

## Mobilizing Local Communities through a Civic Capacity Assessment

David J. Trimbach (Oregon State University, Department Fisheries and Wildlife, Nash Hall, 2820 SW Campus Way, Corvallis, OR 97331, david.trimbach@oregonstate.edu)

Complex ecosystem restoration projects often necessitate the inclusion and mobilization of local communities (Reyes-García et al. 2018). Such inclusion and mobilization are fostered by or linked to natural resource management agencies, nonprofits, or community groups that often lack capacity, funding, or means to ensure a project is brought to fruition on their own. These efforts tend to require the mobilization and creation of stakeholder groups, like “friends groups”, that assist with a range of restoration project components, whether that be raising money or organizing volunteers (Trimbach 2016). While the mobilization and creation of partnering groups might be ideal or desired, not all communities and government-community partnerships are alike or have the capacity for such endeavors.

In this paper, I highlight the usage and findings from a civic capacity assessment that was conducted in collaboration with Metro, a regional (multi-county) government based in Portland, Oregon. Metro, created in the 1970s, focuses on comprehensive regional planning and service provision, that includes the management of natural areas, parks, and wildlife habitat. The assessment focused on what was then (2014) referred to as the Willamette Falls Legacy Project (WFLP), a Metro-led multi-partner initiative focused on the restoration of the Willamette Falls, the second largest waterfall by volume in the United States, and the redevelopment of its surrounding former industrial area located in downtown Oregon City, Oregon (Trimbach 2016).

The Willamette Falls had been used for industrial (paper mill) and hydro-electric energy production for over 100 years. This has greatly modified and degraded the surrounding natural environment, including crucial habitat used by Chinook salmon, steelhead trout, coho salmon, and Pacific lamprey, among other terrestrial and aquatic species (Stillwater Sciences 2016). At the time of the project (2014), the area had been owned by a private developer, who had been in discussions with Metro and other partners related to allowing public access, among other collaborative issues, like habitat restoration. The ecological restoration of the Willamette Falls was reflected as one of the WFLP’s stakeholder-identified core values (e.g., healthy habitat), emphasizing riparian area restoration, native fish habitat restoration, water quality improvement, and floodplain

protection (Walker Macy 2014). The WFLP’s overarching plan included restoration details and specified targets and strategies to achieve those targets. For example, to improve riparian and native fish habitat, the plan called for restoring riparian vegetation, reshaping nearby shorelines by increasing roughness, and restoring the rocky basalt outcroppings (Walker Macy 2014). Other core values included public access, cultural and historic interpretation, and economic development. The WFLP aimed to advance those core values by helping fund and coordinate actions with local partners and volunteers. Actions included constructing an environmentally-friendly riverwalk to increase public access, organizing volunteers for nearby cleanups, and raising funds for on-the-ground projects like habitat restoration. The WFLP began in 2011 and included a wide range of community partners, notably the City of Oregon City, Metro, Clackamas County, and the State of Oregon, among others. The WFLP had cultivated considerable community outreach, buy-in, and engagement by the time the assessment was implemented during the summer of 2014.

A civic capacity assessment is a tool or framework that can help government agencies or restoration practitioners determine if community stakeholders or partnerships can achieve specific outcomes or goals (Banyan 2014). A civic capacity assessment is founded on civic capacity, a social science notion that is largely derived from public administration, governance, education, and community development research (Stone 2001, De Souza Briggs 2008, Banyan 2014, Parés et al. 2018).

Civic capacity broadly refers to the ability of a community to work together to get something done (Stone 2001). Civic capacity, like other notions, has been conceptualized and operationalized through a variety of lenses (Shinn 1999). For example, Stone’s (2001) seminal work addressed the relationship between civic capacity and urban school reform in 11 urban communities in the United States. Stone (2001) concluded that civic capacity differs by community or geographic context (e.g., place-based community), which in turn impacts how policies and public concerns are addressed. This context-dependence and variation has been illustrated elsewhere (Dent 2008). Dent’s comparative analysis of two communities’ responses to federal enforcement of the Endangered Species Act in the State of Washington conveyed how local communities in relatively close geographic proximity collaborated with public agencies differently. The authors found that that “pre-existing levels of civic capacity may significantly influence both a community’s response to significant government action and the ability of government agencies, other organizations, and citizens to reach agreements.” Civic capacity is therefore a useful construct that can help gauge a community’s ability to get something done, but also a construct that can be potentially fostered. Building upon this work, I cocreated a civic capacity assessment that defined civic capacity as a community’s, “capacity to devise, decide, and

