
[Contact](#)

**New York League of Conservation Voters**  
30 Broad Street, 30th Floor  
New York, NY 10004

Primary Focus: **ADVOCATE**  
28000 Members  
0 Volunteers  
[Website](#)  
[Contact](#)

**New York-New Jersey Trail Conference**  
600 Ramapo Valley Rd  
Mahwah, NJ 07430

Primary Focus: **MANAGE**  
9000 Members  
2400 Volunteers  
[Website](#)  
[Contact](#)

**Trees New York**  
100 Gold St. Ste 3100  
New York, NY 10038

Primary Focus: **MANAGE**  
8000 Members  
200 Volunteers  
[Website](#)  
[Contact](#)

**NY-NJ Harbor & Estuary Program**  
17 Battery Place Suite #915  
New York, NY 11216

Primary Focus: **ADVOCATE**  
4500 Members  
15 Volunteers  
[Website](#)



# STEW-MAP Methods





# What questions are on the survey?

## Organizational Data

- # staff, # volunteers
- Year founded
- Mission and focus
- Budget
- Professionalization index
- Property jurisdiction

## Geographic Territory

- Where do groups actually work?
- What type of site do they steward?

## Network Data

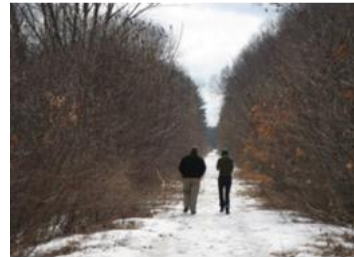
- Which groups are connected to each other?
- Which groups are critical network brokers?
- How do groups connect?





# What can you learn from tracking stewardship groups and activities?

- Who is participating?
- How are they participating?
- Where are they participating?
- What is their effect on the natural resource and surrounding communities?

