THE IMPORTANCE OF BEING ENGAGED
The Role of Community Participation in Urban Creek Stewardship

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ABSTRACT

The 20th century witnessed a change in how the stewardship of urban nature is practiced: from a top-down, distant, centralized, professionals-leading regime to a local, participatory, grassroots movement. Focusing on urban creeks in the San Francisco Bay Area, this paper proposes to further this movement by combining volunteerism with spontaneous use. Through examining research on these two modes of engaging people, we hypothesize that volunteerism and spontaneous use together create a participatory culture of urban nature stewardship

INTRODUCTION

Today, volunteers play a key role in urban nature stewardship in the US.[1] In 2003, roughly 1.1 million people volunteered through environmental organizations on stewardship activities. The rapid development in environmental volunteering is demonstrated by the Environmental Protection Agency water monitoring program group list which jumped from 44 groups in 24 states in 1988 (Riley, 1998) to 832 groups in 50 states in 2003 (EPA, 2003). These figures signify how, in urban areas, the environmental movement is shifting from wilderness preservation or developmental controls to a local, participatory form of environmentalism where citizens no longer depend solely on government agencies or professionals to take care of the "natural environment." The transformation is ongoing, and in light of its significant implication to our sustainable future, it deserves articulation.

This paper proposes to advance this transformation by combining two ways of engaging people which were treated separately or even viewed as contradictory in prior studies: volunteerism and spontaneous use.[2] We will first give a brief review of the evolution of urban nature stewardship in the past century. Focusing on the urban creek movement, the sector that attracts much attention in the San Francisco Bay Area, we will then examine the benefits and constraints of both volunteerism and spontaneous use, and how they complement each other. By juxtaposing these two modes, we can obtain important clues on how urban creek stewardship programs successfully engage people in a broad, participatory way.

THE EMERGENCE OF PARTICIPATORY URBAN NATURE STEWARDSHIP

To articulate the characteristics of current urban nature stewardship, it is necessary to briefly review how this stewardship evolved in the United States. This review follows the important events in the professions concerning the planning and design of urban nature, for the obvious reason that until two decades ago, landscape architects, city planners, environmental planners and engineers were completely entrusted to shape and maintain urban nature (Table 1).

The early beginnings of stewardship in urbanized areas came in the form of shared agrarian and public places. A unique characteristic of cities in the United States is that they were developed at the zenith of the Industrial Revolution. Unlike British and European cities where large royal hunting preserves and estates became available for public parks during the nineteenth century, open spaces were wrested from the private land market for industrial and housing development in cities in the United States. The Colonial Commons, such as the Boston Commons, emerged from the resolve of early proprietors and inhabitants to retain suitable lands for the town's agrarian and civic purposes (Platt, 1994). Commons therefore form the prototype of urban nature stewardship in the United States.

Landscape architecture is probably the first profession with the spirit of urban nature stewardship (Scarfo, 1988). The urban park movement in the late 19th century regarded parks as the public land for public good. Although social control has always been part of the agenda (Rosenzweig, 1983), landscape architects assumed the role of the paternalistic land steward with the power to determine the aesthetic presentation and beneficial use of these public lands. For example, Frederick Law Olmsted's goal for Central Park was to create a pseudo-rural countryside: "to supply the hundreds of thousands of tired workers, who have no opportunity to spend their summers in the country…" (Platt, 1994: 23).

From the 1890s, the modern movement left an unmistakable footprint in city planning and engineering. Two influential schemes, Ebenezer Howard's Garden City and Le Corbusier's Radiant City, resulted not from observing how real cities work but from the Utopian imagination of a few, introduced open space systems that dictated for at least half a century how citizens would interact with nearby nature. Although the Garden City ideal promoted the communal control and ownership of open land in perpetuity (Hall, 1997: 93), in practice this translated into large expanses of open space commonly lacking in definition or function which soon wooed criticism for destroying city fabric and creating placelessness (Jacobs, 1960; Relph, 1976).

