

# A River Runs Through It No More: Evaluating the Human-Nature Relationship of the Urban Stream

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One of the main components to a healthy stream environment is a healthy watershed. The greatest threat to our streams is non-point source pollution. The problem lies in the runoff from our streets, construction sites and golf courses. The idea that the human-nature relationship should be treated as a moral, ethical issue is an exceptional development that holds potential for thought and behavioral change comparable to that of the ideal of human rights and justice (Nash, 1989). An understanding of how ecological health integrates with human health creates an important basis for common ground between design and ecology. Johnson and Hill (2002) point out that ecological health is most often thought of from the standpoint of biodiversity and sustainability, whereas, early landscape design included human health as one of the main concerns of civic design. An examination of ecological truth, and the way it integrates with human health, would facilitate support in merging views and theories of design and science.

## ENVIRONMENTAL JUSTICE

Contemporary human-nature relations often minimize ethics and emphasize exploitation. Polluting of the environment has been acknowledged as a major social dilemma related to poverty, discrimination, and injustice affecting the lives of many people (Evans, 2002). The United States Environmental Protection Agency (EPA) defines 'Environmental Justice' as the "fair treatment for peoples of all races, cultures and incomes, regarding the development of environmental laws, regulations, and policies (US EPA, <http://www.epa.gov/swerospsej/>)." The term Environmental Justice was coined in response to disparities of environmental quality provided to different communities. Low-income communities of color are usually burdened with a disproportionate amount of environmental risks compared to more affluent white communities. As Bullard et al. (1997) noted, this newfound activism "did not materialize out of thin

air nor was it an overnight phenomenon." Rather, it was the result of a growing hostility by urban Blacks in the U.S. to the placing of toxic landfills, garbage incinerators and the like in neighborhoods or communities with predominantly minority populations. Multiracial working class women and men are more exposed to various life-threatening environmental stressors, and there is growing evidence showing that working class and poor African American, Native Americans, Latin Americans, and European Americans are more exposed to environmental contaminants such as lead poisoning, air, water, ground and agricultural pollution than middle class and upper class people. In 1987, 15 million African Americans lived in communities with at least one toxic waste site (Freeman, 2000).

The racial division of whites and blacks represents one of the most persistent forms of inequality in the United States, and one of the great ethical questions. Inequities persist causing a disparity in economic development and environmental preservation. Businesses and public utilities that discharge pollutants into the environment, that emit odors, contain toxins, or are visually unattractive, are often built in the poorer sections of the city. Typically heralded as economic prospects, these businesses are disguised as opportunities for the poor to attain employment. The disadvantaged have few choices and accept the consequence of 'fouling their own nest' to make a living (Hardin, 1968).

Urban streams have also been victimized by the placement of polluting industries. They have been regulated to the ugliest of urban functions – sewage disposal, sites for heavy industry, and a place to dump the refuse of the city (Fig.1). Transformed into a "no-man's-land", streams divide cities economically and socially, rather than uniting them (Little, 1990). Cities turn away from streams that have been used as sewers. This leaves the river corridors to decaying buildings, solid-waste dumps, trash filled industrial landscapes, and the dilapidated vacant-lot neighborhoods of those trapped by poverty.



Fig. 1. Industrial outfall.

## FLOOD CONTROL

Early landscape architecture included human health as one of the main concerns of civic design. Frederick Law Olmsted's 1880 plan for Boston's Back Bay Fens is a model of how the human-nature relationship of site can impact design. Olmsted's plan established wetlands and created park-like open space along the Muddy River, by accommodating "the flow of water, the removal of waste, and the movement of people" (Spirn, 2002). Olmsted acknowledged the many ways in which ecology influenced the livability of neighboring communities while addressing environmental, safety and transportation issues. Unfortunately, most flood control projects of the 1900's did not reflect Olmsted's inclusive principles.

The post World War II building boom of the 1950's and 1960's severed the human-nature relationship of many urban streams, as expanding cities searched the floodplains for developable land. Costly and environmentally damaging reservoirs drained the floodplains, and straighten stream channels so that they accommodated more storm water at a higher velocity than natural channels (Riley, 1998). These local flood control projects lined streams with concrete to control erosion. Many streams were aesthetically devastated to promote urban growth in the floodplain.

## CASE STUDIES

The following case studies provide a comparison of how the successes and failures of the South Platte River Initiative in Denver, CO, can serve as a model for regenerating the human-nature relationship of the blighted Bull Creek in Columbus, Georgia.

## South Platte River Greenway, Denver, Colorado

Denver was established by prospectors in 1858 after a gold discovery at the confluence of Cherry Creek and the South Platte River, near current-day downtown Denver. Between 1870 and 1890, the population of Denver increased by over 100,000 people. Railroads, stockyards, brickyards, canneries, and factories that made leather and rubber goods, flourished along the South Platte interspersed with the neighborhoods of the ethnic minorities who worked in the factories (Noel, 2000). By the 1970's, the 10.5-mile reach of the South Platte River through Denver had become a waste dump. The shore was an eyesore littered by abandoned cars, refrigerators, and construction debris, and the river was polluted by runoff, debris and discharges from factories and stockyards. This lack of respect contributed to the severity of floods that have occurred numerous times since Denver's founding. The Flood of June 1965 was particularly devastating to the Platte River Valley. Two people were killed in Denver, 19 statewide. The Chatfield Reservoir now controls flooding on the river (Massengill, 1998).

