

Stewardship Stories for Watershed Justice

by

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Stewardship Stories for Watershed Justice

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# Table of Contents

list of figures *ii*  
list of tables *iii*  
acknowledgement *iv*

**1 Introduction** *1*

**2 A Framework for Watershed Justice** *16*

**3 Research Framework and Design** *40*

**4 Stewardship Stories from Sausal Creek Watershed** *59*

**5 Stewardship Stories from Rheem Creek Watershed** *91*

**6 Lessons for Watershed Justice** *112*

**Reference List** *128*

**Appendices** *134*



## LIST OF FIGURES

1	San Francisco Bay Area context map	4
2a	Creek restoration, stewardship, and income in East Bay watersheds	6
2b	Creek restoration, stewardship, and ethnicity in East Bay watersheds	7
3	Increase in non-point source pollution funding, 1990-2008	15
4	Three levels of watershed justice	17
5	Process and outcomes in watershed collaboration	24
6a	Physical conditions of Sausal Creek watershed	47
6b	Creek conditions and land uses of Sausal Creek watershed	48
7	Socio-economic indicators of neighborhoods in Sausal Creek watershed	50
8a	Physical conditions of Sausal Creek watershed	51
8b	Creek conditions and land uses of Sausal Creek watershed	52
9	Socio-economic indicators of neighborhoods in Rheem Creek watershed	54
10	Restored reach of Sausal Creek in Dimond Canyon	60
11	Ethnic composition of students in Sequoia Elementary	60
12	Socio-political context of the founding of Friends of Sausal Creek	64
13	Natural setting of Sausal Creek	65
14	Native plant demonstration garden at Dimond Canyon Recreation Center	68
15	FOSC workday shortly after restoration	68
16	Ivy dominated before restoration	69
17	Increased plant diversity after restoration	69
18	Fallen oak at Benevides Avenue cul-de-sac	71
19	Landslide at McKillop Street	71
20	Network of stewards of Sausal Creek watershed	73
21	Sites of stewardship in Sausal Creek watershed	76
22	Restoring native plants at Beaconsfield Canyon, upper watershed	77
23	Sausal Creek at Barry Place, lower watershed; stewards on Earth Day	78
24	Cacti fence behind Josie de la Cruz Park	82
25	Vacant lot with partially daylighted creek behind de la Cruz Park	82
26	Signs of neighborhood stewardship in Fruitvale	83
27	Community stewardship at Cesar Chavez Park	85
28	West Oakland youth plant trees with Urban Releaf	86
29	Views from Point Pinole Regional Park entrance	93
30	Bronze plaque at entrance to Point Pinole Regional Park entrance	93
31	Network of stewards of Rheem Creek watershed	97
32	Community members on field trips	99
33	Sites of stewardship in Rheem Creek watershed	101-102
34	At China Camp in Marin County	103
35	Rheem Creek as jurisdictional boundary at Rollingwood neighborhood	110
36	Possible storm water intervention strategy in Sausal Creek watershed	122

## LIST OF TABLES

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1	Creek activism, location, and goals in the San Francisco Bay Area	10
2	Possible challenges and opportunities in engaging low-income communities of color in watershed stewardship	42
3	Creek conditions and land uses in Sausal Creek watershed	47
4	Summary of organizations studied and people interviewed	58
5	Summary of activities observed	58
6	Results of brainstorming and voting at 1 <sup>st</sup> and 2 <sup>nd</sup> Sausal Creek meetings	67
7	Possible common interests between the Unity Council and FOSC	86
8	Ethnicities of participants at FOSC's weekly, targeted, and annual workdays	89

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1

**Introduction**

	<b>Purpose of thesis</b>	2
	<b>Physical and socio-economic geography of the East Bay</b>	3
	<b>Engaging diverse participation in watershed stewardship in the East Bay</b>	5
	<b>Urban watershed stewardship in the East Bay: a history</b>	8
	<b>Outline of document</b>	13
	<b>What is storm water pollution?</b>	14
2	A Framework for Watershed Justice	16
3	Research Framework and Design	40
4	Stewardship Stories from Sausal Creek Watershed	59
5	Stewardship Stories from Rheem Creek Watershed	91
6	Lessons for Watershed Justice	112

Watershed management regimes in the United States have in recent years taken on collaborative approaches (Sabatier et al 2005). While decision-making has been for the past century carried out by single-mandate governmental agencies with token public involvement, increasing complexity and conflict over watershed resources necessitated a more participatory decision-making process. Collaborative watershed governance would bring in resource users and other stakeholders, to make collective decisions in developing and implementing a management plan for the watershed. The process focuses on finding creative, mutually beneficial solutions to a variety of watershed problems such as flooding, bank erosion, limited water supply, and non-point source pollution.

Representation of the full set of stakeholders is important in achieving both just and effective policies in urban watersheds. Sabatier et al (2005) state, “When adequate representation is not achieved, democratic processes at best fail to meet normative criteria and at worst lead to ineffective policies that do not affect the attitudes and behaviors of excluded stakeholders” (8). Without involving the full set of stakeholders, the management of urban watersheds would be ineffective, for example in addressing storm water or non-point source pollution (see page 14). The issue of under-representation of certain populations, including Hispanic, African-American, and private businesses, “should be of special concern to practitioners and researchers (Samuelson et al 2005, 167). Leaving out some groups in the process would result in the unjust distribution of power over decisions affecting local watersheds.

The purpose of this thesis is to identify challenges in the process of watershed collaboration that have limited - and factors that have encouraged - participation by low-income communities of color in urban watershed stewardship. Specifically, using the

concept of *watershed justice*, this thesis seeks to understand and address the problem of socio-economic stratification of participation in urban watershed management.

Unequal participation in urban watershed management constitutes a situation of environmental injustice both in the (1) distributive and (2) procedural sense. First, participation in urban creek and watershed stewardships begets community benefits, such as increased access to parks, open space and other recreational amenities, environmental education close to home, and improved quality of life (Owens-Viani 2004). With unequal participation, these benefits are unequally distributed. Second, participation in such stewardship enhances a community's ability to participate in decision-making processes regarding the use of land, water, and other natural resources in the watershed. Unequal participation implies unequal control or influence over planning and decisions affecting one's local environment. These notions of justice, among others, have been the cornerstone of the environmental justice movement, a poor people of color struggle for equitable environmental quality and protection, and for inclusion in environmental decision-making processes.

Using an in-depth comparative case study approach, this thesis studies community participation in stewardship and management of two urban watersheds in the San Francisco-East Bay (the East Bay), a region where watershed stewardship and collaboration have received support from local and regional government agencies seeking to address non-point source pollution and creek and watershed restoration.

### **Physical and socio-economic geography of East Bay watersheds**

The East Bay in this thesis is defined by a series of topographically similar urban watersheds spanning from Point Pinole in the north to San Leandro Bay in the south (Figure 1). The drainage networks in East Bay watersheds generally flow east to west

from the East Bay Hills to the San Francisco Bay, are generally small (about or below 10 square miles) and urbanized, comprising the East Bay cities from Richmond in the north to Oakland in the south. In many of these watersheds, the spatial patterns of race and class mirror the physical topography. In the hilly upper watershed areas reside predominantly white, higher-income communities, while flat lower watershed areas are home to generally lower-income communities of color, including African-Americans and recent Latino and Southeast Asian immigrants.

**Figure 1: San Francisco Bay Area context map**



### **Engaging diverse participation in watershed stewardship in the East Bay**

A recent systematic study of creek and watershed protection in the East Bay found that the Friends groups tend to draw from the more privileged residents and restoration efforts concentrated in more privileged neighborhoods (Mozingo 2005). Given the need for broad-based participation in preventing storm water pollution, governmental and non-governmental agencies and others involved in urban watershed management and stewardship in the East Bay have attempted to reach out to diverse and representative stakeholders, including low-income communities and communities of color. Some low-income communities of color have attempted to participate in creek and watershed stewardship efforts, but faced barriers. Perhaps the voluntary, time-consuming, and sometimes technical nature of creek and watershed stewardship activities has, as suggested by Cestero (1999), impeded low-income minority communities to contribute their time and effort.

The challenge in engaging these communities is exacerbated by the fact that most creek channels in more urbanized lower watershed areas have been put underground as part of the urbanizing process in the 1950s and 1960s. Culverted creeks are less likely to be befriended, perhaps due to the visual disconnect. Low-income areas also tend to have more creek channels that have been culverted (Mozingo 2005). Kweskin (1999) also suggests that visibility and access appeared to increase community stewardship of urban creeks in four East Bay watersheds. The majority of creek restoration projects have concentrated in areas that are predominantly white and of higher income levels in the upper watershed areas, with participation lacking from communities of color with lower income levels in the lower watershed areas (Figures 2a-b).



Figure 2a: Creek restoration, stewardship, and income in East Bay watersheds  
(adapted from Mozingo 2005)

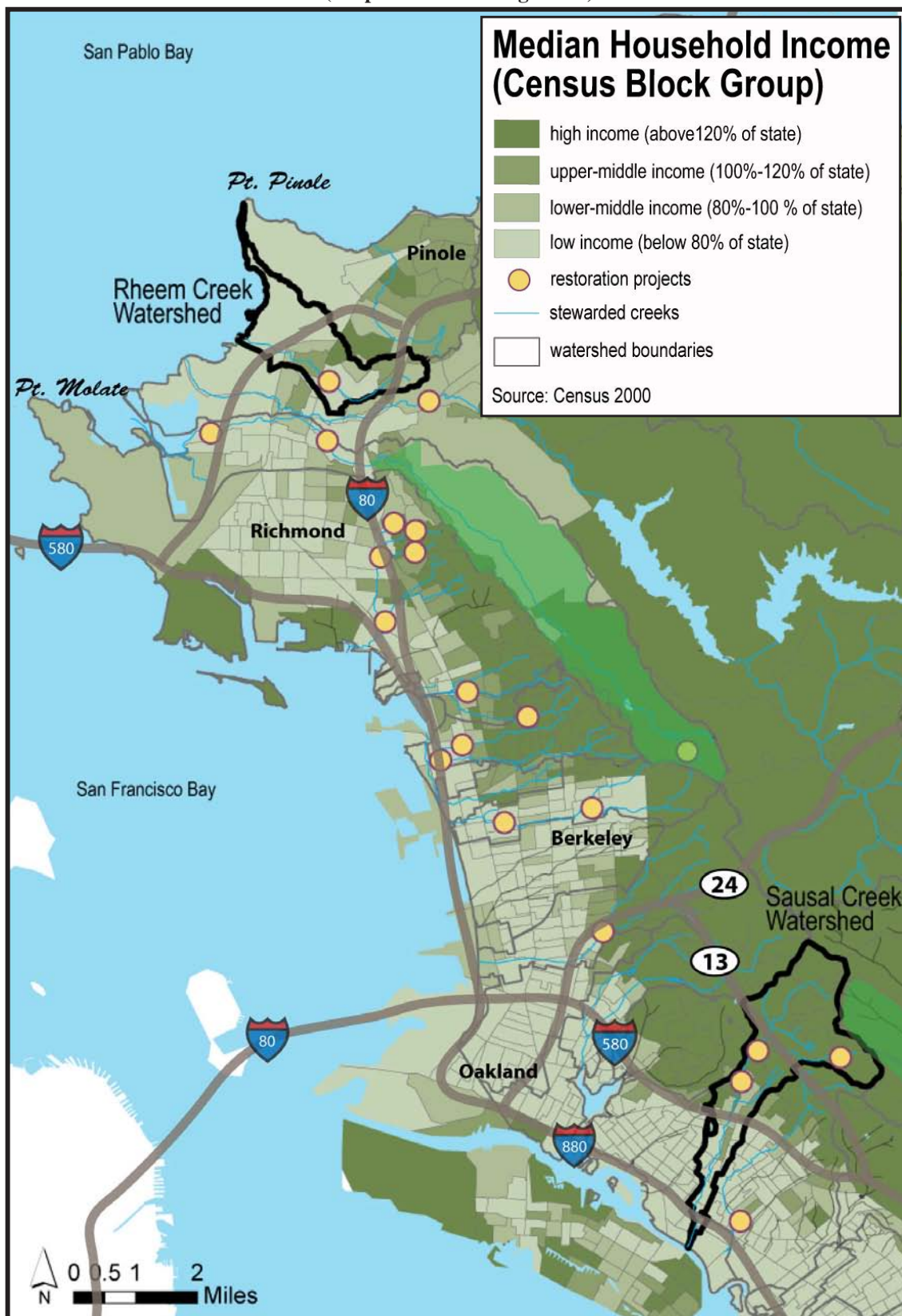
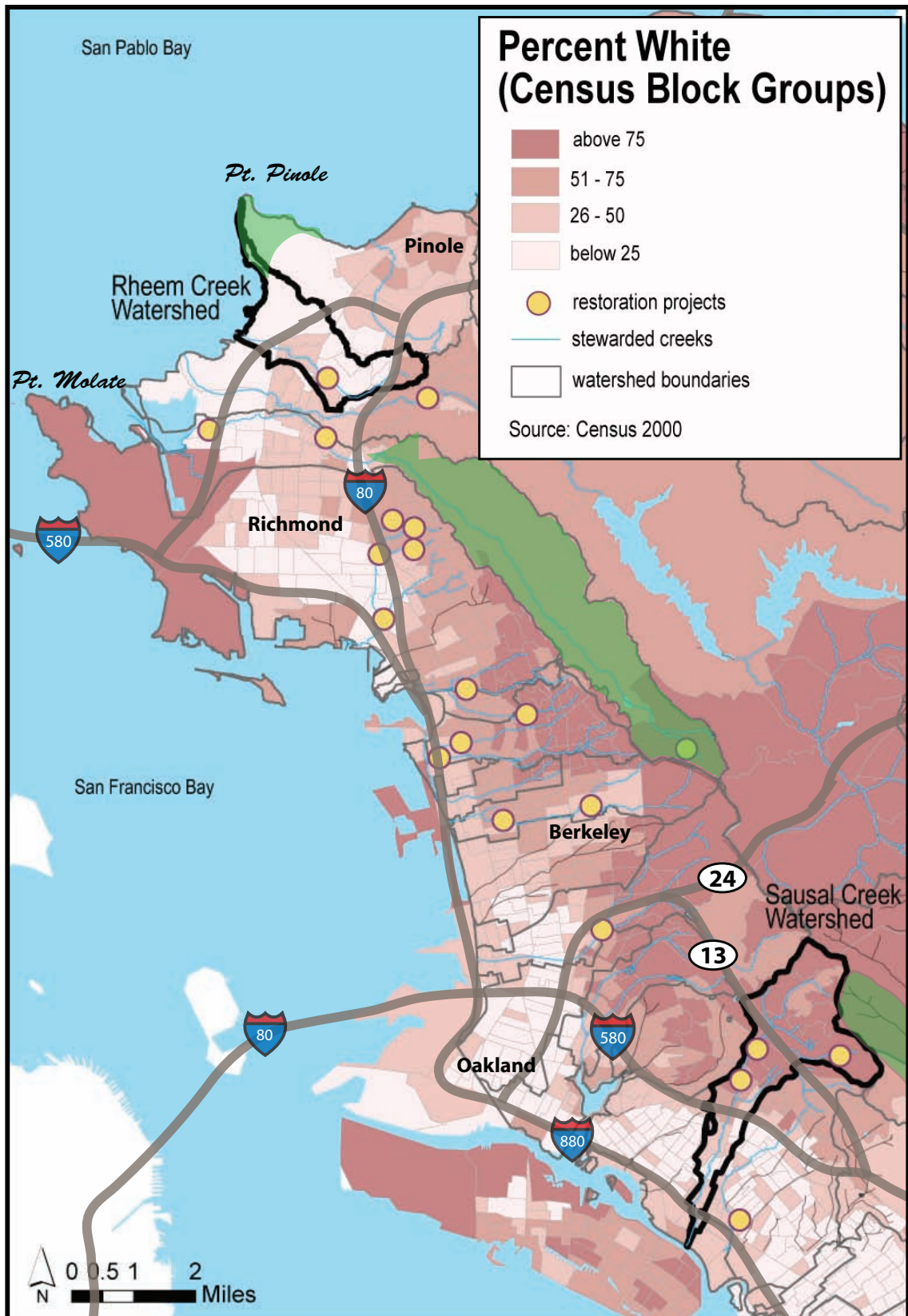


Figure 2b: Creek restoration, stewardship, and race in East Bay watersheds



Fair representation of stakeholders in urban watershed management is thus important in achieving both just and effective outcomes that improve the socio-economic and environmental conditions in urban watersheds. Looking to the history of urban watershed helped explain watershed stewardship's relation to the creek restoration movement, the collaborative, watershed-based approach the US EPA adopted in the late 1980s, and the lack of clarity with regards to participation from low-income communities of color in the East Bay.

### **Urban watershed stewardship in the East Bay**

In my research, the term urban watershed stewardship implies the broad-based participation in the management, protection and restoration of a watershed in an urban area to ensure the long-term health of its shared environmental and socio-economic conditions. Depending on the source, the term “stewardship” can vary in meaning. The Merriam-Webster Dictionary defines *stewardship* as “the careful and responsible management of something entrusted to one’s care, e.g. stewardship of natural resources.” Chanse and Yang (2005, 248), in their work on the role of community participation in urban creek stewardship, define urban nature stewardship as “the duty to protect or use wisely urban nature as public trust.” Stewards can be individuals and communities in the watershed and government agencies given the responsibility to protect watershed resources. Hester (2006, 364) defines stewardship as “actions taken to maintain, restore, and improve one’s community, the landscape, and larger ecosystems. Informed by local wisdom and urban ecological principles, these actions are motivated by a sense of caring and civic responsibility.” In addition to the sense of duty, for Hester (2006), stewardship means doing something to change or improve one’s environment.

Although the involvement of local community represents a drastic change in the way government agencies approach the management of environmental resources, community

involvement in managing watershed resources has become the rule rather than the exception in the San Francisco East Bay (Mozingo 2005; Chanse and Yang 2005; Owens-Viani 2004). Urban watershed stewardship is, in a way, a child of the transformation towards local control of environmental decision-making process. Local citizens are claiming ownership of their local watersheds and advocating land uses that are appropriate and protective of the health of their watershed (Chanse and Yang 2005).

A review of contemporary accounts about the watershed stewardship in the San Francisco Bay Area revealed its strength in the East Bay, and its roots in the urban creek restoration movement. During the last twenty years, watershed stewardship has grown around various urban creeks in the San Francisco Bay Area, including in the East Bay watersheds (Owens-Viani 2004). Out of the 24 creek activism efforts mentioned in Owens-Viani (2004), 15 are located in the East Bay. According to the Watershed Project, a regional watershed education organization, there are currently 28 watershed stewardship groups in the East Bay, out of the 84 that have formed in the Bay Area (The Watershed Project 2007). Table 1 lists creek activism that has sprouted in the Bay Area, their locations and their goals. Group names indicate that these citizens are “Friends of” the local creek and watershed they steward. Based on a brief survey of these groups and through my work at the Watershed Project, I found that community stewardship is usually on a voluntary basis. In collaboration with governmental and regional nongovernmental agencies, individuals voluntarily educate themselves and their communities on how they can protect their local creek, organize their communities to clean up the creek, lead and get involved in ecological restoration projects, and plan for the future of their watersheds.

The urban creek restoration movement, as documented in Owens-Viani (2004), started in the late 1960s with a series of activism against the channelization projects by the US Army Corps of Engineers (US ACE), preventing local creeks “from being put into a



**Table 1: Creek activism, location, and goals in the San Francisco Bay Area**

YEAR	CREEKS	COUNTIES	GOALS		
			PHYSICAL	ECOLOGICAL	COMMUNITY
1960s	Tamalpais	Marin	Anti-channelization		
1970s	Napa	Napa	Alternative flood control	Restore habitat	Downtown revitalization
1980s	Grayson	Contra Costa	Anti-channelization		
1980s	Pinole	Contra Costa		Restore fishery	
1982	Strawberry	Alameda		Water quality	Creek park, env. ed.
1986	Lower Wildcat/ San Pablo	Contra Costa	Anti-channelization, dam removal	Restore steelhead run	community amenity, after-school program
1999	Sausal	Alameda	Alternative flood control, dam removal	Restore aquatic and riparian habitat	
1980s	Glen Echo Creek	Alameda	Anti-channelization		
1980s	Islais	San Francisco			
1980s	Lobos	San Francisco		Restore steelhead run	
1980s	Tennessee Hollow	San Francisco			
1980s	Pine	Contra Costa	Anti-channelization		Community amenity
1980s	Sonoma	Sonoma	Anti-channelization, bank protection		
1990s	Courtland	Alameda		Support oak tree	
1991	San Leandro	Alameda			Watershed awareness
1995	Codornices	Alameda		Restore steelhead habitat	
1995	Blackberry	Alameda	Alternative flood control		Outdoor science lab, creek park
1996	Upper Baxter	Contra Costa			Community amenity
1996	Village, Marin, Cerrito, and Middle	Alameda and Contra Costa	Land use conflict	Restore steelhead run	
1997	Alameda	Alameda		Restore steelhead and salmon runs	
1998	Village	Alameda			Community amenity
1999	Sausal	Alameda	Structural removal	Restore aquatic/riparian habitat	Recreation, env. ed.
2000	San Pablo	Contra Costa	Restore natural channel	Restore steelhead habitat	
2000	Lower Baxter	Contra Costa	Restore natural channel	Restore riparian habitat	Community amenity
2005	Santa Rosa	Sonoma		Restore steelhead run	

Note: Not a comprehensive list. Blue boxes indicate location in East Bay Watersheds.

Source: Owens-Viani (2004); Various websites of stewardship groups.

concrete straight jacket. Citizens propose alternatives to flood and land use management that keep creek channels in their natural state, stabilize banks to prevent erosion and landslide damages. Such an approach has focused on protecting and restoring some physical functions and aquatic and riparian habitat especially for the endangered steelhead trout (*Oncorhynchus mykiss*), although restoration projects usually provide other community amenities and benefits.

Owens-Viani (2004) also documents the national adoption of a watershed approach in managing water resources that, in turn, supports grassroots creek and watershed groups in the East Bay. The Environmental Protection Agency, with the 1987 Amendment of the Clean Water Act (CWA), took on the management of non-point source pollution to the nation's waterbodies, i.e. pollution coming from diffuse sources across the landscape. By requiring cities and local clean water agencies to comply with the CWA Section 319 permitting standards for non-point source pollution, the EPA devolved the responsibility and resources to the local watershed level.

Community watershed stewardship has also received technical and capacity-building support from regional environmental organizations. Mozingo (2005) cites organizations such as the Urban Creeks Council, the Waterways Restoration Institute, and the Watershed Project as providing volunteer coordination, fundraising, communications, and technical restoration and project design support. Owens-Viani (2004) also named the East Bay Regional Parks District (EBRPD) and EcoCity Builders as providing support in fishery biology, coordination, and outreach.

Many of these nongovernmental organizations were spearheaded by policy entrepreneurs who believed urban creeks should not be channelized, and who articulated the ecological and community amenity benefits of urban creeks. Urban Creeks Council and Waterways Restoration Institute were both founded by Ann Riley, a hydrologist who started the regional movement and went on to develop an urban restoration grant program while working for the Department of Water Resources (Owens-Viani 2004). Carole Schemmerling spearheaded one of the first creek daylighting projects in the nation during her service with the City of Berkeley Parks and Recreation Commission. To raise awareness of presence of "creeks" underground, she recruited Richard Register to design the now-ubiquitous "No Dumping - Drains to Bay" storm drain stencil (Mozingo 2005). The Watershed Project started as the education department of the San Francisco

Estuary Institute, a scientific research organization monitoring the health of the San Francisco Estuary. Kathy Kramer, its founder, developed the much-acclaimed Kids in Creeks curriculum for K-12 educators. The Watershed Project also played an important role in starting the watershed awareness programs in Sausal, San Leandro, and San Pablo Creeks, providing coordination support for Friends of Sausal Creek, Friends of San Leandro Creek, and San Pablo Watershed Neighbors' Education and Restoration Society (SPAWNERS), among stewardship groups.

With regards to participation by low-income communities of color, the body of contemporary accounts yields a mixed message. Recent surveys of voluntary creek and watershed stewardship groups in the East Bay indicate that stewardship is related to high income (Mozingo 2005, Chanse and Yang 2005). Chanse and Yang (2005) suggest that restoration goals such as water quality, habitat and native vegetation restoration better reach those who already appreciate such values, and therefore tend to limit the socio-economic strata of participation. Owens-Viani (2004) and Riley (1998) both indicate that North Richmond, a predominantly low-income African-American neighborhood in lower Wildcat Creek watershed, was the site of one of the first anti-channelization movements. East Bay Conservation Corps, an alternative service learning school serving at-risk youth primarily low-income communities of color, provides manual labor for creek restoration projects, for example in installing bank erosion control fabrics, removing weeds, and simply cleaning up creeks. The Coalition to Restore Urban Waters (CRUW), a national advocacy network was formed in the early 1990s by representatives from conservation corps organizations, environmental and creek conservation groups, and others who recognized the link between restoring urban creeks and providing economic opportunities to youth of color from low-income neighborhoods in urban areas (Riley 1998). From my own experience working at the Watershed Project and attending regional watershed conferences, participation from low-income communities of color in urban watershed

stewardship in the San Francisco Bay Area has been limited. Because of this lack of clarity in how low-income communities of color have been involved in watershed stewardship, I look to the literature on watershed management with the hope of finding a useful theoretical framework.

Practically, this study is designed to be useful for:

- (1) Stakeholders or government agency staff that are already involved in urban watershed management in (re)designing their outreach strategies to be more inclusive of diverse and representative stakeholders
- (2) Leaders of communities of color and low-income communities that have not been involved and wish to be and seek stories of how such communities *have* been involved in watershed management, and the funding and other support available
- (3) Funding institutions including state and local government and foundations in developing criteria for watershed projects: I make the case for institutional support for a holistic set of watershed goals, including socio-economic goals, benefiting a broader watershed population

### **Outline of document**

In the next chapter (Chapter 2), I use the environmental justice lens to look at collaborative management to diagnose problems with the process that can lead to injustice. First, I construct the concept of *watershed justice* by applying the environmental justice to watersheds. I then review the literature on the collaboration, an emerging approach to watershed management in the US and elsewhere, to understand how the process should work for outcomes to be just and effective. The literature review yields analytic framework that guide my research, outlined at the beginning of Chapter 3. In Chapter 3, I describe the suite of research methods and techniques I used within my comparative case study approach. In this chapter, I explain and justify my use of



stories in presenting my findings and analysis. Chapters 4 and 5 are the two case study chapters, where I detail the stewardship stories that help illustrate concepts outlined in the literature review. In Chapter 6, I provide a comparative analysis of the two case study watersheds based on the analytical framework from Chapter 3, but distilling them into 8 pertinent lessons arising from my research that I hope will guide those who collaborate for *watershed justice*.

### **What is storm water pollution?**

Storm water pollution, or non-point source pollution, is one such environmental problem that benefits from broad-based citizen involvement. Sources of storm water pollution are dispersed and difficult to identify exactly to specific points. When it rains, storm water picks up everyday natural and manmade pollutants as it moves downhill in a *watershed* - the land area that collects rain water and these pollutants into a common body of water, such as a local creek, a bay, or the ocean. Such dispersed sources of pollution are therefore more difficult to prevent than discrete sources such as industrial wastewater, as they comprise of actions of individuals living within each watershed.

of which was built to allow urban development, replacing the water conveyance functions of creeks and natural ditches. Water is thus prevented from infiltration that, in undeveloped watersheds, could partially treat pollutants. Urban storm water pollutants commonly include trash and litter, lawn and garden chemicals, automotive byproducts (e.g. oil, copper from break pads and washing detergents), and excess sediments from construction activities. As pollutants can potentially come from all over the watershed, individuals and communities in the watershed can contribute to both the pollution and the prevention thereof.