Period		Effects on urban nature				Spirit of urban nature stewardship
		Landscape Architecture	City Planning	Environmental Planning	Grass-root movement	
1760-1850	Industrial Revolution	Loss of urban nature (except Colonial Commons)				Prototype: urban nature put as public trust
1850-1900	Urban park movement	Olmstedian parks				Professional as patriarchal steward
1890-1930	Progressive Era	Reform parks (organized play, social programs)	Modern movement (Garden City, Radiant City; working with engineers to obliterate creeks)	Scientific resource management	Roadside beautification	Professional betrayal of public trust
1930-1965	New Deal and Post-war Era	Modern movement, recreational facilities		Regional planning movement "land ethic"		Emergence of ecology-based stewardship
1965-1980	Environmental preservation	Experimental parks	Suburbanization	Wilderness preservation, environmental regulations	Community gardens, neighborhood parks	(Ecological determinism applied on remote nature)
1980s-	Urban nature restoration		Urban revitalization, new urbanism	Open space preservation and restoration	Urban forests, urban streams	Participatory urban nature stewardship

Table 1. The evolution of urban nature stewardship.

Parallel to this development was the wholesale transformation of urban streams through over-simplified modern techniques of flood control and erosion control. Planning and engineering measures to channelize and culvert urban creeks led to flooding, erosion, and a physical and emotional disconnect from nature. Modernism thus signified the era of professional betrayal of urban nature stewardship, while the actions of the authoritative "stewards" backfired against people's real needs to experience nearby nature.

The planning and design of urban nature in the Progressive Era (1890s-1920s) emphasized an industrial model of rationalized processes and standardized production, with a central motto of "efficiency" (Cranz, 1989). Parks and playgrounds focused on organized activity and design standards that were to be copied by public agencies regardless of locality (Mozingo, 2000). Resource management also partook of the spirit of the era, stressing scientific decision-making and the prevention of waste. However, stewardship in this era heeded little to humanitarian needs of urban nature, such as its aesthetic, recreational or educational values.

The New Deal and the ensued post-war period generally extended the rationale of the previous era regarding urban nature "stewardship." In landscape architecture, modernist forms propagated through the design of suburban expansion and urban renewal projects (Hester 1983). Park design became a repetitive provision of recreation facilities (Cranz, 1989). In the emerging field of environmental planning, however, professionals found new ground in which to manifest stewardship by setting aside wilderness areas far from the reach of urban dwellers. In the regional planning movement, sustainability informed by ecology was first injected into the notion of stewardship.

Aldo Leopold's "land ethic" (1949) conceived of the land not as property but as a community of all creatures that dwell upon it. He explicitly argued that land is in the people's trust, and that human beings should assume land stewardship for the health of human and nonhuman creatures. Stewardship hereupon took up a broadened sense distinct from the traditional anthropocentric view. Consequently, in planning practices, stewardship meant land acquisition and regulation through government intervention.

Following the post-war development and energy crisis, the 1960s and 1970s was characterized by the nationwide protest against large-scale construction projects. The federal government passed a spate of environmental laws such as the Endangered Species Act, the Clean Air Act, and the Clean Water Act. Parallel with this development was the establishment of the ecological planning framework by Ian McHarg. Here, the professionals were concerned with rural—not urban—lands, with wilderness preservation rather than the creation of something, and with management more than design (Lynch, 1980). As a result of this passive ecological determinism and

the wholesale middle-class flight from the inner city, urban nature was largely neglected, with the exception that grass-roots efforts in some neighborhood parks and community gardens heralded the emergence of participatory stewardship.

CONTEMPORARY URBAN NATURE STEWARDSHIP

Since the 1980s, the environmental movement has taken a different direction, namely the restoration of urban nature.[3] Grassroots efforts to restoration can be traced to community gardens as part of a grassroots reaction to limited activities and community control over public parks. The urban forest movement in the 1970s and 1980s involved organized groups to plant street trees to improve the environment in inner cities. This movement was then followed by the urban streams movement to reclaim the creeks as community amenity (Riley, 1998).

Community advocacy for urban nature restoration is regarded as antithetical to the old preservation scheme in various ways. Jordan (2000) argued that environmentalism after the 1960s generally failed to conserve nature in our crowded and increasingly democratic world. Preservation provides an extremely limited repertory of ways to contact nature and results in a kind of "elitism." He declared that with restoration rather than preservation as a model, "millions of people will spend more time creating intimate wild places in their own neighborhoods and less time visiting—and consuming—nature in remote wilderness areas" (ibid.: 33). Instead of biological sustainability that prescribes a plot extensive enough to remain viable by itself, Nassauer (1997) presented the notion of "cultural sustainability"—the survival of a system dependent on human care. She asserted that for urban nature to achieve sustainability, stewardship on a widely shared basis is imperative.