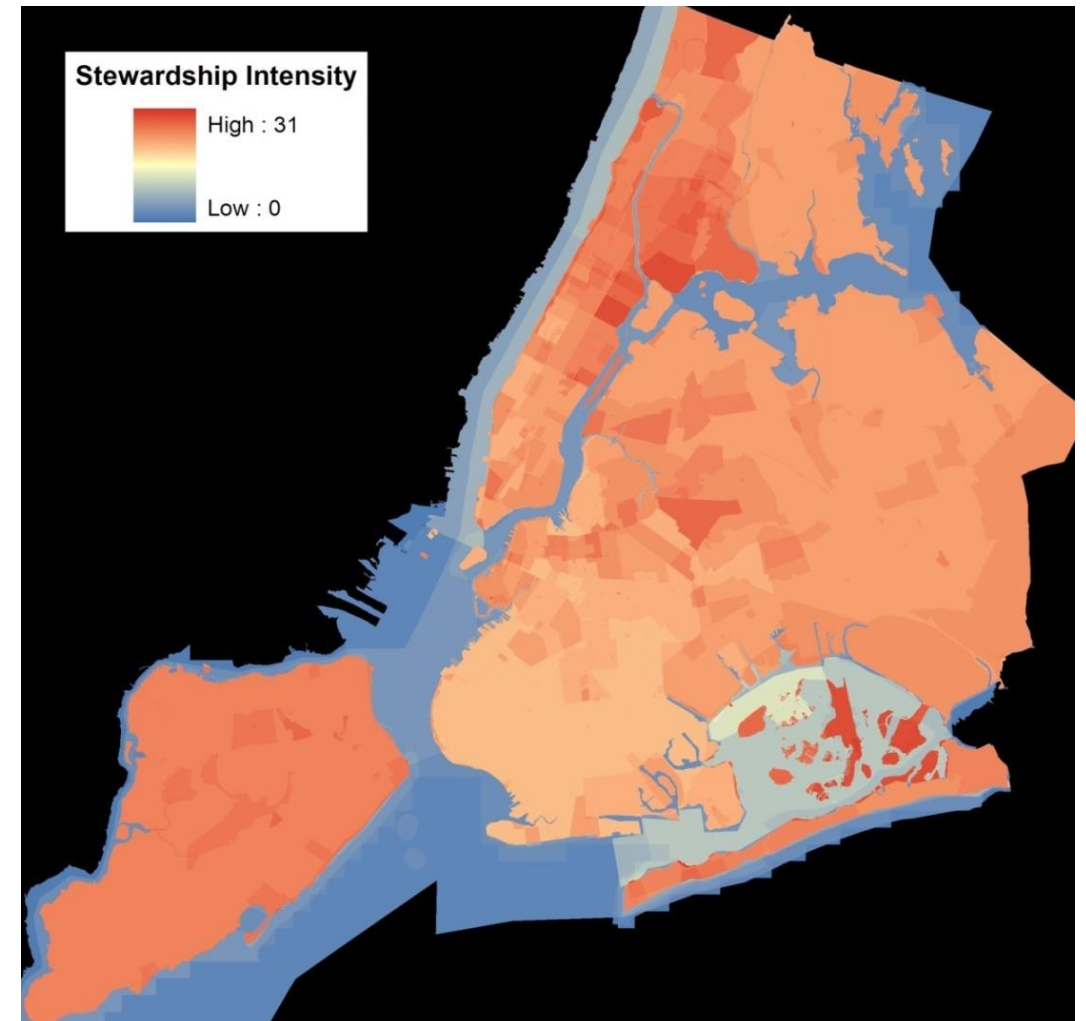




## Organizational Capacity

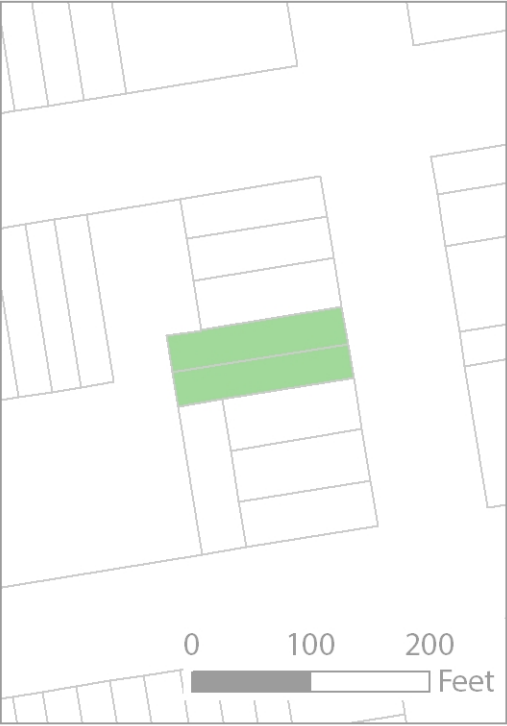


## Gaps and Overlaps



(STEW-MAP NYC 2007)