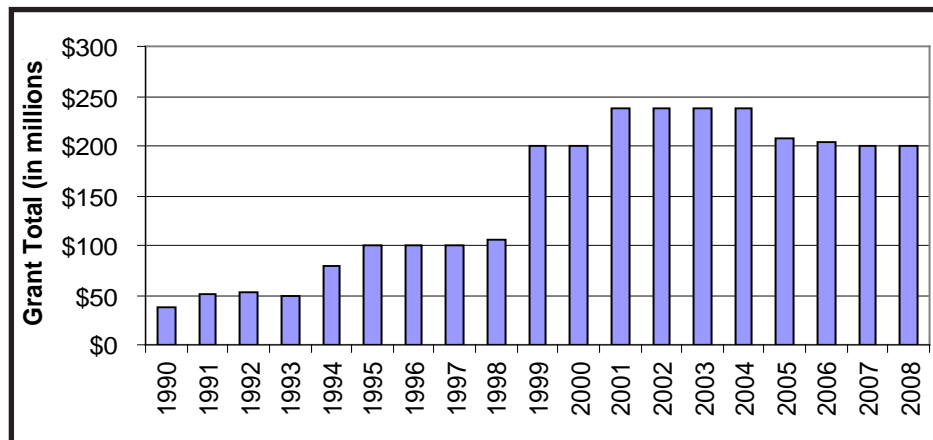
According to the EPA, of all polluted waterways in the US, 40% are polluted by non-point sources alone, compared to only 10% that are polluted by point sources alone. The US Congress in 1987 amended the Clean Water Act to address storm

In urban watersheds, residential, commercial, and industrial development has paved over and made land surface impervious to falling rain water. Rain water flows directly into storm drains, a network

water pollution, or non-point source pollution, by requiring that the US EPA take on a broad-based, watershed-wide approach for “the protection and propagation of fish, shellfish, and wildlife and recreation in and on waterbodies.” The EPA’s strategy has been to delegate funds to county and city governments to develop strategies at the local watershed level. Congress has increased non-point source pollution funding by more than six times in 15 years, from only \$37 million in 1990 to \$237 million in 2002 (Figure 3).

The problem of storm water pollution in urban watersheds has therefore received increasing attention by state and local agencies with water quality protection mandates. The need for broad-based action has spurred on efforts to raise public awareness about their role in preventing storm water pollution. In many cases, communities have formed stakeholder groups participating in planning and management beyond changing their individual action, articulating their values and desired uses of the watershed and working with government agencies to attain those goals.

**Figure 3: Increase in non-point source pollution funding, 1990-2008**



Source: US EPA Polluted Runoff (Non-Point Source Pollution), <http://www.epa.gov/owow/nps/319hhistory.html>, accessed Mar 25, 2008.

1 Introduction *1*

## **2 A Framework for Watershed Justice**

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**Watershed justice 17**

**Physical management of urban watersheds 20**

**Process and outcomes of collaborative watershed management 22**

**Challenges in engaging representative stakeholders 25**

**Opportunities in engaging representative stakeholders 34**

3 Research Framework and Design *40*

4 Stewardship Stories from Sausal Creek Watershed *59*

5 Stewardship Stories from Rheem Creek Watershed *91*

6 Lessons for a Watershed Justice *112*

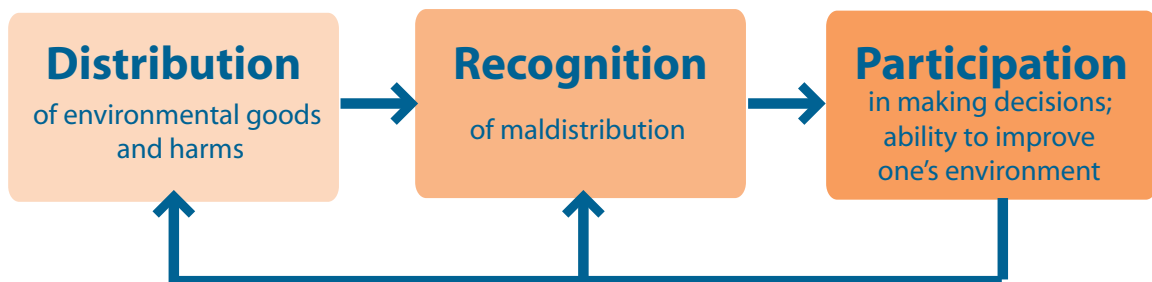
## CHAPTER 2: A FRAMEWORK FOR WATERSHED JUSTICE

This chapter explores a framework for watershed justice, based on the literature on environmental justice and watershed collaboration. Applying concepts of environmental justice to the literature on watershed collaboration, I identify parts in the collaboration process that are crucial to achieving just outcomes. While the collaborative approach to watershed management can yield outcomes that are both just and effective in improving watershed conditions, the lens of environmental justice highlights the importance of engaging a representative set of stakeholders early on in the process. Without the full spectrum of stakeholders, the process is likely to yield neither the desired improvements nor legitimacy of decisions. The literature on environmental stewardship and democracy suggests ways that the process can more inclusively engage participants.

### Watershed justice

Watershed justice involves three dimensions of justice emerging from discourses and academic thought on the environmental justice movement: (1) The equal distribution of and access to watershed resources by all communities regardless of socio-economic status; (2) The recognition of disparities in the distribution and access to these resources and that these disparities need to be addressed; and (3) The equal representation of stakeholders in planning and decisions affecting their watershed (Figure 4).

Figure 4: Three levels of watershed justice



The environmental justice literature is instructive in understanding the motivation for people-of-color engagement in environmental issues. The environmental justice movement in the US grew out of claims of unequal protection of the quality of life of low-income communities of color. *Toxic Wastes and Race in the United States* by the United Church of Christ Commission for Racial Justice in 1987 reported that race was the most powerful variable correlating to where government and industries systematically choose to site toxic waste facilities (Bullard 2005, Schlosberg 2007). The following two quotes about environmental justice, one by Robert Bullard, a professor in the field at Clark Atlanta University, and the other by the US EPA highlight dimensions of environmental justice as theorized by Schlosberg (2007). An explanation of how each dimension applies to the framework for watershed justice follows.

When people of color compare their environmental quality with that of the larger society, a sense of deprivation and unequal treatment, unequal protection, and unequal enforcement emerges (Bullard 2005, 138).

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. It will be achieved when everyone enjoys the same degree of protection from environmental and health hazards and equal access to the decision-making process to have a healthy environment in which to live, learn, and work (US EPA Compliance and Enforcement).

These definitions highlight three dimensions of justice proposed by Schlosberg (2007): (1) Distribution, (2) Recognition, and (3) Participation (Figure 4). First, the “sense of deprivation” of environmental quality compared to the larger society relates to the Rawlsian idea of *distributive* justice. The concept of distributive justice includes the fair and equal distribution of not only environmental harms and burdens, but also environmental quality and benefits. Urban watershed stewardship rewards participants and participating communities with a myriad of benefits, including improved neighborhood parks and amenities and environmental education opportunities.

Secondly, beyond material environmental quality, the unequal treatment of some groups must also be recognized, pointing to the *recognition* idea of justice proposed by Iris Young, Nancy Fraser, and Axel Honneth. As discussed in Schlosberg (2007), they call for the need to recognize and address the underlying socio-political processes that construct maldistribution. Mozingo's 2005 study suggests that creek restoration projects are concentrated in neighborhoods of that are generally of higher income. The watershed justice framework explores the challenge put forth by these scholars by acknowledging this inequality and looking at the collaborative process of watershed management, which we have seen faces challenges in legitimacy if adequate representation is not achieved (Sabatier et al 2005).

Thirdly, the *procedural* conception of justice also emerged out of the EPA definition calling for "meaningful involvement of all people" in decision-making, and Alston's evocation of self-determination. Participatory democracy and deliberation starts to address the institutional structures underlying distributive injustice (Young 1990, p. 23, as discussed by Schlosberg 2007, p. 27): "The idea of justice here shifts...to procedural issues of participation...For a norm to be just, everyone...must in principle have an effective voice in its consideration." This idea of participatory justice is also key to the watershed justice framework. Those involved in the "Friends of" stewardship groups - predominantly white, middle-class communities in the hilly upper watersheds - have had more control over the management and land use decisions in the watershed than those that have not - the minority, low-income communities in the flat lower watersheds. Participatory and collaborative watershed management should start to address issues of procedural justice, but as we saw in Samuelson et al (2005), still face issue of under-representation of certain groups of stakeholders.

The watershed justice framework thus asks the questions: Are there socio-economic disparities in the distribution and access of watershed resources? Do the collaborative planning and decision-making processes in the watershed address these disparities? Are stakeholders equally represented in the collaborative planning and decision-making processes in the watershed? These questions led to the selection of sites, which will be explained in the next chapter.

The watershed justice framework is not complete without understanding how collaboration works, and in the following section, I outline the watershed collaboration literature. The literature explains the physical conditions or problems in urban watersheds that make collaboration a likely approach for management, key elements in the process, and outcomes likely to result from this type of management approach. The watershed justice framework proposes that without equal representation of stakeholders in the collaborative process, some positive outcomes may result, but distributed only among those stakeholders involved. The improvements to the environmental conditions of the watershed may not be to the extent that stakeholders expect.

### **Physical management of urban watersheds**

Literature on the physical management of urban watersheds informs us how urban watershed issues and problems may be better addressed using a collaborative approach rather than the traditional top-down approach. In urban watersheds, creeks and other waterbodies were physically altered to facilitate development on flat, easy-to-build flood plains. As the watershed is urbanizing, there is usually preceding logging or extractive activities that remove plant cover. Pavements, roads, and rooftops are impervious surfaces over which water flows more quickly and in greater volumes. Both extractive activities and urban development are likely to cause flooding problems. This is in contrast to an undisturbed watershed, where water can infiltrate into the ground and flow

more slowly into creeks and eventually the ocean or the bay. With reduced plant cover, water is also likely to flow over surfaces more quickly, rather than infiltrate into the ground.

In early urban development in the East Bay and elsewhere, the traditional engineering approach to controlling flood water was to channelize creeks into concrete flood canals, drainage ditches and underground culverts. Separating creeks from people and development was also considered a solution to dumping and trash problems that made these creeks foul-smelling and unsightly. The idea was to capture flood water, direct it into a network of storm drains and canals, and get it out of urban areas as quickly as possible. Increased awareness of and appreciation for ecological and aesthetic values of creeks can have stirred interest in the restoration of creeks from culverts (daylighting) and traditional concrete channels (Kondolf and Keller 1991).

Urbanization also has led to water quality problems. Altered and channelized creeks became unattractive dumping grounds. When rain falls on the urban landscape, water flows over these impervious surfaces and picks up trash, household and garden chemicals, automotive by-products, and other pollutants into storm drains and out into the ocean. The problem of non-point source pollution is difficult to address because the sources are diffuse and almost impossible to prevent without a broad-based approach involving urban watershed residents.

Such problems in urban watersheds make collaborative management necessary because they usually require cooperation among stakeholders such as government agencies, creekside property owners affected by bank instability and flooding, and individuals whose action can impact water quality. Sabatier et al (2005, 181) hypothesize based on Kiser and Ostrom's institutional analysis and development framework that "the benefits



of partnerships are higher in situations where pollution sources are heterogeneous and dispersed rather than homogeneous and concentrated - for example, non-point versus point sources of water pollution. Such dispersed problems create enormous transaction costs for centralized command-and-control regulation, which is thus likely to be both ineffective and inefficient.”

### **Process and outcomes of collaborative management**

Many of the elements in the history of watershed stewardship resonate with existing research and theories on collaborative watershed management, including the need for stakeholder involvement and new governance institutions that are adaptive and capable of managing such watershed problems as flood control and non-point source pollution. Professors in natural resource management, Julia Wondolleck and Steven Yaffee, note that collaborative approaches to natural resource management have resulted from diminishing trust in government and its expensive and ineffective policies. At the same time, policy entrepreneurs rose to the challenge and developed innovative community-based and collaborative partnerships in environmental management. The “new style” of resource management is locally sensitive and informed, addresses with complexity, uncertainty and change, and acknowledges differences in community interests for the crafting of mutually beneficial solutions to resource management issues. It also decentralizes the decision making process through broad-based participation and civic environmentalism (Wondolleck and Yaffee 2000), which can be more effective at addressing non-point source pollution.

Collaborative planning theorists, Judith Innes and David Booher, identify trends that have led to new processes of collaboration. First, increasing recognition that complex environmental problems transcend traditional political boundaries has led to the creation of new spaces for the management of natural resources. Government agencies have

realized their interdependence and are forced to collaborate with each other to address shared problems. An increasing diversity of cultures and values, more so in urban areas, has also led to challenges in communications and decision-making. Together, these factors have driven policymaking not only to deal with management problems, but also to create long-term capacity for solving future problems (Booher and Innes 2007). The new ways of policymaking are supposed to be “more inclusive of interests, more open to new options and opportunities, more broadly discursive and more personally and publicly satisfying (Innes and Booher 2003).

Innes and Booher (1999) propose a framework for evaluating collaborative planning. It consists of a set of criteria for the process to result in just and effective outcomes, and descriptions of potential outcomes. This thesis follows the framework of process criteria and potential outcomes, but tailors it to account for environmental justice in urban watersheds, and incorporate other ideas by Sabatier et al (2005) and Wondolleck and Yaffee (2000). The process framework this thesis uses is as follows: (1) The process must include of a full range of stakeholders; (2) There must be mutual exploration of interests and involve dialogue where all are heard and equally able to participate, making efforts to satisfy concerns of all stakeholders; and (3) Through repeated interactions, stakeholders go through a process of relationship building.

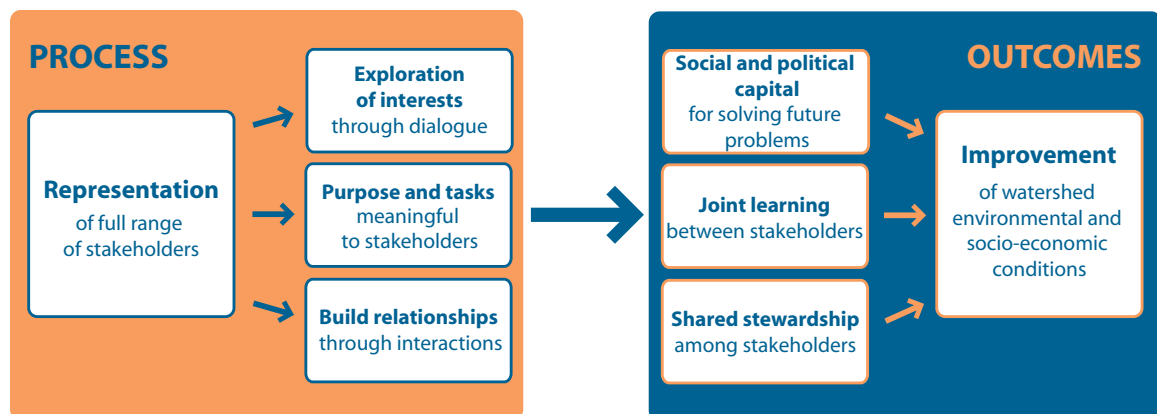
Collaborative processes should lead to increased protection and improved conditions in the watershed in the long term. In urban watersheds, water quality should improve and flooding creatively managed. According to Sabatier et al (2005), socio-economic conditions should improve too; stakeholders come to the table only if they perceive they will be better off through the process. By working together for an extended period, stakeholders mutually benefit from the process in several ways: (1) the generation of social and political capital - horizontal networks of trust and reciprocity that increase

stakeholders' capacity for future problem solving and collective action (Putnam 1993); (2) joint learning and knowledge exchange between community stakeholders and government agencies or other experts, which lead to more effective and locally informed problem solving; and (3) a sense of shared stewardship of the watershed, which ideally results in the eventual improvement of environmental and socio-economic conditions in the watershed.

*Representation is important at the start of the collaborative process*

Using the environmental justice lens concerned with representation and participation in decision-making processes, the watershed justice framework emphasizes the importance of stakeholder representation from the start of the collaborative process (Figure 5). Once included stakeholders explore interests and define tasks and purpose, relationships are built based on shared understandings among those involved, but they leave out those not involved. Therefore, the resulting outcomes of collaboration, including social/political capital and joint learning among those involved, benefit only to those involved in the process, and thus not fairly distributed among watershed communities. The process also misses an opportunity for learning and integrating knowledge and other contributions from those not involved, thus diminishing the effectiveness of policies.

**Figure 5: Process and outcomes in watershed collaboration**



## **Challenges to engaging a representative set of stakeholders**

### *Challenges in the initial engagement*

Concerns about representation and challenges to participation are articulated throughout the collaborative literature, which stresses the importance of representation in achieving both just and effective policies in urban watersheds. Trachtenberg and Focht (2005) highlight the importance for representation for the process to be legitimate. For the process to achieve *procedural* legitimacy there must be appropriate representation of stakeholders whose full range of concerns are considered fairly, and who generally consent to policy decisions. *Substantive* legitimacy depends on whether the problematic situation actually improves, whether stakeholders' rights in policy outcomes are respected, and whether benefits are distributed fairly among stakeholders.

Practice-based research by Samuelson et al (2005) directly addressed issues of citizen participation and representation in a collaborative watershed management process. In their work establishing a year-long stakeholder process in the restoration of two San Antonio, TX watersheds, they tested a set of hypotheses about the demographics, attitudes, and knowledge and beliefs of participants. They found that participants tended to be highly educated, middle- to upper middle-income Anglo-Americans, working a 40-hour work week, with a high degree of self-efficacy and environmental awareness (reflected in beliefs that the earth has limited natural resources and that humans must live in harmony with nature to survive). The most commonly cited motivation for participation was the protection or restoration of watersheds. Participants were also familiar with the creeks they were called to manage, and greatly concerned about the quality of the water for drinking, swimming, and for eating fish. Other demographic groups were under-represented.

The issue of under-representation of certain populations, including Hispanic, African-American, and the private sector, “should be of special concern to practitioners and researchers (Samuelson et al 2005, 167). In their recruitment process, Samuelson and his colleagues found that representation from Hispanics was unsatisfactory, with less than half the proportion of the county’s Hispanic population represented. African-American participation was higher than the corresponding population proportion in one watershed, but virtually non-existent in the other watershed. Representation from the private sector was also visibly absent in the process described in Samuelson et al (2005). The researchers did not directly address the fact that they recruited specifically for participants in a “watershed restoration council,” and that such language might, from the outset, bias the type of participants to those already interested in issues of watershed restoration.

Other challenges and barriers to the collaborative process additionally hinder representation. Samuelson et al (2005) suggest that the lack of shared experience and the lack of desire to change the status quo among stakeholders may limit the sustained life of the watershed collaboration. In a heavily urbanized watershed that had a history of management conflicts, participants went on to form the Salado Creek Foundation, with the mission of “helping neighbors work together to protect and enhance the quality of all life throughout the rich and diverse Salado watershed.” The other watershed studied had just begun to urbanize. Watershed residents included a broad mix of communities, from low-income communities at the urban fringe of San Antonio, TX to cattle ranch owners, resulting in very little common experience. Leadership did not emerge in this watershed and the process was limited to the year-long engagement in the watershed council.

#### *Challenges in exploring interests through dialogue*

The stage in which stakeholders explore and develop mutual understandings of each other’s interests, ensuring that all are heard and able to participate, is also important in

urban watersheds, where multicultural communities converge from different experiences of participation in public policymaking (Booher and Innes 2007). Different language and cultural backgrounds may also be a barrier. Without efforts to ensure that all voices are heard, some stakeholders may leave the table perceiving the process as illegitimate, especially if they do not see how their needs could be met by participating (Sabatier et al 2005). Innes and Booher (1999) stress the importance of exploring the interests of all stakeholders. The Salado Creek Foundation in Samuelson et al (2005) has the goals of “public safety, wise land and water use, environmental protection, outdoor recreation and education and general economic prosperity along the corridor” ([www.salado.org](http://www.salado.org)). Many of the same goals have been adopted by watershed stewardship groups in the East Bay, though “general economic prosperity” is not as common.

The environmental justice literature is helpful in understanding the interests or issues low-income communities of color in urban areas might prioritize and how they may be different than those of watershed stewardship groups. The divergence of priorities between those of the mainstream environmental movement and those of low-income communities of color has been deeply embedded in the history of environmentalism in the US. Environmental historian Robert Gottlieb (2005) identifies two types of American environmentalism since the early 1900s, one concerned primarily with wilderness protection, which has traditionally been the most professional and widely accepted branch of environmentalism, and the other concerned with human environments in urban areas. Environmental justice leader Robert Bullard echoes the class and color lines in American environmentalism:

The environmental movement in the United States... [has] focused on such areas as wilderness and wildlife preservation... supported primarily by middle- and upper-middle-class whites. Although concern about the environment cut across racial and class lines, environmental activism has been most pronounced among individuals who have above-average education (and) greater access to economic resources (Bullard 2005).

Applied to urban watershed stewardship efforts in the East Bay, Bullard’s description

shows that they can be understood as part of a “green” conservationist movement in contrast with the “brown” environmental justice movement. East Bay urban watershed stewardship activities focus on issues of hydrological and ecological health, with financial and legal support from local and state governmental agencies as mandated by state and federal legislation, such as the Clean Water Act or Endangered Species Act. While low-income communities of color in the East Bay have been involved in many environmental movements, their struggles have been predominantly in social and environmental justice issues such as toxic exposure, air pollution, transportation justice, and housing.

For residents of low-income communities of color, it may be difficult to see why water quality or biodiversity *alone* would be important, in light of more pressing priorities such as disproportionate exposure to toxics and air pollution, workplace hazards, lack of access to reliable transportation, health and nutrition issues, educational inequalities, lack of jobs and job training opportunities, affordable housing, crime, drugs and violence, lack of recreational opportunities for youth, and a myriad of other issues associated with living in inner city areas. According to Bullard (2000), “decent and affordable housing... is a top environmental problem for inner-city blacks. In contrast, environmentalists’ continued emphasis on wilderness and wildlife preservation appeal to a population that can afford leisure time and travel to these distant locations.” Community priorities, and how environmental issues relate to them, thus play an important role in the exploration of issues in which people in low-income communities of color might engage. It is perhaps more productive to meaningfully engage such communities in the issue-definition process with the aim of addressing real needs, than to force the watershed framework on them.

Both Bullard (2000) and Gottlieb (2005) propose redefining the American environmental movement from one about protection of the natural environment to one concerning issues affecting daily life in urban areas. Bullard (2000, p. 145) argues for the mainstream

environmental movement to “broaden its base to include people-of-color, low-income, and working-class individuals and issues...for the long-range survival of the environmental movement.”

The exploration of interests during the collaborative process is important in identifying opportunities for watershed communities to work together and build on common ground based on a sense of place and community (Wondolleck and Yaffee 2000). Looking at how low-income communities of color have defined “the environment” teaches us about what such communities perceive environmental problems. Dana Alston in the first national People of Color Environmental Leadership Summit held in 1991 defined the environmental agenda by saying,

For us, the issues of the environment do not stand alone by themselves. They are not narrowly defined. Our vision of the environment is woven into an overall framework of social, racial, and economic justice. The environment, for us, is where we live, where we work, and where we play (quoted in Gottlieb 2005, 34).

Following Alston’s definition of the *environment*, we must see the watershed as an environment in which communities live, work and play. Her definition suggests that ecological and hydrologic goals alone in watershed restoration and stewardship are too narrow to sufficiently engage low-income communities of color.

The US EPA supports more encompassing approaches to watershed management, as illustrated in the following official text:

EPA supports watershed approaches that aim to prevent pollution, achieve and sustain environmental improvements and meet other goals important to the community. Although watershed approaches may vary in terms of specific objectives, priorities, elements, timing, and resources, all should be based on the guiding principle of *partnerships* -- Those people most affected by management decisions are involved throughout and shape key decisions.

This ensures that environmental objectives are well integrated with those for economic stability and other social and cultural goals. It also provides that the people who depend upon the natural resources within the watersheds are well informed of and participate in planning and implementation activities (US EPA Watershed Approach Framework).



This broader approach thus includes not only physical, hydrological, and ecological health, but also economic and community health. Community organization around these broader goals presents opportunities for a more inclusive movement that benefits a broader and more diverse watershed constituency. Hester (2006, p. 382) proposes, “stewardship efforts are most successful in encouraging ecological democracy when they satisfy multiple purposes and are least successful when they focus on narrow, exclusive purposes.” He demonstrates through the Berkeley Youth Alternatives Garden Patch project that site planning and design, gardening, and selling garden produce create valuable after-school mentoring, job training and entrepreneurship opportunities for youth at risk of dropping out of school or turning to violent crimes. For watershed stewardship to be attractive to low-income communities of color, it must account for the varied needs of these communities and work towards a multiplicity of goals. In what ways can watershed stewardship activities fulfill both ecological and hydrological, and community and economic development goals at the same time?

#### *Challenges in developing meaningful purpose and tasks*

This step of the process is also important in keeping participants engaged. The differences in how environmentalism is experienced among socio-economic groups would also make it difficult to develop purpose and tasks meaningful to all. The divergence between groups from two movements is further underscored by the activities their constituents are organized around. Mainstream environmental organizations such as the Sierra Club tend to organize “expressive” activities for its members such as outdoor recreation, field trips, and social functions while leveraging their sheer numbers in influencing national environmental policies. The environmental and social justice movement typically, on the other hand, organizes around “instrumental” activities such as mass protests and rallies, boycotts, and sit-ins (Bullard 2000).

The literature on stewardship suggests a variety of ways to diversify participation in stewardship activities. Among these, Hester (2006) proposes that broadly defined, multiple purposes would be more successful than single, narrowly defined purposes. The watershed stewardship organizing has the monthly community meeting as its cornerstone (Hayes and Chatfield 1999). The subjects of discussion at the meeting are framed around creek and watershed issues, but meeting attendees were invited to discuss all concerns and collectively prioritize what to work on. In the East Bay, some groups, like the Friends of Garrity Creek, have chosen to work on protecting a piece of private creekside property from residential development. Friends of San Leandro Creek chose to work on restoring natural processes and aesthetics of the creek. The Codornices Creek stewardship group has focused on restoring steelhead habitat. Technically, these could include any number of issues the community relates to the creek or watershed, but they tend to focus on creek restoration, water quality, and fish habitat. Studying the two watershed's projects and activities would begin to ascertain the variety and breadth of these purposes.

Hester (2006) also further suggests that defining tasks clearly, and tasks having immediately evident results would also increase accessibility and facility to participate, and the sense of satisfaction of work completed. The activities and events suggested by the "How to Start a Watershed Awareness Program (WAP)" manual (Hayes and Chatfield 1999) seems to agree with Hester's propositions: "it's always necessary to...provide clear direction and supervision (26) ...explain what we'll be doing and how to do it, make sure people know what is expected of them" (29). Suggested activities for WAP groups include a creek cleanup, with few tools needed and "something just about everybody can do with little or no instruction" (25). The sense of satisfaction derived from cleaning up an area previously strewn with litter is usually immediate and obvious for most people. Other creek groups have also conducted storm drain stenciling, also a relatively

easy-to-do and provides immediate satisfaction, aquatic insect sampling which provide participants with direct contact with creek bugs, and animal tracking, where participants would make plaster casts of animal footprints to take home (28). What is the nature of activities and tasks for watershed stewardship groups? Are they meaningful to low-income communities of color stakeholders?

In order to diversify participation, it is important to provide a variety of events to reach out to different cultures, abilities, age groups, and commitment levels. Activities need to be fun and engaging, with food and music provided. The WAP manual recognizes this, and suggest that “since not everyone is a meeting-going type, you’ll want to hold outdoor events in addition” (25). The manual also suggests educational events, where participants would actually get something rather than give their time, and celebratory festivals in addition to volunteer events. The description of the San Leandro Watershed Festival included fun watershed games that made the message of pollution prevention clear (28). Even though food and music may be an important attraction, the San Leandro Watershed Festival did not have those, but was attended by an estimated 300 people. However, ideas of fun and engaging activities, and appropriate food and music, are very much culturally dependent. What kinds of watershed stewardship activities have been successful at engaging low-income communities of color, and what kinds have been less successful?

#### *Other barriers to the collaborative process*

According to the literature, there may also be institutional and perceptual barriers to collaboration (Wondolleck and Yaffee 2000). Since representation is usually the first step in the collaboration, these may be important barriers to engaging a representative set of stakeholders. Institutional barriers include the lack of opportunities or incentives to collaborate, for example participation from low-income communities of color may be

limited because of time and resource constraints. Furthermore, inflexible bureaucratic procedures from an era of rational comprehensive planning may limit participation from government agencies still mired in the politics of paperwork and liability.

Conflicting goals and values of stakeholders may also be a barrier, and is separate from the lack of thorough exploration of interests. In this case, social and political forces have had long lasting effects in shaping the goals and values of different communities, and communities with conflicting goals and values may choose not to work with each other no matter the incentives, similar to what Duane (2005) terms conflicts of values and cognition. Another institutional barrier is limited time and financial resources. Collaborative processes can be labor and time intensive, in order to make sure the process is fair and facilitate equal participation by stakeholders. The process of relationship building also needs to be on-going beyond the typical grant or funding contract. How have these institutional barriers limited participation from low-income communities of color in East Bay watersheds?

