STEW-MAP NYC User Research Report

Julia Wagner[1], Sophie Plitt[2], Lindsay K. Campbell[3], Erika S. Svendsen[3], Michelle L. Johnson[3]

[1] Clark University, Department of Geography
[2] Natural Areas Conservancy
[3] USDA Forest Service, Northern Research Station

Date: January 2022

NYC Urban Field Station - STEW-MAP White Paper

Executive Summary

Aims

User research is a cornerstone of digital technology development. User experience (UX) designers work to tailor new technologies and softwares to facilitate intuitive and seamless interactions with their products. With consideration for new capacities in data capture, cleaning, and visualization, the STEW-MAP team sought to re-evaluate its survey methodology and digital visualization tools. By systematically engaging STEW-MAP users in our evaluation and adaptation of the project, we opened up the deployment of UX methods towards 1) more nuanced co-production of stewardship research, and 2) more effective research dissemination.

Methods

We conducted nine virtual, semi-structured user interviews with existing (4), potential (3), and advisory (2) STEW MAP NYC users in July and August 2021. Interviews were voluntary, confidential and covered the following topics:

- Focused on the user as a practitioner, soliciting further information about their projects and engagement with stewardship and community partnership in New York City.
- Gave a guided tour of the STEW-MAP web dashboard user interface, using the screen share feature of the virtual meeting software.
- Asked for user impressions about the functionality of the data as well as the web-based dashboard user interface.

Findings

Dashboard Use Cases

- **Existing use case: Spatial directory**
  Existing users predominantly used the STEW-MAP web map and dashboard as a spatially-informed directory. The STEW-MAP dashboard helped them assess the "stewardship landscape" of certain areas of the city. Practitioners used the platform to identify groups working in and around particular areas of interest, such as a neighborhood or a park, with the aim to establish community partnerships.
- **Existing use case: Asset mapping**
  Existing users also sought the STEW-MAP dashboard to conduct high-level analysis to support fundraising and justify program implementation. Some users sought to identify stewardship groups as a community "asset" so that they may support and contextualize program implementation in a specific area.
- **Potential use case: Stewardship index**
  Many users suggested wishing to see distillations of the stewardship information that identified a 'meaningful' stewardship metric for neighborhoods from which they could base their policies and programs. With this in mind, one approach to enhancing practitioner use would be to develop a 'stewardship index' or integrate stewardship data with existing indices to guide the meaningful integration of stewardship into urban natural resource planning and policy/program-making.

Data Use Cases
- **Existing use case: Research as community organizing and partnership networking opportunity**
One user had participated in the methodology by convening stewardship groups during the STEW-MAP data collection period. This user expressed that the meetings and workshops supporting the collection of data for STEW-MAP served as a moment to meet other groups and integrate within an "ecosystem of stewardship". The greatest value for this particular user was not the data, but in the interactions and connections made with community partners during the STEW-MAP research process. This practitioner grew their working network through the STEW-MAP process. This insight points to how the project of building digital infrastructure tools offers meaningful results in and of itself.
- **Potential use case: Longitudinal data and comparative analyses**
Users felt that one of the great benefits and novelties of the STEW-MAP data was that it documents a decadal snapshot of stewardship in NYC. The 2007 and 2017 datasets, analyzed comparatively, can reveal important patterns about group formation and disintegration over certain timelines, around certain issue areas, and representing certain geographies. While practitioners appreciated the potential insights of these two datasets, they likewise recognized that shorter-term updates could reveal important information not captured in the decadal datasets.
- **Potential use case: Validating and measuring social resilience and civic capacity**
Users working in the climate change adaptation space were interested in whether STEW-MAP data might be used as a measure of social resilience or adaptive capacity in a certain area. These users highlighted civic participation as a sign of social cohesion, recognized by socio-ecological systems scientists as paramount to resiliency. They asked: what level of engagement constitutes resilience in a neighborhood?

