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## Revitalizing Urban Waterways: Streams of Environmental Justice

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### Introduction

This paper explores how a specific project (creek restoration planning) in a particular place (Syracuse, NY) challenged its proponents to identify best practices for community outreach. Within this watershed, several kinds of social and biophysical problems converged with two environmental justice (EJ) challenges, making for a complex project. We will review how the project proponents planned the project, especially the public participation, in the context of minimal guidance in terms of agreed-upon best practices, and the EJ issues. The outline the project's impacts, arguing that the highly interactive, process-intensive approach that the proponents adapted was in part, necessitated by the environmental justice issues present in the area. Furthermore, the process-intensive approach they adopted in turn spurred a broad-based understanding of urban watershed dynamics, as well as a shared discourse, yielding sustained benefits for the area.

This paper will highlight the potential of learning through deliberative process (Petts 2006 & 2007) and collaborative learning models in general (Daniels and Walker 1996) with social equity. Efforts to restore and/or revitalize urban creeks, streams, and sloughs are more frequently taking place in poor neighborhoods with highly diverse populations and across multiple jurisdictions. Some examples are Wildcat Creek in North Richmond/San Pablo, California (Riley 1989), South Bronx, NY (Hopkins 2005), Anacostia River (Turner 2002) near Washington, D.C., and Onondaga Creek in central New York (OEI 2008) (Figure 1). In such areas, we may not have agreement as to what should be done and then we have different agencies and priorities, e.g., flood control vs. water quality improvement vs. habitat restoration.

### Background and Literature Review

#### Collaborative Learning models

There is now a recognized need for more *inclusive* participatory process for watershed/river/creek restoration (Pahl-Wostl 2002, Sabatier et al 2005) as well as stormwater management (Baptiste et al 2015, Herringshaw et al 2010) to address values, which may clash (Baldwin and Ross 2012). In the Sabatier et al. (2005) book, *Swimming Upstream: Collaborative Approaches to Watershed Management*, the authors outline such collaborative processes for watershed planning in Oklahoma and Texas.

Some of the best international collaborative process guidance is proved by Petts (2006 & 2008) with her work on urban river restoration in the UK. She identifies several key management elements such as: recruiting representative interests (stakeholders), active facilitation, collaborative framing, and managing the unexpected. Similarly, Eden and Tunstall (2006) and Eden et al. (2000), warn that the traditional approaches to river restoration can be limited because such efforts are perceived as scientific or practical, rather than fundamentally and essentially social.

The general approach that we have taken with the participatory process design for the Onondaga Creek Revitalization Plan is congruent with CL, coproduction, and *social learning* which can be defined as “...the collaborative or mutual development and sharing of knowledge by multiple stakeholders (both people and organizations) through learning-by-doing” (Armitage et al. 2009, p.96). Walker et al. (2006) report on the *collaborative learning* (CL) approach for stakeholder involvement. Their analysis of two such projects using CL revealed that stakeholders prefer active engagement, access to information and events, plus clearly defined decision space.

A major underpinning for this project is the concept of *co-production*, which runs continuously throughout the revitalization planning effort. The project team invited a diverse cross-section of volunteers who lived or worked in the Onondaga Creek watershed to form a Working Group, to assist with plan development and review (OEI 2009). Meeting regularly for four years, the overall approach of the Onondaga Creek Working Group was to establish dialogues with the stakeholders and community, rather than simply ‘telling’ or ‘asking.’ The Working Group sought to integrate these diverse views.

### Environmental Justice concerns

Environmental injustice refers to “compounded disadvantage at the community level,” (Wakefield and Baxter 2010, p. 95), and part of the challenge of the Onondaga Creek project was a matter of balance, requiring participants to stay alert to it without being overwhelmed by its scope. The project in Syracuse illustrates how stream restoration projects can be carried out differently, bringing important ecological and social benefits to urban, non-white, and low-income communities. Overall, projects seeking to restore or re-naturalize waterways (or other degraded environments) have a special appeal in that they resonate with themes of ‘recovery’ and ‘redemption,’ (Moran 2007).