Perceptual barriers can also hinder collaboration and engaging a representative set of stakeholders. They include the lack of trust and intergroup attitudes and may deter certain stakeholders from participating. Literature specific to watershed stewardship in the East Bay suggests that perceptual barriers in urban watersheds might include the visual disconnect between people and creeks (Mozingo 2005), or a perceptual disconnect altogether from and anonymity towards natural resources that sustain urban populations (Chanse and Yang 2005). What are the perceptual barriers to participation from low-income communities of color in watershed stewardship in the East Bay? The environmental justice literature lends insight to how low-income communities of color have engaged in environmental issues, as we see in the following section.

## **Opportunities in engaging representative stakeholders**

The collaborative process is ineffective if it does not involve the full range of stakeholders, and it is not just if it does not involve the full representation of stakeholders. Despite barriers to collaboration in general and representation in the process more specifically, the literature yields experiences about how to overcome these barriers. Samuelson et al (2005) suggest ways to address the under-representation of certain communities in urban watershed management, through in-depth consultation with under-represented communities prior to the collaborative process. These include building relationships with key informants, holding public forums within the community, and using same-ethnicity staff to enhance rapport. But these are by no means conclusive or cover the breadth and complexity of engaging such communities in collaborative watershed activities. Were these outreach strategies used in order to engage under-represented participants in the East Bay? If so, were they successful?

The literature suggests organizing techniques that have been successful in engaging participants, including issue framing, utilizing existing community structures and organizing at the neighborhood level, and building coalitions that leverage resources. I outline below and explain how each applies to watershed stewardship in the East Bay. The framing of issues has been key to the mobilization of low-income communities of color. Bullard (2000) observed, “The issues that are most likely to attract the interest of black community residents are those that have been couched in a civil rights or equity framework” (12). Does the message presented by watershed management collaborations effectively engage potential organizers in communities of color? How would low-income communities relate to these messages? Are there situations of environmental injustice faced by low-income communities of color that can potentially relate to watershed issues? The sense of stewardship not shared among those not involved is a missed opportunity for involving a greater network of stewards.

Another way that framing affects participation from diverse communities is that it defines the language and rhetoric of outreach. Once the issue is framed in a way that does not reach out to low-income communities of color, written medium of outreach is probably ineffective. The different modes of representation such as language, illustrations, and activities communicating are probably ineffective in engaging communities of color and low-income communities. The literature on framing in public policy issues is useful here. Gray (2003, 12) defines framing to be “the process of constructing and representing our interpretations of the world around us... [through which] we focus attention on an event or issue by ‘imparting meaning and significance to elements within the frame and setting them apart from what is outside the frame’ (Buechler 2000, 41).” Laws and Rein (2003) suggest that “frames serve as a basis for both discussion and action, ... [are] a particular way of representing knowledge, ... (and) a guide for doing and acting... (Frames, or framing) distinguishes between what demands attention and what can be neglected.”

Based on my previous work, once the issue is framed as a “watershed” issue, it may not appear important and in turn be neglected by those not interested, no matter their socio-economic position. Outreach materials that are based on watershed issues would be very descriptive in hydrological and ecological processes (what species of birds were found at which bluff in which park, how the bank has been eroding or holding up during this year’s wet season, how many of the same species of trees volunteers have counted over the years, etc). For this reason, much of my research focuses on a review of outreach materials from urban watershed stewardship, and shows that the framing of issues as a watershed issues and the language and rhetoric of written and to a lesser extent, oral or visual outreach materials (flyers, newsletters, website, etc) represented by that frame, may not reach out to those not interested, including low-income communities of color.

Bullard (2000) also suggests using the existing social structure in low-income communities of color that facilitates organizing at a local scale based either on affiliation to a community-based organization, or on a neighborhood. “Environmental groups in the black community quite often emerge out of established social action organizations. For example, black leadership has deep roots in the black church and other voluntary associations...[that provide] infrastructure already in place for the emergence of a sustained environmental equity movement in the black community.” (Bullard 2000, 12). The role of established local leaders is also emphasized, “frontline warriors, mothers and grandmothers, ministers from the churches, and the activist leaders from community-based organizations, civic clubs, neighborhood associations, and parents’ groups, who may have mobilized the community against the toxics threat” are among those community leaders identified by Bullard (2000, 144). An example of this leadership was Reverend Benjamin Chavis in Warren County, NC, who led the landmark Commission for Racial Justice’s 1986 study, *Toxic Wastes and Race in the United States*.

Bullard (2000, 147) also proposes that organizing neighborhoods would be an effective action strategy for the environmental justice movement. The three elements of neighborhood organizing he identifies are: (1) the social work approach where environmental protection is a community service that needs to be provided, (2) the political advocacy approach where local communities can be organized and empowered in defense of their space and influence decision-making, and (3) the neighborhood improvement approach where neighbors organize to oppose external threats like unwanted land uses. How have these strategies been applied in the watershed stewardship organizing process in East Bay watersheds?

Another organizing process in the environmental justice movement has followed the coalitions model, whether among community organizations, or between mainstream

environmental groups and social action and labor activist groups. These coalitions “operate on the position that social justice and environmental quality are compatible goals” (Bullard 2000 pg. 14). This specifically calls for mainstream environmental groups to work with local community organizations across both environmental protection and justice issues, and may provide a useful lesson for engaging low-income communities of color in watershed stewardship. How have such coalitions of mainstream environmental groups and low-income communities of color helped encourage the latter’s participation in watershed stewardship?

Organizational linkages can also be formed between community-based organizations and larger intermediary or umbrella organizations that link community-based and neighborhood organizations with the “experts,” usually policy makers or governmental agencies. Corburn (2005) notes these intermediaries span between street science and professionals, and aid the co-production of knowledge and expertise on environmental health issues between individuals on the ground that are directly affected and policy makers. Within the watershed restoration and stewardship movement, Mozingo (2005) also underlines the role of umbrella organizations in building capacities of local communities in stewardship of their local watersheds. Urban Creeks Council and the Watershed Project were mentioned by Mozingo (2005) as two such umbrella organizations active in the San Francisco East Bay. Urban Creeks Council “offer support and technical advice to officials, agencies, creeks groups and landowners,” while the Watershed Project provide educational and capacity building support programs to citizens and community-based watershed stewardship efforts. What is the role of such NGO intermediaries in spanning low-income communities of color and those who consider themselves as “experts” of watershed issues?



Last but not least, location and timing of events and activities also seem to be important factors affecting participation. Hester (2006) notes that providing opportunities close to participants' home would facilitate participation. The WAP manual recognizes this, stating "Where you hold your meetings can determine who will come...Make it possible for the widest spectrum of people to attend by holding meetings outside of regular working hours" (Hayes and Chatfield 1999). In what venues have watershed stewardship groups held their meetings and activities, and how do these locations affect who actually attends?

So far we have seen from the literature that collaborative watershed management is emerging from the institutional ashes of a bureaucratic, single-minded, and inflexible way of governing natural resources. The issue of under-representation from certain groups including minority and low-income communities, and by the same token, the bias in attracting certain demographic groups has also been recognized in this literature. The framework for watershed justice uses the experience of the environmental justice movement to identify problems in the collaborative process. The environmental justice literature suggests that working on a broad definition of the environment, as embedded within broader social, political and economic contexts, may reveal common ground that mutually strengthen both social justice and environmental protection. Currently, the institutional capacity is developing for engaging inclusive participation in collaborative urban watershed management, in which a representative set of stakeholders is necessary for improving environmental and socio-economic conditions in a way that is mutually beneficial for all watershed communities.

Based on the literature, I lay out my research framework for watershed justice in the following chapter. My research question is thus: What are some of the factors that have limited, and those that have encouraged, participation by low-income communities

of color in the management of Sausal Creek and Rheem Creek watersheds? In each watershed, who are the stakeholders involved and how did they get involved? Who have been less involved? What are the specific challenges in engaging representative stakeholders in watershed management? What practical lessons can be learned about outreach and engaging participants from low-income communities of color in urban watershed stewardship? These are the questions I carried with me to the field, and my research design is described in more detail in the following chapter.

- 1 Introduction *1*
- 2 A Framework for Watershed Justice *16*

## **3 Research Framework and Design**

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- Research objective and study questions *41***
- Comparative case study approach *41***
- Selection and summary of cases *42***
- Collecting many knowledges *53***
- Learning from stewardship stories *56***

- 4 Stewardship Stories from Sausal Creek Watershed *59*
- 5 Stewardship Stories from Rheem Creek Watershed *91*
- 6 Lessons for a Watershed Justice *112*

### **Research objective and study questions**

The purpose of this thesis is to identify challenges in the process of watershed collaboration that have limited and factors that have encouraged participation by low-income communities of color in urban watershed stewardship. As derived from the literature review, these factors are listed in Table 2. More specifically,

- (1) What barriers do those involved in urban watershed management face in engaging low-income communities of color in urban watershed stewardship?
- (2) If low-income communities of color have been involved in watershed stewardship efforts, what factors have encouraged their involvement?
- (3) What are some common and/or compatible issues around which watershed communities can collaborate on?

### **Comparative case study approach**

This research undertakes a comparative case study approach, which presents several advantages to understanding the context within which collaborative watershed management emerged, and how and why low-income communities of color have or have not been engaged. Yin (2003, 9, 13-14) highlights these advantages pertaining to the case study approach. The watershed stewardship movement is a contemporary set of events, the holistic context of watershed management is instructive in exploring and discovering major factors that may lead to socio-economic differences in participation. Further, in the context of real life, many variables and actors can affect changes. The research framework and factors within were identified to guide the analysis of data collected in the two case study watersheds. Understanding how and why low-income communities of color are involved in the urban watershed stewardship movement thus requires investigation of multiple sources, rather than one single source of data.

**Table 2: Possible challenges and opportunities in engaging low-income communities of color in watershed stewardship**

<b>Challenges with process of collaboration that limited participation by low-income communities of color</b>	Full set of stakeholders represented	<ul style="list-style-type: none"> <li>- Who are the stakeholders involved</li> <li>- How did they get involved</li> <li>- Who have been less involved</li> </ul>
	All interests explored through dialogue	<ul style="list-style-type: none"> <li>- Language barriers</li> <li>- Definition of watershed resources</li> <li>- Common interests</li> <li>- Conflicting interests</li> </ul>
	Stakeholders interact through meaningful purpose and tasks	<ul style="list-style-type: none"> <li>- Broadly defined purpose</li> <li>- Types of activities</li> <li>- Clear, satisfying tasks</li> <li>- Variety of tasks</li> <li>- Repeated interactions build relationships</li> </ul>
	Institutional barriers	<ul style="list-style-type: none"> <li>- Incentive to collaborative</li> <li>- Inflexible bureaucratic procedures</li> <li>- Conflicting goals and interests</li> <li>- Constraints on time and funding</li> </ul>
	Perceptual barriers	<ul style="list-style-type: none"> <li>- Lack of trust</li> <li>- Intergroup attitudes</li> <li>- Perception of creek</li> </ul>
<b>Opportunities for engaging low-income communities of color</b>	In-depth consultation prior to collaboration	<ul style="list-style-type: none"> <li>- Contacting key informants</li> <li>- Public forum within community</li> <li>- Same ethnicity staff</li> </ul>
	Issue framing	<ul style="list-style-type: none"> <li>- Inequity frame used</li> <li>- Message relate to communities' needs</li> <li>- Medium of outreach</li> </ul>
	Mobilize existing social structures	<ul style="list-style-type: none"> <li>- Local leadership</li> <li>- Neighborhood improvement approach</li> <li>- Social work approach</li> <li>- Political advocacy approach</li> </ul>
	Coalitions model	<ul style="list-style-type: none"> <li>- Mainstream and EJ</li> <li>- Between communities</li> <li>- Role of intermediaries</li> </ul>

### **Selection and summary of cases**

In this study, watersheds serve as a physical unit of analysis. In selecting the case studies, I briefly surveyed small (generally below 10 square miles), urbanized watersheds flowing from the East Bay Hills and towards the San Francisco and San Pablo Bay, in western Contra Costa and Alameda counties, the two counties that comprise the East Bay. The watersheds northeast of Point Pinole and south of Arroyo Viejo are relatively larger in size, some with lower population densities, and others with semi-rural and agricultural areas in the upper watersheds. Similarly, San Pablo and Wildcat Creek watersheds in

western Contra Costa County were considered but ruled out for this study because of their size and land uses. Although watershed stewardship groups exist in these other areas of Alameda and Contra Costa Counties, my study focuses on the series of topographically similar watersheds west of the Hills.

I first learned about watershed stewardship groups in this geographic region through my work at the Watershed Project. The Friends of Sausal Creek was one of the first stewardship groups the Watershed Project helped organize, and its pioneer status illustrates the origins of watershed stewardship in the East Bay. Through my work at the Watershed Project, I also got to know about the Rollingwood neighborhood activities along Rheem Creek, and later, from a professor at Berkeley, I got connected to one of the project managers in the Rheem Creek watershed efforts involving residents in a community visioning process.

While watersheds provide a geographic unit of analysis, community-based and regional organizations serve as socio-political sub-units of analysis for organized community activities including watershed stewardship activities. Some of them are local or neighborhood organizations that can speak to and represent the interests and priorities of local communities, and conduct outreach and organize local communities into action in response to community issues. I interviewed project managers, outreach coordinators, and local community organization leaders that have been involved in watershed stewardship in Sausal Creek and Rheem Creek watersheds.

Race and class dimensions are pertinent to my study of watershed stewardship, and I wanted to study two watersheds with racial and class differences in participation. Sausal Creek watershed in Oakland, California is interesting to study because it has some of the physical, socio-economic geography common to East Bay watersheds. Socio-economic

characteristics closely mirror not only topography, but also the conditions of the creek channel and proximity to parks and open space. From upstream to downstream, we encounter predominantly white, higher-income, lower-density neighborhoods in the hills with many reaches of the creek still above ground, protected by park buffers e.g. in Shepherd Canyon Park, Joaquin Miller Park, and Dimond Canyon Recreation Area. In the flatlands of Sausal Creek watershed is a slice of the Fruitvale neighborhood where whites are the minority, and African-Americans and Latino and Asian immigrants of lower-income live in higher-density residential areas in proximity to large commercial and industrial land uses.

Creek and watershed stewardship activities are also greater in numbers and intensity in the middle and upper watershed than in the lower watershed. The community watershed stewardship group, Friends of Sausal Creek (FOSC) is one of the first established in the region with governmental support. Its pioneer status allowed me to study and understand the forces that led to its establishment. It has also served as an example for other such stewardship groups and has a regional impact in its activities. A list of projects completed and their locations, available on the FOSC website, revealed that a majority of their projects have been in the middle and upper parts of the watershed. This correspondence between physical conditions of the creek, socio-economic conditions, and grassroots stewardship seemed to present a situation of environmental injustice in both the distributive and procedural sense, and intrigued me to further study the case.

Rheem Creek watershed, on the other hand, is somewhat atypical of watersheds in the East Bay. Generally, it is made up of neighborhoods with lower percentages of white residents and lower income than other East Bay watersheds. Race and income do not follow the upstream-to-downstream pattern like they do in Sausal Creek and other East Bay watersheds. While grassroots stewardship in Sausal Creek watershed has been

ongoing for 12 years, it has only recently started in 2005 in the Rheem Creek watershed. Lead grassroots stewards in creek and watershed stewardship have been primarily African-Americans from Parchester Village in the lower watershed and Latinos from the Rollingwood neighborhood in the upper watershed. The initial stages of organizing in the Rheem Creek watershed allowed me to see what opportunities Sausal Creek watershed stewards could explore in engaging lower watershed residents. The sustained life of the Sausal Creek watershed collaboration also offered some lessons for Rheem Creek watershed partners to move forward.

One interesting commonality between Sausal Creek and Rheem Creek watersheds is the visibility of the creek channel. Although most of the creek has been engineered for flood control, much of it has escaped underground culverts. The sites of stewardship in each watershed also correspond to where reaches of the creek are still open in a natural channel. In Sausal Creek watershed, these sites of stewardship correspond to both creek condition and socio-economic demography. In Rheem Creek, the sites of stewardship correspond to creek condition but not socio-economic demography. The physical creek channel conditions, socio-economic geography, and sites of stewardship in Sausal Creek and in Rheem Creek watersheds are outlined in more detail below.

### **Summary analysis of sites**

#### *Sausal Creek Watershed - Physical Conditions*

The Sausal Creek watershed (Alameda County, 4.15 square miles) lies within the boundaries of the City of Oakland. Transportation infrastructure physically dissects the watershed into three distinct parts: the upper watershed upstream from CA-13 (Warren Freeway), the middle watershed between CA-13 and I-580 (Macarthur Freeway), and the lower watershed between I-580 and I-880 (Nimitz Freeway) and to the creek's mouth at the Oakland Estuary. The creek channel of Sausal Creek, including that of tributaries



in the hill, is about 12 miles long, and is still open and natural in more of its length (about 39%) than many other East Bay creeks, based on mapping by Mozingo (2005). Throughout the watershed, where the creek flows in an open, natural channel, it is protected by riparian buffers, as described in Table 3 and Figures 6a-b.

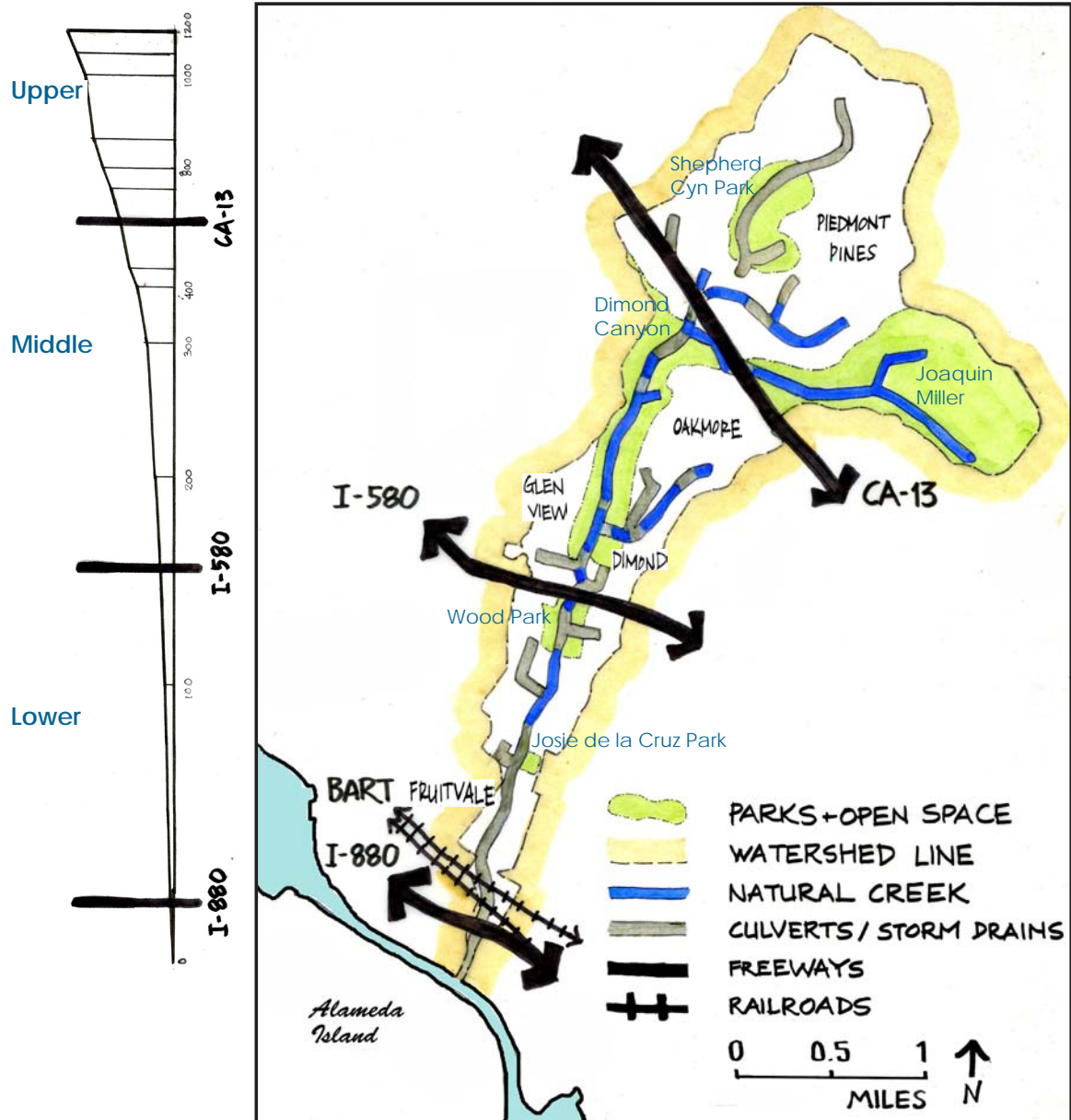
Sausal Creek drains three main tributaries in the Oakland Hills: Palo Seco Creek, the southern tributary runs through Joaquin Miller Park, and Shepherd Creek, the northern tributary, has most of its channel underground, although it is still visible Escher Creek flowing in an open channel, surrounded by Shepard Canyon Park. Beaconsfield Creek flows through Beaconsfield Canyon Park and then into a third tributary, Cobbledick Creek, before joining Shepherd Creek just upstream of CA-13. Below the CA-13, the main stem of Sausal Creek flows in an open channel through Dimond Canyon Recreation Area in the middle watershed, underground in William Wood Park below I-580, in an open natural channel and then in a concrete channel through an urban residential area, and again directed underground approximately at Hawthorne School immediately upstream of Josie de la Cruz Park (formerly Sanborn Park). The creek remains underground until it empties into the Oakland Estuary, a tidal channel separating the island of Alameda from the mainland, before joining the San Francisco Bay.

As one travels downstream, urban development increases, and preserved open space decreases. The upper watershed is the least developed (60%), with two single-family hillside residential neighborhoods, Shepherd Canyon and Piedmont Pines. Joaquin Miller, Shepard Canyon, and Beaconsfield Canyon Parks occupy the rest of the land area.

**Table 3: Creek conditions and land uses in the Sausal Creek watershed**

Watershed section	Upper	Middle	Lower
<b>Boundaries</b>	Upstream of CA-13	CA-13 to I-580	Downstream of I-580
<b>% Developed</b>	About 60%	About 70%	About 90%
<b>Parks/Open Space</b>	Shepherd Cyn Park (34 acres) Beaconsfield Cyn Park (5 acres) Joaquin Miller Park (500 acres)	Dimond Canyon Recreation Area (14.31 acres)	Wood Park (5.54 acres) Sanborn Park (1.9 acres)
<b>Length of Natural Creek</b>	1.85 miles	2.25 miles	0.5 mile

**Figure 6a: Physical conditions of Sausal Creek watershed**



The middle watershed is about 70% developed, with commercial and medium-density residential districts of Oakmore, Dimond and parts of Glenview. Dimond Canyon Park and Recreation Area occupies about 30% of the middle watershed. The lower watershed has about 90% of its land area developed and lies within the Fruitvale district, with Central Reservoir and William Wood Park and Josie de la Cruz Park.

#### *Sausal Creek Watershed -*

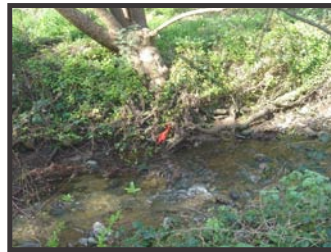
##### *Socio-economic characteristics*

Several demographic factors, in addition to race and income, follow an upstream-to-downstream pattern in the watershed. Selected socio-economic indicators of neighborhoods in the watershed are summarized in Table 4. Generally, the whiter, higher-income, more highly educated

**Figure 6b: Creek conditions and land uses of Sausal Creek watershed**



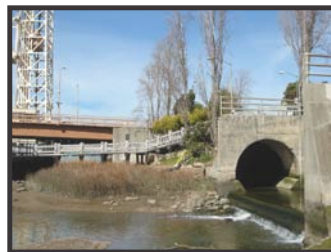
The creek in Piedmont Pines



Restored reach at Dimond Canyon at Oakmore



The creek at Barry Place in upper Fruitvale



Mouth of Sausal Creek in industrial part of Fruitvale

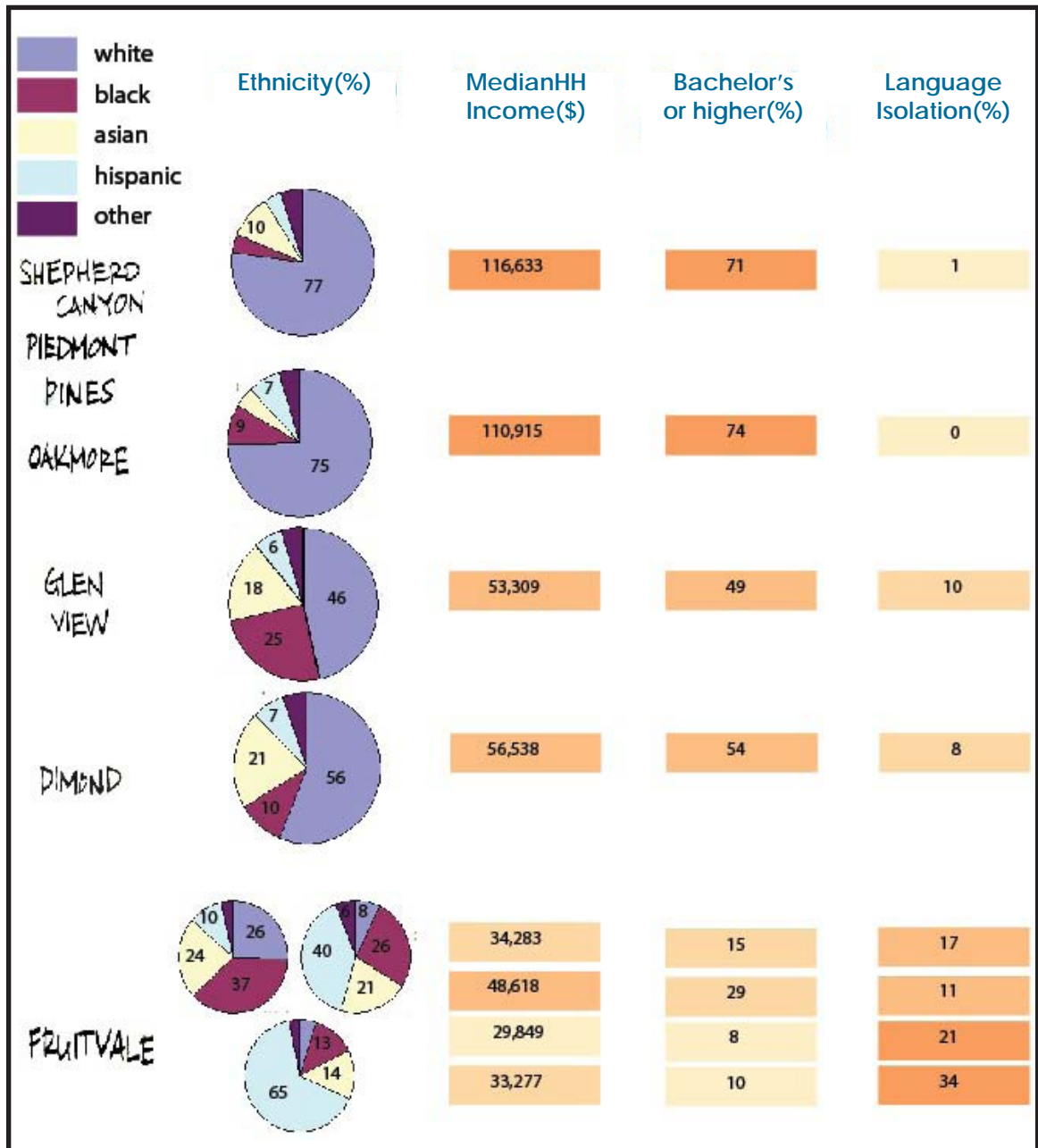


and lower degrees of language isolation neighborhoods of Shepard Canyon, Piedmont Pines, Oakmore, Dimond and Glen View correspond to higher elevations, open creek channels, and proximity to open space. Downstream from I-580, neighborhoods around Fruitvale Boulevard have markedly higher percentages of Latino residents (at least 30%, compared to less than 10% in the middle and upper watersheds), and lower percentages of white residents (less than 10% in most areas, compared to at least 45% in the middle and upper watersheds) (US Census 2000). The Fruitvale neighborhood also has highest instances of language isolation, indicating the influx of Latino and other immigrants (Marech 2002).