Conclusions

Recommendations for enhanced usability by practitioners
1. Make more visible links to dashboard, web map, and data download on the STEW-MAP website. Seek alternative open data venues (such as the NYC Open Data Portal) to share stewardship dataset.
2. Create a concise video explainer to accompany in-person trainings so that users can return to the content on their own time.
3. Offer prompts to provoke certain questions of the data (ie: "Use this dashboard to…"). Convey what types of questions can be asked as well as those that cannot be answered by the data.
4. Update the data in real-time, noting this requires regular cleaning for "inactive" groups as well as version control to allow users to understand how the data has changed over time.
5. Make any crowdsourced information as low-maintenance and low-time-commitment as possible.
6. Create supplemental materials and static reports with analyses to create a stewardship index that conveys meaningful stewardship information at the neighborhood level.
7. Continue design ethnography to co-produce research. Consider how co-production convenings and processes serve as useful research output in and of itself.

Introduction
Across the country, people are working together to plant and care for trees, organize community gardens, remove litter, plan river cleanups, and many other community greening efforts. Local volunteer groups and NGOs are working together to create stronger, healthier, greener, and more resilient communities -- they are the stewards of their local environment. These acts of stewardship critically contribute to the care of natural resources and the well-being of communities across urban and rural areas. Knowing about the individuals and groups caring for natural resources provides the potential to leverage stewardship capacity in powerful ways for governments, non-profits, and other organizations to achieve outcomes that would otherwise be impossible with finite resources.

The Stewardship Mapping and Assessment Project (STEW-MAP) is a research methodology, community organizing approach, and partnership mapping tool developed by scientists at the USDA Forest Service Northern Research station that answers the question: *who takes care of the local environment?* STEW-MAP visualizes the social networks undergirding environmental stewardship that was applied in New York City in 2017 (and first developed in 2007). The method establishes a citywide sampling frame and survey to identify and document stewardship groups on a diversity of urban natural resources including parks, trees, and even systems such as the hydrological system. Stewardship is defined broadly as care for the local environment through conservation, monitoring, management, education, transformation, and advocacy (Landau et. al. 2019). Through the STEW-MAP data collection process, stewardship groups identify their partners to create a social network depicting stewardship relationships in the city and surrounding metropolitan area. STEW-MAP research products help to show the efforts and impact of civic environmental stewardship that is often less visible or taken for granted.

Resulting STEW-MAP data include in-depth tabular and geographic information about stewardship foci, organizational dimensions, and areas stewarded; these products are made available as open data (for groups willing to be on a public map) and depicted on a web map and dashboard. In addition to theoretical papers and technical reports, the open data, web map, and digital dashboard comprise the research products geared towards a community of practice in urban environmental stewardship. Practitioners may include land managers, community land trust coordinators, environmentalists, or planners and policymakers. They employ a diverse range of experiences, education, and expertise, which not only impacts how they may apply the tool to their work, but their specific skill sets and familiarity with the tool technologies. For instance, practitioners in the urban environmental stewardship field may possess GIS expertise while others may specialize in horticulture or community organizing. The research products (the data and map/dashboard) and how practitioners use them are the focus of this study.

Why user research?
User research is a cornerstone of digital technology development. User experience (UX) designers work to tailor new technologies and softwares to facilitate intuitive and seamless interactions with their products (Pink et al. 2015). While user experience methods are well established in the private sector product development, they remain less studied and operationalized in the production of digital knowledge products (with some exceptions - see Anti-Eviction Mapping Project, https://antievictionmap.com/). Interestingly, user experience designers borrow many of their methods from researchers in the social sciences, particularly anthropological ethnography; social scientists have used these methods to understand the implications of technologies in social processes (Pink et al. 2015). We approached this study design from the notion that user experience research could not only yield important insights as research but also about our research dissemination products. User experience research offers a suite of methods, not only for understanding the world but also the products with which we convey knowledge.

With consideration for new capacities in stewardship data capture, cleaning, and visualization, the STEW-MAP team sought to re-evaluate its survey methodology and digital visualization tools. By systematically engaging STEW-MAP users in our evaluation and adaptation of the project, we opened up the deployment of UX methods towards 1) more nuanced co-production of stewardship research, and 2) more effective research dissemination.

