

Why stewardship matters:

Reflections from two decades of learning from community-based environmental groups

By [Erika Svendsen](#), [Lindsay Campbell](#), [Michelle Johnson](#), and [Natalia Piland](#)

Photos Courtesy U.S. Forest Service

Urban foresters today are faced with an unprecedented challenge in the context of climate change and social crises: achieving sustainability and resilience goals while supporting diversity, equity, inclusion, and justice. Experience suggests that [partnerships are needed](#) with community members who can provide local knowledge, legitimacy, and action beyond one plan, one agency, or one grant program, to influence the structure and function of the urban forest.

For nearly twenty years, our research teams have worked with urban and community forestry partners to make local acts of stewardship visible to foresters, planners, and decision-makers. To do this, we engaged at the grassroots level to assess the impact of stewardship on organizations and natural resources. Thus, the Stewardship Mapping and Assessment Project ([STEW-MAP](#)) began as a research methodology and community organizing approach, answering the fundamental question: who takes care of the local environment?

The STEW-MAP survey was designed to be paired with local ecological knowledge, often gleaned from interviews and participant observation. Through STEW-MAP, we have learned who is participating in stewardship, how and where they are participating, and what their impact is. By assessing and mapping stewardship, we have generated otherwise-unavailable robust information about groups and environmental governance, and where the inequities in the landscape are. We have also learned about social networks and have seen [how resources \(e.g. labor, financial capital, and knowledge\) flow to and from groups and how this shapes their sustainability](#).

Here we present some lessons from STEW-MAP that we believe to be common across all the sites where it has been applied. The knowledge we gained has been co-produced with and continues to grow from a larger community of practice that includes partners from across the world, including Baltimore, Los Angeles, San Juan, Medellín, Hawai'i, Canada, the Philippines, France, and Mexico. >>



Tree planting with New York Restoration Project and NYC Parks in New York City.

Lesson #1: Stewardship is long-lived and impactful

Local stewardship groups persist over time through everyday acts of care. While some stewardship groups originated in the 18th century, the number of stewardship groups in our U.S. locations has steadily increased since the 1970s, and is associated with the [modern American environmental movement](#) as well as the [Hawaiian cultural renaissance](#). We find similar patterns in the Colombia and Dominican Republic datasets, reflecting the [neighborhood associations that formed in the 1980s to improve quality of life](#). While many places include contributions from national and regional groups, STEW-MAP focused on the smaller, local groups that play a special role in the urban forest—[holding the public trust and cultivating local knowledge](#). To showcase the diversity of these groups, we developed a [professionalization index](#) and a [capacity index](#). The professionalization index reflects the number of staff and the size of the budget, while the capacity index reflects the number of social network ties and any one group’s ability to reach the landscape of people taking care of their place and supporting community sustainability. Together, [alongside inter-view data](#), these show the unique contribution and strength of each group and the whole in impacting their surroundings.

Lesson #2: Stewards are agents of change, socially and ecologically

Stewardship groups manage and transform environments and communities through [care, direct action, hands-on work, education, and advocacy](#). For example, areas in Baltimore with [more tree canopy](#) and [volunteer-initiated stormwater green infrastructure](#) tend to have more stewardship groups. In Medellín, Colombia, the use of i-Tree and STEW-MAP in tandem showed a positive association between ecosystem benefits and the number of civic groups and links among them. We’ve also found that many groups focus on topics beyond the environment, like youth, seniors, social services, and the arts. In fact, in NYC, we found it challenging [to disentangle a “social component” from an “environmental component” in survey responses](#). Similarly, [in Hawai’i, education and cultural practice emerged as highly salient themes, alongside conservation](#). The social component is implemented as [community development and social trust](#), with groups activating green space to function as social infrastructure or communal spaces. Stewardship groups are working to advance overall quality of life and sustainability, and they are using unique metrics to interpret and measure success of urban forestry programs.



Volunteers planting trees in Stillmeadow Peace Park, Baltimore.

Lesson #3: Stewards respond to disturbance and foster social-ecological resilience

Stewardship groups engage in regular practices that demonstrate and strengthen social resilience at the community level. During times of crisis, stewards contribute to all stages of the recovery cycle—[from short-term responses to long-term recovery to adaptation](#)—through acts of environmental care and community organizing. For example, stewards play an important role in the [climate adaptation arena](#) and [identify climate change as a key motivating driver](#). This role encompasses a range of tactics and practices, including [shaping physical spaces, brokering partnerships, disrupting the status quo, building civic capacity, and envisioning new futures](#). Further, stewards can use their networks to [react nimbly to crises](#). For example, in NYC, [stewards relied on their networks to combat food insecurity during the COVID-19 pandemic](#), a novel way for this network to support their communities. Increasingly, decision-makers working on local disturbances, such as [Rapid ‘Ōhi‘a Death](#) in Hawai’i and wildland fire in the [Bridger-Teton National Forest](#), rely on stewardship data to identify key brokers ready to disseminate information and foster collaborations. >>

Environmental collaboration can no longer be described as top down or bottom up. Stewards collaborate through polycentric networks with multiple centers or nodes.