**Table 1. Selected civic capacity assessment questions and responses.**

Question (number of respondents)	Response (%)
How familiar with the Willamette Falls Legacy Project are you? (n = 139)	89% (very and somewhat combined)
How did you find this survey? (n = 139)	38% (WFLP official email list)
Please rank the following Willamette Falls Legacy Project core values based on your own interest in the Willamette Falls Legacy Project (1 being your lowest interest and 4 being your highest interest). (n = 127)	69% (public access, 3–4 combined)
	67% (healthy habitat, 3–4 combined)
	42% (economic development, 3–4 combined)
	41% (cultural and historic interpretation, 3–4 combined)
If an official group was formed for Willamette Falls Legacy Project, what should be its primary mission or purpose? (n = 137)	51% (Advocating implementation of the vision for Willamette Falls Legacy Project)
How often do you typically engage in voluntary civic activities? (n = 138)	78% (all of the time and often combined)
Please rate your experience level (below) with the listed activities or skills on a scale from Not at all Experienced to Very Experienced. (n = 135)	95% (volunteering, very experienced and somewhat experienced combined)
	85% (leadership, very experienced and somewhat experienced combined)
	74% (event planning, very experienced and somewhat experienced combined)
	58% (fundraising, very experienced and somewhat experienced combined)
	85% (nonprofits, very experienced and somewhat experienced combined)
Please rate your experience level (below) with the listed groups or organizations on a scale from Not at all Experienced to Very Experienced. (n = 138)	85% (neighborhood or community associations, clubs, or groups, very experienced and somewhat experienced combined)

act collectively to improve,” their community and quality of life and was divided up into three measurable components (De Souza Briggs 2008). The three components included: 1) civic capital (e.g., individuals’ social networks and affiliated institutions); 2) civic literacy (individuals’ civic competency, expertise, and skill sets); and 3) civic enterprise (individuals’ shared history, community, sense of belonging, and tradition) (Shinn 1999, Dent 2008, Banyan 2014, Parés et al. 2018).

Working in close collaboration with Metro, I cocreated and implemented a civic capacity assessment, using an electronic survey that targeted self-identified project stakeholders or partners who either registered to be part of a project email list (190) or had participated in previous project events or discussions (109). Respondents included those distribution list individuals (299 total) or those also associated with project social media accounts. Self-identified partners, included individuals and groups associated with tribal, environmental, cultural, political, economic, and historical interests linked to the site’s restoration or development. Metro launched the assessment in order to evaluate whether or not pre-identified (self-selected) community stakeholders would be able to form a viable friends group (public-private non-profit) that could more locally manage and lead the WFLP, including its fundraising and restoration efforts, without the heavy involvement or coordination of Metro or its public agency partners. Friends groups are a particular type of nonprofit organization that tend to work in tandem with public agencies and are often

formed in direct response to a particular local statute or need, notably to provide support to parks or natural areas (Trimbach 2016). A civic capacity assessment was constructed and implemented in order to gauge whether or not community stakeholders had the civic capacity (e.g., civic capital, civic literacy, and civic enterprise) to create a friends group focused on the project.