Mayor William McNichols formed the Platte River Development Commission in 1974, in hopes of improving the Platte River. McNichols selected State Senator Joe Shoemaker, to chair the commission, along with nine appointed members from various areas of the community. The \$2 million budget contained only enough money for two pocket parks connected by a "greenway." The first two parks were Confluence Park, located where Cherry Creek enters the Platte, the place where the city of Denver had originated, and Globeville Landing, known as "the arm pit of Denver," so called by its residents, the minority poor who lived in the old stockyards area. The land was previously municipal sand and gravel pits, and solid waste dumpsites (Urbonas, 2001).

The commission became defunct in 1976, when it was reconstructed as the Greenway Foundation (Little, 1990). It was reestablished as a non-governmental, tax-exempt foundation, to receive donations and continue implementation work for the Platte River. The foundation is still working on greenway funding and activities. By 2001, more than 12 miles of recreational trails adjacent to the river had been linked, and 19 pocket parks and four boat chutes had been built so that kayakers could use the river as urban whitewater. It is estimated that over 150,000 people a year use this greenway (City of Denver, 2003).

Has Environmental Justice been served? There has been a great improvement in livability and sense of place, but several areas still have a way to go. Confluence Park has given way to "Commons Park" a gentrified, upscale community with 2500 condos, and lofts in downtown Denver. A certain amount of gentrification was expected, but as Denver historian, Phil Goodstein says, "Only the greed and stupidity of the worst of

ruling Denver would allow this massive development in the heart of a floodplain" (Briggs and Jefferson, 2002).

The low flow of the river has been mitigated by scheduled releases from the Chatfield Reservoir. The water has been upgraded from a grade of "B" – contact recreation (fishing and boating, but no swimming), to a grade of "A" – swimming permitted. Many feel that there is still a lot to do where pollution is concerned. There are still superfund sites to deal with, and several pollution-permitted industries are currently located along the Platte River.

As for the neighborhoods living near the parks, they feel that they have a greater voice in the governing of their community through the greenway foundation. However, some of their expectations haven't been met. For instance, many families still think it's too dangerous for their children to ride their bikes through traffic from the neighborhoods to the greenway. Bikes and children are usually transported by van. The community had expected a more direct link (Chapman, 1999).

Amid the successes and disappointments, the South Platt River Initiative remains a model of Denver's persistence to restore the human-nature relationship of this urban stream. Through community participation, recreation and park development, riparian enhancements, and improving flood control and low-flow channel capacities, this 30 year cooperative effort between the City, United States Army Corps of Engineers, and the Greenway Foundation, has successfully regenerated livability and sense of place for many communities along the South Platt River.

### **Bull Creek, Columbus, Georgia**

Columbus is the second largest city in Georgia, and is a regional transportation, trade, cultural, and manufacturing hub. It is centrally located in Muscogee County on the Chattahoochee River which forms the Alabama-Georgia state line. It's many past textile plants, food processing, and metal-working industries, were powered by hydroelectric plants on the Chattahoochee River. Columbus has a population of approximately 196,000 people, and is home to Fort Benning, the largest infantry camp of the United States Army.

Bull Creek is part of the Chattahoochee River system. The Bull Creek watershed is comprised of approximately 45,000 acres (Oertel, 1999). It flows for 18 miles from its headwaters in Harris County, north of Columbus, across the Fall line and into the Coastal Plain, through the central urban city core, to the southwest portion of Columbus, where it empties into the Chattahoochee River. Today the Bull Creek watershed is a highly urban area littered with old industrial sites.

The creek has been a focal point of the landscape since the American Indians foraged it for their livelihood. Coweta Town, one of the largest Indian towns in the southeast and the capital of the Creek Indian Nation was located across the Chattahoochee River, and just south of Bull Creek (Winn, 1995). In the 1700's the Creek Indians had a small town and a cemetery near the mouth of Bull Creek where it enters the Chattahoochee River. Isabel Gerrard Patterson excavated the Indian cemetery in 1936, and the recovered relics are known as some of the best examples of Early Mississippian Indian culture (Ledbetter, 1999). Bull Creek has 17 documented Native American sites.

In the 1950's, the creek was causing problems for growth and expansion of the city by flooding periodically. At that time, the Bull Creek watershed was 2/3 rural and 1/3 urban. In the 1950's, Columbus was growing at a fast rate mostly due to military retirements from the nearby Fort Benning Army base. The population increased by 41,000 people between 1950 and 1960 (Passport to Columbus, 1999). The Bull Creek watershed absorbed most of this development.