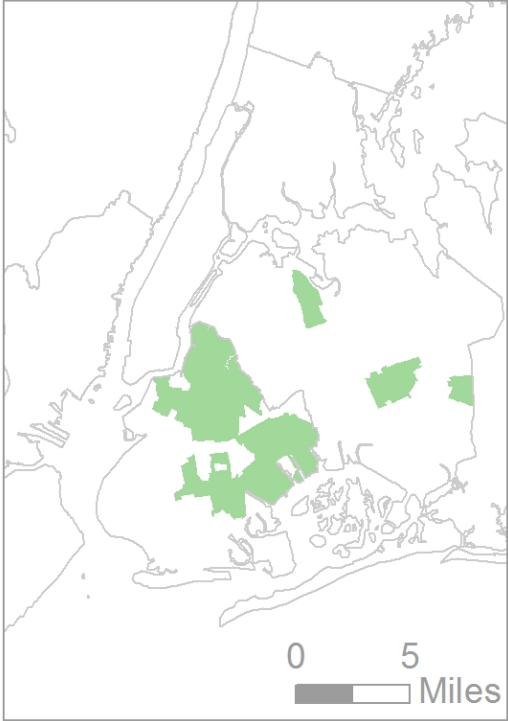
# Stewards work across sites and scales



Small: Green Acres  
Community Garden



Large: Green Bronx  
Machine



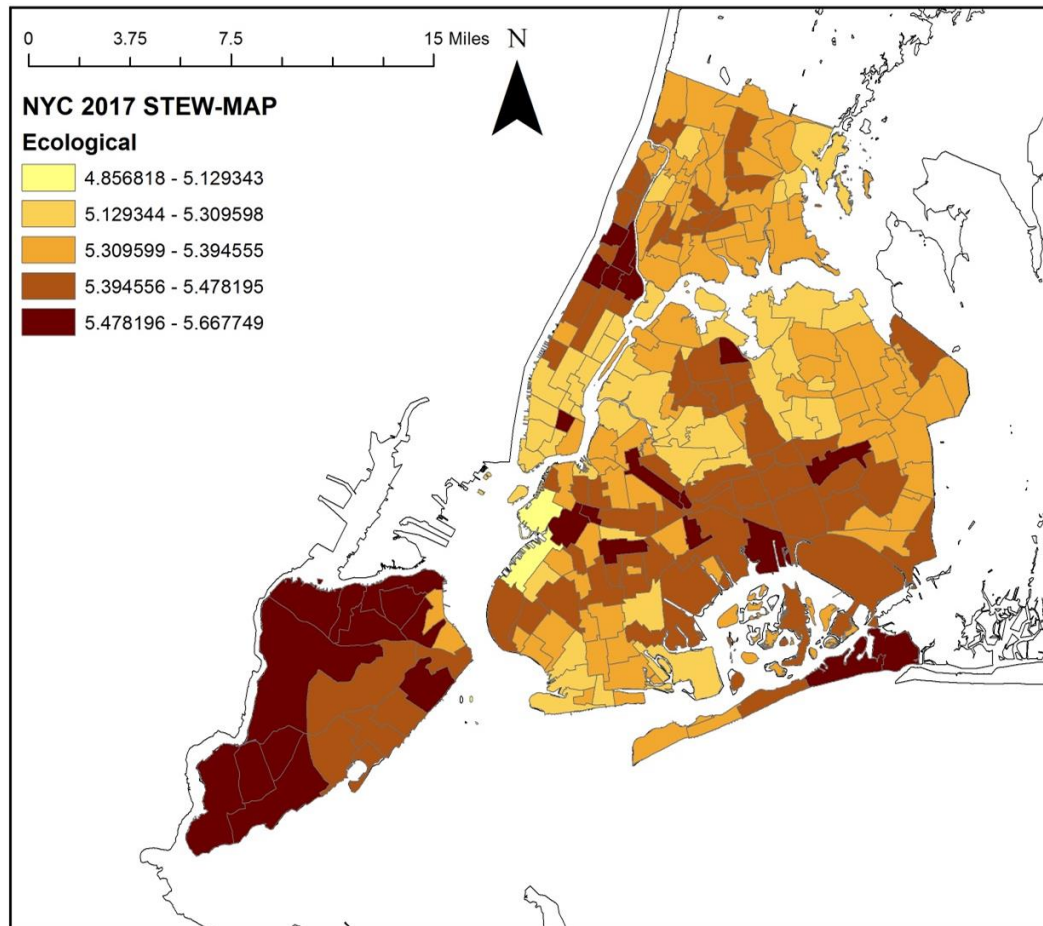
Multi-site: Brooklyn-  
Queens Land Trust