#### *Rheem Creek Watershed - Physical conditions*

Like Sausal Creek watershed, Rheem Creek watershed (Contra Costa County, 2.8 square miles) is dissected by major transportation lines. Highway I-80 cuts across the upper watershed, CA-123 (San Pablo Avenue) marks the boundary between upper and middle watershed. Richmond Parkway and railroad lines demarcate the middle from lower parts of the watershed. The watershed lies across several political jurisdictions, including the cities of El Sobrante, Richmond, and San Pablo and unincorporated Contra Costa County. The headwaters of the 3.4-mile creek lie in fairly steep terrain in the Rolling Hills cemetery in El Sobrante, flowing under the I-80 into an open engineered channel behind residential backyards and forming the boundary between the city of Richmond and unincorporated Contra Costa County in the Rollingwood neighborhood. It then flows through Contra Costa College, under San Pablo Avenue, and onto a residential area in the City of San Pablo. Most of its reach below San Pablo Avenue is above ground until it empties onto Breuner Marsh and into San Pablo Bay. An unnamed, partially channelized creek flows north of Rheem Creek through Parchester Village before emptying into Giant Marsh. Figures 8a-b illustrate the physical conditions of Rheem Creek watershed.

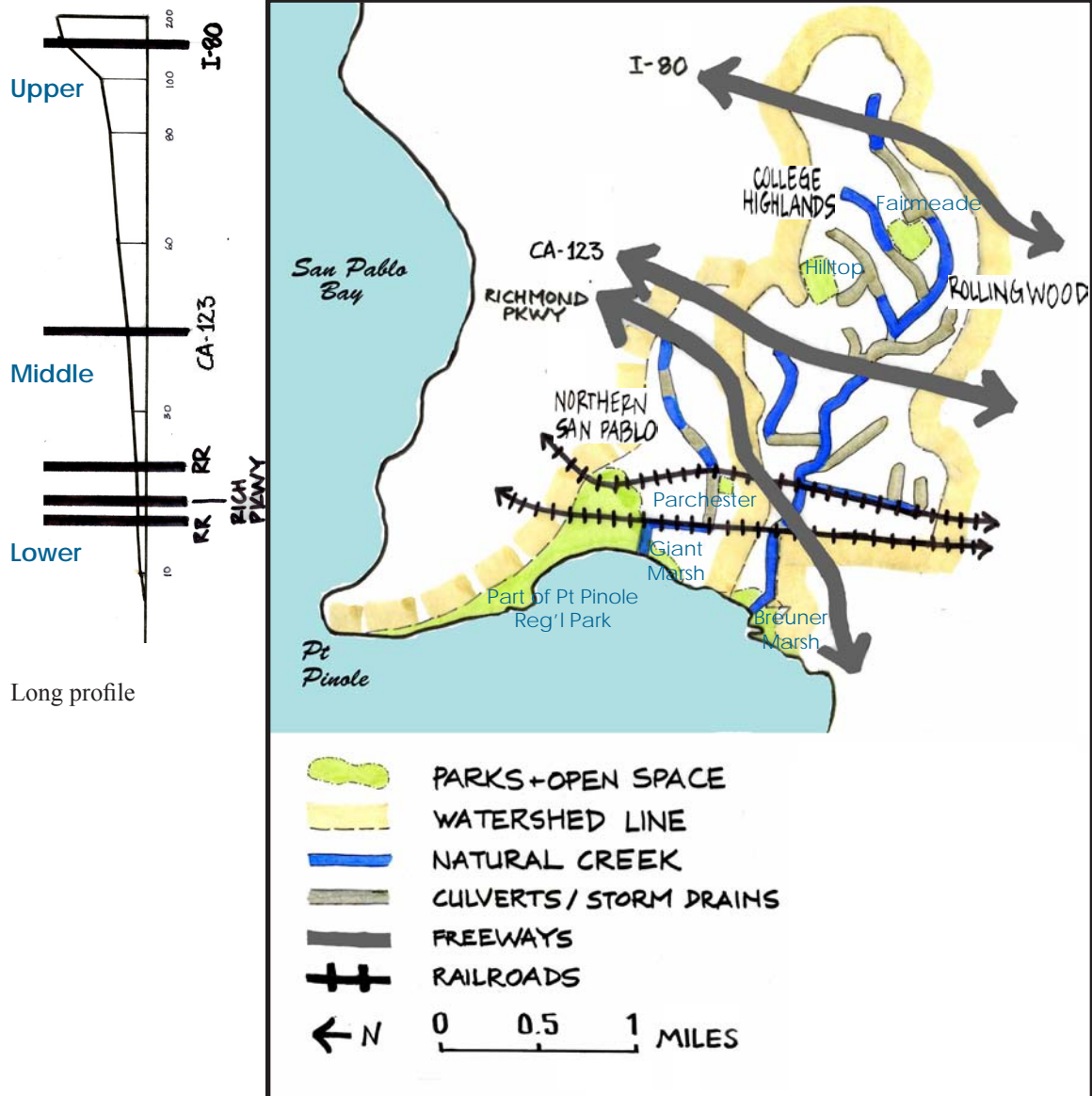
Figure 7: Socio-economic indicators of neighborhoods in Sausal Creek watershed



Note: Darker orange denotes higher values; lighter, lower. Source: US Census 2000.



Figure 8a: Physical conditions of Rheem Creek watershed



Creek conditions

Most of the watershed has been urbanized, with residential, commercial and industrial land uses. Parks and open space comprise only about 10% of the watershed, and contrary to Sausal Creek watershed, most of the undeveloped lands in Rheem Creek watershed lie in the lower watershed, mostly marsh lands along the shoreline. Despite visibility of the creek channel, access to the creek and to parks and open space in the lower watershed is generally limited. Other than Point Pinole Regional Shoreline owned by the East Bay Regional Parks District

(EBRPD), undeveloped land along the shoreline is privately owned and legally inaccessible. Besides shoreline open space, there are few neighborhood parks (Hilltop Park, Fairmeade Park, and Parchester Park) in the watershed, totaling about 44 acres.

#### *Rheem Creek Watershed -*

##### *Socio-economic characteristics*

Neighborhoods are convenient demographic sub-units in the Rheem Creek watershed as in the Sausal Creek watershed. Race, income, educational attainment, and language isolation do not follow upstream-to-downstream pattern like they do in Sausal Creek. These socio-economic indicators are summarized in Figure 9. Rheem Creek neighborhoods are generally pretty diverse demographically. I will characterize these neighborhoods in turn below.

**Figure 8b: Creek conditions and land uses of Rheem Creek watershed**



Rheem Creek at Rolling Hills cemetery



Concrete flood canal draining impervious surfaces in watershed



Drainage ditch along Giant Hwy industrial area



Visible at the mouth, but draining polluted runoff



*- Race*

In Rheem Creek watershed, most neighborhoods have “minority” populations making up the majority. Rollingwood is 38% Latino and Northern San Pablo 43% Latino, while College Highlands is 55% African-American and Parchester Village 45% African-American. The rest of the population in each neighborhood is made up of equal parts Asian and White, with about 5% American-Indian, Hawaiian/Pacific Islander, and other races.

*- Income*

Average median household income (MHI in 1999) for the watershed is about \$44,500, slightly below the 1999 California MHI of \$47,493. It is generally highest in middle watershed neighborhoods in Northern San Pablo (\$47,245), followed by Parchester Village in the lower watershed (\$45,990), College Highlands in the upper watershed (\$45,791), and Rollingwood with the lowest MHI of \$36,213.

*- Educational Attainment and Language Isolation*

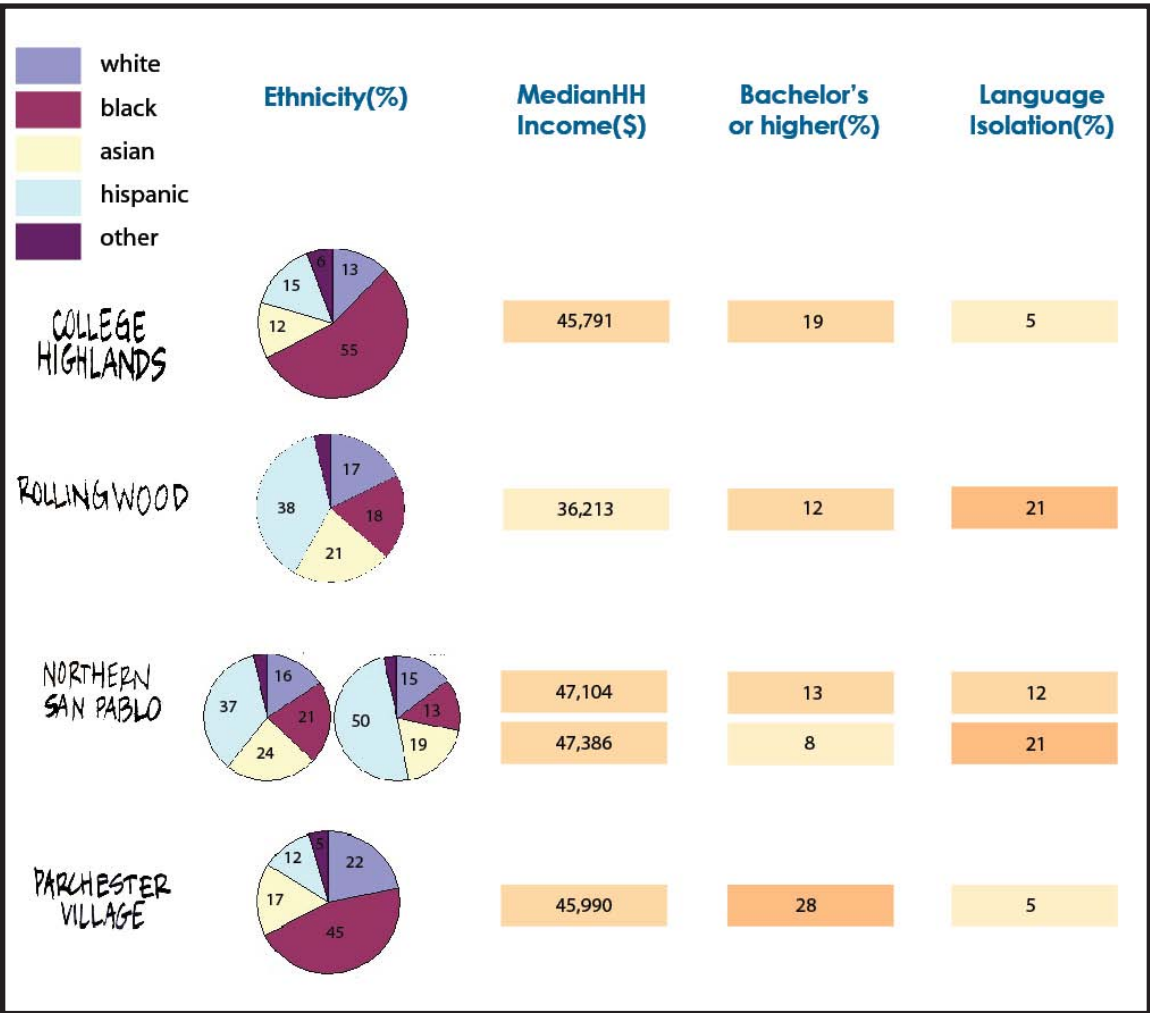
Educational attainment and language isolation correspond inversely in these neighborhoods. The predominantly African-American neighborhoods of College Highlands and Parchester Village have higher levels of formal education and lower levels of language isolation. The predominantly Latino neighborhoods of Rollingwood and Northern San Pablo, on the other hand, has about 8-12% of its residents with a Bachelor’s degree or higher and 12-21% of households that are linguistically isolated. This is reflective of the immigration of Latinos into this state in the past few decades.

**Collecting many knowledges**

For a general on-the-ground overview of the whole watershed, I visited and took photographs of each watershed as well as sections or neighborhoods within it. Whenever possible, I asked a local community member or leader to accompany me on my visit. I then tried to relate these on-the-ground conditions to the preliminary information



Figure 9: Socio-economic indicators of neighborhoods in Rheem Creek watershed



Note: Darker orange denotes higher values; lighter, lower.

I collected, like demographic data from Census 2000 data at the Census Tract level, physical conditions of the creek and land uses/open spaces in the watershed.

From each watershed, I collected the founding story of the watershed stewardship group, which tells the motivation for collaboration stakeholders, how they got involved, what they cared about, and what they hope for the future. For these stories, I conducted semi-structured interviews with leaders of community-based, regional organizations, and public agency staff (where applicable) in the two watersheds. To understand the regional mechanism of collaboration, I interviewed representatives from public agencies and leaders from regional organizations. To maintain a balance between structure and flexibility, I crafted the interview to delve into the major factors I have identified, but would allow informants to talk freely about their experiences. When appropriate, responses from previous interviews also provided guidance to following interviews. The prototypical interview is presented as Appendix 1. In total, I interviewed 12 leaders from community-based and regional organizations in the two watersheds that have worked on watershed stewardship, environmental justice, and other community environmental issues including creek restoration, affordable housing, and urban revitalization. A list of the interviewees is provided in Table 4. I received exemption from the Committee for the Protection of Human Subjects prior to any interview.

I also conducted participant-observations of events and activities produced by community-based and regional organizations in the two watersheds to observe the intended goals of these events, the range of issues covered, and the audience present. At these events and activities, I observed my own experience as a person of color. By attending both watershed and other events that engaged both white, affluent communities and low-income communities of color, I was able to compare across the two watersheds particular priorities and outreach and organizing methods and how they would or would

not encourage participation from low-income communities of color. Table 5 lists the events I attended. I also compiled outreach materials (brochures, flyers, newsletters) from community-based, non-governmental, and government organizations working in the two watersheds. I surveyed their contents to observe the virtual space of communication and knowledge production. Those materials that are referred to in the text are provided in Appendix 2.

In relation to the collaborative processes that support watershed stewardship, I studied the institutional forms that support community stewardship activities, in particular their missions and/or legal mandates. I compared these goals to priorities of low-income communities of color and considered how these funding decisions encouraged or prevented participation by low-income communities of color in watershed stewardship activities. When they are available, I reviewed existing funding reports and documents for the goals of watershed and non-watershed activities being funded and of institutional actors in watershed management. Studying existing funding reports and documents also enabled me to trace the resource link: The source of funding for watershed stewardship, the rationale for funding distribution, and the effect on engaging low-income communities of color were studied. Using the above methods for data collection and comparing data across the two watersheds allowed me to understand how the processes and factors encouraged or discouraged participation by low-income communities of color in the Rheem Creek and Sausal Creek watersheds.

### **Learning from stewardship stories**

The use of stories in this research also reflects the multivariate reality of what happens on the ground. Stories capture the complexity of collaborative watershed management processes, and the challenges of engaging low-income communities of color in stewardship. Several planning scholars have demonstrated the power of stories in

planning: they recognize the holistic (social, cultural, economic and political) context of events and interactions between actors (Sandercock 2003). Founding stories often tell of the formation of a group identity wherein lies entrenched people's values and what they deeply care about. Practice stories also tell of the challenges, hopes, and dreams of these actors and their practical experience lead to lessons that can help move us forward in planning (Forester 1999). In each of the next two chapters, three stewardship stories from the two watersheds are told to capture the study questions in the context in which they occur. Each story is followed by an analysis pointing out factors relevant to the research framework. In Chapter 6, I conclude with the challenges and opportunities that have emerged most strongly from the two watersheds, that could serve as recommendations for future watershed collaboration in urban areas.

**Table 4: Summary of organizations studied and people interviewed**

<b>Watershed</b>	<b>Organization</b>	<b>Why studied</b>
Rheem Creek Watershed	Parchester Village Neighborhood Council	<ul style="list-style-type: none"> <li>- Represents predominantly low-income community of color</li> <li>- Organizes local community action on neighborhood issues</li> <li>- Conducted outreach for watershed stewardship</li> </ul>
	Environmental Justice Coalition for Water	<ul style="list-style-type: none"> <li>- Organizes local community action and provides technical and capacity building support on water-related environmental justice issues</li> </ul>
	Natural Heritage Institute	<ul style="list-style-type: none"> <li>- Provided technical and capacity building support on watershed issues and stewardship activities</li> </ul>
	Urban Creeks Council	<ul style="list-style-type: none"> <li>- Provided technical and capacity building support on watershed issues</li> </ul>
Sausal Creek Watershed	Friends of Sausal Creek	<ul style="list-style-type: none"> <li>- Represents predominantly middle- and upper-income white participants in watershed stewardship</li> <li>- Organizes local community action and conducts outreach in watershed stewardship</li> </ul>
	The Watershed Project	<ul style="list-style-type: none"> <li>- Provided technical and capacity building support in watershed stewardship activities</li> </ul>
	The Unity Council	<ul style="list-style-type: none"> <li>- Represents predominantly low-income community of color</li> <li>- Organizes local community action on community issues</li> <li>- Provides technical and capacity building support</li> </ul>
Regional watershed collaboration	Ann Riley, Regional Water Quality Control Board	<ul style="list-style-type: none"> <li>- Initiated and led the urban creek restoration movement</li> <li>- To understand the origins of creek restoration movement</li> <li>- To understand dynamics of engaging low-income communities of color in urban watershed stewardship</li> <li>- To seek opportunities to advance collaboration in urban watershed management</li> </ul>
	City of Oakland Watershed Program	<ul style="list-style-type: none"> <li>- Understands motivation for, activities and context of the city's creek protection and watershed programs</li> </ul>

**Table 5: Summary of observed activities**

<b>Observed Activities</b>	<b>Rheem Creek Watershed</b>	<b>Sausal Creek Watershed</b>
Community meeting	Declaration of stewardship	Monthly member meeting
Public event	Forum to provide input to Richmond General Plan Update	Earth Day workday
Community workday	Bird census walk at Pt Pinole	Weekend workday at Joaquin Miller
Regional conference	No event attended	State of the Estuary Conference
Internal meetings	Partners strategic meeting (2)	Board meetings (2), strategic meeting (1)
Outreach literature	Brochures, maps, websites	Newsletters, brochures, maps, website, email list

1 Introduction 1

2 A Framework for Watershed Justice 16

3 Research Framework and Design 40

4

**Stewardship Stories from  
Sausal Creek Watershed**

**Story 1: Death of 11 native rainbow trout 60**

**Story 2: Hatchings between the top-down and the bottom-up 63**

**Story 3: The initial engagement process 66**

**Story 4: Stewardship upstream to downstream 75**

**Story 5: The creek in Josie de al Cruz Park 81**

5 Stewardship Stories from Rheem Creek Watershed 91

6 Lessons for a Watershed Justice 112

## CHAPTER 4: STEWARDSHIP STORIES FROM SAUSAL CREEK WATERSHED

### Story 1: Death of 11 Native Trout

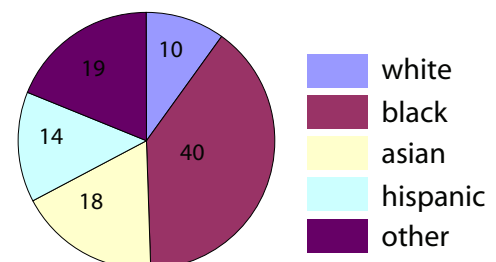
On February 7, 2008, a Friends of Sausal Creek (FOSC) employee was scouting the restored reach of Sausal Creek in Dimond Canyon in Oakland (Figure 10), in preparation for a workday with students from Sequoia, an elementary school in the middle watershed with an ethnically diverse student body (Figure 11). The students would have wanted to see the fish in the creek. Lo and behold - the employee found 11 trout belly up in a pool below the restored reach. She traced upstream and found noxious fumes and strong paint thinner smell at the mouth of a storm drain emptying into the south side of Dimond Canyon.

It is illegal to dump into storm drains in Oakland, though it is very difficult to enforce this law and educate each and every contractor in the Bay Area. Fish species are very sensitive to pollution in the creek; their presence is considered an indicator of good creek health in US EPA's urban stream monitoring programs. It is almost impossible to educate each and every contractor in the Bay Area. The FOSC

**Figure 10: Restored reach of Sausal Creek in Dimond Canyon**



**Figure 11: Ethnic composition of students in Sequoia Elementary (%)**



Source: [www.greatschools.net](http://www.greatschools.net)

employee immediately called the city's watershed program staff to report the dumping. An Oakland staff member arrived and took test samples of the fish and the water, and is currently investigating the case with the EPA and the District Attorney's office. At the FOSC board meeting following the kill, some contractors came to apologize for having possibly killed the fish as they were washing their paint brushes at a storm drain in a neighborhood upstream. The Friends distributed flyers at their Earth Day in April, spreading the news to neighbors as to how they can help protect fish habitat in Sausal Creek (Appendix 2).

The director of the city's watershed program issued a press release, noting:

The Friends of Sausal Creek, a local non-profit dedicated to protecting and improving Sausal Creek has often provided the

City with valuable timely, on-site information that is not readily available to City staff. The Friends have also provided tens of thousands of volunteer hours to restoring the local habitat (City of Oakland Watershed Program 2008).

The death of the 11 trout clearly upset the Friends. Rainbow trout species are native to San Francisco Bay creeks, and have been dwindling in numbers. The press release summarized two important events in the history of FOSC:

In 2001 the City, in partnership with Alameda County Flood Control District and the California Coastal Conservancy removed concrete walls and three check dams in Sausal creek to improve water quality and to restore trout habitat in Sausal Creek above El Centro Avenue.

In 2007, City Councilmember Jean Quan petitioned the State of California Fish and Game Commission to ban fishing in creeks in Oakland with native rainbow trout populations." (City of Oakland Watershed Program 2008)

\*\*\*

The above narrative is the first in a series of stories about Sausal Creek watershed. The stories speak to the need to involve a diverse and representative set of stakeholders to effectively address the problem of storm water pollution and some of the outcomes of collaborative watershed management. The stories also tell about the network of watershed stewards, how they came to collectively decide on its goals, purpose and



tasks. However, the realization of their long-term vision for the watershed depends on their ability to overcome challenges in engaging those that have not been at the table to the same extent as they have. Using the framework in Chapter 3, I analyze where the watershed stands in the collaborative process and the challenges that stewards face in engaging a representative set of stakeholders.

“The death of 11 native trout” (Story 1) is an overview of this chapter; it introduces the Friends of Sausal Creek, a grassroots organization that has led stewardship work in the watershed, and since blossomed into an independent nonprofit organization. The story of their founding is “Hatchings between the top-down and the bottom-up” (Story 2). Story 1 also introduces the rest of the network of stewards in Sausal Creek watershed, including local schools, city councilmembers, the City of Oakland, Alameda County, and the Coastal Conservancy, among others. A story of their collaboration is told in “The Initial Engagement Process” (Story 3), which also highlights the positive outcomes including social and political capital, joint learning, and a sense of stewardship shared within the network of stewards. The next section “Stewardship from Upstream to Downstream” (Story 4) tells of the issues that have engaged FOSC volunteers, as well as challenges in engaging lower watershed residents in the Fruitvale neighborhood. “The creek in Josie de la Cruz Park” (Story 5) illuminates more challenges the network of stewards has faced in their attempt at engaging a representative set of stakeholders. The chapter ends with opportunities for engaging low-income communities of color in lower Sausal Creek watershed, by identifying outreach strategies and the importance of engaging lower all watershed residents if they were to realize their long term watershed vision. Each of these stories are distinct from each other; yet, they build on each other and altogether, they present a contextual understanding of stewardship efforts in Sausal Creek watershed.

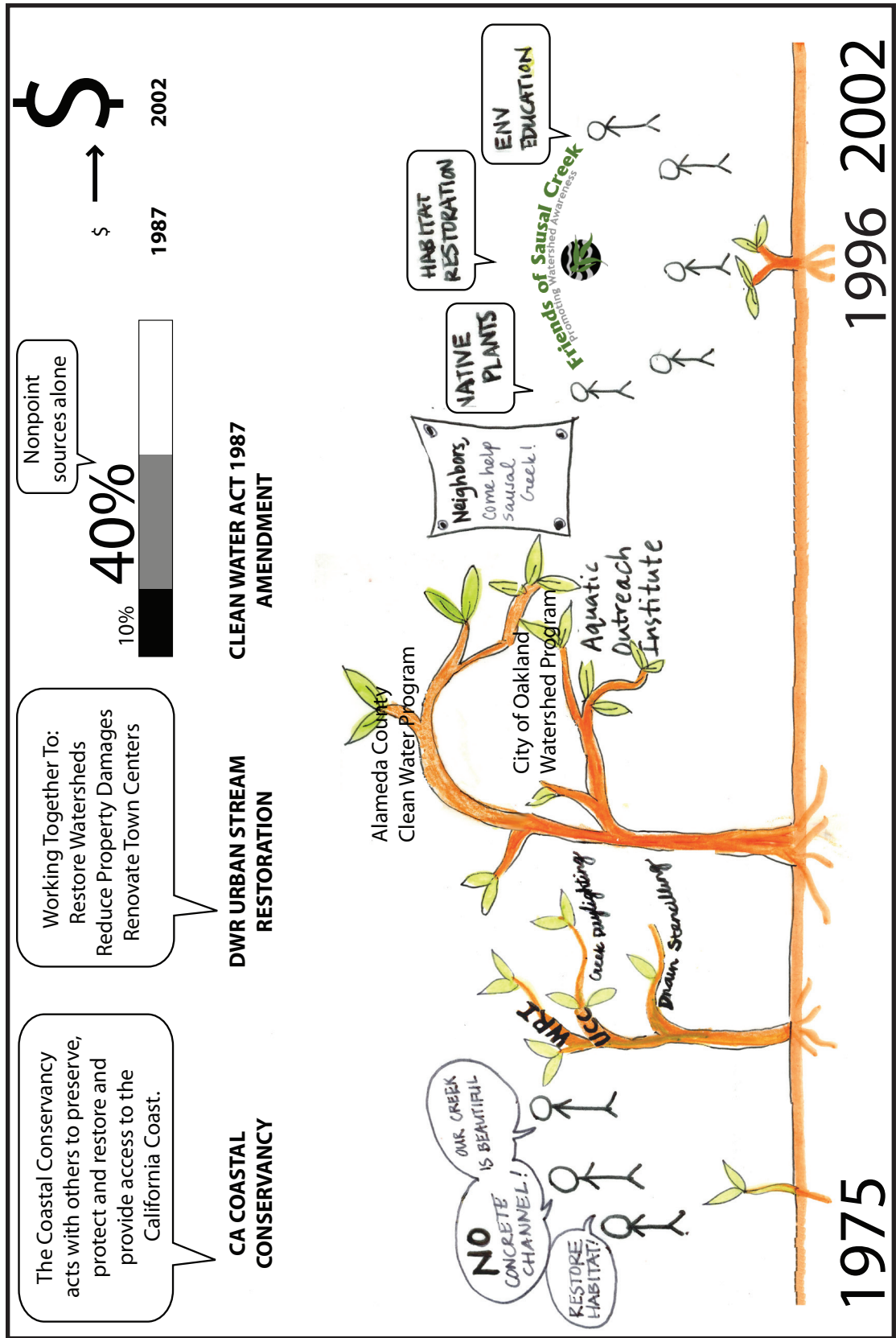
## **Story 2: Hatchings between the top-down and the bottom-up (Figure 12)**

The Friends of Sausal Creek (FOSC) was founded in 1996 through a partnership between the City of Oakland, the Alameda County Flood Control and Water Conservation District (FCWCD), and the Watershed Project (then Aquatic Outreach Institute, or AOI), a regional watershed education and outreach nonprofit. Both the city and the county provided funding, while AOI provided outreach and coordination support. The founding of FOSC resulted from two simultaneous forces - one a top-down regulatory force, the other a bottom-up groundswell of citizen activism - that have touched creeks and watersheds throughout the East Bay. Around the early 1990s, city and county agencies formed the Alameda Countywide Clean Water Program (ACCWP) to address stormwater pollution under a shared NPDES permit for municipal storm water discharge. At the same time, the City of Oakland began developing a creek and watershed program to protect the city's creeks, starting with their Clean Creek Campaign. The City's efforts involved forming such stewardship groups as FOSC by organizing watershed residents to take action to protect and restore Sausal Creek (Hathaway 2008). FOSC was one of the first watershed stewardship groups funded by the City of Oakland and Alameda County FCWCD (Hayes 2008). At around the same time, the East Bay had seen a groundswell in creek and watershed protection and restoration in the wake of local citizen activists, creek advocates, and professionals (Owens-Viani 2004). FOSC, with local agencies' support, has fledged into an independent nonprofit. FOSC is considered a successful group with regional impact and became a model for other grassroots creek efforts (FOSC Business Plan 2005), and one of the two case studies illustrating concepts in the WAP manual (Hayes and Chatfield 1999, 19, 20 and 26).