In 1960, sediment buildup from upstream construction was causing flooding on the east and south side of the creek affecting approximately 1400 acres, and about 1000 people. In 1965, construction began on the Bull Creek Watershed Project. The goal of the project was urban flood management. Several miles of Lindsay Creek, a tributary of Bull Creek, were channeled in concrete, causing severe erosion at the confluence with Bull Creek (Fig.2)

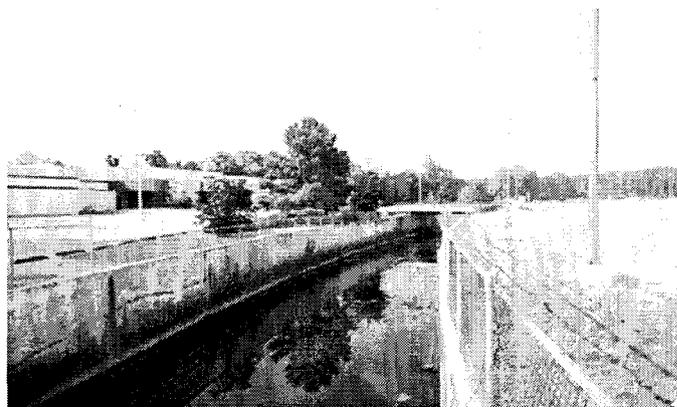


Fig. 2. Lindsay Creek, Columbus, GA.

Eleven watershed lakes were also created. These lakes would double as water reservoirs for the city, and a large irrigation lake for the Bull Creek Golf Course. The construction lasted 13 years (1978) at a cost of \$7 million (Oertel, 1999). Many beautiful neighborhoods have since been built in North Columbus around these watershed ponds.

Due to the damming of water and accumulation of sediment, Bull Creek has been reduced to a low flowing stream. The flow is so low that sediment entering the creek can't be flushed



Fig. 3. Bull Creek west of Victory Dr. 1936.

through, so it accumulates, slowing down the flow even more as it winds through the city. The water is polluted, and is no longer safe for fishing or swimming. One doesn't see much in the way of wildlife except where beavers have carved out a deep pool where sewer lines cross the creek. Here birds such as, blue herons, and kingfishers, along with a host of tracks from streamside scavengers, provide a glimpse of the remnant of wildlife that once belonged to Bull Creek corridor. Many of the neighborhoods south of the golf course have seen better days. Industries that were once located along the creek, have moved away from Columbus or to the industrial park on the east end of Bull Creek. Neighborhood jobs are scarce, especially near the low-income neighborhoods. Many people here see the slow Bull Creek as a haven for mosquitoes rather than a community asset (Fig. 3, Fig. 4).

#### A CHANGE OF ATTITUDE

When rivers and streams begin to heal a kind of miracle happens. "The river begins to join the people of the city together rather than separating them; what was once an open wound begins to heal itself and the city along with it (Little, 1990). Urban streams and rivers deserve such a chance to heal. Charles E. Little, author of *Greenways for America*, says, "Once a river is returned to the people, it tends to stay that way." The South Platt River in Denver is a testimonial of this, as several of the parks and restoration areas are now 30 years old.

The case of Bull Creek is particularly poignant. The creek has been abused in the past, and now deserves the urgent attention of all its numerous beneficiaries. By weaving together Bull Creek's rich Native American history, and its geological and ecological diversity, the creek cries out that it's alive. How Columbus residents and officials choose to deal with that life will affect their own lives in the future. The Columbus community is striving to give its south side of town a greater sense of livability, and sense of place. I believe that cleaning up Bull Creek, acknowledging its cultural history, and repairing its riparian habitat, can help meet these goals. The creek would



Fig. 4. Bull Creek west of Victory Dr. 2002.

then provide a sense of beauty, and a place of solace and pride to the surrounding neighborhoods.

A new Bull Creek greenway could provide a link between the neighborhoods of South Columbus to the other parts of town. Portions of the creek could be brought back to its original state by removing the sediment that has collected over the years, and reestablishing the channel bed so that the creek can access its floodplain again. Mitigating the release of water from the watershed lakes could increase water flow. Trash could be removed, vegetative ecosystems repaired, with some areas taking on a more urban park look. The greenway could permeate the existing neighborhoods by allowing for walking and bike trails. Such changes could rejuvenate a depressed economy attracting new businesses to the area, and providing neighborhood jobs.

The Bull Creek watershed is currently being studied by Auburn University, and the creek has gained attention from City Planners as a potential greenway site. The new Mayor says he's committed to increasing the livability and sense of place of South Columbus, but this can't be done without addressing the environmental injustice of Bull Creek. The creek is in need of a constituency to be its voice, something that is essential to its future, and the future of the communities along it.

Environmental injustice still exists in our day and age, in race, gender and class inequities. What are needed are sustainable development, consumption patterns and policy changes that provide for human needs while maintaining or even improving the surrounding physical environment. The solutions to environmental problems require more than scientific and technological fixes. They require a reassessment of our social systems and our understanding of the need to maintain balance in our production, reproduction and consumption patterns and the development of an environmental consciousness (Belkhir, 1998). A new attitude of mutual ownership is needed to solve this problem so that we don't continue to pass our pollution downstream in order to keep our nest clean.

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