The survey questions were cocreated, edited, and pretested with pertinent Metro staff knowledgeable of the project. Survey questions were also partly informed by interviews and surveys previously conducted with friends groups (Trimbach 2016) in the region and elsewhere to ensure friends group-specific content was included in the instrument. The survey had 21 questions which included open- and closed-ended questions relating to civic capacity (assessment of civic capacity components), friends group creation (assessment of respondents’ interest in and potential roles in a group), and respondent demographics. Many questions were Likert scale questions aimed at assessing respondents’ level of experience, project familiarity, and even project value prioritization. Civic capacity questions (Table 1) focused on each noted component. For example, the civic capital question focused on stakeholder connections or networks by assessing their level of experience (1–3 scale) with a diverse range of relevant groups or organizations (e.g., non-profits, businesses, and government agencies, among others). The civic enterprise questions emphasized shared sense of history, community, sense of belonging, and tradition by asking their project

familiarity (1–3 scale), their prioritization of shared core values (e.g., healthy habitat, public access, cultural and historic interpretation, and economic development) (1–4 scale), and their prioritization of a shared project mission (closed-ended question). The civic literacy questions focused on respondents' level of experience (1–3 scale) with different pertinent skills or activities (e.g., fundraising, leadership, and event planning) and frequency of civic engagement (1–5 scale).

The survey was distributed electronically via an email list and through pertinent social media aimed at self-identified WFLP partners. Respondents had roughly 1 month (July 2014) to complete the survey. Of the 299 pre-identified partners sent a direct email, 21% responded. The remainder of respondents included individuals who accessed the survey via social media, other relevant websites (e.g., WFLP or Oregon City), or through the survey link being shared by partners. Survey results (Table 1) revealed that the project community, consisting of those on the email list and those who responded to the survey, was largely familiar with the project. Respondents had already signed up (38%) or were interested in signing up (14%) to be project “champions,” that entailed being included in the email list. Respondents also largely shared and prioritized project core values, notably public access and habitat restoration, and more than half agreed on a shared mission statement. This level of familiarity, interest, and shared values reflected a high civic enterprise among respondents. Respondents were also highly engaged in civic activities and could bring a wealth of skills to the project, including volunteering, leadership, event planning, and fundraising. Such experiences and skill sets demonstrated a high civic literacy among respondents. Lastly, the respondents illustrated through their experiences a range of connections and affiliations, such as links to nonprofits and neighborhood or community associations, clubs, or groups. Such experiences and connections demonstrated a high civic capital among respondents. Overall, results indicated that the community stakeholders did have a high civic capacity. The findings provided Metro and the community partners themselves with enough information to determine that the group was ready and able to “devise, decide, and act,” on the Willamette Falls project (De Souza Briggs 2008).

As a direct result of this assessment, a partnership (friends group) was formed in 2014. This group, formerly known as the Willamette Falls Legacy Project and now known as the Willamette Trust, is a formal nonprofit that continues to push for ecological restoration, among other goals for the Willamette Falls. After years of property ownership and access ambiguity, the Willamette Falls' adjacent land was purchased by the Confederated Tribes of the Grand Ronde (Talbot 2019); however, the Willamette Trust is still working under the initial premise of the friends group and the assessment that initially helped form it. Working in collaboration with the Confederated

Tribes of the Grand Ronde and other partners, the Willamette Trust continues to work on the development of an environmentally-friendly riverwalk project to provide public access to the falls (Baldwin 2020), including raising \$7 million in 2019 for project construction and adjacent habitat restoration (Powell 2019). Additionally in 2019, the Willamette Trust successfully helped advocate for the passing of a special Metro bond measure that will allocate \$435 million to improve river and stream water quality and restore habitat for the Willamette Falls' area (Zheng 2019). Given the group's noted successes, relative longevity, along with the growth of friends groups more broadly (Trimbach 2016), government agencies or restoration practitioners may consider conducting a civic capacity assessment or integrating such beneficial or value-adding social science constructs into their efforts in order to gauge whether or not their community partners or partnerships are ready to take the lead or help move a restoration project forward.