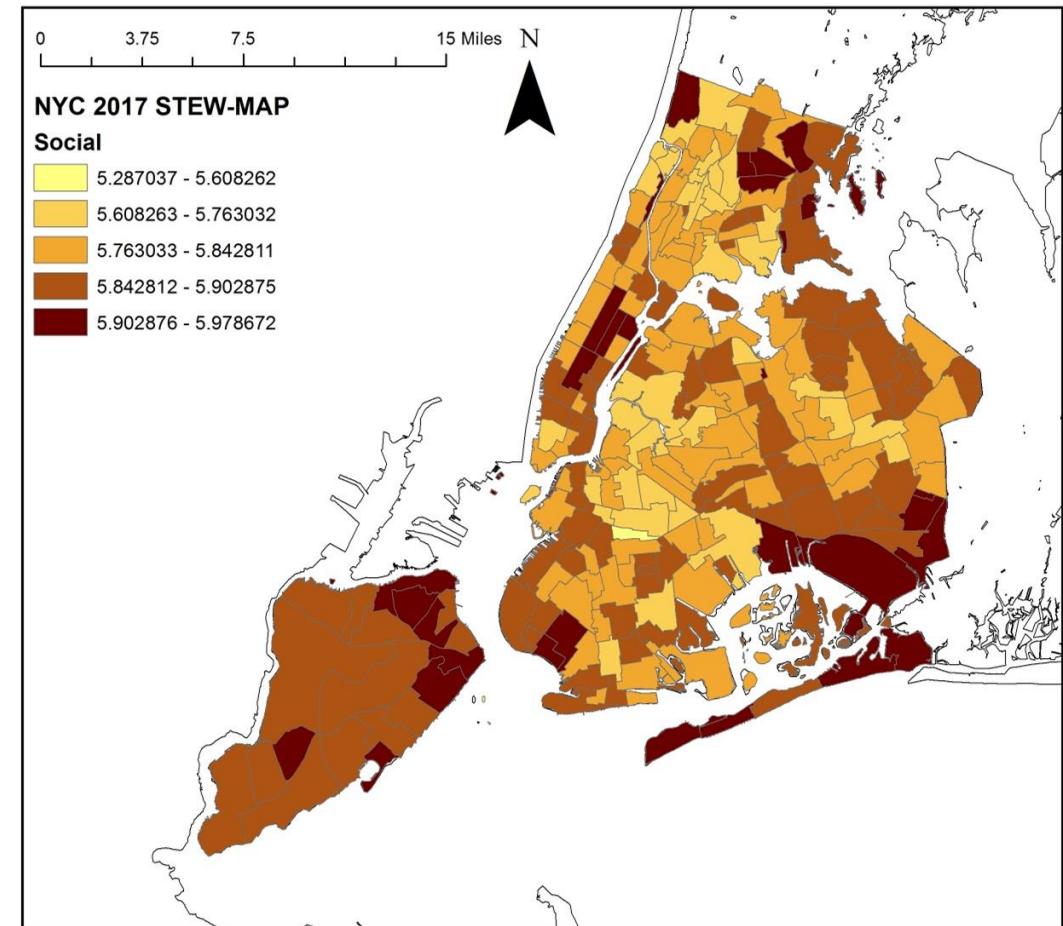
Corridor: East River  
CREW, Inc.