### *Physical aesthetics at Dimond Canyon*

The physical condition of the creek in the middle watershed also played an important role in the founding of FOSC. Sausal Creek runs through some lovely natural reaches,

Figure 12: Socio-political context of the founding of Friends of Sausal Creek



especially at the majestic redwood grove just below Highway 13 and further downstream in the Dimond Canyon area (Figure 13).

Although some reaches of the creek were lined with concrete, they were above ground for a good distance and much of the creek bed had not been channelized (Hayes 2008, Rauzon 2008).

*Enthusiastic, talented neighbors take the lead*

It started out as a neighborly thing. “Neighbors, let’s get together and have a meeting to talk about helping this place!” says one of the first flyers posted in the Dimond neighborhood. The first meetings also drew a very rich talent pool:

A mix of... relatively sophisticated people... landscape architects, lawyers, water quality biologist for the Environmental Protection Agency. They were neighbors who just happened to all be living in this region and all wanted to help. They wanted to come together and figure out what to do. Everyone wanted to do something. We would put the call out to neighbors to come out, people who live around here (Rauzon 2008).

“One of the things that made FOSC work so well was a concentration of professionals living in the area... All the skills a community group needs were there at the first meeting” (Hayes 2008). This group of enthusiastic and talented

**Figures 13: Natural setting of Sausal Creek**



In the Redwood Grove



In Dimond Canyon

leaders has directed the group for the last 12 years.

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### **Story 3: The initial engagement process**

#### *Representation and exploration of interests at the first meetings*

The organizers of the watershed awareness program knew that the first meetings and their locations would partially determine who would attend (Hayes and Chatfield 1999). For the first year, monthly community meetings alternated between the Dimond Library in the middle watershed and the Sanborn Park Community Center in the lower watershed, usually from 7:00 to 9:00 pm at both locations. At the first meeting, a large number of people attended, “about 60 or more people, largely middle-class and white, with a few Latino community members in attendance” (Hayes 2008).

In exploration of participants’ interests, they went through a process of brainstorming tasks and activities and voting for priorities, following the Coordinated Resources Management and Planning (CRMP) program advocated by the US EPA. The process is based on stakeholders getting to the table to identify watershed resources and issues, and create a plan of action addressing the most important issues first (Hayes and Chatfield 1999). Because these events happened more than 10 years ago, my interviewees only vaguely remembered the details. The participants voted on issues and prioritized them as follows, with the first priority receiving the most votes as listed in the WAP Manual (Hayes and Chatfield 1999, 19), shown in Table 6.

#### *Purpose and tasks focus on native habitat restoration, environmental education*

Over time, the group chose to focus on restoring the creek habitat and native plant communities. The creek was in a degraded state, lined with a failing concrete straightjacket and a dumping ground for construction debris, so the neighbors first focused on removing trash from the creek. FOSC’s early leaders had a lot of experience with native plants, a movement taking up shape in the Bay Area and elsewhere. Driving

**Table 6: Results of brainstorming and voting at 1<sup>st</sup> and 2<sup>nd</sup> Sausal Creek meetings**

Rank	No. of votes	
1	31	Ivy removal and native plant restoration/revegetation
2	29	Creek cleanup
3	24	Daylighting creek in Sanborn Park
4	20	Historical/cultural/natural resources English/Spanish booklet
5	20	Watershed signs
6	20	Inventory of flora and fauna
7	17	Community education incl. regulations and program info
8	14	Wildlife restoration
9	11	Sewage (investigate/resolve persistent odor)
10	10	Adopt-a-creek
11	10	Creek watch
12	9	Organized activities
13	8	Trail maintenance
14	8	Storm drain stenciling
15	6	Developing partnerships
16	4	Alternatives to energy dissipators
17	4	Education and assistance in erosion control
18	4	Map drainage system
19	2	Watershed clearinghouse
20	1	Watershed contest for students
21	1	Creation of database of concerned individuals
22	1	Lead and radon testing
23	1	Assess long-term infrastructure and maintenance of creek
		Desire to work with kids (received 28 votes, on a separate category)

Source: Hayes and Chatfield (1999)

the group's efforts, they led their volunteer neighbors in clearing up 15,000 square feet of ivy in 1997 alone. An early founding member recalls,

Quickly, it developed into essentially a weeding [group]. Weeding was the simple thing that one could do. After you pick up the trash, what's next?" ... That became driven by our early leaders, people with a lot of native plant experience, who knew there was nothing around here that's an Oakland plant. [Algerian] ivy, Himalayan blackberry, Australian eucalyptus, African acacia. A longer term involvement... the second level was dealing with the creek health. How do we help the creek? So we began to weed (Rauzon 2008).

As the group developed their stewardship efforts, it took on more and bigger projects.

Three publications describing local watershed resources were published in 1998: *Native Plants in the Sausal Creek Watershed*, *Sausal Creek Watershed: A Natural and Cultural History* (Owens-Viani 1998), and a fish study confirming the nativity of rainbow trout in Sausal Creek.



Their first major project - “ground zero” - was a native plant demonstration garden at the Dimond Canyon Recreation Center (Figure 14), adjacent to an open stretch of partially engineered creek and a tot lot.

We chose this area because it was near the Dimond Rec Center and it would be a logical spot to demonstrate low water use, native plant use, [and] biodiversity. So this became the native plant garden, where plants native to the state of California were to be propagated and planted for people’s - hopefully - education. Once we got this place going, we moved up to restoration, bringing back the original creek side habitat that was gone (Rauzon 2008).

To propagate native plants, FOOSC organized seed collection hikes in the upper watershed and, in 1999, built a temporary native plant nursery in San Leandro to support their revegetation efforts. The group also started programs to monitoring aquatic insect, water quality, native trout and birds in the watershed.

Once the group got organized, the city was more willing to help, sending tree crews to chainsaw non-native trees like the acacias in support of their native plant restoration efforts. The group collaborated with the

**Figure 14: Native plant demonstration garden at Dimond Canyon Recreation Center**



**Figure 15: FOOSC workday shortly after restoration**



Photo by Elliott Smith, courtesy of FOOSC

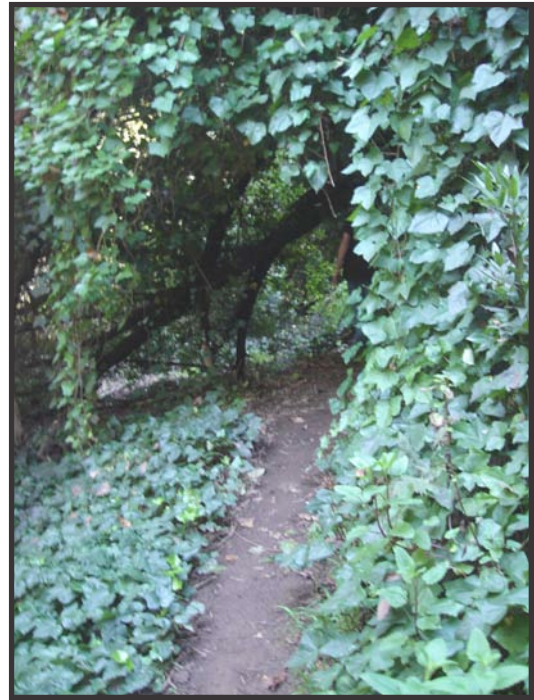
city when the latter was replacing the ageing concrete sewer line in the bed of the creek in 1999 and FOOSC took the opportunity to advocate for the large-scale creek restoration project completed in 2001 (Rauzon 2008). While California Coastal Conservancy, City of Oakland, and Alameda County FCWCD provided \$460,000 and other support, FOOSC organized volunteer labor. Together, they restored about 600 feet of Sausal Creek

in Dimond Canyon above El Centro Avenue; FOSC volunteers removed invasive plants like ivy and planted over 17,000 native plants within two years after the project was completed in 2001 (Figure 15).

Before restoration, the canyon walls were completely covered, two feet deep in some areas, with Algerian ivy, strangling the trunks of oak and bay trees (Figure 16). Areas that have been restored, now planted with native willows, alders and creekside bushes, provide habitat for insects and the birds that feed on fruits, nectars, and insects (Figure 17). To let in more sun for the willows to grow, the Friends decided to cut down some the bays covering the canyon. Although native, their canopy completely overshadowed the willows, growing rampantly since the suppression of natural hill fires. Bays provide as a lower habitat value, as their scent is a natural insecticide (Rauzon 2008).

The restored stretch starting at El Centro Avenue is set deep in the lush bay-tree covered canyon area and features a wide trail and has become “a premier jogging and dog walking

**Figures 16: Ivy dominated before restoration**



**Figure 17: Increased plant diversity after restoration**



site” for residents (Rauzon 2008). The trail is heavily used, especially during the weekend, providing shade and tranquility from the hectic urban cacophony. Trail use also increases stewardship of the area, as suggested by Chanse and Yang (2005). Although dogs can be destructive



to restoration and creek areas when uncontrolled, the Friends have managed this conflict by involving dog-walkers at their redwood site. The same year the creek restoration was completed, FOSC received funding from the city of Oakland to complete a volunteer-based construction of a more permanent native plant nursery in Joaquin Miller Park in the upper watershed, replacing their temporary one in San Leandro.

Organizationally, FOSC began to grow in capacity. In 2000, they completed a Strategic Action Planning process with the help of a facilitator they hired. AOI gradually weaned the group from its coordination support, and the group became a full-fledged 501(c)(3) nonprofit corporation with a board of directors and one paid part-time field coordinator. Board members and staff form steering, restoration, education, and other committees as needed to strategize, plan, and implement actions. Other plans they have completed include a restoration identifying six biodiversity sites, and a business plan in 2005. Today, FOSC leaders continue to tirelessly lead weeding, planting, biological monitoring, and trail maintenance efforts in the watershed.

#### *Other issues the group works on*

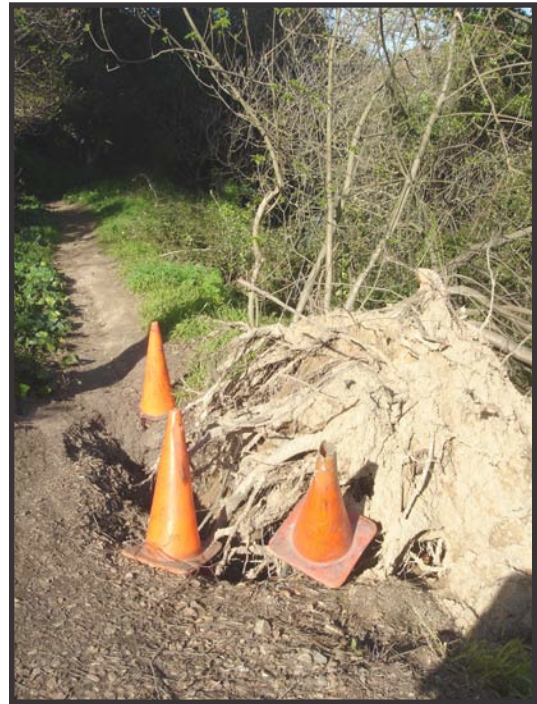
The group also works on other storm water related issues. Dumping is still prevalent and sewer leaks inevitable in such a highly urbanized area, and the recent trout kill represented a blow to the thousands of hours FOSC volunteers have put in over the past 12 years. Landslides are also a major issue that came with increased volumes and speeds of stormwater especially during heavy storms such as those in 1995 and 1998 (Eagon and Largent 2005). In 1995, flooding in Dimond Canyon raised community awareness about the creek's problems. FOSC's founding was partially to address erosion control and bank stabilization through native plant revegetation (Eagon and Largent 2005). The 2007-2008 winter storms also oversaturated soils and felled a beloved oak tree near the Benevides Ave cul-de-sac, a subject of much grief to FOSC leaders (Figure 18):

After our first day of torrential rains last week, I noticed that the first stretch of the Benevides trail had turned into a torrent of water coming all the way down from the San Luis “glade” (where the Park Street storm drain dumps its water) to the base of the big Oak at the Benevides trailhead. I immediately temporarily fixed this issue by digging a trench to divert the water in the “glade” off the trail and down slope. This should hold for a bit - I’ll keep an eye on it. Most of the damage was below the big Oak where the water cut a fairly deep gully and - apparently - triggered a significant landslide. (Burmester 2008, FOSC email listserv)

I met with Martin (City of Oakland) and David (Benevides resident) this morning to have a look at the fallen tree and the slide below. The verdict is that the tree will not survive, as too much of the root crown has been destroyed. It will be removed by the City of Oakland to reduce the fire danger associated with leaving the tree to brown. We discussed the possibility of planting some willows at the toe of the slope (down near the creek level) to help with stabilization there. Also creating a new visually-pleasing, entrance to the trail, with flowering shrubs like sticky monkey flower on the uphill side of the trail. We are looking forward to a planting day at Benevides soon. (Stevenson 2008, FOSC email listserv)

We just completed a huge erosion control project at the redwood site, which involved a hydrologic analysis by Jones and Stokes, and three concept plans for erosion control on site: trail improvement, construction of a bioswale, and installation of erosion blankets and wattles for terracing. This is a project we completed with the help of Urban Creeks Council, SCA, and Oakland High School. It involved getting a jackhammer and

**Figure 18: Fallen oak at Benevides Avenue cul-de-sac**



**Figure 19: Landslide at McKillop Street**



other heavy tools donated for the day, and lots of hard hats! In essence, we were diverting excess runoff from a storm drain away from our restoration site. This was a huge priority in 2006-2007 (Stevenson 2008, personal memo).

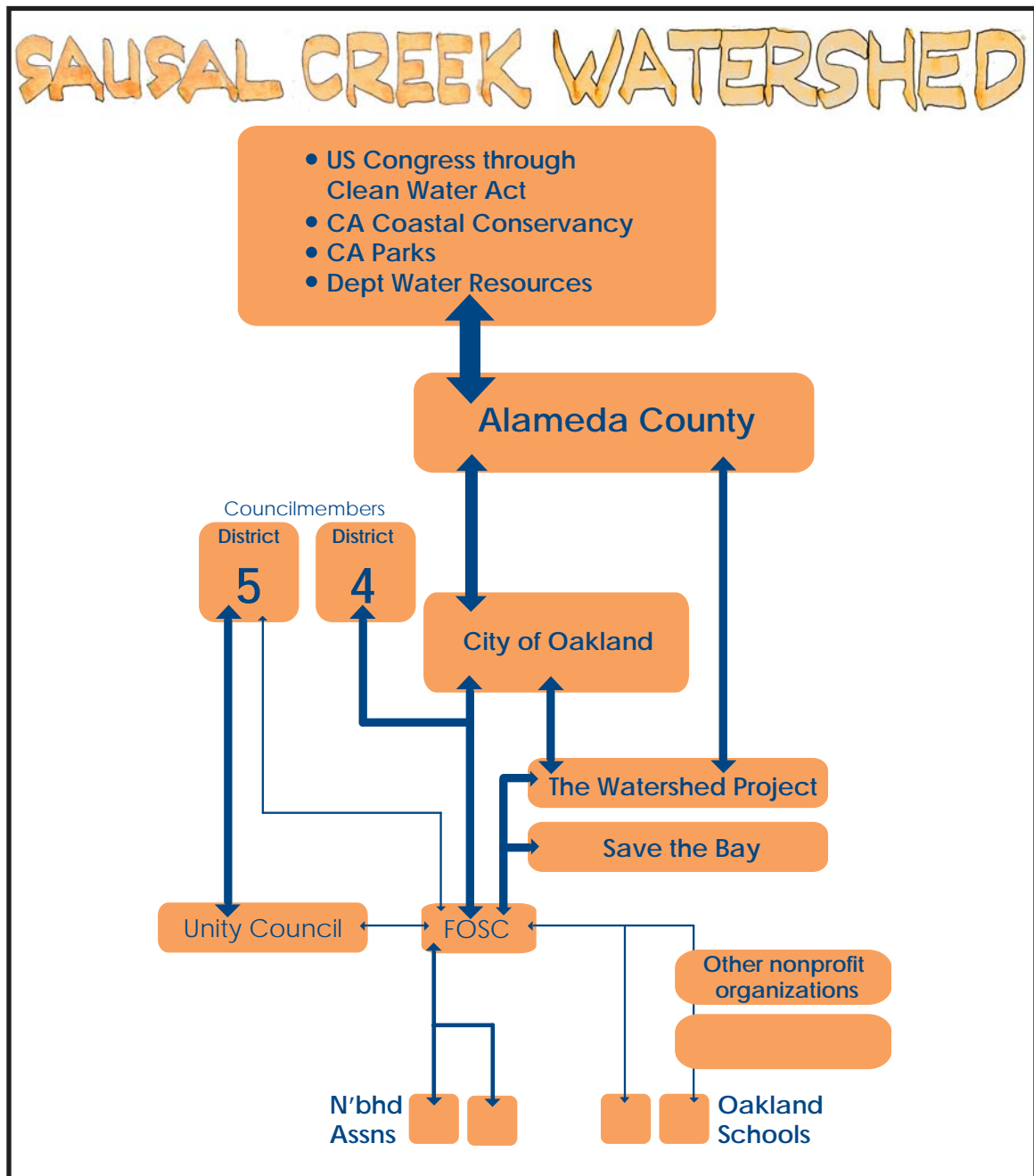
The area immediately downstream of I-580 and adjacent to EBMUD's Central Reservoir has had a history of landslides and damages to homes due to landslides. In the 1960s, a series of landslides caused a row of houses on McKillop Street to fall. The creek was thought to be the culprit, and in response, was put in a culvert under William Wood Park, built in place of the fallen houses (Bowers 2008). After the rainstorms of winter 2006, landslides again took down two homes. An FOSC monthly meeting in November 2006 featured a group of organized neighbors from the McKillop Slides Task Force to inform and update members on the current status and progress being made on the landslides (Figure 19).

#### *Network of stewards*

While FOSC has been leading grassroots stewardship of Sausal Creek and its watershed, it is by no means alone in the stewardship and management efforts (Figure 20).

Carefully developed and maintained, relationships among neighborhood groups, city government, funders, and other organizations outside the watershed in turn help ensure the sustainability of stewardship efforts. For example, FOSC's efforts in protecting pallid Manzanita, or in restoring fish and native plant habitats, would not be as effective if they did not maintain working relationships with various city government agents. Working together requires coordination; native plants need to be flagged when city crews come in to clear dead vegetation, for example, and the endangered pallid Manzanitas inventoried and mapped and their locations shared with city grazing managers. Through working with councilmember Jean Quan, FOSC was able to help draft a legal ban on fishing in all creeks in Oakland and testify to the state Department of Fish and Game. The city's creek and watershed protection efforts also benefit from FOSC volunteers' work, as we see in the trout kill story. Conversely, the city's watershed program connects Sausal Creek with funding support through Measure DD and the state Coastal Conservancy, which also provided funding for the Cesar Chavez Park restoration projects.

Figure 20: Network of stewards of Sausal Creek watershed



Partnerships with organizations both within and beyond the locality have also been instrumental to FOSC. Within the watershed, partnership with neighborhood groups such as the Shepherd Canyon Neighborhood Association and Dimond Improvement District have also proven effective in reaching out and providing services to an expanding group of watershed residents. FOSC leads annual tours of their restoration efforts around Dimond Canyon and Park for members of Oakmore and Dimond Homeowners Associations. To boost their volunteer force, FOSC has hosted other environmental organizations, school service clubs, youth corps programs, and even juvenile detention facilities, in exchange for environmental education opportunities they provide. Regional umbrella organizations such as AOI provided initial support in coordination and fundraising, as Mozingo (2005) noted.

The above stories recount FOSC's hopes and concerns for Sausal Creek and the value of their broad-based action in addressing the diffuse problem of urban storm water pollution. Dumping into storm drains occurs frequently in urban areas; many people still do not realize the connection between where they are and where storm drain empties. For FOSC, protecting water quality is central to their efforts in raising awareness about the problem, and restoring creek and creekside habitat for fish and wildlife. Enthusiastic volunteers provide informal surveillance of the creek on their walks and workdays, and report suspicious odors or other dumping. Together, they have a wealth of knowledge about the creek and watershed. In addition to data collected during water quality and bird monitoring workdays, one volunteer learned GIS mapping at a community college and has kept track of rare plant locations for many years, including those of endangered pallid Manzanita. The volunteer has produced various creek, trails and project location maps of the watershed.

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#### **Story 4: Stewardship upstream to downstream (Figure 21)**

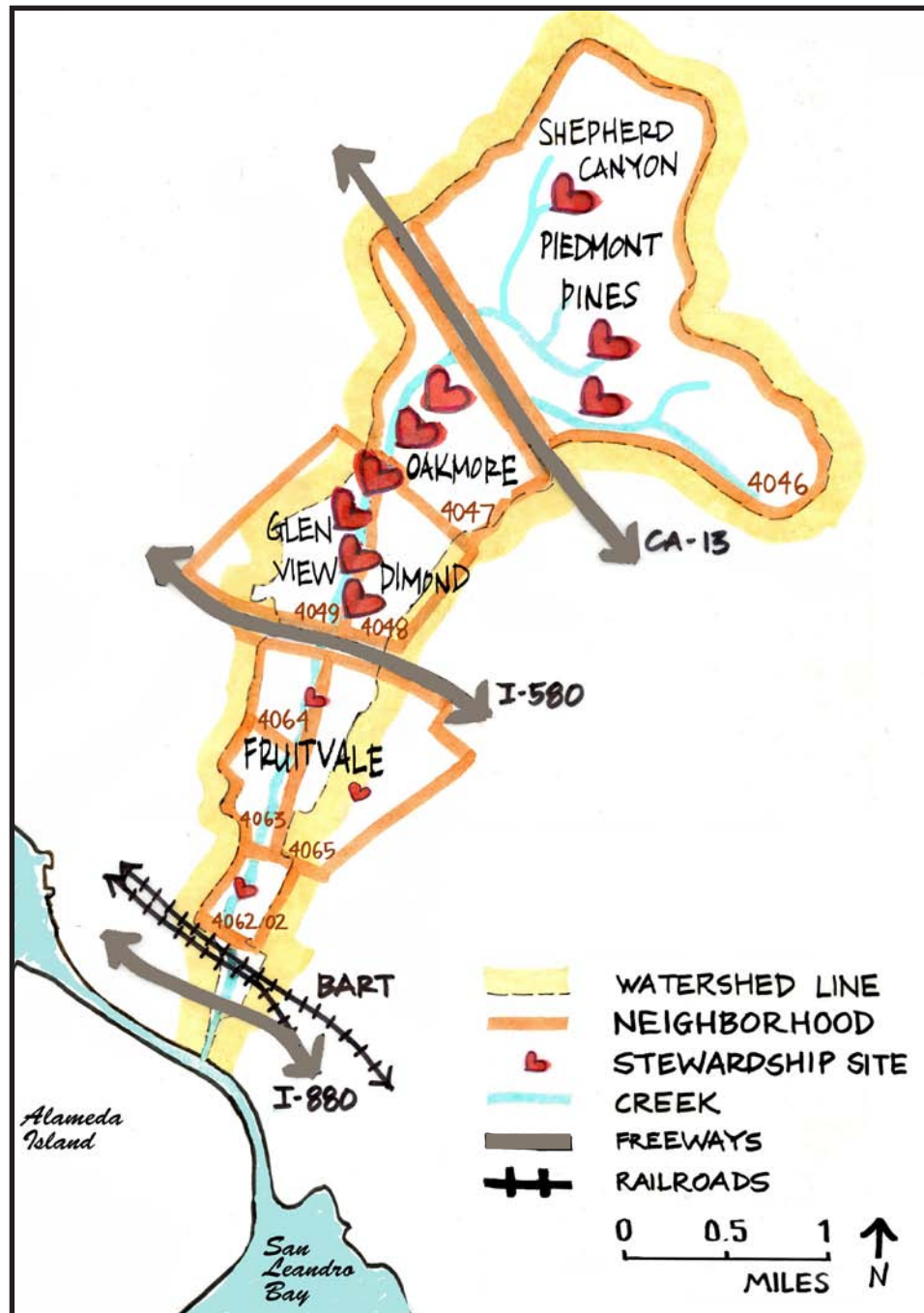
FOSC volunteers have poured most of their labors of love into the middle watershed, where their major projects are located. Stewardship efforts have spread to the upper and lower parts of the watershed; those in the upper generally more sustained than those in the lower watershed. Figures 19-21 show project sites in the upper and lower watersheds. With the strategic location of their native plant nursery in the upper watershed, they have identified six priority biodiversity sites to focus their restoration: (1) the restored reach of the creek (*riparian* habitat) in Dimond Canyon; (2) an *oak woodland* site at the Bridgeview Trail above Leimert Bridge, (3) a *redwood forest* site at the Monterey Boulevard Grove, (4) a *grassland* site in Joaquin Miller Park, (5) a pallid Manzanita (an endangered species) *chaparral* site in Joaquin Miller Park, and a (6) North Coast Scrub site in Joaquin Miller Park to be explored (Restoration Plan Proposal 2003 adopted in Business Plan 2005-2008).

In addition to these priority areas, one finds no less than 42 project sites in the middle and upper watershed. FOSC volunteers have removed nonnative trees and other vegetation, collected seeds of, propagated and planted native plants, stenciled storm drains, monitored water quality, watched for birds, fish and wildlife, and repaired trails - in short, stewarded their watershed (See Paulsell 2006 FOSC project map in APPENDIX 2). FOSC lead volunteers have also mentored watershed residents in various neighborhoods about gardening with native plants and other ecological principles, mostly in the upper watershed.

Satellite sites have sprung up, with intrepid volunteers leading their own workdays around their adopted spots. Richard Kauffman and Wendy Tokuda, residents of Piedmont Pines neighborhood, have followed other FOSC lead volunteers in winning local hero awards for “taking back” their 5-acre slice of Beaconsfield Canyon in the upper watershed (FOSC



Figure 21: Sites of stewardship in Sausal Creek watershed



email listserv January 2008). Adrienne and Herb Bryant and Barbara Goldenberg hold workdays around Escher Creek, a small tributary in Shepherd Canyon, also in the upper watershed. Sheelah Weaver and John Bowers hold the keys to the gate accessing the creek at Barry Place, just blocks from where Sheelah lives, downstream of I-580 in the lower watershed. They organize their neighbors three times a year, with help from FOOSC,

to pull out invasives, planted native plants, and envision a new future of Barry Place as a pocket park. Each of these heroic stewards has personal stories to tell about their involvement and attachment to Sausal Creek. In each case, an issue specific to their part of their watershed sparked their interest.

For Richard Kauffman, hill fire hazards galvanized him into action to protect the watershed. After three years of repeatedly calling the fire department to clear dead vegetation and not getting a satisfactory answer, he was eventually directed to the citizens' advisory committee of the Wildfire Prevention and Assessment District (WPAD). There, he met Barbara Goldenberg, who introduced him to FOSC.

Thrilled to have any interest from anyone, I was happy to take my new friends from FOSC on a hike through the canyon. They found an inspiring number of native plants that had survived the onslaught of invasive weeds. Subsequent conversations focused more on restoration than merely fire prevention, and I started to realize the canyon's potential. [Barbara] encouraged me to organize a neighborhood workday instead of dogging the Fire Department. If the city saw that the community was involved,

**Figure 22: Restoring native plants at Beaconsfield Canyon, upper watershed**



they might be more likely to get involved as well. Her theory proved correct. Last summer, the Fire Department began a three-year clearing program and even went so far as to coordinate their efforts with ours so the native plants wouldn't get weed-whacked with the others. Since last spring, we've held monthly workdays and have managed to haul out of a small mountain of ivy, poison hemlock, berry vines, broom and other nonnative plants (Kauffman in FOSC newsletter February-March 2008).

Richard and his neighbors have planted several hundred plants donated from the FOSC nursery (Figure 22). Richard was looking forward to Earth Day this year, marking the first anniversary of his and his friends' stewardship of this corner of Sausal Creek watershed.



FOSC leaders and key volunteers have also been active in various policy-making processes concerning issues of wildfire prevention and protection of endangered plants from goat grazing, both pressing issues for FOSC leaders in the upper watershed (FOSC newsletter 2005, FOSC board meeting February 2008). Karen Paulsell, one of FOSC's core volunteers, sits on its Restoration Committee, through which she attended meetings of the Oakland Wildfire Prevention Assessment District (WPAD). She reports in the February-March 2005 FOSC newsletter:

FOSC's restoration committee became involved in a task force that looked at the role herbicides could play in controlling invasive, fire-prone nonnatives like eucalyptus, broom, and pampas grass. We advocated an integrated pest management (IPM) policy with very limited use of herbicide. We believe such a policy could reduce fuel loads, and simultaneously aid in restoration efforts (FOSC newsletter 2005).