For the Onondaga Creek watershed and creek corridor, the major environmental justice issues have been addressed by Perrault et al. (2012) but will be summarized here. For context, the watershed in the upper reaches

includes rural and suburban communities; the Onondaga Nation is in the central part of the watershed, and the lowest part of the watershed includes urban neighborhoods in Syracuse's Valley and Southside districts (see Figure 1). One of the two major EJ issues in the watershed was the destruction of the home areas of the Native American people of Onondaga Nation. The Onondaga people were dependent on the abundant aquatic, riparian, and upland environments associated with Onondaga Lake and Creek prior to the Euro-American immigration, which began in the late 18<sup>th</sup> century, entailing agriculture, urbanization, and mining. There are unique, related impacts seen nowhere else, such as the 'mudboils', which have deposited tons of sediment into Onondaga Creek upstream of the Onondaga Nation, impairing aquatic habitat and transforming (and harming) the relationship the Onondaga Nation's people have with the creek (Perreault et al. 2012).

The second EJ issue is manifest in the Southside neighborhoods, where residents have experienced an extensive history of forced relocation, discriminatory housing practices, and land conflict over encroachment of industrial uses. This primarily African American neighborhood suffered lots of flood damage prior to 20<sup>th</sup> century channelization of sections of Onondaga Creek. Post-channelization, urban neighborhoods were fenced off from the creek because of the dangerous conditions of the rapidly flowing waters of the channelized creek, thus limiting greenway access (OEI, 2009). The residents were also subject to combined sewer overflows (CSO), which occur when rainstorms cause an overflow of untreated sewerage directly into Onondaga Creek, resulting in elevated coliform bacteria levels and unwanted odors. A proposed solution was to create CSO treatment plants along the creek, but one of the locations at Midland Avenue on the near South side was strongly objected to by local residents, due to concerns about environmental harms, lack of public participation in decision-making, and negative social impacts such as forced relocation (Perreault et al. 2012). Given this background, the major challenges for designing and implementing a collaborative participatory process for the Onondaga Creek Revitalization Plan included: being inclusive, providing good technical information to engage discussions, and developing a sound goal-setting process.

### **Methodology**

The co-production concept helped inform some decisions about how the OCRP project would go forward. The Working Group and Project team incorporated education right from the outset. Several elements of the project – including the maps, the public education programs, and the fact sheets explaining technical dimensions – were intended to help people share up-to-date information about several baseline aspects of Onondaga Creek and its watershed.

The following section presents briefly the OCRP process to illustrate how participatory planning was used to provide ‘voice’ and inclusion of the diverse communities along the creek throughout the process. The Project Team devised ways to gather concerns from both individual citizens and also organized groups; these two approaches, ‘community forums’ and ‘stakeholder organization meetings’ are listed in the table below and more detail can be found within Moran et al. (2013). The Project team worked with the working group through meetings, field trips, and co-production of fact sheets to better understand the condition of Onondaga Creek and its watershed. The creek mapping process with playing cards was a unique method to gain participation of the Working Group to develop specific creek revitalization projects by creek reach.

## **Results**

### Results from Participatory Processes

From April through July of 2006 there were seven forums. There were 368 attendees at the seven forums and some 195 sets of goals and concerns cards returned. When forum attendees were asked about creek revitalization concerns, the most frequently mentioned were: government accountability, CSO water quality issues, creek safety issues and pollution/garbage/odor issues. The ‘stakeholder issues were quite similar with the exception of funding/tax base being their most often mentioned issue. In terms of goals for the creek revitalization, the top community forum goals are increased recreational access, clean water quality, restoration of natural species and improvement of quality of life. Similarly the stakeholder goals were very similar. The information gathered at the forums from stakeholders was analyzed for concerns using a process of thematic coding (Bogdan and Biklen 1992). The ten most frequently mentioned themes are: government, sewage issues, safety, pollution/garbage/odor, public/community support, funding/cost, natural function/restoration, clean/clean/up, access, and public apathy/perception.

Results of the interactive community mapping exercise are interesting in terms of the types and diversity of desired creek revitalization projects along each creek segment. The inner city projects centered on the creek walk expansion and were focused on amenity, access and economic development. The Near South Side and Valley neighborhood projects were numerous and focused on creek access with recreational, amenity and educational development. The rural LaFayette and Tully projects focused on water quality maintenance and fishing assess. The Onondaga Nation projects included water quality improvement, reintroduction of native species, and (most importantly) the removal of a flood control dam, built by the US Army Corps of Engineers in 1949.