In pursuit of this movement to form a culture of human care, we will focus on urban creeks and examine two distinct modes of creek interaction: volunteerism and spontaneous use.

VOLUNTEERISM IN URBAN CREEK STEWARDSHIP

Many creek groups in the San Francisco Bay Area emerged around the 1980s when citizens fought against Army Corps of Engineer's large-scale public projects to culvert and channelize creeks for flood control or commercial developments. Today, volunteers play multiple important roles in stewarding urban creeks. They monitor water quality, plant vegetation, remove non-natives, monitor in-stream habitat, sample aquatic insects, promote watershed education, and keep an eye on the creek daily. Through these local creek stewardship programs, volunteerism has generated three types of outcomes.

Individual benefits

According to surveys investigating the psychological benefits of volunteering in stewardship programs, Grese et al. (2000) found that the first and foremost item given was the satisfaction that it "helps the environment." Such satisfaction was linked to the feelings of self-respect and peace of mind. In other words, just as the urge to interact with the environment, helping it is also an innate urge to many. The growth of grassroots stewardship programs can be accounted for by the opportunities they provide for many to fulfill this urge or responsibility toward the nearby environment.

Volunteers also considered "learning new things" and "doing something tangible" important personal benefits. Most Friends of Creek groups provide get-your-hands-dirty activities such as planting willows or transplanting seedlings in the nursery that volunteers, adults or kids, really seem to enjoy. In effect, the hands-on activities achieve similar benefits as recreation to the individuals. Farrell's (2003) study revealed that 84% of the volunteers participating in the stewardship program of the Golden Gate National Park perceive their experience to be recreational, although their initial motivations for volunteering were for conservation or other "duty-based" reasons. As a result, volunteerism enhances individual knowledge, responsibility and control of the creek, and could be purely "fun" at the same time.

Enhancing access and ecological health

Many grass-root groups recognize the importance of enhancing community awareness through improving visual and physical access to creeks. For example, Friends of Five Creeks had a volunteer architect design a bridge along the Ohlone Greenway; Friends of Baxter Creek also took on a Gateway project to build a trail that connects the creek to regional trail systems. More likely, access points were created for the practical convenience for the stewardship activities and spontaneous uses. Stewardship programs usually start from claiming and transforming abandoned lots next to the creek or informal accesses by bridges.

Although the scientific studies documenting the measurable success or failure of volunteer efforts are few in number since some of these projects are still young, evidence suggests that these volunteer efforts do enhance local ecological health. For example, through intensive planting and vegetation management efforts, plant cover and species diversity along Sausal Creek in Dimond Canyon did improve (Chanse and Herron 2003). This is especially significant since approximately 86% of the plant species at the local and regional levels in the Sausal Creek watershed are endangered or listed.

Fulfilling legal requirements

Local water agencies have good reasons to welcome and encourage these grass-root stewardship activities, since the amount of tasks in watershed management is simply beyond the scope of most city staff. Currently only 37% of the nation's streams are monitored by government agencies for water quality control purpose (Riley, 1998). With professionals pitching in to develop bio-monitoring measures that can be easily adapted by the volunteers (e.g., Resh et al., 1996), stewardship programs are not only beneficial to the individuals and communities, but have evolved into a task force to have crucial work done.

Challenges of Urban Creek Stewardship Programs

Yet urban creek stewardship programs also confront a number of difficulties, such as funding and the skepticism of science and engineering professionals. However, what we want to emphasize here is a most basic difficulty: people's lack of interest. In restoration, the commonly enumerated "high goals" of conceptual values (water purification, habitat enhancement, native vegetation, etc.) better reach those who already appreciate such values, and therefore tend to limit the strata of participation. In the San Francisco Bay Area, as exuberant as the creek stewardship programs are, they concentrate at the upper to middle class neighborhoods.