Temporal considerations
The NYC STEW-MAP team has conducted two decennial stewardship surveys (2007 and 2017) as well as an interim survey containing on a smaller subset of the NYC stewardship population oriented towards the waterfront (2015). Where static information on a decennial basis offers powerful contextualization of civic organizations working in New York City and longer-term trajectories of local organizing, the decadal methodology contains limitations in representing the often fast-paced nature of social change in NYC. Groups may organize and disband within a decade, yet still offer meaningful work and interventions to urban social infrastructure. These interim shifts are a current limitation of point-in-time STEW-MAP surveys.

Given this temporal limitation, the NYC STEW-MAP began considering options to bolster existing decadal survey datasets with more 'real-time' updates to portions of the survey (called 'STEW-MAP Live'). In light of increasing accessibility of digitized records and automated coding processes, the team was able to reconsider certain data capture methods given new capacities. In anticipation of designing and operationalizing real-time automated and user-generated updates to the STEW-MAP survey, the team sought out finer details from existing and potential users to understand and integrate the timescales at which information updates would be most useful to their work.

Spatial considerations
The NYC STEW-MAP team has studied the NYC metropolitan region, including the city's five boroughs as well as the surrounding metropolitan statistical area. Where the data has a defined spatial character, the STEW-MAP methodology has the ability to travel. Practitioners in diverse regions and socio-ecological settings have deployed the STEW-MAP methodology that was originally implemented in NYC. Site-specific STEW-MAP's have been replicated in dozens of settings, representing the applicability and adaption of the methodology across rural-urban interfaces as well as in different land management regimes, from national forests to patchworks of urban green spaces. The result of the ongoing implementation in different areas has been a collection of distinct STEW-MAP products, each containing unique and explicit spatial limitations. With the reconstitution of the STEW-MAP methodology with coding capacities including automation and user-input, the spatial extent represented on the map also has the opportunity to change. For instance, the web-scraping of 501(c)3 990 tax documents could be nationally extensive or refined to represent certain zip codes. With these new capacities, it became important to better understand the spatial jurisdictions of STEW-MAP users. Expanding the spatial extent of survey intake may yield unexpected results in terms of stewardship capacity, networks, and impacts.

Methods

User Interviews
Our research methodology hinged around conducting semi-structured user interviews with existing, potential, and advisory users in July and August 2021. In keeping with COVID-19 regulations at the time of research, all interviews were conducted via a virtual meeting platform. The interviews involved a series of questions split into two major themes. The first set of questions focused on the user as a practitioner, soliciting further information about their projects and engagement with stewardship and community partnership in New York City. Following the first set of questions, the STEW-MAP interviewers gave a guided tour of the STEW-MAP web dashboard user interface, using the screen share feature of the virtual meeting software. The virtual modality readily offered the opportunity for interviewers to demonstrate the STEW-MAP web dashboard to interviews. Finally, we asked for user impressions about the functionality of the data as well as the web-based dashboard user interface. Interview durations ranged from 45 minutes to 60 minutes. The interviews were semi-structured with both a set protocol of questions as well as opportunities for both the interviewers and interviewees to ask follow-up questions. User interviews questions were slightly modified to reflect the user type. Interviews were conducted with two researchers, one asking questions while the other noted responses. Interview responses were also recorded and auto-transcribed using software on the virtual meeting platform. Analysis proceeded from the "results" categories described below (dashboard use cases, data use cases, and user experience) and inductively summarized themes emerging from the interviews.

User Types
Our interviewed users consisted of three user types: existing users, potential users, and advisory users. Existing users consisted of either project partners or users within our STEW-MAP community of practice that had a record of implementing STEW-MAP methods or insights into their work. Potential users were partners whose work we identified as a prime candidate for use of the STEW-MAP methodology or data, but that had expressed not having used the research products and that spanned a range of sectors, scales, and roles. Finally, we conducted interviews with advisory users; these individuals did not have a clear purpose for the application of STEW-MAP findings in their work, but rather worked in public service roles as technologists, offering a unique perspective about development of web tools for public purposes. We interviewed four existing users (44%), three potential users (33%), and two advisory users (22%). Interviewees possessed a range of prior knowledge regarding STEW-MAP; some were interacting with the research products for the first time at the point of the interview, while others had familiarity with the products for several years. Due to the small sample size of this pilot study, we did not collect demographic information on interviewees. See Figure 1 for a summary of pilot study participants by organization type and user type.