Lesson #4: Stewards operate through collaborative social networks

Environmental collaboration can no longer be described as top down or bottom up. Stewards collaborate through polycentric networks with multiple centers or nodes. Stewardship data shows how networks are structured, which actors are more or less influential as brokers, and how information and resources are flowing across partners. For example, NYC stewardship network data [identifies central brokers who disseminate resources and information to peripheral actors or groups that have limited contact to the larger network](#). In this way, stewards often influence actions of other groups in places that can be far from their own communities. Understanding groups as part of a larger system of stewardship, stewards can be linked to landscape-scale impacts and outcomes. Also, from stewardship workshops in Los Angeles we learned that when groups saw themselves in this networked way, everyone was able to better reflect and understand the impact of their work.



New Yorkers for Parks have developed accessible tools for residents to become involved in caring for their neighborhood park.

Applications for Urban Forestry

Whatever the desired ecological outcome in communities—better forest health, lowered urban heat island temperatures, improved water quality—it is important to cultivate and recognize volunteers as a social network that includes many different types of capabilities, capacities, and desires. Building the network and a degree of trust between people and between organizations is critical to achieving many of these outcomes.

There is value in seeing stewardship as a constellation of actors who contribute to successful and sustainable urban forestry programs. This includes individuals or groups that can provide a range of services (e.g. financial, legal, historical, cultural) to increase capacity and improve future planning efforts. There is value also in seeing all stewardship groups as land

managers whose time, knowledge, and experience is valued, regardless of whether they are volunteers or paid professionals.

Finally, embracing a diverse community of stewards is crucial to improving the equitable sustainability of our urban forest. Collectively, we have found that place-based forums and activities where culture, stories, and local ecological knowledge can be mutually shared is essential. Such experiences create opportunities to engage people in their own time and on their own terms, outside the context of a grant deadline or capital project. By strengthening relationships with local residents, volunteers, and stewardship organizations over time, urban and community foresters can be better poised to take on novel and complex challenges that will inevitably arise.

Lesson #5: Stewardship geographies are uneven across landscape and social scale

Perhaps one of our most important findings comes from exploring the intersection between stewardship networks and geography: some places in our cities have more or less stewardship capacity than others. We found that [collective characteristics of groups working in a space](#), such as breadth of focus or level of professionalization, may have the greatest impact on the density of stewardship groups (vs. population of an area or the amount of greenspace). Research in [Southeastern New England](#) found that personal relationships were key to shaping the geography of stewardship. These data about civic group capacities, geographies, and networks are critical for developing equitable engagement strategies and outcomes. 🌱

Thank you to our collaborators:

Dexter H. Locke, Nancy Sonti, J. Morgan Grove, Tischa Muñoz-Erickson, Dave Bloniarz, Brian A. Goldberg, Gerald P. Bauer, Travis Warziniack, Maria Arroyave, Camille McCarthy, and Phil Rodbell - USDA Forest Service

Michele Romolini, Loyola Marymount University; Heather McMillen, Hawaii Department of Land and Natural Resources; Rachel Dacks, University of Hawaii; Bryce DuBois, Rhode Island School of Design; Jesse Sayles, University of Victoria; Laura Landau, Rutgers University; Lorien Jasny, University of Exeter; Krista Heinlen, Davey Institute; Sophie Plitt, Natural Areas Conservancy

New USFS Resources



Nature Connects Us

[Nature Connects Us](#) — A new campaign by the National Forest Foundation collects voices and stories about your unique connection to nature.

Rooted in Research

[Rooted in Research](#) is a Forest Service platform providing science briefs for people who make and influence land management decisions, like urban foresters.

Reverberations

[Reverberations](#) — The Forest Service and The Nature of Cities has released an immersive sound-based exhibition exploring urban forest elements through art, science, and sound.

Urban Field Station Collaborative Arts Program

The [Urban Field Station Collaborative Arts Program](#) has announced its 2024 cohort of artists-in-residence in Puerto Rico and in cities across the U.S.

Clearing House for information

Check out this new [Clearing House for information](#) on using trees as nature-based solutions to improve urban living in both Europe and China, with many relevant case studies for application in the U.S.

JEDI Project

Produced by Corazón Latino, [The JEDI Project](#) uses an environmental justice lens to explore the USDA Forest Service mission.