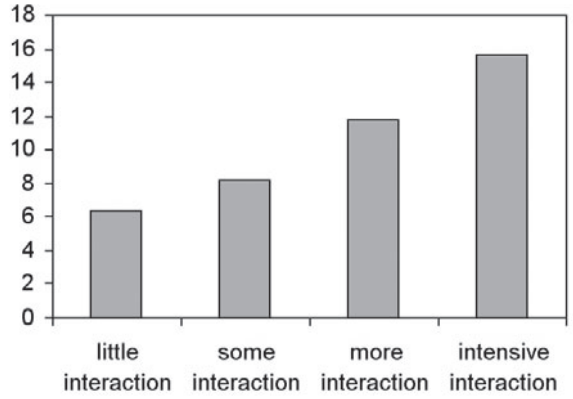
Envision, then, promoting restoration by focusing on spontaneous use in urban creeks: "so your kids can catch crawdads in the creek, you can hear frogs from your house, you can pick berries there, you can sit down by it, dangle your feet in the creek while looking at the pretty birds and listening to the gurgle of water-it's all free service for you and your family…" it is possible to deliver the image of a "restored creek" to a much broader audience. If environmental stewardship is to go grass-roots, urban creek stewardship programs need to get down to the very basics of experiences in daily life.

In many ways, the evolution of urban nature stewardship into a participatory and democratic form re-connects people to the creeks and their local ecological system. Through such programs, neighborhood and school groups gradually take charge of the creek from government agencies, making urban creeks visually and physically accessible, and practically maintain the ecological capacity of the creek for daily contacts. In other words, consciously or unconsciously, volunteerism sustains the social and physical environments necessary for spontaneous, every-day urban creek experiences. By adding spontaneous use into the mission of stewardship programs, we can further avoid the rigid, heavy-duty impression and elite image of ecological restoration. The success of the Friends of Sausal Creek in involving the residents owes no small part to its strategies to encourage hands-on contact and casual access to the creek. In contrast, the controversy in Chicago prairie restoration stems to a large degree from failing to involve nearby residents who use the place spontaneously and from regarding restoration as a task that can only be accomplished by highly trained volunteers (Helford, 2000).

SPONTANEOUS USE IN URBAN CREEK STEWARDSHIP

Environmental stewards (mostly professionals but sometimes volunteers) tend to regard spontaneous use at urban creeks a threat to their efforts, as witnessed by the fences or impenetrable "vegetation buffers" established around restoration projects. True, spontaneous use can cause impacts such as vegetation damage, incidental animal kills, soil erosion, organic pollution by baits, turbidity and disturbance of fish by active in-stream uses, trash resulting in animal deaths or injuries, etc. Yet all too often "human impacts" are indiscriminatingly attributed to activities of disparate scales before unbiased research is conducted on the actual level of impacts.

There is evidence indicating that activities such as catching frogs, skipping rocks, listening to water or swimming, are in fact implicitly linked to the development of urban creek stewardship. Ecological research has confirmed that the frequent disturbance of nearby nature through conscious or unconscious human



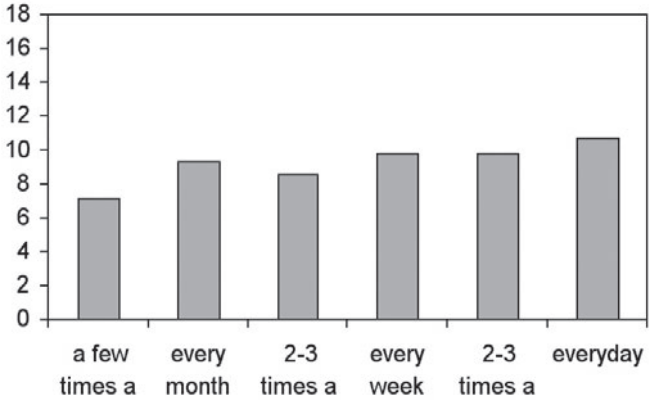


Figure 1. Effects of creek interaction (above) and use frequency (below) on creek commitment. (Mean Oral Commitment Points were generated from survey data).

activities can benefit the eco-systems. Satoyama (backyard-mountain) research in Japan and coppicewoods research in the UK both documented how coppicing, collecting nuts, picking fruits, harvesting bamboo shoots, etc. prevent over-dense stands and create unique and extremely diverse habitats that would not have existed otherwise (Tadashi, 2002; Buckley, 1992).