In the lower watershed, one of the few places where the creek is still above ground is at Barry Place, where Sheelah Weaver and John Bowers have led stewardship efforts. The creek is quite lovely with a

**Figure 23: Sausal Creek at Barry Place, lower watershed; stewards on Earth Day**



waterfall constructed a few decades earlier, and is accessible during FOSC workdays (Figure 23). The regular stewards envision developing this stretch into a pocket park, but also face neighbors' concerns with crime and safety.

FOSC has implemented two projects in the lower watershed in addition to the

Barry Place site, but these have had short lives. First, FOSC had partnered with the Unity Council's Youth Environmental Advocates (YEA) program to conduct a lower watershed assessment in 2001-2002. With funding from the San Francisco Foundation, six high school students of color from the Fruitvale neighborhood were provided stipends to learn about storm water pollution, walking to assess the condition of the reach of the creek from William Wood Park to Barry Place to Hawthorne School. They monitored water quality along this stretch, and learned how the health of the creek impacts the health of the San Francisco Bay through participating in the oyster-monitoring program at the mouth of Sausal Creek. The students presented their findings to community members, neighborhood meetings, and schools in the lower watershed to further outreach for stormwater pollution prevention (Friends of Sausal Creek 2002).

As part of the project, the students had the chance to reflect and express their concerns on the inequality of access to creeks between the upper and lower watersheds. They also shared their feelings about this inequality of access during their presentation to adult volunteers in the upper watershed. After taking a tour of Joaquin Miller Park and working on plant propagation in the native plant nursery in the upper watershed, the students also reflected about social equity and environmental justice issues. They pointed out

...the apparent disparities between the easy access that higher income people living in the upper watershed have to healthy, safe, and pleasurable creek sites and riparian trails, and the lack of access lower-income populations in the lower watershed have to such creek locations in their neighborhoods (Friends of Sausal Creek 2002).

One of the lessons FOSC reported they learned from the YEA project was that:

For the Friends to be effective in the lower watershed, our work will have to be different. Ecological restoration is not possible per se, nor is it very meaningful to lower watershed residents. Access to the creek and public open space is a main issue, and where there is access, safety is a primary concern. The creek is essentially a dumping ground and a place to do illicit business (Friends of Sausal Creek 2002).

Around the same time as the YEA project, FOSC hired an African-American coordinator. Besides being qualified for the job, her ethnicity was perceived as an added incentive in FOSC's attempt to engage lower watershed residents. However, five months before the end of the project, "the coordinator quit her job without any notice" (Friends of Sausal Creek 2002). It is not clear from this case if hiring a person of color helped engage and maintain relationships with lower watershed residents.

Another leader in stewardship in the lower watershed was a teacher from Hawthorne School, across the culverted creek from Sanborn Park (which I will talk about in the next section). Back in 2005, in collaboration with FOSC's environmental education program, the teacher obtained a grant for a playground experiment: jack-hammering part of the asphalt right above the creek and planting natives the school's Ecology Club students helped grow at the FOSC native plant nursery. Unfortunately, Hawthorne School was shut down in a budget cut, and when it reopened as a charter school, the teacher was no longer on staff (Hopper 2008).

FOSC's environmental education volunteer director at that time also developed and directed the Sausal Creek Explorers and Sausal Creek Keepers (FOSC newsletter April-May 2005). The program brought teachers and minority and low-income first to seventh grade students to identify, stencil and monitor stormdrains near their schools and homes, test water quality as part of a science class, study native plants, produce portfolios with photographs, art and poetry, and reach out to their parents and neighbors (in languages other than English, if possible) about what they can do to protect the health of creeks and the Bay (Business Plan 2005). After running for five years, the Board of Directors decided to put the program on hiatus because funding did not come through (FOSC newsletter April-May 2005, Hopper 2008).

### **Story 5: The Creek in Josie de la Cruz Park**

Although attendees in the early FOSC organizing meetings voiced interest in daylighting the stretch of creek at Josie de la Cruz Park (previously Sanborn Park), this particular dream has not materialized due to opposition from the lower watershed community.

Around the time of the first FOSC meetings, the park, located in the lower watershed in the heart of the Fruitvale neighborhood, was getting a facelift. There was opportunity to remove a stretch of culvert at the back of the park to allow the creek to flow in an open channel. Neighbors around the park participated in the planning and design process facilitated by Unity Council, Trust for Public Land, University-Oakland Metropolitan Forum, and the City of Oakland (Sanborn Park Master Plan 1997).

Another challenge downstream in densely urbanized Oakland is the fear and perception of crime, in Sanborn Park as in Barry Place. Community members participated in the design process primarily to reclaim the park as a community space from those who used it for drugs activities. People who still recall the park redesign told me neighbors directly adjacent to the park were concerned the creek would become a corridor for crime and other illicit activities (Rauzon 2008, Hathaway 2008, Sanchez 2008, Bowers 2008). 60% of community members surveyed voted NO to opening up the creek for fear of its becoming a corridor for unsafe and illicit uses and of danger of the water. Community meetings were rarely scheduled after dark because residents are afraid to walk through the park at night (Sanborn Park Master Plan 1997). The area at the back of the park above the creek was fully grown with cacti the neighbor had planted to deter possible intruders (Figure 24). A fully daylighted creek would also take up too much of the ball field, the facility preferred by participating community members (Hathaway 2008).

The creek at Sanborn Park was partially daylighted; most of the water would still flow in the underground culvert, but the vegetated swale above ground would allow overflow during heavy storms. A vacant lot above the culvert between Hawthorne School and a cul-de-sac was fenced up and overgrown with ivy (Figure 25). It was hardly the beautifully restored stretch in Dimond Canyon, and it is considered by some to be a “surrogate creek.”

However, community participation in the park redesign was a sign they care about their neighborhood. There are other signs of stewardship, too. When I visited the park in February 2008 with Maria Sanchez from the Unity Council, she pointed to the new signage for the park; community members changed the name of the park and community center after figures they identified with, hence their new names Josie de la Cruz Park and Carmen Flores Community Center (Figure 26). The neighbors also protected the large trees in the park from being removed. These were magnolias and other nonnative trees, some

**Figure 24: Cacti fence behind Josie de la Cruz Park**



**Figure 25: Vacant lot with partially daylighted creek behind de la Cruz Park**



with traditional medicinal values in the Hispanic culture.

The neighbor across the creek from Hawthorne School was clearing the vacant lot of some trash when I visited. When I approached Senor Santiago, he brought me to a neighbor a few doors down, a mother of two, who spoke English. There has



been illegal dumping on that site, as well as a homeless man living there periodically. Senor Santiago had built a wooden door as part of his new fence to allow him and his neighbors to access the site to pick up trash (Figure 24c). When they see large items being dumped like a mattress or other household appliances, they would notify the city. Their actions reveal a sort of stewardship that has the potential to grow with additional support.

Indeed, this fear of the creek corridor turning into space for crime, dumping, and homelessness is only a hint of the pressing problems facing many parts of urban Oakland including Fruitvale. Although Fruitvale is a neighborhood on the upswing with the affordable housing/mixed use development around the Fruitvale BART station, it is still one of the poorest districts of Oakland. The Unity Council, whose mission is to “to help families and individuals build wealth and assets through comprehensive programs of sustainable economic, social and neighborhood development,” seeks to address poverty and other related problems.

**Figure 26: Signs of neighborhood stewardship in Fruitvale**



Neighbors helped redesign Sanborn Park in 1997 and renamed it Josie de la Cruz Park



Neighbor built a gate to facilitate trash removal at vacant lot



Group of action in Fruitvale created this bench

Home to one of the highest concentrations of children in Oakland, Fruitvale has the least amount of parks and open space, and is severely underserved in after-school recreational opportunities and youth programs (The Unity Council website, downloaded November 2006). The dropout rate among 14- to 15-year-old Latino youth within the Fruitvale district is 50%, one of the highest of any racial group within the Oakland USD. The Unity Council also provides support services to businesses along its commercial corridor along International Boulevard, as well as home ownership assistance to mostly first-time homebuyers in the neighborhood. Clinica de la Raza, a health clinic in the neighborhood, provides culturally appropriate health education and services. Despite these issues, the Unity Council and other community-based organizations seem to be making positive progress in improving the neighborhood conditions in Fruitvale through numerous family and youth support services.

It is no wonder, with more pressing problems to address, coupled with the invisibility and negative perception of the creek in the lower watershed, that volunteering around Sausal Creek and FOSC activities may not have taken precedent among adult community members, many with multiple jobs to keep up in order to earn a living (Sanchez 2008). Despite these pressing needs, community members have shown their active civic participation, especially those that relate or aim to address the community's pressing needs, such as parks and neighborhood improvement, and issues of crime and safety. Table 7 shows opportunities for FOSC and the Unity Council to pursue common interests.

The Fruitvale neighborhood also has in the past been engaged in planning neighborhood spaces; one example is their involvement in the Fruitvale Recreation and Open Space Initiative (FROSI) in 1998 (Hester 2006). The restoration of Peralta Creek at Cesar Chavez Park within the Fruitvale neighborhood, a well-used community space, also highlights that the community may actually appreciate the aesthetics of an open creek and have worked

together to improve their neighborhood space (Figure 27). It also shows the capacity for different groups, both within the neighborhood and beyond, to work together to create a commonly valued space.

FOSC has started to explore opportunities to partner with other environmental groups, such as Urban Releaf directed by Kemba Shakur, whose tree-planting effort in West Oakland's Ettie Street receives funding from the CALFED Watershed Program. Urban Releaf projects typically lead and train youth from the neighborhood in tree planting, monitoring, and maintenance, providing the youth with job training and environmental education opportunities (Figure 28). Given the lack of trees in such neighborhoods, tree planting also provide shade a more pleasant walking experience. Working with researchers from UC Davis, Urban Releaf has articulated the value of trees as the last filter before storm water hits the San Francisco Bay. Their Ettie Street Project claims to filter 9 million gallons of polluted storm water. Urban Releaf is currently planning a series of environmental education workshops for

**Figure 27: Neighborhood stewardship at Cesar Chavez Park**



Peralta Creek restoration



Decorative tiles painted by neighbors

100 youth in Fruitvale through the Unity Council.

There may be opportunities for future collaboration between Friends of Sausal Creek and groups like Urban Releaf and the Unity Council to re-establish contact with the Fruitvale neighborhood, pending the exploration of common interests.



**Table 7: Possible common interests between the Unity Council and FOSC**

	Possible priorities	SSUC	FOSC
	Flood management	Low	High
	Water quality	Low	High
	Habitat for native plants and wildlife	Low	High
*	Restoring natural processes in urban area	Medium	High
*	Environmental awareness	Medium	High
*	Open space and recreation	Medium	High
*	Neighborhood improvement	Medium	Medium
*	Maintain property values	Medium	Medium
*	Youth activities	High	Medium
*	Jobs and job training	High	Medium
*	Crime and safety	High	Medium
	Family support services	High	Low
	Business recruitment and retention	High	Low

\*Possible common interest

## Vision for Sausal Creek watershed

It is the year 2025 - a trail meanders along the edge of Sausal Creek extending from the creek's headwaters to the Oakland Estuary. Sausal Creek unites diverse communities on its journey to the Estuary and its beauty is due in large part to the enhancement efforts undertaken by the creek's committed group of advocates - residents, community groups, businesses and public agencies. The natural landscape has been restored in many places and lush native vegetation extends into the urban fabric from the banks of the creek. The creek is the pride of the community and activities and businesses turn towards the creek, using it as a living laboratory for students, a focal point for gatherings, and an example of what successful community involvement can create.

Inspiring and leading much of this restoration is the Friends of Sausal Creek, a diverse group of volunteers, dedicated to the ongoing care and improvement of the creek and Watershed. Working in partnership with schools, community groups, local

**Figure 28: West Oakland youth plant trees with Urban Releaf**



Photo courtesy of Urban Releaf

businesses, and public agencies, the Friends carry out their mission of educating the community about water quality, natural resources, and stewardship while simultaneously preserving, protecting and enhancing Sausal Creek and its Watershed for the enjoyment of future generations (Part of FOSC Vision Statement, Strategic Action Plan 2000).

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FOSC and the network of watershed stewards is on their way to achieving this vision, but its full realization requires active and sustained engagement of the lower watershed community. How has FOSC dealt with some of these challenges, and what opportunities are there for mutually beneficial partnerships, around common interests such as those in Table 7, with the lower watershed community? FOSC leaders are aware of the need to diversify its participation and leadership. While they have in the past hired a couple of non-white coordinators, leadership and staff continue to be homogeneous ethnically. They have largely succeeded in diversifying participation among youth in their restoration and nursery, but still face challenges diversifying adult participation and leadership. There have also been instances of partnerships with lower watershed institutions, but these have not been sustained program due primarily to funding and other constraints.

For a small nonprofit, the sustainability of funding is always a concern and these relationships can help ensure its survival. In cases where relationships end when projects end, stewardship efforts stop cold. We see this in the case of FOSC's environmental education program in 2001-2002 with YEA and the Unity Council. Sometimes, the forces are incorrigibly misaligned, and programs get culled and disappear, such as in the case of FOSC's environmental education with Hawthorne School in 2005.

Today, FOSC's environmental education program is one viable way of engaging youth in creek and watershed stewardship. Through strategic outreach partnerships with Oakland schools and community service organizations in the region, FOSC organizes workdays with students and youth from low-income communities of color. These are invaluable opportunities for low-income youth of color - many of whom live in densely urbanized inner city neighborhoods - to interact with and learn about natural processes. Most recently, the group has budgeted time into their restoration and nursery programs

to include targeted outreach to schools and inner-city youth groups, which tend to result in the most success in diversifying participation in FOSC activities, such as through joint service projects with Earth Team, Monarch Academy, Rock Corps, Students Conservation Association, Building with Books, and high school/college students service clubs. At a recent workday with Boost Mobile Rock Corps ([www.rockcorps.org](http://www.rockcorps.org)), more than 160 inner city high school-age youth, many of whom are at risk, gave four hours and received a ticket to a hip hop concert (Stevenson 2008). FOSC has since reached out to more than 700 school students through these strategic partnerships.

Based on informal surveys at a weekly workday, a targeted workday with Building with Books, and the annual Earth Day workday, ethnicity was most diverse at targeted workdays, followed by the large annual workday (Table 8). During large workdays, on Earth Day and Creek to Bay Day, when sometimes, more than 200 people would turn up for weeding, planting and trash clearing activities, many Latino, African-American, and Asian families would turn up. In both cases of joint-service projects and large annual workdays, however, it is unknown how many return to volunteer with FOSC.

FOSC has made other targeted efforts in diversifying attendance at weekly workdays. When necessary, students from the lower watershed were awarded bus tickets to the middle and upper watersheds. Mark Rauzon, who teaches geography at a community college, awards his students extra credit for coming to a workday (Rauzon 2008). FOSC has also gone beyond their watershed by hosting a fun(d)raising screening of Purple Rain at the Oakland Parkway to reach out to diverse communities. FOSC volunteers tend a table at the annual Dia de los Muertos Festival in Fruitvale, educating Fruitvale residents about the value of the creek and how they can play a part in water conservation. During regular weekend workdays, FOSC regularly hosts Asian-American and white high school and college students in community service clubs who seek volunteer opportunities

Table 8: Ethnicities of participants at FOSC's weekly, targeted, and annual workdays

Percent of each ethnicity	Weekly Workday 3/15/08	Building with Books Workday 11/7/2007	Earth Day 4/19/08					
	Dimond Canyon n=22	Dimond Canyon n~100	Shepherd Canyon n=11	Beaconsfield Canyon n=8	Nursery n=6	Dimond Canyon n=82	Barry Place n=9	Total N=116
White/Caucasian	57	25	55	75	100	59	78	63
African-American	4	17	0	0	0	1	0	1
Asian	26	34	45	25	0	21	22	22
Hispanic	4	14	0	0	0	10	0	7
Other	4	6	0	0	0	10	0	7

through various Volunteer Match. In the lower watershed at Barry Place, attendance tends to be diverse and reflective of the neighborhood demographics (Weaver 2008).

When it comes to the logistics of outreach, some strategies may not be as effective in engaging lower watershed residents as they have been in engaging middle and upper watershed residents. As part of Alameda County FCWCD funding requirements, FOSC produces a bi-monthly newsletters and monthly meetings to engage with the community. But when I asked the Unity Council about effective outreach strategies in the Fruitvale neighborhood, they often involve going door-to-door, getting to know people, and building trust over time. For many people, door-to-door outreach is daunting and time-consuming, and residents may consider it an annoyance. However, building trust and forming a core group of people are strategies I have found to resonate with middle and upper watershed stewardship groups as well. Last but not least, to build presence in the lower watershed, the organizers of the first FOSC meetings held the meetings at 7:00 to 9:00 pm in Sanborn Park in alternate months (Hayes 2008), despite community members' fear of walking through the parks in the evenings (Sanborn Park Master Plan 1997).

FOSC has accomplished much for such a small group, and is a model for other watershed groups. Funding sustainability concerns have forced the group to be strategic about their actions and prioritizing issues. The network of mutually supporting stewards is key to sustainability of stewardship. FOSC leadership has seen trickles of people of color but remain predominantly white, while outreach strategies have successfully involved diverse youth participants. While community members in different parts of the watershed may face and prioritize different issues, there remain to be explored possible common interests such as those in Table 7.

1 Introduction 1

2 A Framework for Watershed Justice 16

3 Research Framework and Design 40

4 Stewardship Stories from Sausal Creek Watershed 59

5

**Stewardship Stories from  
Rheem Creek Watershed**

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**Story 1: Parchester Village, Richmond, California 92**

**Story 2: The struggle for North Richmond shoreline 95**

**Story 3: Community watershed vision planning 96**

**Story 4: Adapting the engagement strategy 104**

**Story 5: Institutions as opportunities and barriers 107**

6 Lessons for a Watershed Justice 112

## **CHAPTER 5: STEWARDSHIP STORIES FROM RHEEM CREEK WATERSHED**

Rheem Creek is one of four creeks that flow into the marshes of the North Richmond Shoreline. The community of Parchester Village, in the City of Richmond, is located near the mouth of Rheem Creek, over the unnamed, northernmost creek. The story of Parchester Villagers' battles to safeguard their promised marsh is told in "Parchester Village, Richmond, California" (Story 1). The strong resonance of social equity and environmental justice is reflected in "The Struggle for North Richmond Shoreline" (Story 2). The Rheem Creek watershed collaboration started with a community visioning series of events, told in Story 3. It is only at its initial stages, but some challenges with representation have surfaced. Watershed partners try to address these and their stories are told in "Adapting the Engagement Strategy" (Story 4). Story 5 illustrates how institutions can provide support and flexibility to the collaboration, or hinder successful collaboration in their rigidity.

### **Story 1: Parchester Village, Richmond, California**

It was windy the day Whitney Dotson and Josh Bradt took me out to Breuner Marsh. Our hair whipped against our faces as we stood at the entrance of Point Pinole Regional Park, looking out onto the marshy North Richmond Shoreline and San Pablo Bay. Mount Tamalpais imposed its presence across the Bay. Whitney pointed inland to where he lived, in one of the flat-roofed houses in Parchester Village nestled behind the railroad tracks that doubled as a levee. Over the railroad tracks, Rheem Creek empties into Breuner Marsh and San Pablo Bay. Rheem Creek is the northernmost of three creeks that flow into the marshes of the North Richmond Shoreline. San Pablo and Wildcat Creeks lie south, passing through the North Richmond neighborhood just north of the Chevron refineries ever-present on the Richmond Potrero, which forms the southern boundary of the North Richmond Shoreline (Figure 29). For a poster of a bird's eye view of the North



Richmond Shoreline, see Appendix 2).

**Figure 30: Bronze plaque at entrance to Point Pinole Regional Park**





and Harbnor Gate, including Reverend Richard Dotson, Whitney's father, to see if their congregations would purchase homes if he built them to be affordable. Parchester Village was one of the first areas where African-American families could buy a home in California, after the wartime industries shut down. Streets in "the Village" -- Jenkins, Griffin, and McLaughlin, and others -- were named after the group of ministers. African-Americans were segregated into what was known as the Black Crescent neighborhoods along the North Richmond shoreline. Part of the deal was a handshake promise that Breuner Marsh would be preserved as open space for the community (Walkling and Balazs 2007, George 2006).

Breuner Marsh and Rheem Creek have been vital to the identity and quality of life for Parchester Village residents. Many of the African-American families have lived in the same neighborhood for multiple generations. Elders in "the Village" tell tales about their spiritual connections with the marsh. "We came from Louisiana where we had open space, country -- rural area with our villages... This is similar to the feeling of a rural area. That I love, you know," says Ethel Dotson (Walkling and Balazs 2007). Whitney remembers the formative years of his and his friends' youth, playing in the marsh, crossing the train tracks after pressing an ear to the ground, catching tadpoles and watching them turn into frogs (George 2006). "As a young kid it was like a dream come true to be able to have this space, this natural space to play in... Swim in the tidal channels, catch tadpoles and crawdads. Recreation and playground around here, it's something that I don't think the majority of youth in Richmond have ever had the opportunity to experience, really," says Cochise Potts, one of Whitney's childhood friends who still lives in Richmond (Walkling and Balazs 2007).

However, the handshake agreement was not legally binding, and over the last 50 years, the community has organized to block several proposals to develop Breuner Marsh,

often by turning up in protest at Richmond City Council meetings (Walkling and Balazs 2007). Rev. Dotson was part of the previous generation of “frontline warriors” for the North Richmond shoreline. Since the 1970s, that generation successfully staved off development plans for Breuner Marsh, including a municipal airport, a technology park, and most recently a proposal for 1,000 new homes that would vastly outnumber and block the views from the existing 420 homes in Parchester Village (Gillick 2005). Working with the Sierra Club against the municipal airport proposal, Rev. Dotson, along with other leaders Jean Siri and Lucretia Edwards, next succeeded in turning the former Giant Powder Company site into what is now known as Point Pinole Regional Park. These victories are part of a successful history of coalition building and interactive collaboration of ideas and resources among community-based, environmental, and governmental organizations in protecting the quality of life in North Richmond shoreline communities.

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## **Story 2: The Struggle for the North Richmond Shoreline**

Over the years, the North Richmond Shoreline Open Space Alliance (NRSOSA) has assembled community-based and environmental organizations with a wide but compatible range of interests to protect the shoreline. Parchester Village Neighborhood Council, where Whitney Dotson serves as president, serves to improve residents’ quality of life, partly by protecting Breuner Marsh. Beginning in the mid-1990s, Whitney Dotson and other North Richmond shoreline community leaders, Dr. Henry Clark and Johnny White, started the Community Health Initiative (CHI), an offspring of Contra Costa County’s Center for Health set up in the community as part of a toxic spill mitigation. CHI was made up of Richmond neighborhood partnerships seeking to address the injustice of toxic releases and air quality issues from Chevron and other dirty industries concentrated in the area, including a wastewater treatment plant and a waste transfer station sitting on a

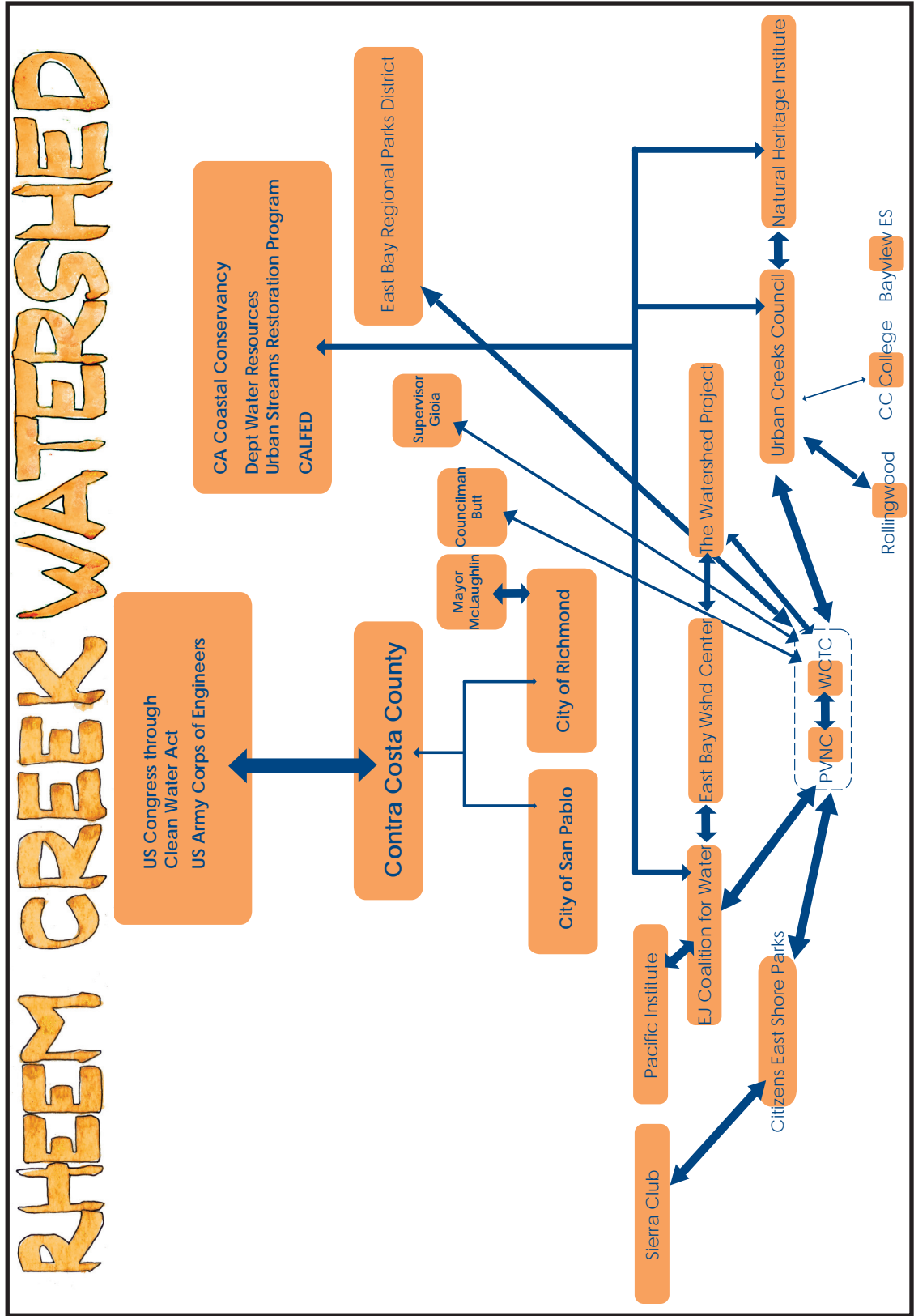
capped landfill. Nearby freeways and locally accessible active recreation were also part of the community health agenda.

The NRSOSA coalition has expanded beyond the locality. Whitney Dotson and Dr. Henry Clark, together with other environmental justice leaders, founded the Environmental Justice Coalition for Water (EJCW), a regional and state technical and legal support organization, to be environmental justice presence in the CALFED state water planning process (more on CALFED later in this chapter). East Bay Watershed Center (EBWC) directed by Robin Freeman, an environmental studies professor at Merritt College, is also a member of EJCW. Citizens for East Shore Parks (CESP) joined the NRSOSA as it has been engaged in protecting East Bay shorelines further south. Larger environmental organizations, Save the Bay and the Sierra Club, were also founding members of the coalition. Councilmember Tom Butt and mayor Gayle McLaughlin have shown support for NRSOSA. Recently in 2006, the East Bay Regional Parks District board of directors voted unanimously to declare eminent domain on the Breuner property and negotiated a purchasing price through the Superior Court of Contra Costa County Supreme Courts. The case was recently resolved and coalition partners are eager to implement the community-based vision plan for the marsh and develop a conceptual plan for the North Richmond shoreline with the Coastal Conservancy (Dotson 2008). Figure 31 shows the network of stewards in Rheem Creek watershed.