# Stewards are agents of change: Ecological and social outcomes



Air quality, water quality & land protection



Social trust, shared decision-making & civic engagement

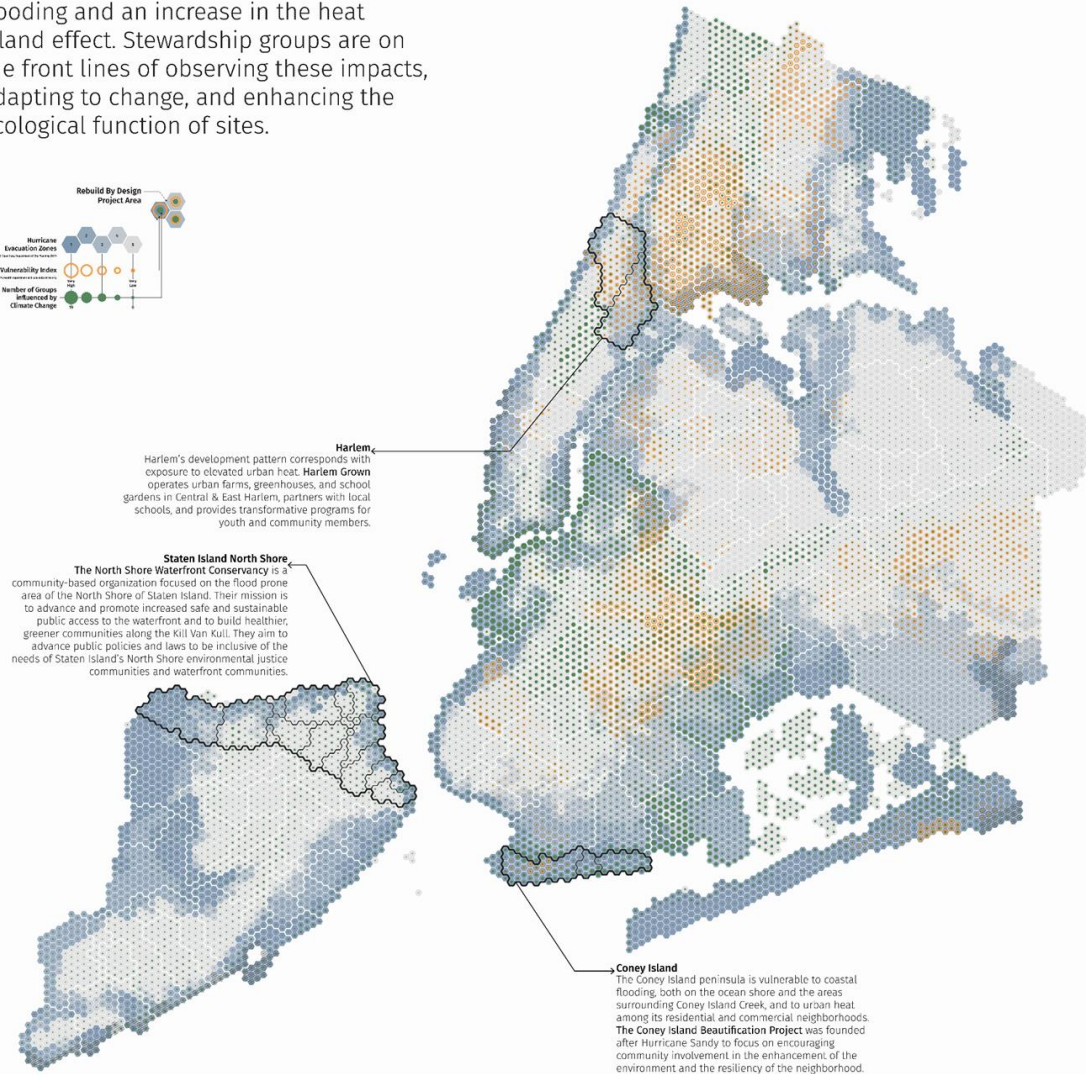
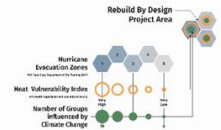
(STEW-MAP NYC 2017; Maps by Michelle Johnson)