Figure. 1: Pilot study participants

Organization Type	
Municipal Government	5
Public-private Partnership	3
Non-profit	1
User Type	
Existing	4
Potential	3
Advisory	2

Our interview outreach strategy was conducted as follows. Potential interview respondents were collected from our project team and partners given past work or knowledge of existing and aligned work in New York City. Our team reached out to fifteen potential respondents, of whom seven were able to participate in our interview methodologies. From our initial sample of seven respondents, our partners connected our team to an additional two interviewees. In total, we conducted nine user interviews with a 60% response rate. Those who did not participate did not

respond to our requests for an interview or lacked the time capacity to participate in an interview at the time of our research.

Given that one of the primary audiences for STEW-MAP is citywide decision-makers and umbrella groups, our team made the decision to only conduct the user interviews with institutional partners rather than expanding our interview pool to individuals in local or neighborhood-scale stewardship groups. By institutional partners, we mean individuals working in nonprofits, public-private-partnerships, and municipal government agencies with a broad interest in urban greenspace, stewardship, forestry, infrastructure, and community engagement. We interviewed one individual working for a non-profit (11%), three individuals working in public-private partnership organizations (33%), and five individuals working with the NYC municipal government (55%). Where community partners were not included in this particular user study, we believe STEW-MAP offers known and potential uses for civic stewardship groups and that future work is needed to examine the functionality of STEW-MAP products for stewards.

Results

The user interviews yielded insights on the STEW-MAP dashboard, the survey data, and the survey process itself. The data contains results from the STEW-MAP survey and contains rich information regarding stewardship groups and their scope and location of work as well as details such as funding, membership, and social networks. The dashboard is a web-based product that allows users to readily visualize, summarize, and query the geographical information. Feedback has three sub-categories: use cases for the dashboard, use cases for the data, and user experience. The use cases discuss the functionality and application of the research products in partners' work. Use cases have been split between existing and potential uses enumerated by the interviewees. Existing cases were derived from the experiences of existing users, but all user types enumerated potential use cases. Both existing and potential use cases convey important information about how stewardship is conceptualized, valorized, and integrated into urban infrastructure and natural resource management practice. The dashboard use cases convey how practitioners hope to interact with and integrate stewardship into their policies and programs. The data use cases identify the kinds of information that practitioners wish to understand about urban stewards. Meanwhile, user experience focuses specifically on the users' interactions and ease of working with and understanding the products.

Dashboard Use Cases
Existing use case: Spatial directory
Existing users predominantly used the STEW-MAP web map and dashboard as a spatially-informed directory. The STEW-MAP dashboard helped them assess the "stewardship landscape" of certain areas of the city. Practitioners used the platform to identify groups working in and around particular areas of interest, such as a neighborhood or a park, with the aim to establish

community partnerships. Though practitioners could not vouch for whether stewardship groups themselves used the web-map and dashboard for their own organizing purposes, one practitioner referenced sharing the dashboard with community and civic partners with the hope that they use the tool to "find each other" and network amongst themselves.

<u>Existing use case</u>: Asset mapping
Existing users also sought the STEW-MAP dashboard to conduct high-level analysis to support fundraising and justify program implementation. Similar to those who wished to identify the stewardship landscape so that they could organize and coordinate with partners, some users sought to identify stewardship groups as a community "asset" so that they may support and contextualize program implementation in a specific area. Similar to the use case above, these users would reference the dashboard and map as a spatial directory to identify groups working in a particular area. The STEW-MAP's structure as an open access digital archive made it particularly useful in this regard, as one practitioner referenced it as a good source of "institutional memory" in an institutional environment that faces a high degree of professional turnover.

<u>Potential use case</u>: Stewardship index
Many of the users we interviewed relied on indices, such as environmental justice indices or social vulnerability indices, to guide the site selection of their programs. In addition to this general practice, many users suggested wishing to see distillations of the stewardship information that identified a 'meaningful' stewardship metric for neighborhoods from which they could base their policies and programs. With this in mind, one approach to enhancing practitioner use would be to develop a 'stewardship index' or integrate stewardship data with existing indices to guide the meaningful integration of stewardship into urban natural resource planning and policy/program-making.