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## Natural Regeneration and Farmland Afforestation as Refugia to Biodiversity: A Case Study from Bundelkhand Region in India

Aishwarya Maheshwari (corresponding author: College of Forestry, Banda University of Agriculture and Technology, Banda-210001, Uttar Pradesh, India, [aishwaryamaheshwari@icloud.com](mailto:aishwaryamaheshwari@icloud.com)), Sanjay Kumar (College of Forestry, Banda University of Agriculture and Technology, Banda, Uttar Pradesh, India), and Kaushal Singh (College of Forestry, Banda University of Agriculture and Technology, Banda, Uttar Pradesh, India)

Post-independent India has made remarkable growth in the agriculture sector (Chand 2017). Indian agriculture, which grew at the rate of about 1% per annum during the fifty years before independence, has grown at an average rate of about 2.6% per annum since 1947 (Chand 2017). Many primary forests have been replaced by a mosaic of agricultural crops and plantations as agricultural expansion occurs in response to population pressure (FAO 2010, Barral et al. 2015). Reduction of the planet's biodiversity as a consequence of such human activities is a general scientific consensus (Barral et al. 2015). Global environmental change, including climate change, the spread of invasive species, and increased pollution could strongly affect the ability to recover biodiversity (He et al. 2019, Bohlen et al. 2009). Identification of the benefits from habitat recovery, in terms of both biodiversity conservation and provision of ecosystem services to people, requires an understanding

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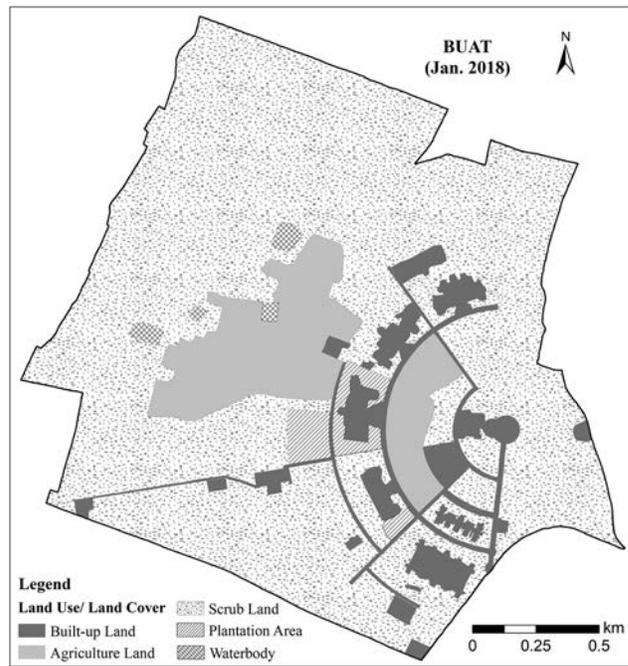


Figure 1. Land use and land cover map of BUAT, Banda.

of recovery outcomes (Liangzhong and Whelan 1993, Bohlen et al. 2009, Yang et al. 2020). In such scenario, restoration of biodiversity on agricultural landscape appears exceptional and worth studying. As a step towards understanding convergence of agriculture and biodiversity, we conducted a biodiversity and land-use assessment (from September 2018 to February 2019) at the Banda University of Agriculture and Technology (BUAT), Banda (25.42° N –80.18° E and 25.81° N –80.57° E) in the Bundelkhand region of north India.

The BUAT, Banda was established on 2 March 2010 under Uttar Pradesh Agriculture University Act 1958, Government of Uttar Pradesh. Banda is characterized with hot sub-humid eco-region which forms a semi-arid landscape in the Bundelkhand region (Bundelkhand HDR 2012, Gupta et al. 2014). The entire landscape encompasses natural vegetation types, pasture lands and crop-fields under varied regimes of ownership, administration and use (Bundelkhand HDR 2012, Gupta et al. 2014). The Government of Uttar Pradesh allocated 383.81 ha of farmland (predominantly lentils and wheat) to the BUAT, Banda and construction works were started in 2010. Out of total area, 121.46 ha was developed and remaining area (262.35 ha, Scrub Land from Figure 1) was left for natural regeneration and later some area for farm afforestation (Plantation Area from Figure 1). The entire area of the BUAT campus was fenced with bricks wall in 2011 for security purposes.

We studied distribution of megafauna in the Scrub Land (262.35 ha, Figure 1) through occupancy surveys and opportunistic camera-trapping techniques (Karanth and Nichols 1998, MacKenzie et al. 2002). A preliminary survey was carried out in the tropical dry deciduous