# Stewards respond to disturbance

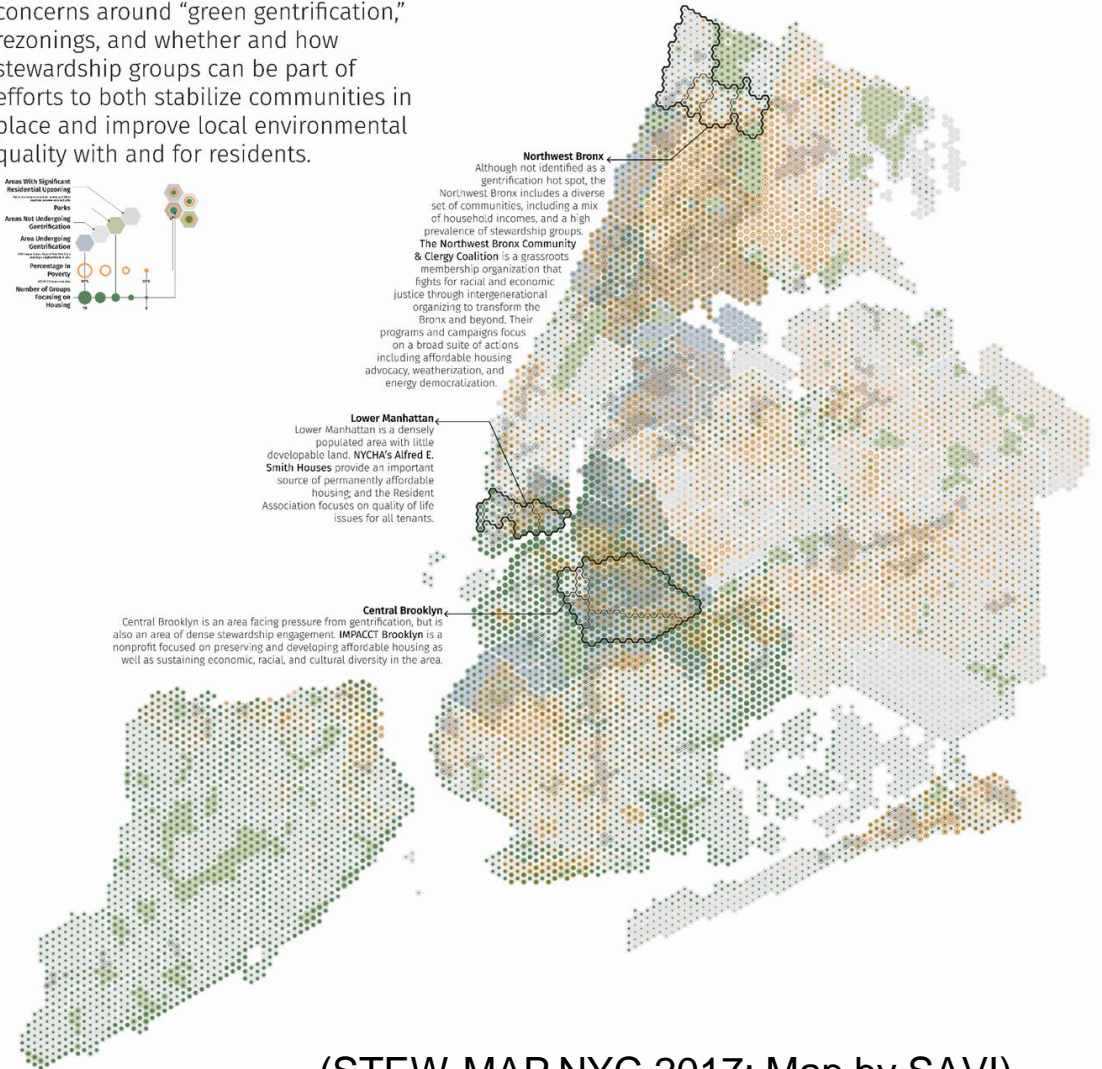
## CLIMATE CHANGE

Our changing climate has multiple impacts, including more intense coastal flooding and an increase in the heat island effect. Stewardship groups are on the front lines of observing these impacts, adapting to change, and enhancing the ecological function of sites.