<u>Reflections on dashboard and web map uses</u>
Most of the practitioners we spoke to approached the STEW-MAP with the intention to do work in a specific geographical area, rather than to use the map to identify areas to focus their work or resources. From these two predominant uses, we gathered that STEW-MAP users were using the dashboard product as a support tool rather than an overarching analysis tool. Because the users approached the digital tool with an area in mind, they expressed interest in being able to 'search' within or around particular geographic parameters such as neighborhoods or parks. Practitioners in our study occupied various positions in land management and city government with regard to their constituent interactions and analyst capacities; some specialized in direct service provision while others were more focused on policy or program design. However, the predominant existing use of the STEW-MAP was to assist implementation.

Data Use Cases

<u>Note on existing use cases</u>
None of our study participants had done in-house analysis using STEW-MAP raw data. The reasons for this disengagement with the data products were variable. In several cases, users did not realize that raw data was available to download and manipulate. This signifies that the raw data must be more easily accessible for download either on the STEW-MAP website or alternative platform. This issue can be remedied with more intuitive wayfinding on webpages.

Another reason respondents did not use the data was that they lacked the GIS skills to manipulate it towards their analytical questions. Further, even those practitioners who possessed GIS capacity described having limited time to develop analyses using 'external' datasets. Finally, users noted needing "nuanced" and "pre-existing knowledge" about the STEW-MAP project and dataset in order to adequately deploy the data. Given these three pieces of feedback, practitioners were clear that, while they found the data meaningful to their work, they needed more distilled products to integrate the data into their analyses and program development. Practitioners were looking to the STEW-MAP to explain at what geographies and timescales the stewardship data are "significant."

<u>Existing use case</u>: research as community organizing and partnership networking opportunity
One user had participated in the methodology by convening stewardship groups during the STEW-MAP data collection period. This user expressed that the meetings and workshops supporting the collection of data for STEW-MAP served as a moment to meet other groups and integrate within an "ecosystem of stewardship". The greatest value for this particular user was not the data, but in the interactions and connections made with community partners during the STEW-MAP research process. This practitioner grew their working network through the STEW-MAP process. This insight points to how the project of building digital infrastructure tools offers meaningful results in and of itself.

<u>Note on potential use cases</u>
It is important to understand the variable ways in which users understand stewardship as well as their particular interests in partnering with stewardship groups. There is a healthy tension between practitioners' understanding of stewards as an asset (or to signal something about the sociality of a place) versus stewards as a partner (to offer potential coordinated efforts towards urban natural resources and systems). Likewise, there is variation in the types of groups that practitioners are interested in engaging with: some look towards grassroots or loosely affiliated civic groups, while others look to more institutionalized community-based organizations with 501(c)3 status. Some of the practitioners we spoke to had highly specific scope or work focusing on particular resources such as certain parks, forests; meanwhile, others had broader aims, such as system-wide socio-ecological resiliency and community-building. Each practitioner, though all aimed towards sustainability and resiliency of urban socio-ecologies, expressed a unique

relationship and perception of stewardship and its relevance to their work posing challenges for creating a broad-based set of information for multiple users.

Potential use case: longitudinal data and comparative analyses
Users felt that one of the great benefits and novelties of the STEW-MAP data was that it documents a decadal snapshot of stewardship in NYC. The 2007 and 2017 datasets, analyzed comparatively, can reveal important patterns about group formation and disintegration over certain timelines, around certain issue areas, and representing certain geographies. While practitioners appreciated the potential insights of these two datasets, they likewise recognized that shorter-term updates could reveal important information not captured in the decadal datasets. In particular, users were interested to learn how stewardship groups respond to crises, adapt to political conditions, or change over time given group resources, such as access to funding. The notion of real-time updates was largely supported, with several caveats. First, the users felt the value in real-time updates would be to compare changes in the stewardship landscape over time. For that reason, older versions of the dataset would need to be available for comparative analysis. Second, users also recognized that real-time updates could deliver more accurate snapshots of present-day stewardship; therefore, they insisted that an updating dataset have mechanisms to remove "inactive" groups from the dataset. Finally, they recognized that crowdsourced data collection creates an additional task for their steward-partners, who are already very busy volunteering. Any crowdsourced information for a real-time map was recommended to be made highly user-friendly and requiring very little time.