### Final Stage of Plan Development

The goals, action items and pilot projects were presented in the final plan.<sup>1</sup> The Working Group's last responsibility was to make revisions to the conceptual revitalization plan document. Since the OCRP must reflect the ideas and intentions of the Working Group, this last step was an important final review before release of the plan for sponsor and public review.

In terms of inclusion or 'finding voice' for communities, not usually participating in such projects, we had a fair representation of urban minority groups within the city, particularly benefiting from the assistance and participation of the 'Partnership for Onondaga Creek', an environmental justice organization based in the south side of the city. For the Native American community, the Onondagas – this was one of the very few planning exercises that they had fully participated in. The degree of inclusion of the Onondaga Nation was documented within a master's thesis by Barnhill (2009), where she conducted numerous interviews of both Onondaga Nation members and other key stakeholders involved with the revitalization process.

### **Discussion & Conclusion; Project Output, Outcomes, and Impact**

While the immediate result of the project was modest in that it was a report, rather than a physical transformation of the Creek and its watershed, it is now possible to consider the project's impacts from a vantage point many years removed from the project itself (six years). We identify two major impacts associated with the project:

1. It helped build a consensus about the problem(s) associated with Onondaga Creek and the types of changes desired. Having an engaged and authentic process produced an evolved and shared discourse. The report represents significant transformations and advances in the understanding of the team members who produced it.
2. It stimulated a large number of spin-off and follow-on projects. Most of the people involved in the project continue to be active today in one or more of these projects, illustrating how there is palpable, lasting impact from the OCRP. Some of these projects have originated from organizations that were involved in the Creek project while others are independent.

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<sup>1</sup> Onondaga Environmental Institute (OEI). 2009. Onondaga Creek Conceptual Revitalization Plan, Onondaga Environmental Institute, Syracuse, NY 129pp. Available at [http://www.oei2.org/OEIResources\\_OCRPDRAFT.html](http://www.oei2.org/OEIResources_OCRPDRAFT.html)

## Discussions & Conclusion: Process Outcomes

The Onondaga Creek Revitalization Process methodology incorporated collaborative learning and co-production strategies; this process is not necessarily unique but some of the most meaningful outputs include: (1) the continuing duration (over 3 years) for collaborative learning and co-production processes between the project team (5 organizations) and the Working Group representing creek communities; (2) Inclusiveness of diverse creek communities – rural, Onondaga Nation and intercity throughout the goal formulation and revitalization planning processes; and (3) Setting a higher standard for participatory processes in the CNY Region – previous Onondaga Lake Cleanup processes were extremely limited in public input prior to 2005-2008 and successive processes have been more inclusive.

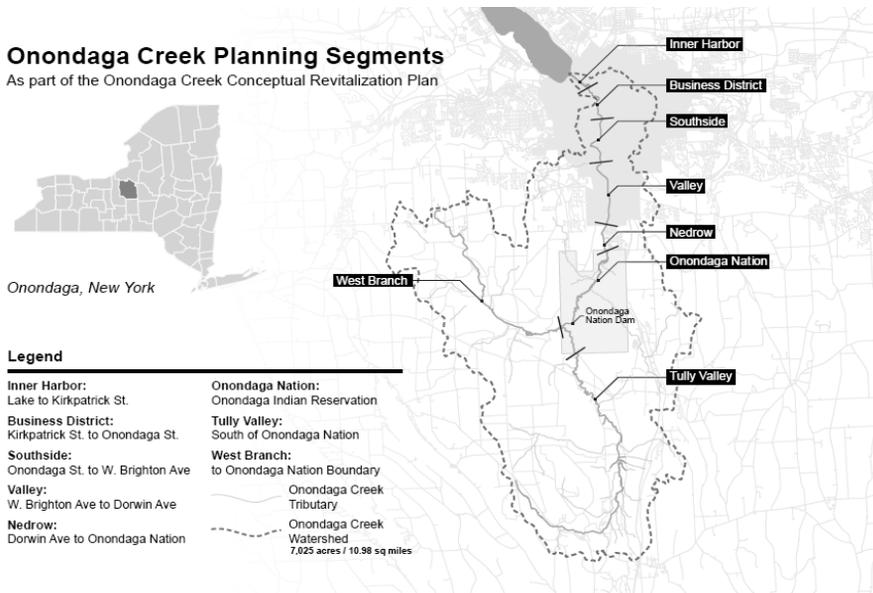


Figure 1. Onondaga Creek Watershed and planning segments

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