### **Story 3: Community watershed vision planning**

Part of the efforts to save the marsh was to protect the creek. In 2003, Rich Walkling at the Natural Heritage Institute (NHI) contacted Whitney to join the NRSOSA and explore common goals of protecting the Rheem Creek watershed and North Richmond shoreline. Whitney got together the other leaders of North Richmond shoreline communities, including Dr. Henry Clark and Johnny White. Rich then contacted Josh Bradt at the

Figure 31: Network of stewards of Rheem Creek watershed



Urban Creeks Council, whom he knew had worked on a preliminary restoration plan for Breuner Marsh in 1998 and subsequently worked with the Rollingwood residents in the upper watershed on a flooding issue. Together, the project partners applied for and received funding from the CALFED Watershed Program for the “Rheem Creek Project” with three goals in mind: (1) to assess the health of the creek and watershed, (2) to begin restoration efforts, and (3) build community capacity to manage their watershed through the development of a community watershed vision (Walkling and Balazs 2007, Levine, Walkling and Balazs 2007, Walkling 2007). The Rheem Creek Project partners could visually see the shoreline, marsh, creek and watershed as one interconnected ecosystem (Bradt 2008). A spiritually uplifting place, Breuner Marsh was the site of convergence between “green” open space preservation and urban environmental justice goals.

The division of roles was clear from the beginning. The local partners had been in the area for decades and were trusted in the community. So, as much as possible, they did most of the outreach work for the project, often through word of mouth, and represented their communities when meeting with city officials (Walkling 2007). NHI and UCC’s role would be to provide project coordination, fund administration, and technical support. NHI and UCC would also write the grants, often having to span between local everyday parlance and the Byzantine government grant lingo. Together, the project partners figured out strategies and updated each other on progress on tasks, often informally through telephone calls (Walkling 2007).

The community visioning process in Rheem Creek watershed was implemented between January 2005 and August 2006. It consisted of three community meetings, the first a bus tour around the watershed, for the 70 participants to see for themselves the conditions of different areas of the creek. The second meeting was a field trip to a restored marsh area across the San Pablo Bay, at China Camp State Park in Marin County. About 40 people participated,

to see the potential for restoration at Breuner Marsh. After each trip, community members worked towards developing their vision for their watershed, assessing conditions at first, and then planning, mapping, and showing their visions at the last meeting (Figure 32). The last community meeting was a declaration of the community's dedication to the protection and stewardship of Rheem Creek and watershed, while various project partners presented to the public the vision they collaboratively put together and the need to protect Rheem Creek, Breuner Marsh, and the North Richmond Shoreline (Levine, Walkling and Balazs 2007).

All in all, the events were a huge learning experience for all involved, including outside partners and local community members. Project partners and community participants exchanged what each knew about the watershed. During the first bus tour, watershed residents from different neighborhoods saw the creek along almost its entire length, some for the first time. Upstream in the Rolling Hills cemetery, the creek is still in a relatively natural setting

**Figures 32: Community members on field trips**



Parchester Village Community Center serves as convenient meeting point



Field trip format allows informal interactions and kids to discover Breuner Marsh



Trusted community leaders Whitney Dotson, the late, great Ethel Dotson, and Henry Clark

Photos courtesy of North Richmond Shoreline Open Space Alliance

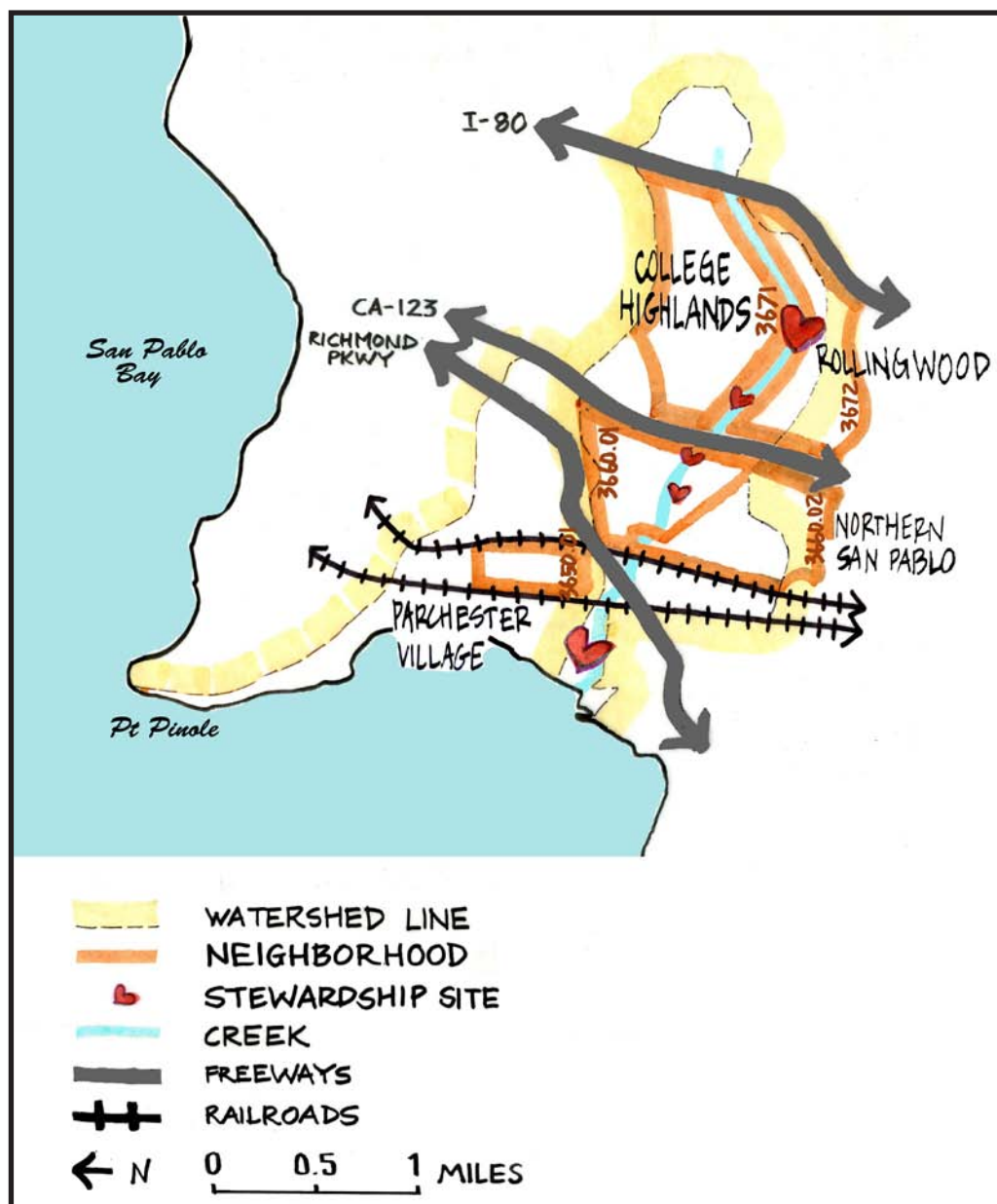
(Figure 8b). In the Rollingwood neighborhood, participants learned about flooding that residents around the creek have been working to solve. In Contra Costa College in the middle watershed, a potential restoration project will involve students and interns doing environmental science and monitoring. In Bayview Elementary, there is also opportunity for environmental education and restoration. (These potential projects will be discussed in more detail later in this chapter.) Finally, in Breuner Marsh, the community observed the marshy conditions and birds that flock in the area. While community members learned about non-point source pollution and the channelization of the creek into flood drainage, outside “experts” learned about local conditions as experienced by creekside residents. Younger participants also learned from their elders what the creek used to look like and changes it has gone through over the years (Levine, Walkling and Balazs 2007, Walkling and Balazs 2007). Figure 33 shows the sites of stewardship in Rheem Creek watershed.

During the second tour, visiting a restored marsh in Marin County evoked a strong sense of injustice for Rheem Creek watershed residents. They saw that China Camp and Breuner Marsh were similar in their marshy geography, but had had drastically different fates. China Camp was protected and restored (Figure 34), its creek meandering through the marsh, while Breuner Marsh was straightened and narrowed. The population demographics of the two areas were vastly different, too. Around China Camp, the population is 84% white, with the median household income exceeding \$71,000, while around Breuner Marsh, the population is predominantly African-American, with the median household income slightly below \$45,000 (Levine, Walkling and Balazs 2007).

During the visioning exercise that followed, one Rheem Creek watershed resident exclaimed, “We want the same thing on our side [of the Bay] as what they have over here like in China Camp - all where you see all is green” (Walkling and Balazs 2007). “It is



Figure 33: Sites of stewardship in Rheem Creek watershed



**Figures 33: Sites of stewardship in Rheem Creek watershed (continued)**



In Rollingwood, neighbors, local government and Urban Creeks Council collaborate to remove overgrown vegetation from the channel to alleviate flooding.



In Contra Costa College, creek restoration can potentially involve students in environmental science.



In Bayview Elementary, restoration of the creek (behind ballfield) would provide environmental education opportunity.



At Wanlass Park, creek restoration awaits decision from US Army Corps of Engineers.



Whitney Dotson at Breuner Marsh, protecting one of San Francisco Bay's last remaining wetlands.

a resource struggle they're being engaged in. The China Camp tour highlighted social equity issues, on top of the legacy of toxic pollution they have been facing" (Bradt 2007). "This was when their minds shifted and they saw possibilities for Breuner Marsh" (Balazs 2007). The community's vision plans were then taken to Restoration Design Group, who translated the community's drawings, maps, and words into a watershed restoration Shoreline Academy ([www.shorelineacademy.org](http://www.shorelineacademy.org)). As part of a year-long bird census with the Audubon Society, the program offers training and stipends for youth in the area to identify and monitor birds along the shoreline. The stipends provide incentives for the youth to spend their time learning about and protecting assets of the North Richmond shoreline (Boyle 2007). The North Richmond Shoreline Academy has also provided opportunities for Rheem Creek watershed residents to connect to the other two shoreline watersheds, San Pablo and Wildcat, where residents have also been involved in watershed stewardship.

**Figure 34: At China Camp in Marin County**



Rheem Creek watershed residents learn about wetland restoration ecology (Photo courtesy of North Richmond Shoreline and Open Space Alliance)



The creek meanders through the wetland, compared to the straightened channel in Breuner Marsh.

plan that the community presented to elected officials along with their declaration of stewardship.

The Rheem Creek project partners applied for and obtained a second grant from the CALFED Watershed Program, to implement a place-based education program called the North Richmond



#### **Story 4: Adapting the engagement strategies**

During the process of engaging participants for the Rheem Creek project, project partners faced challenges with outreach. They named a few major ones, including representation from various demographic groups in the watershed, difficulties relating the term “watershed” to community members, and time and funding constraints with the amount of *work* outreach takes. Although these three initial community events brought out a relatively large number of participants - “unheard of for a tiny watershed” (Walkling 2007) - achieving diverse representation was a challenge. The majority of the participants were older African-Americans from Parchester Village and Northern San Pablo. A Latino representative that had been leading neighbors in addressing flooding issues in the Rollingwood neighborhood came with his family. Participation from the Asian communities was visibly absent (Balazs 2007). When they realized this, the Rheem Creek project partners thought the ethnicities of the community leaders attracted African-American residents, and seemed to make Latino residents perceive these events as being solely for African-Americans. The project coordinators thought that perceived language barriers probably prevented some of the Latino residents from participating. Although two of the project coordinators were Latino and spoke Spanish, they were from different socio-economic backgrounds than the Latinos in Richmond and San Pablo.

Regarding difficulties with the term “watershed,” project partners lamented that it was too technical a term, or a term people were not immediately familiar with. When helping the local partners with outreach, project coordinators constantly struggled to relate to the daily life and how project activities would benefit them (Vanderwarker 2007). Even when translated correctly into *cuenca*, the term is not commonly used in the Spanish language. Along with the word “watershed,” bureaucratic language also did not fare so well. At the first strategic partners meeting, there was an issue with the term “Adaptive Management Oversight Committee.”

The NHI team was supposed to do the watershed assessment, and the community was to give input and direction as to “this is okay, and this is not okay.” So we had our first community meeting, and someone from the community asked, ‘What *is* an Adaptive Management Oversight Committee?’ Rich and I were also wondering, ‘What *is* an Adaptive Management Oversight Committee?’ This approach definitely didn’t work and was not appropriate and we abandoned it (Balazs 2007).

Related to the difficulty of explaining “watersheds”, the project partners also found that volunteerism in environmental issues is a luxury that many residents could not afford, as they were often already stretched too thin in more pressing issues such as keeping multiple jobs to make ends meet, their children’s education, youth crime and violence, decent food and groceries, battling toxic facilities and asthma - “the children of Richmond are hospitalized for asthma at twice the rate of the rest of Contra Costa County, according to county health records” (Citizens for East Shore Parks 2008) - among others. It was not hard to see why “in-stream flow for fish” and “eelgrass restoration” seemed secondary in importance (Walkling 2007).

The outreach they had to do was also constrained by the limited amount of resources. Although they printed flyers and set up a website as formal outreach materials, the local partners suggested that going door-to-door to start getting to know people - and then leaving a flyer - would be more effective. Staff time and energy were limited, but they hoped that through word-of-mouth people would hear more about the project and come for the events. Altogether, the three outreach coordinators for the project from NHI and EJCW visited 900 houses door-to-door (Balazs 2007). The coordinators also mentioned that funding usually pays for a specific project for a specific period of time, and this makes it hard to build long-term relationships with watershed participants.

Effective ways of engaging people include keeping the focus on the shoreline and issues of access to open space as an environmental justice issue in Richmond, and articulating links between the shoreline and watershed work to other more pressing issues in the community. For example, the CESP North Richmond shoreline brochure explained, “A

protected shoreline will improve *air quality* and newfound *recreational use* of the North Richmond Shoreline will enhance the *health of citizens* in nearby communities” (CESP brochure). They have also reframed the bird census and monitoring on the shoreline as real, paid work by offering stipends.

Another outreach strategy that worked well was the community leaders themselves calling and asking their friends and families from their neighborhoods to attend the events. Sometimes people would come because they knew Whitney and Henry. In Richmond neighborhoods, where there is a lack of trust of outsiders and “experts,” this strategy was more effective than the coordinators from NHI and EJCW conducting outreach themselves (Walkling 2007). The CALFED grant also employed local community leaders as paid community organizers. In addition, working closely with local leaders allowed effective coordination with current happenings in the community (Dotson 2008).

Following the three community events, seeing the lack of Latino and youth participation, project coordinators organized a series of three focus groups to find out more about the attitudes and perceptions of Latino families and youth in the area. They spent about an hour each time with Latino mothers who meet monthly as part of a Parents Teachers Group in Verde Elementary in North Richmond, youth from Parchester Village Community Center and Project P.R.I.D.E, a youth program in the North Richmond neighborhood as recommended to them by local partners. At these focus groups, they learned about specific barriers to participation and what they could do to engage these sub-populations. For example, they found out that the typical 9-5 Monday-to-Friday workweek was not typical in Latino families. The typical Latino father works weekends, and if the mother does not drive, she and her children would have to depend on public transportation. Providing for transportation or holding the meeting at a convenient

location would really help. Latino families also sometimes perceive local parks to be unsafe, and prefer driving to parks in Berkeley or Hercules. The Latino mothers expressed much appreciation that the Rheem Creek project partners came to consult them about the project (Balazs 2008). From the youth focus groups, they found that youth from Parchester Village were very familiar with the marsh area over the tracks, but youth from North Richmond were not aware of the general shoreline area. They expressed preference for outdoor and sports activities like fishing and riding their bikes (Balazs 2008).

The project partners also noted several logistical issues that influenced participation in community events. Holding meetings at a convenient and familiar location within the neighborhood helped make it easier for people, but also determined who would come to the meetings. For the tours, providing transportation by bus helped keep the group together and build rapport. Project coordinators thought the informal meeting format and fun setting of the tours and field trips allowed adults to mingle and kids to explore the creek area. Providing refreshments helped attract people. Although the project coordinators prepared for language translation, the perception of language barriers by Latino members of the community prevailed (Balazs 2007, Bradt 2007, Walkling 2007).

### **Story 5: Institutions as opportunities and barriers**

We have seen in the case of outreach how limited time and scope of funding contracts present an institutional barrier to meaningfully building relationships. Throughout the Rheem Creek watershed, various institutions present both opportunities and barriers to effective watershed collaboration and restoration.

In the Rheem Creek project, government institutions have shown flexibility in their funding requirements. Although part of the CALFED Watershed Program funding was



for implementing the Urban Creeks Council's restoration design of the lower Rheem Creek in Breuner Marsh, local project partners and community leaders objected to this activity because the original design was predicated on the property owner's determination to develop portions of the marsh. The project coordinators got approval from funders to abandon the restoration plans (Walkling and Balazs 2007, Walkling 2007, Bradt 2008). Due to uncertainties at that time on the outcome of the Breuner Marsh eminent domain case, and where the interests of the community have been compromised for decades in the Richmond area, outside project partners including CALFED thought it important to show respect and be fair to all interests (Walkling 2007, Dotson 2008). Perhaps the experience of CALFED in collaborative and adaptive management of the Bay and Delta estuary has encouraged flexibilities in their interactions with local partners. The CALFED Watershed Program also allocates a small percentage of their funds for longer-term grants to help build stewardship capacity in disadvantaged communities such as those along the North Richmond shoreline (Bradt 2007).

Existing educational institutions in the watershed are potential strategic partners in community involvement. Contra Costa College and Bayview Elementary are two such institutions where restoration projects would have great potential of involving the community. Restoring the creek would provide environmental science learning opportunities, with outdoor classrooms and internship programs. Trails along the creek could also serve as opportunities for play and informal interaction with nature on bike or on foot (Bradt 2007).

However, bureaucratically constrained school districts often make it hard for individual schools to be flexible. Funding for capital improvements follows strict procedures and schedules. Bureaucratic barriers disincentivize collaboration and coordination outside of the pre-existing set structure of doing things. In Bayview Elementary School, project

coordinators thought they were in the midst of dialogue with the school administration and school district. When I visited the site with one of the project coordinators, he seemed surprised that the school had recently replaced the playing field, and built too close to the open stretch of ditch to be restored. When we were at the potential restoration site at Contra Costa College, although project coordinators perceived a good relationship with the college district, the college had just planted a row of about 20 trees along the creek that were not on the radar of project coordinators (Bradt 2008).

The state of affairs at Wanlass Park just off of San Pablo Avenue in the middle watershed also reflected bureaucratic inflexibilities (Figure 33). The City of San Pablo had hired a consultant to design a creek enhancement project in a small, undeveloped piece of land that would provide a neighborhood pocket park and some opportunities for wildlife watching. The US Army Corps of Engineers altered the drainage ditch in the 1960s and transferred the Operations and Maintenance, or “O&M”, responsibility to the county flood control district. Probably because of fear of liability and other issues, the US ACE has yet to approve the design plans and the case is currently stuck in deadlock (Bradt 2007).

Problems also arise when creeks and watersheds, as they often do, span jurisdictional boundaries. In the upper watershed in the community of Rollingwood, Rheem Creek forms the political boundary between unincorporated county and the City of Richmond (Figure 35). Even during small storms, the creek would overflow its concrete channel onto Fordham Avenue and Greenwood Drive, into people’s basements and living rooms into the streets before entering the creek again via storm drains. When the county updated its maps, it found that the creek was actually in the city’s jurisdiction. It is now the Richmond residents’ responsibility to maintain the channel. The county abandoned their maintenance routine, which quickly led to the overgrowth of cattails and other in-stream vegetation, diminishing the storm water conveyance capacity of the creek channel. The result was

chronic flooding in the community, with water overflowing the creek into creekside properties (Bradt 2007).

A few Rollingwood residents approached Urban Creeks Council (UCC) staff to request assistance with their chronic flooding. UCC initially allocated resources from their homeowners assistance program funded by the Contra Costa County Clean Water Program to engage other residents on the issue. Word soon got to the county supervisor; his staff began holding regular meetings between the county, the city, UCC, and residents. The county flood control district had been routinely clearing vegetation and debris from the creek channel to facilitate storm water conveyance. To temporarily alleviate the problem, neighbors came together with organizing help and equipment from UCC, the county public works department, the county supervisor and his staff, as well as maintenance staff from Contra Costa College and the City of Richmond to remove vegetation in the creek during maintenance workdays at the creek at the beginning of rainy seasons in 2005 and 2006 (Bradt 2007).

**Figure 35: Rheem Creek as jurisdictional boundary at Rollingwood neighborhood**



Overgrown in-channel vegetation, due to abandoned maintenance routine, causes flooding

The Rollingwood project demonstrates that even though the Rheem Creek watershed spans several municipal jurisdictions, residents and agency staff can work together to address a common problem. Although the problem of long-term channel maintenance and flood prevention has not been solved, people and organizations have been willing to be flexible and help each other. The City and the County would provide some equipment if needed, and some residents from the unincorporated county side across the creek would come out to help on workdays (Bradt 2007). Over time, through working together, trust and relationships are gradually built that can be used to leverage resources to solve future problems.

All in all, I found many characteristics of a successful collaboration in managing the Rheem Creek watershed, but these efforts are just starting. The collaboration also shows some signs of weaknesses in outreach and representation, but project partners have demonstrated a willingness to learn and adapt their strategies to address these efforts. While they face barriers due to institutions and perceptions, there may be opportunities for overcoming these barriers that should be taken advantage of. It has yet to be seen also if agreements on and implementation of on-the-ground projects, nor longer-term effects like new institutions and norms will emerge.

We also start to see similarities with Sausal Creek watershed in outreach challenges, and perceptions of certain parts of the creek. What can Rheem Creek watershed stewards learn from their counterparts in Sausal Creek watershed in moving forward in their collaboration? What can Sausal Creek and other East Bay watershed stewards learn from the Rheem Creek watershed stewardship stories in their strategies to engage diverse participation? The following chapter (Chapter 6) will address these questions.

1 Introduction *1*

2 A Framework for Watershed Justice *16*

3 Research Framework and Design *40*

4 Stewardship Stories from Sausal Creek Watershed *59*

5 Stewardship Stories from Rheem Creek Watershed *91*

**6 Lessons for Watershed Justice**

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**Where we are in the process of collaboration *113***

**Eight lessons for a watershed coordinator *114***

## CHAPTER 6: LESSONS FOR WATERSHED JUSTICE

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From the two watersheds' stories, I have learned about the challenges in engaging a representative set of stakeholders, and how diverse, collaborative efforts can benefit communities and watersheds. Stories from both Sausal Creek watershed highlight the mutually beneficial outcomes that could result from institutional support for watershed collaboration, while the Rheem Creek experience lends useful insight on how low-income communities of color have been engaged in urban watershed stewardship.

### **Where we are in the process of collaboration**

The collaboration framework in Chapter 2 was useful in diagnosing where along the process these challenges arose. Based on where each watershed is along the trajectory of collaboration, we can draw unique lessons from their engagement process. In Sausal Creek watershed, collaboration has resulted in some outcomes, but partners recognize challenges in sustaining relationships with lower watershed and other stakeholders. In Rheem Creek watershed, collaboration is still at the initial engagement stage where stakeholders are being identified, and partners in the collaboration face bureaucratic barriers in engaging institutional stakeholders.

Collaboration involving the local community in Sausal Creek watershed has resulted in mutually beneficial outcomes. Norms of reciprocity among stewards develop as they work together and build trust. Carefully developed and maintained, relationships among neighborhood groups, city government, local politicians and organizations outside the watershed help ensure the sustainability of stewardship efforts. During the creek restoration project, each party brought resources to the table to implement the project, showing a shared sense of responsibility for the watershed.

Coordination and interaction fosters these relationships. For example, the Beaconsfield Canyon work group had to flag native plants in preparation for city crews coming to clear dead vegetative debris. Working with FOSC, councilmember Jean Quan drafted a fishing ban in Oakland creeks where native fish has been sighted, including in Sausal Creek. The City's Watershed Program also benefits from FOSC's volunteers' timely information, for example in reporting the Death of 11 Trout, an example of joint learning. As a FOSC board member puts it,

Another interesting aspect is once individuals organize, the politicians flock to them, 'cause now there's an organized cohesive political unit that they can use. Here's an identifiable group, we know what their agenda is, and we can get money to them, make them look good, make us look good, they can help us. You can't deal with just a bunch of individuals, but if you're an organized group, you're a nonprofit, then we can get money, and we can begin to leverage the money, then you can begin to expand your capacity (Rauzon 2008).

Distilling the most important themes that emerged out of the two watersheds' stories, I present below 8 lessons for watershed stakeholders that wish to improve participation by low-income communities of color, to address institutional challenges, and enhance watershed outcomes.

### **Lesson 1: Organizing at the neighborhood scale**

From studying those who have been involved and their motivations for getting involved, I learned that organizing at the neighborhood scale may be the most effective way of engaging participants, regardless of socio-economic status and ethnicity. Different parts of the watershed face different issues, whether environmental, community, or economic, which community members prioritize according to limited time and resources.

For example in the Sausal Creek watershed, neighbors around Dimond Canyon were concerned by the declining aesthetics of the place. One founding member said,

How can I not be involved in restoring my own neighborhood...[the founding members] were a relatively sophisticated set of neighbors who just happen to all be living in this region and all wanted to help (Rauzon 2008).



Elsewhere in the watershed, work groups formed at satellite sites in the Piedmont Pines neighborhood around Beaconsfield Canyon, the Shepherd Canyon neighborhood around Escher Creek, and at Barry Place around lower Sausal Creek. Neighborhood associations have also provided vehicles for outreach for workdays and recruiting new volunteers.

In Rheem Creek watershed, the effort to protect Rheem Creek started in two neighborhoods, Rollingwood in the upper watershed and Parchester Village in the lower watershed. In Rollingwood, neighbors were driven by shared problems of flooding, while in Parchester Village, Breuner Marsh and Rheem Creek have been a source of their identity as long-time residents of the area, having migrated from the South during WWII. Elders from the community are compelled to protect the community's open space resource for their children and future generations, given the lack of such opportunities in Richmond. However, some neighborhoods have not been involved thus far in the process, and their involvement is essential to effective watershed management.

Neighborhoods are also identified in the environmental justice literature as an existing social structure, particularly important for low-income communities of color (Bullard 2000). Community leaders from neighborhoods also have built relationships and are known and trusted in the community, and therefore are gatekeepers to the neighborhood, as we see in the Rheem Creek watershed. The collaboration literature also suggests contacting key informants and holding public forums within the community.

FOSC's attempts to engage Fruitvale residents in its early years have not materialized into sustained relationships, however, attesting to the difficulty of the challenge. The organizers in Sausal Creek watershed held meetings in Sanborn Park in the Fruitvale neighborhood, but were not aware of the perception of fear associated with walking in the park in the evening, as the Sanborn Park Master Plan revealed (1997). FOSC was later

successful in engaging youth in Fruitvale through the Unity Council, the neighborhood's community development corporation, but lead volunteers have not sustained these relationships until today nor expanded them to include adult members of the community.

## **Lesson 2: Coordination at the watershed scale**

Coming together at the watershed scale then may benefit from some kind of coordinator role to facilitate the *exploration of interests*. This part of the process needs to be ongoing as long as certain stakeholders have not been engaged. Mozingo (2005) identified the role of umbrella organizations in providing coordination, and Aquatic Outreach Institute played this role in Sausal Creek watershed, and Urban Creeks Council and Natural Heritage Institute in Rheem Creek watershed. A local government entity could also play the coordination role, through a Watershed Program as in the City of Oakland. Corburn (2005) also notes intermediaries with sufficient power and resources can span boundaries and move information across institutional boundaries, in this case, between local community and funding organizations.

The coordination role needs to take into account that different neighborhoods may want to address different issues, but also ensure *opportunities for interaction* (Wondolleck and Yaffee 2000). Hou and Kinoshita (2005, 128) note:

The challenges for participatory planning in fragmented communities lie not only in understanding and articulating the community differences but also in generating creative ways for meaningful interactions and negotiation of competing visions, interests, and values.

As I explain in more detail below, the creek or watershed framework seems to capture the interest of a narrow slice of the population, and a coordinator could serve to link neighborhood issues to watershed funding. Further, the US EPA and other government agencies that typically fund watershed planning already recognize that partnerships need to be broad-based and communities define what issues they see fit to address, as we see in the US EPA definition of watershed management based on partnerships in Chapter 2.

Hou and Kinoshita (2005) also note that informal activities and social events allow planners and organizers to navigate political and cultural nuances.