Furthermore, the Marsh Creek survey project (Yang, 2004) revealed the following:

1. Adult users with higher creek interaction levels commit themselves more to creek enhancement efforts, since such uses provide more memorable experiences and therefore enhance users' value of the creek. Compared to the content of use, frequency of use has much weaker effect on stewardship (Figure 1).
2. Adults who allow their kids to play in the creek also possess a higher value and commitment for the creek.
3. Kids who play spontaneously at the creek demonstrated much richer knowledge (including habitat features) on their creek drawings compared to kids who do not play at the creek.

Field observation also found that spontaneous uses at urban creeks might well be regarded as management schemes (Yang, 2004). For example, one section on the Marsh Creek floodplain was featured by a diverse dirt path system maintained by frequent trample and wear. These narrow paths cut through the slope and floodplain and lead to various points of the waters edge (Figure 2). Very possibly some of them provided in-cuts during floods and created a thin secondary flow that attracted tadpoles and fry fish to gather (Figure 3). Similarly, kills happening to crayfish and bullfrogs help to check the population of exotics; junk collecting helps to reduce trash; trampling maintains barren lands that are important for marginal communities and animal passage.

To avoid the potential harm by spontaneous uses, sharing knowledge and responsibility with users through participatory process, particularly through volunteerism, is the only sound strategy. Children are often eager and capable to contribute to community affairs but discouraged to do so (Hart, 1997), so involving them in restoration activities such as plantings and monitoring water quality and habitat quality would be a way to allow children to contribute. In addition to the popular programs that employ children's help to scoop migrating fish over barriers or protect bird nests, catchers can learn to differentiate the native, exotic, and invasive species that harm biodiversity; they can become the primary predators of invasive exotics. Environmental actions responding to habitat management goals can become an integral part of the school curriculum. Through these actions, daily life can again

Figure 2. The dirt path system developed on the floodplain of Marsh Creek between Balfour Bridge and Valley Green Footbridge.

be connected with the pulse of the biotic world. The bottom line is that spontaneous users do not interact with the stream because they want to harm; they do so out of innate affinity. By educating children about how to be stewards, we have their gleeful cooperation; excluding them, we invite objections and doom a future constituency and eco-literacy.

CONCLUSION

The past two centuries illustrated the process of nature drifting away from the city as well as people's daily experiences. Industrialization and urbanization empowered planners, designers and engineers to little by little eliminate, eradicate, and sanitize nature from cities. Evolving from counting on professionals as patriarchal stewards and experiencing the professional betrayal of public trust and ecological determinism that forsakes urban nature for countryside, at the end of the 20th century we finally saw the burgeoning of a more democratic and participatory form of urban nature stewardship. Institutions, neighborhood groups and individuals increasingly use stewardship programs as a way to address environmental deterioration and community anomie through developing a shared sense of ownership. This participatory stewardship creates a new type of public space that is not based solely

Figure 3. The secondary flow was possibly created by a dirt path.

on use; it teaches residents about the ecology of a place and engenders a sense of shared connection to a place.

This paper examines how two ways of engaging people: volunteerism and spontaneous use can together create a culture of participatory stewardship. As two distinct modes of creek use, they also supplement each other: Spontaneous use cultivates volunteerism while volunteerism sustains the environment for spontaneous use ecologically and socially; volunteerism instills knowledge, responsibility and control that check spontaneous use from exerting harm, spontaneous use discovers new values, conceptions and ways of interaction that prevent volunteerism from getting rigid.

By inviting volunteers to experience hands-on contact with water, wildlife and loose parts (i.e. spontaneous play) in the stream environment, we obscure the division between stewards and users, producers and consumers with practical benefits. Incorporated with volunteerism, spontaneous use constantly refreshes the knowledge base and avoids rigid indoctrination of ecology. It also deepens creek attachment instead of depending solely on those who already possess the attachment; and volunteering simply becomes more fun and less a "worthy but boring cause." Together they motivate a healthy human-stream relationship and evolve a culture of urban creek stewardship.

ENDNOTES

[1] By urban nature stewardship, we mean "the duty to protect or use wisely urban nature as public trust."

[2] By spontaneous use, we mean "a mode of nature interaction resulting from innate tendency."

[3] Restoration here is broadly defined as "intentional human practices to actively create or manage areas for their desired natural qualities," a definition modified from Gobster and Hull's work (2000, p.11).

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