Potential use case: validating and measuring social resilience and civic capacity
Users working in the climate change adaptation space were interested in whether STEW-MAP data might be used as a measure of social resilience or adaptive capacity in a certain area. These users highlighted civic participation as a sign of social cohesion, recognized by socio-ecological systems scientists as paramount to resiliency. They asked: what level of engagement constitutes resilience in a neighborhood?

User experience
User experience reflections speak to the experience of interacting with the data visualization platform and datasets. Users in this group include existing and potential users as well as "advisory" users who do not work directly with stewardship, but rather are technologists who specialize in public and open data in NYC. The results below have been synthesized from the reflections of all user types.

Overwhelm:
Almost every user described a sense of being overwhelmed upon interacting with the dashboard for the first time. When opening the dashboard, they are greeted with a map, several widgets, and several information panes. The abundance of information seemed to convey that users needed to

"know what to look for" when opening the map rather than intuitively clicking through the map and analysis widgets to "get to know" the information.

Legend:
Users also expressed initial confusion at the point (group office locations) and polygon (group stewardship 'turfs' or territories) datasets. Even after consulting the legend, to learn the names of these datasets, they struggled to get a sense of what they represented. Both datasets contain extremely detailed information on stewardship groups and the areas they serve; however, they require greater explanation so that users can better sense what they represent.

Querying:
Users suggested that querying by neighborhood or using a buffer around a park would be most helpful. For neighborhood queries, a toolbar with neighborhood names listed may be helpful. For buffers, a point and click drawing tool may be helpful.

Filters:
Users suggested that the following filters would be most useful:
- Filter *out* "citywide" groups, or those groups focusing on broad geographic areas / systems
- Filter by group focus citywide to understand geographical gaps in "service"
- Turn *off* unnecessary layers

Conclusions
Designing for practice and the co-production of ongoing research
This study project used design ethnography methods to assess the uses of STEW-MAP research products within a community of practice. The STEW-MAP team is dedicated to research that is both theoretically rigorous and accessible to be applicable to practitioners and their work. Design ethnography methods, yield qualitative data on how people interact with designed objects and tools, including digital technologies. Using these methods, the STEW-MAP team can assess how their digital tools function within practitioner spaces. With feedback from users, the STEW-MAP can alter their research products to make their information and insights more accessible to practitioners who apply these data to their work. Design ethnography, then, is a helpful tool to design research products for practice.

Design ethnography provides useful information to best package research products, but it likewise provides a method to engage with research partners in the co-production of knowledge. By interpreting user feedback in an iterative process of research production, researchers can both apply insights to research products and factor those insights into the design of future research. Conducting design ethnography with users in this study yielded valuable insights into future research directions and possibilities.

Recommendations for enhanced usability by practitioners

1. Make more visible links to dashboard, web map, and data download on the STEW-MAP website. Seek alternative open data venues (such as the NYC Open Data Portal) to share stewardship dataset.
2. Create a concise video explainer to accompany in-person trainings so that users can return to the content on their own time.
3. Offer prompts to provoke certain questions of the data (ie: "Use this dashboard to…"). Convey what types of questions can be asked as well as those that cannot be answered by the data.
4. Update the data in real-time, noting this requires regular cleaning for "inactive" groups as well as version control to allow users to understand how the data has changed over time.
5. Make any crowdsourced information as low-maintenance and low-time-commitment as possible.
6. Create supplemental materials and static reports with analyses to create a stewardship index that conveys meaningful stewardship information at the neighborhood level.
7. Continue design ethnography to co-produce research. Consider how co-production convenings and processes serve as useful research output in and of itself.

References

Landau, Laura; Campbell, Lindsay K.; Johnson, Michelle; Svendsen, Erika; Berman, Holly. 2019. STEW-MAP in the New York City region: survey results of the Stewardship Mapping and Assessment Project. Gen. Tech. Rep. NRS-189. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 69 p. https://doi.org/10.2737/NRS-GTR-189.

Pink, Sarah, Heather Horst, John Postill, Larissa Hjorth, Tania Lewis, and Jo Tacchi. 2015. *Digital Ethnography: Principles and Practice*. Sage Publishing.