This is an example of the adoption of an environmental justice concept at the federal level, as leaders from the movement have advocated self-definition of issues and also a broader definition of the environment (e.g. Dana Alston's definition for the environment as where we live, work and play finds resonance in many environmental justice and marginalized communities). The watershed then is not only for ecological uses, as it is neither realistic nor desired in urban areas (Kondolf and Yang 2007), but also for human uses. The Rheem Creek watershed stakeholders recognize the need to prioritize human use. In their Declaration, they state, "We are dedicated to the preservation of open space and ecosystems (where appropriate) for recreational, educational, and non-human uses throughout the Rheem Creek watershed" (Levine, Walkling and Balazs 2007).

### **Lesson 3: Fluid and adaptive definition of watershed resources**

As it is almost always impossible to start a process with all stakeholders, as we see in both Rheem Creek and Sausal Creek watersheds, the definition of watershed resources also need to remain changeable pending entry and discussion of interests of new stakeholders. FOSC in their long-term vision defines the creek and watershed as a "natural and community resource," and advocates access to the creek for learning and community gathering, but the focus of the group is arguably the creek and native vegetation as ecological habitats, as we see in their stewardship stories in Chapter 4. The longer term existence of FOSC has gelled the values and goals of its founders to be focused on restoring ecological habitat, such that a tree or plant is inherently harmful if it is not native. This may present challenges for effective negotiation with other interests. Purpose and tasks, too, may need to change flexibly with incoming stakeholders. FOSC provides a wide range of tasks during workdays, but their purpose has remained the

same, very much focused on the creek. Once the creek and native plant focus is no longer meaningful to certain stakeholders, they may leave the table. The variety of tasks is less of a concern here than their purpose and meaning. The narrow creek, watershed and native plant frame has resulted in perceptual barriers to negotiation of competing interests as discussed below. Nevertheless, FOSC's outreach efforts focused on providing environmental education opportunities to urban youth through conservation corps continue early efforts (e.g. Coalition to Restore Urban Waters and East Bay Conservation Corps) and may remain a viable way to diversify participation if relationships with these youth are developed and maintained and opportunities extend to substantial decision-making processes in watershed management.

#### **Lesson 4: Perception of creek may limit or drive participation**

The perception of the creek varies from place to place within a watershed as urban creeks have undergone different fates and may be viewed as a resource or as a problem source, influencing engagement in stewardship in a complex way. In Sausal Creek watershed, where the creek is seen as a potential resource in the middle watershed, the community came together and engaged in the stewardship and collaboration process. In the lower watershed where people blamed the creek for the landslides at McKillop, the community and the City decided to culvert it under a park built in lieu of the homes. The fear of crime and danger in Josie de la Cruz Park also drove citizens against daylighting the creek despite some of FOSC's early wishes to do so. In Rheem Creek watershed, the creek was seen as a shared problem, and encouraged Latinos in a poor neighborhood to work together to temporarily solve the problem. Whether the creek is perceived positively or negatively may not have to do with encouraging or limiting participants from different race and income levels.

What is problematic then, is the coincidence of creeks that are culverted within low-income communities of color, which is part of the reality of urbanization in the East Bay

and elsewhere. Creek restoration projects are both unjust in distribution and possibility of participation (Mozingo 2005), and for this reason, efforts must be made to involve lower-income communities of color despite the invisibility of and lack of creek access to creek.

Moreover, once the creek defines the focus of the collaboration, the narrow frame could leave stakeholders out. Those involved in early stages but no longer find the creek or watershed frame meaningful could choose to leave or disengage from the process. Those who find meaning in continuing participation are the more empowered in decision-making processes concerning the creek and watershed. In Sausal Creek, relationships have not sustained between FOSC and the Fruitvale community, perhaps testimony to the lack of relevance or meaning the creek focus holds for lower watershed residents.

Again, this relates to a broad definition of the environment called for by leaders in the environmental justice movement. Watershed and creek protection is a narrow definition of the environment, and low-income communities of color tend to define the environment more broadly within the social, political, economic context of their lives. Framing the issue as a watershed issue without clarifying the link to neighborhood issues and articulating the benefits is not likely to engage people outside the middle-class environmental community. We hear this practice story in outreach from coordinators in the Rheem Creek watershed, who had more success engaging participants when they articulate the value of the *shoreline* in providing recreational access for Richmond youth. The middle-class environmental community tends to value the environment as something to be preserved for their own sake without relation to humans' use and lives within that environment.

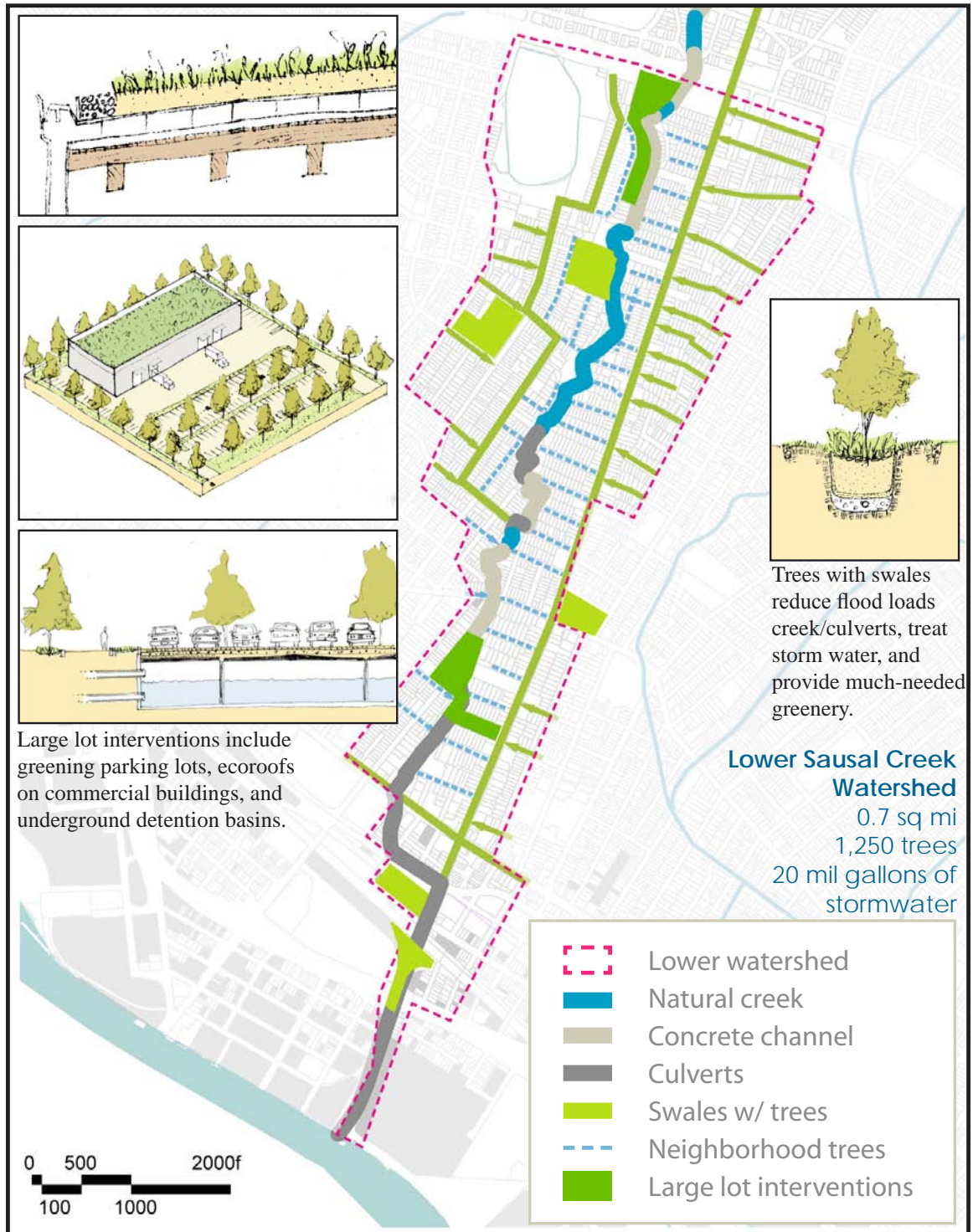
Last but not least, the perception that creek restoration is a cost-effective solution to water quality problems is widespread in the East Bay including in Sausal Creek watershed. Creek restoration may improve physical habitat, but water quality data from Sausal Creek have not shown an improvement from the restoration in 2001 to 2005 (Eagon and Largent 2005). Purcell's (2003) study of Baxter Creek watershed, also in the East Bay, showed no improvement in water quality pre- and post-restoration. In dense urban areas, the cost of creek restoration or daylighting is often prohibitively expensive because the project needs to purchase private property. A suite of storm water "Low-Impact Development" interventions has gained popularity in cities like Portland and San Francisco, and should be explored for the East Bay. A workshop exercise I participated in yielded the following tentative plan, showing what is possible even in the small and narrow slice of lower Sausal Creek watershed (Figure 36).

### **Lesson 5: Keep the watershed frame in your back pocket**

The watershed frame may also leave stakeholders out, especially those that have not had the some background in western science. The correspondence between income, race, and education in some East Bay watersheds and not inconceivably elsewhere, is important in this light. In my interviews, I found great variation to what people perceive to be the meaning of word "watershed" - the most common being a shed in the back of a house for storing water. Although not difficult to understand, the concept is not common outside middle-class environmentalists, and people may not respond to a flyer where watershed is the focus (Vanderwarker 2007). FOSC translates it correctly into *cuenca* in Spanish, but when I asked a representative from the Unity Council, she also attested that the word is not common outside an educated class (Sanchez 2008). The narrow watershed frame affects people's perception of what is relevant or not in the collaboration and limit the range of issues that the collaboration can address, as suggested by Laws and Rein (2003).



Figure 36: Possible storm water intervention strategy in lower Sausal Creek watershed



Source: Wardani and Li (2008), Landscape Architecture 222 class term project



The watershed frame can also be geographically limiting in urban areas, as many watersheds start out wide in the upper areas but narrow in the flats. Watersheds in urban areas have been severely altered by development and the network of storm drains. In natural areas, the creek tend to fan out as it leaves the piedmont and experiences a sudden drop in gradient and loss in energy, depositing its sediments to form an alluvial fan. Sausal Creek watershed is especially narrow in the lower watershed, and this has limited some of FOSC members' perception of the work they can do there. In Rheem Creek watershed, the same series of maps dictating watershed boundaries show a narrow lower watershed area. Technically, Parchester Village lies outside the watershed, but this has not stopped Villagers from getting involved, seeing the creek as a resource in their backyard that they must protect.

The watershed frame is still useful to have, though, and should be used when appropriate. The watershed frame is robust in addressing a myriad of land use and water management issues, adopted by US EPA and the EU Water Framework Directive. Managing land with watersheds as units highlights the interconnectedness of environmental problems. Pollution upstream can affect downstream communities relying on the creek or bay for their livelihood (e.g. subsistence fishing among urban immigrant communities). Deforestation upstream can also result in severe flooding downstream, as I see every year in East Java, Indonesia, where I grew up. Relating community problems to the watershed level can help solve problems and encourage collaboration.

### **Lesson 6: The environmental justice frame**

The environmental justice frame was effective in engaging Rheem Creek watershed residents during the community visioning exercises. Their visit to China Camp marsh evoked a strong sense of injustice, in response to the socio-economic disparity in access to such landscape. Rheem Creek stewards declared, "the health of our watershed and the

right to a clean environment are matters of environmental justice to our communities” (Levine, Walkling and Balazs 2007).

The environmental justice frame surfaced in Sausal Creek watershed, when the YEA students from Fruitvale visited the upper watersheds and realized the apparent disparity in access to creekside recreational and educational opportunities. A watershed tour for lower watershed residents through the Sausal Creek watershed may evoke a similar sense of injustice for adults in the community, as we see in Rheem Creek watershed. They expressed their sentiments at a FOSC meeting and volunteers have begun to address disparities by focusing their outreach on providing service learning opportunities to inner city youth through conservation corps organizations.

The Rheem Creek watershed offers an example of a broad-based coalition that spanned organizations, an organizing strategy in the environmental justice movement (Bullard 2005). From Natural Heritage Institute (a technical water policy planning nonprofit) to Environmental Justice Coalition for Water (a statewide water policy network of organizations and communities), to Parchester Village and West County Toxics Coalition (Richmond-based neighborhood coalitions) to Citizens for East Shore Parks (a parks and open space preservation group), the North Richmond Shoreline Open Space Alliance (NRSOSA) effectively bridged between the “green” model of environmentalism and the “brown” environmental justice movement (Gottlieb 2005).

Building coalitions by linking issues can be a way to reverse a situation of power imbalance (Corburn 2005). NRSOSA had local neighborhoods “scale up” and link issues from a localized air quality campaign to a regional open space preservation campaign. Parchester Village and West County Toxics Coalition also hitched on the groundswell of creek and watershed stewardship movement, seeing the benefits of environmental

education and protecting the marsh for the future, and the Audubon Society that organizes bird census walks. In the Rheem Creek case, East Bay Regional Parks District's move to acquire Breuner Marsh through eminent domain may indicate the coalition's success in challenging the legitimacy of private property laws.

### **Lesson 7: The reality and/or perception of language and cultural barrier**

In urban areas where multicultural communities are the norm, the organizer must pay attention to both real and perceived language and cultural barriers. In the Rheem Creek watershed, one of the outreach strategies was having local leaders organize their community. This strategy was effective, as community members already knew and trusted these leaders. This strategy also addressed another cultural barrier in Richmond and perhaps other areas - the lack of trust between local communities and 'outsider' or government or private organizations after decades of marginalization.

However, in Rheem Creek watershed, this strategy had the opposite effect on Latino participation. We saw that the dominance of African-American leaders may have hindered participation from the Latino community. Latino families perceived that the events were predominantly for African-Americans and held in the English language. Although Rheem Creek watershed coordinators could provide bilingual interpretation when needed, the perception of a language barrier was enough to prevent people from coming.

One way the Rheem Creek project coordinators tried to overcome this was by following up with the absence of Latino and youth participation. They conducted focus groups, based on key informants' suggestions, and consulted with Latino mothers at a local school and youth at local community centers. Focus groups participants expressed their appreciation that the organizers asked their opinion. The organizers gained an

understanding of what needs to happen logistically to facilitate Latino participation in events, as suggested by Samuelson (2005).

Hiring an African-American staff member was a strategy FOSC undertook to break the cultural barrier. Campt (1997) noted that same-ethnicity staff improves the cultural competence of social service providers, and Samuelson et al (2005) suggests same-ethnicity staff may work well in an in-depth consultation with the community. It is inconclusive from this study whether hiring a person-of-color that is not of the same ethnicity as the targeted audience is effective, but would be a good topic for further research.

Getting to know people and building relationships are two effective ways to reach out to the community in the both the Fruitvale neighborhood in Sausal Creek watershed and Parchester Village in the Rheem Creek watershed. I interviewed outreach coordinators who have worked in these two communities, and they believe that spending time at the beginning to get to know people and their stories or issues was more effective in the long run than saving time by merely distributing flyers without explanation. The idea of going door-to-door is not appealing to many people, both on the visiting and receiving ends. I synthesized from my interviews and interactions with outreach coordinators in Sausal Creek and Rheem Creek watershed that spending time in the community may be a good start, for example observing what people are like, and making contacts with people in the community at an informal place - and then leaving a flyer.

Each culture has lived different experiences, and differences among communities must be recognized for effective collaboration. Experience, perception, and enjoyment of nature are culture-specific. As we saw in Sausal Creek and Rheem Creek watersheds, the creek and the watershed can mean wildfires, landslides, dog walking, native plants, crime,

education, fish, flood, trash, identity, recreation, and possibly others depending on where one lives in the watershed, where one lived before, and how one interacted with nature in the past.

### **Lesson 8: Institutions as barriers to and drivers of collaboration**

Institutional barriers such as bureaucratic inflexibilities still remain from a past era of water and watershed management. Flood liability and perception of danger limit the process of collaboration, as these institutional stakeholders usually hold greater formal powers than stakeholders within the emerging collaborative watershed management paradigm. We saw an example of this in the Rheem Creek watershed, where the US Army Corps of Engineers is delaying a decision on a small, undeveloped lot (the future Wanlass Park) in the City of San Pablo. Here, local actors are awaiting a collaborative project in a deadlock - perhaps the US ACE's formal powers act a disincentive to collaboration as suggested by Wondolleck and Yaffee (2000).

Another type of institutional barrier that my interviewees commonly cited is funding constraints. First, funding periods are usually limited to projects, beyond which the local community is expected to sustain on its own and sometimes to maintain projects. FOSC, as a small organization, has had to prioritize their needs. Resource constraints limit their staff to 2 part-time staff and 1 full-time staff. The program directors have to do their own outreach, which they have handled utilizing service conservation corps to bring in volunteers. Second, outreach that is culturally appropriate takes time and resources. Some grant funds do not allow the purchase of food for events, which is one of the elements Rheem Creek project coordinators cited as helping them attract participants. In Rheem Creek watershed, budgeting time for hiring local community leaders helped in engaging participants from those communities. Stipends may also be provided to youth involved in tree planting, bird monitoring, and other desired activities. Taking care of a

creek is real work that needs to be recognized and compensated for, and in some cases may even provide job training and economic opportunity for youth of color from long marginalized urban neighborhoods.

The ‘emerging’ watershed management paradigm has resulted in formalized institutions (e.g. CALFED) that have shown flexibility and support for local collaborative efforts, as demonstrated in the Rheem Creek case where the community did not want to implement the restoration component of the project. For low-income communities of color that wish to engage in a neighborhood improvement project such as tree planting or a neighborhood cleanup, for example, the Watershed Program sets aside a percentage of their funding for environmental justice communities. US EPA’s watershed framework has also formally recognized the need to address socio-economic conditions for watershed management to be just and effective in solving problems.

## **CONCLUSION**

Collaboration takes time, flexibility and multicultural finesse. It can be challenging for smaller creek and watershed groups to shoulder the responsibility of engaging a representative set of stakeholders alone. The network of stewards should come together to discuss what the best next step would be for the watershed. Participation in watershed stewardship is also rewarding. The individual learns through involvement; the local community benefits from social and political capital and additional recreational and educational amenities; the environmental benefits in an urban area may be limited, but incremental pollution like storm water pollution needs incremental action to address it. In the long run, communities and the larger society benefits from increased capacity to work together to solve future problems. Without meaningful engagement of all watershed communities, the sustainability and effectiveness of watershed management is in question, as we have learned from the two urban watersheds in the East Bay.

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## APPENDIX 1: PROTOTYPICAL INTERVIEW

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Name of interviewee:

Organization:

Watershed:

My name is Jane Wardani and I am a graduate student in environmental planning in UC Berkeley. For my Master's thesis, I'm looking at how and why people get involved in taking care of their local creek. I am studying two watersheds in the SF East Bay where people have participated in creek- and watershed-related activities. Specifically, I'm interested in why people of different ethnicities and income levels might participate differently in creek and watershed activities: What might motivate you and other people of to participate in creek and watershed activities? – and what might make participation difficult?

The University requires me to go through certain procedures for research. I have to tell the people I interview, before interviewing them, that **this interview is strictly voluntary and confidential.**

(1) This interview is completely voluntary. You can stop the interview at anytime, or choose not to be interviewed at all. May I interview you for my research? Yes / No

(2) This interview must be kept strictly confidential unless I have your permission to cite your name or your organization as a source of information. Do I have your permission to cite your name or your organization as a source of information?

Name: Yes / No Organization: Yes / No

You may also tell me during and/or after the interview if there's information that I absolutely must not associate with you or your organization. I will absolutely respect your request.

### General

1. How did you first get involved in the work that you do? What inspires you to do this work?
2. Can you tell me more about the Unity Council and Community and Family Asset Development? Prompts (if needed): How did it get started? What is it trying to achieve?
3. Can you describe the community that your organization serves: a) Demographically (in terms of ethnicity and income and other factors; b) Geographically? (where are the boundaries)

4. I have a list of possible community issues here that I would like you to rank in importance and urgency to your organization, starting with 1 for the most important and urgent (and going down to 10 for least important)

- \_\_\_\_ Healthy and nutritious food
- \_\_\_\_ Flood management
- \_\_\_\_ Job and job-training opportunities
- \_\_\_\_ A healthy environment free of pollution
- \_\_\_\_ Open space for recreation
- \_\_\_\_ Quality of water in the creek and the Bay
- \_\_\_\_ Activities for youth that may be at-risk
- \_\_\_\_ Affordable housing opportunities
- \_\_\_\_ A beautiful living environment for families
- \_\_\_\_ Restoring natural processes in the urban environment
- \_\_\_\_ Family support services
- \_\_\_\_ Business and merchant retention and organizing
- \_\_\_\_ Environmental awareness
- \_\_\_\_ Crime and safety in neighborhood streets
- \_\_\_\_ Habitat for native plants and wildlife
- \_\_\_\_ Stormwater pollution
- \_\_\_\_ Maintaining property values
- \_\_\_\_ Access to quality education and schools
- \_\_\_\_ Religious and spiritual growth
- \_\_\_\_ Other (Specify: \_\_\_\_\_ )
- \_\_\_\_ Other (Specify: \_\_\_\_\_ )
- \_\_\_\_ Other (Specify: \_\_\_\_\_ )

Discuss the issues you ranked as most important?



### **Organizing and outreach strategies**

5. What are some of your outreach and organizing strategies to get people involved in your program(s)? How do you let them know about events, for example? Do people take on a coordinating role or become part of the leadership? How?
6. How do you reach and recruit people when you need to mobilize the neighborhood for an event or cause?

### **Working with Sausal Creek**

7. Have you worked with Friends of Sausal Creek before?
  - a. How did unity council first get involved?
  - b. Project(s)
  - c. Successful collaboration?
8. Would people in your community be interested in participating in FOSC's activities? Why or why not?
9. What do you think would motivate people in your community to get involved in these creek activities?
10. What were some of the challenges or barriers to getting them involved?
11. Example of a flyer/newsletter for a creek- and watershed-related activities: What elements would work or wouldn't work in getting people in your community involved in these activities? What would you change about the flyer?
12. What other outreach strategies can you think of that would be effective in recruiting members of your community? What other community organizations are most successful in involving members of your community? How do they do it?

### **Winding down**

13. Who else should I talk to about getting people involved in creek- and watershed-related activities?
14. Anything else you would like to tell me? If you think of anything else, here's my contact info.
15. Can I contact you again to clarify information as I move further along with my thesis?

## **APPENDIX 2: PRIMARY MATERIAL**

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# Fish Kill in Sausal Creek

On February 7<sup>th</sup>, 11 native rainbow trout were found dead in Sausal Creek. Paints and solvents dumped into a storm drain immediately upstream were the most likely cause.

Photo by Kristina Cervantes-Yoshida

## All of us can help protect fish in Sausal Creek

Urban creeks are an important part of a healthy ecosystem. They drain excess rain slowly, safely, and without erosion, they create habitat for birds and other small animals and insects, and they're beautiful places to visit.

But a creek's health is affected by everyone who lives near it. Paints and thinners poured into storm drains are not the only hazards. Runoff carries chemicals such as pesticides, fertilizers, car oils, and detergents into the creek. Even water from your hose is toxic fish, amphibians, and aquatic insects because it contains chloramine as a disinfectant.

## How can I help?

- Wash **paintbrushes** in sinks so paint does not drain into creeks.
- **Minimize use of chemicals** in your home and garden.
- **Wash your car** at a car wash where wastewater is recycled.
- If your car **leaks oil, grease, or antifreeze**, get it fixed.
- **Don't litter.** Trash is toxic to aquatic life.
- **Protect your property from erosion** and prevent silt from entering the creek.
- Tuck this flyer in your phone book, so you can **call if you spot a problem in the creek.**
- **Support Friends of Sausal Creek** by donating and volunteering. Check our website for more information.

## Resources for healthy creeks

- To dispose of **chemicals, paints, batteries**, call 800-606-6606 or visit [www.household-hazwaste.org](http://www.household-hazwaste.org).
- For info on **non-toxic alternatives** in your home, call 877-STOPWASTE or visit [www.tinyurl.com/2r32a3](http://www.tinyurl.com/2r32a3).
- To report **sewer leaks**, strange odors or color in creek, call 510-615-5566.
- To report water main or fire hydrant breaks, call 866-403-2683.
- To join the **Maintain-A-Drain program** and help keep trash out of creeks, visit [www.oaklandpw.com/Page292.aspx](http://www.oaklandpw.com/Page292.aspx).
- For guidelines on **creekside vegetation & erosion prevention**, visit [www.oaklandpw.com/Page157.aspx](http://www.oaklandpw.com/Page157.aspx).

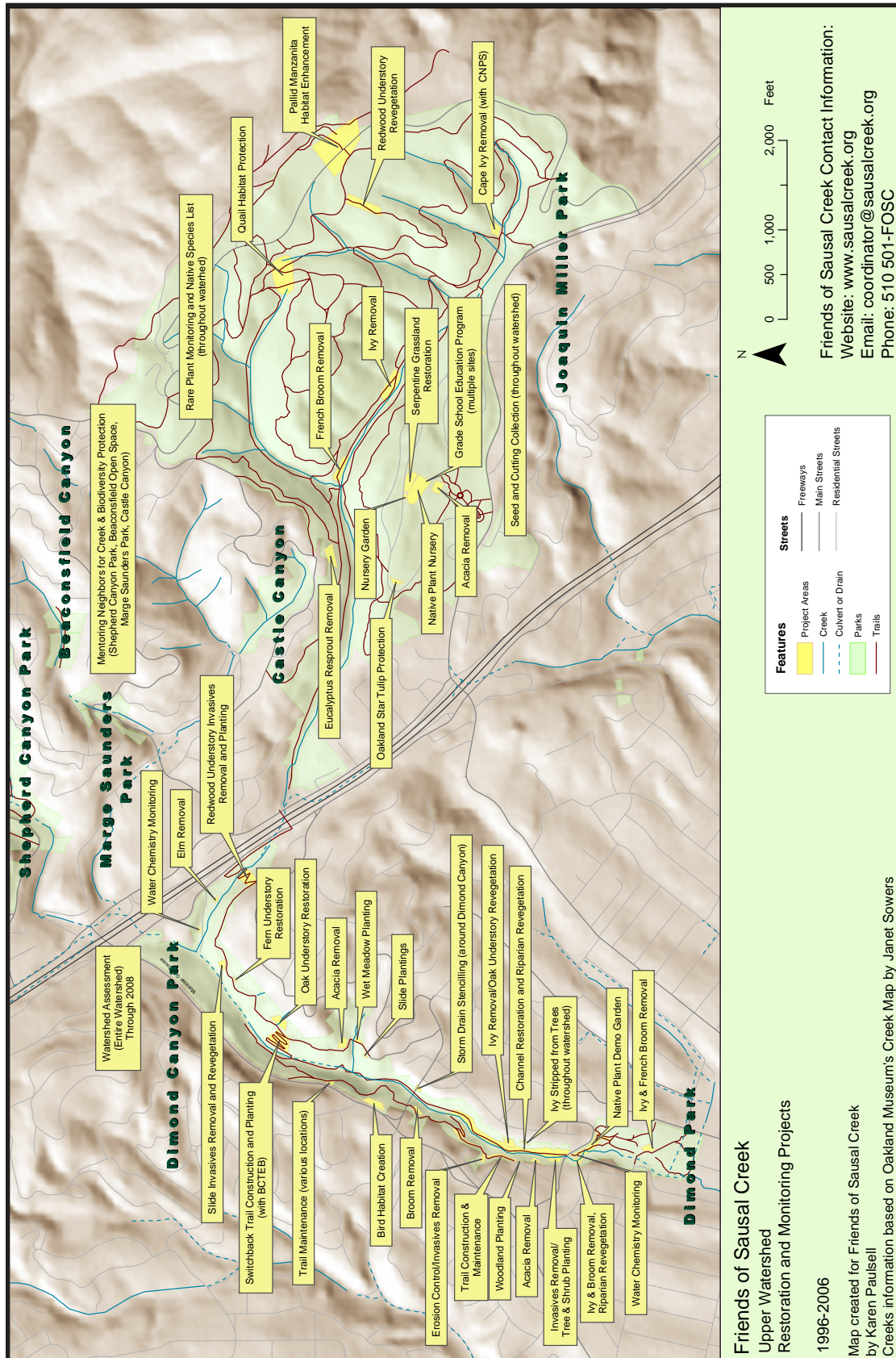


**Friends of Sausal Creek**

*Promoting Watershed Protection*

Web: [www.sausalcreek.org](http://www.sausalcreek.org) Email: [coordinator@sausalcreek.org](mailto:coordinator@sausalcreek.org) Phone: 510-501-3672 Mail: P.O. Box 2737, Oakland CA 94602

Flyer. Original size: 8.5 x 11 in.



Map. Original size: 17 x 11 in.