## HOUSING AFFORDABILITY

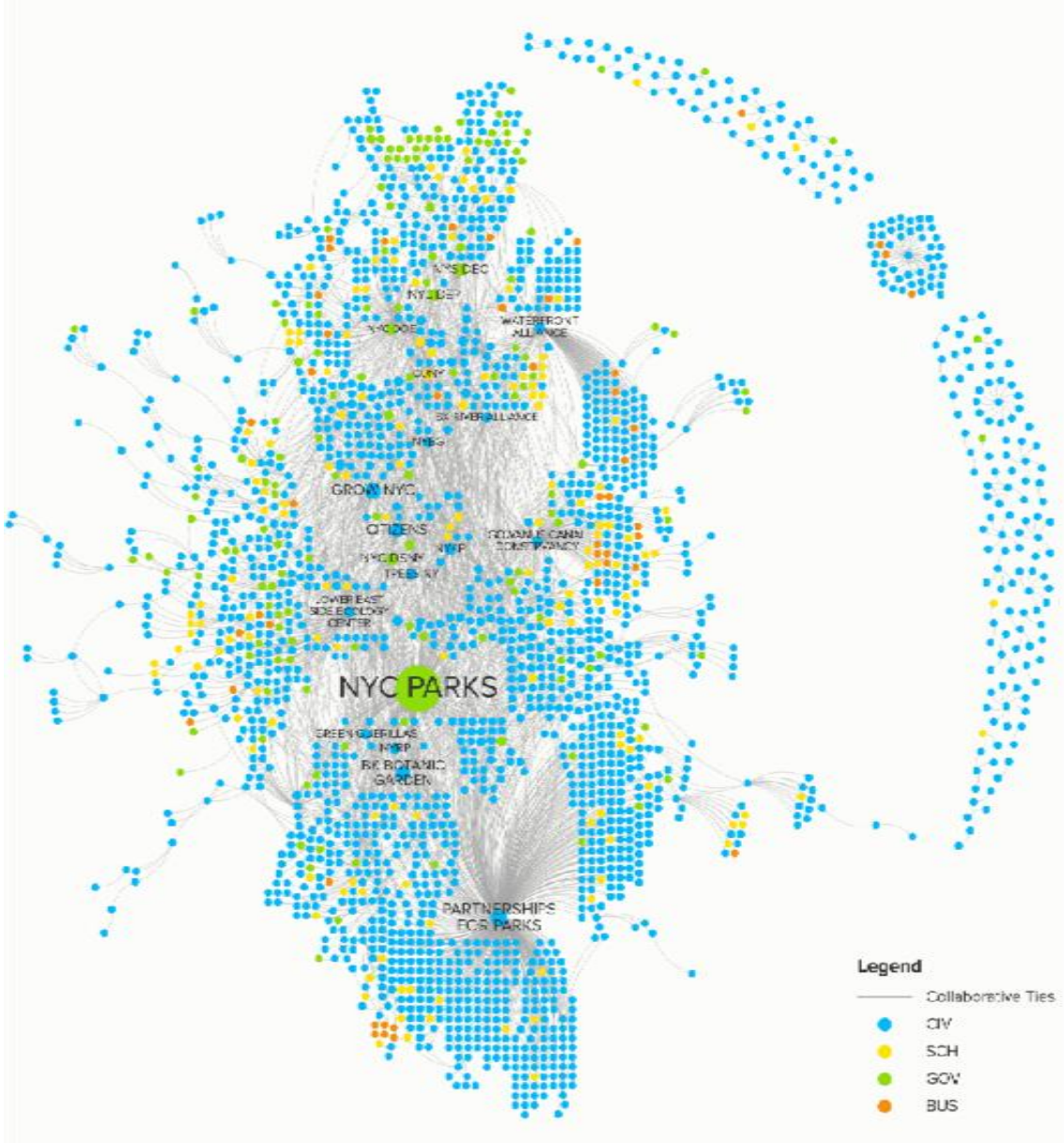
New York City is facing a housing affordability crisis. Debates center on concerns around "green gentrification," rezonings, and whether and how stewardship groups can be part of efforts to both stabilize communities in place and improve local environmental quality with and for residents.



(STEW-MAP NYC 2017; Map by SAVI)



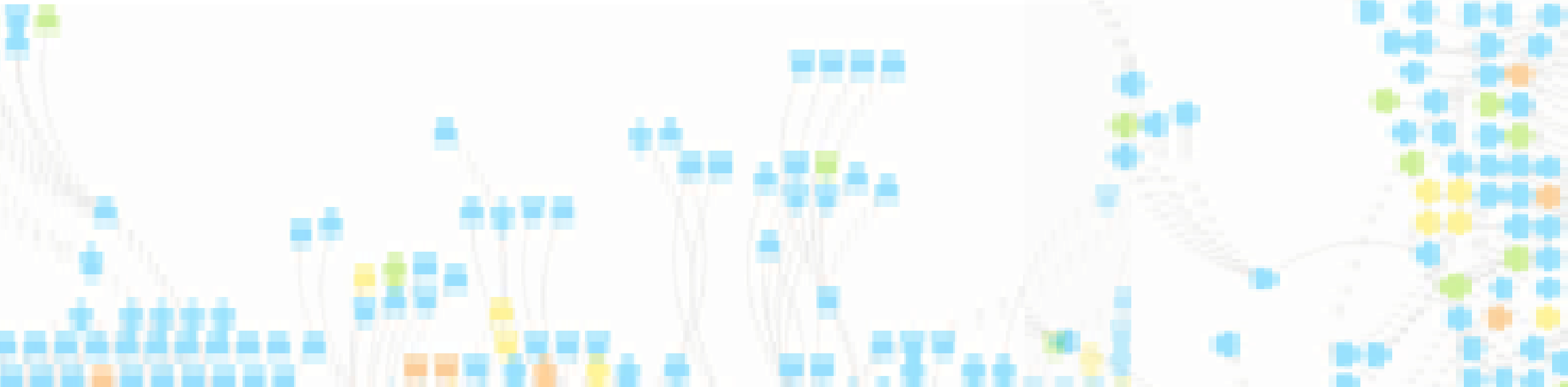
# Stewards do not work alone: Networks and brokers