APPENDIX 1: INTERVIEW PROTOCOLS

PROTOCOL FOR KNOWN USERS

1. Can you start by telling us about your organization, your division, and your role there? What do you focus on? In which jurisdictions do you work? At what scales? (ie: individuals, households, neighborhood, system?)

2. Can you describe the datasets that you use in your work (ie: a membership database, GIS property layer)?

    a. Please describe the work that you do with this information.

3. Who are your partners? Why is knowing about community/civic partners and collaboration important to your work?

4. How does your organization define environmental stewardship? - What do you need to know about stewardship? Do you track any metrics?

    a. IF THEY NEED A DEFINITION: *Civic stewardship groups engage in advocacy, education, conservation, management, and transformation of the urban environments on multiple sites (land, air, water, systems).*

    b. IF THEY NEED A PROMPT*:*

        Capacity? Group size, funding, #volunteers? Projects?

5. How did you first learn about STEW-MAP?

    a. Any key relationships or referrals that led you to STEW-MAP?

6. Have you ever used STEW-MAP data or tools in your work? If so, please tell us how. If not, why not?

    a. For instance, did you use the data to analyze and evaluate policies/programs, visualize information, inform operations?

    b. Do you use STEW-MAP data in concert with other datasets? If applicable, how did you edit/manipulate the data for your purposes?

7. How did you access the STEW-MAP data / resources? (website download, via the web dashboard)?

8. Tell us about your user experience with the STEW_MAP data and dashboard. (Were they easy to access? To interpret? To download? To synthesize with the other datasets you use?)

    i. Were there any barriers to accessing or using the data?

    ii. Did you do any additional data analysis using STEW-MAP beyond the data synthesis provided on the dashboard?

    iii. As far as you are aware, do different members of your division or organization use the data and/or dashboard for different purposes than you?

9. What impacts did using STEW-MAP have on your work? How may your project outcomes have differed if you did *not* engage with STEW-MAP?

10. Any reflections on improvements that could be made to the STEW-MAP data? The STEW-MAP dashboard?

    a. Would any additional products assist in your use of STEW-MAP (trainings, how-to's, interpretive reports)?

    b. What spatial level would it be useful to have the data delivered in (census tract, neighborhood etc).

    c. How would real-time information change the way you interact with and use STEW-MAP data?

11. Do you have plans to use STEW-MAP in future projects? How?

12. What would you like to know about stewardship, partners, and civic engagement that you don't currently understand? (ie more frequent -real-time- data updates, information on individuals, info about specific projects, information about schools etc.)

PROTOCOL FOR POTENTIAL USERS

1. Can you start by telling us about your organization, your division, and your role there? What do you focus on? In which jurisdictions do you work? At what scales? (ie: individuals, households, neighborhood, system?)

2. Can you describe the datasets that you use in your work (ie: a membership database, GIS property layer)?

    a. Please describe the work that you do with this information.

3. How do you currently access internal and external data to inform your work?

4. What is your data analysis need and capacity? Do you produce or process any data in-house?

5. How do you collaborate with partners and external organizations?

    a. Why is knowing about community/civic partners and collaboration important to your work?

6. How does your organization define environmental stewardship? Do you currently track any stewardship metrics?

    a. (IF THEY NEED A DEFINITION AS PROMPT: *Civic stewardship groups engage in advocacy, education, conservation, management, and transformation of the urban environments on multiple sites [land, air, water, systems]*).

    b. IF THEY NEED A PROMPT*:*

        Capacity? Group size, funding, #volunteers? Projects?

(short presentation on STEW-MAP data types and dashboard)

https://usfs.maps.arcgis.com/apps/opsdashboard/index.html#/6221cdf315454ba49e78f5a189b59114

7. Can you think of any ways that STEW-MAP data or the dashboard could be used in your work?

    a. Which types of data would you be most interested in using? (spatial, characteristic, network, all?)

    b. Would it be useful to have access to summaries and reports on findings? At what scale?

      c.   What spatial level would it be useful to have the data delivered and/or summarized to (census tract, neighborhood etc).'

8. What would you like to know about stewardship, partners, and civic engagement that you don't currently understand? (ie more frequent -real-time- data updates, information on individuals, info about specific projects, information about schools etc.)