Group Name	in-degree Statistic
NYC PARKS	182
PARTNERSHIPS FOR PARKS	50
GROW NYC	43
BK BOTANIC GARDEN	36
CITIZENS	36
NYC DSNY	27
NY4P	21
TREES NY	21
WATERFRONT ALLIANCE	20
NYRP	19
GREEN GUERRILLAS	19
NYS DEC	19
NYC DEP	18
GOWANUS CANAL CONSERVANCY	16
NYBG	16
LOWER EAST SIDE ECOLOGY CENTER	16
BX RIVER ALLIANCE	15
NYC DOE	14
CUNY	14
RIVERKEEPER	13

(Landau et al. 2019)

# STEW-MAP data in action





# STEW-MAP: community of practice

- Baltimore, MD
- Beijing, China
- Bridger-Teton NF, WY
- Chicago, IL
- Delhi, India
- Denver, CO
- Lima, Peru
- Los Angeles, CA
- Massachusetts
- Medellin, Colombia
- New York City, NY
- North Kona South Kohala, HI
- O'ahu, HI
- Paris, France
- Philadelphia, PA
- Puerto Princesa, Philippines
- San Juan, PR
- Santo Domingo, Dominican Republic
- Seattle, WA
- Southern New England
- Springfield, MA
- Valledupar, Columbia



# NYC: Preparing neighborhoods for climate change



“We are targeting groups that are already civically engaged, and that is one of the indicators of social resilience so [the STEW-MAP data] was very in line with our goals and also we want to support any efforts that will **help build social cohesion**, so if these groups can look each other up and it helps them connect to each other that is also beneficial.”

--Erika Lindsey, Senior Policy Advisor,  
Mayor’s Office of Recovery and Resiliency



# Baltimore: Leveraging social networks for more effective funding



# Hawaii Island & O'ahu: Building coalitions and setting priorities across civic groups



**“A unique aspect of STEW-MAP is that it shows the relationships among groups that are not all solely focused on stewardship, but care for the land as a pathway to meet their own missions, whether it be health, youth leadership, or the perpetuation of cultural values and practices”**

**-Heather McMillen, State of Hawaii**



# BTNF: Strengthening partnerships across the landscape



“All these folks have been huge in helping us out on the forest to date, and I’m sure there’s more. We get a lot of work done by our partners and that is something that is a huge benefit to the forest...**It seems like we’re just scraping the surface of what partnerships can do on the forest.**”

-Rob Holsher  
District Ranger, Big Piney

# Reflections

Green responders – civic stewards

- *How do we harness capacities and cultivate new potential?*

A Social Innovation - stewardship groups

- *How do we foster new forms of collaboration and governance?*

The need for flexible and un-programmed space

- *How can we create places of social meaning?*

Nature as a restorative mechanism

- *How can we envision nature not only as a buffer, but as a platform for supporting well-being, recovery and the co-creation of ecosystem services?*



# Resources:

**Green Readiness Response and Recovery: A Collaborative Synthesis**

<https://www.thenatureofcities.com/grrr-book/>

**STEW-MAP Website:** <https://www.nrs.fs.fed.us/STEW-MAP/>

**Who Takes Care of New York? online exhibition:**

<https://www.thenatureofcities.com/friec/wtcony-2020/>

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*Thank you!*

