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Groundwork
SAN DIEGO
Chollas Creek

**Chollas Creek Family Stream Team
June 11, 2010
Report to Port of San Diego Environmental Services Department
Final Report**

1. Community Education and Participation

Building upon the Groundwork San Diego-Chollas Creek (GWSDCC) Student Stream Restoration Team model, the Chollas Creek Family Stream Team project engaged over 200 Chollas Creek students. These students received in-classroom instruction, and participated in three field trips to Chollas Creek. They learned about the relationship between individual recycling, litter control, and school/home landscaping to the health of the Creek and its creatures. They learned about the relationship of stormdrains to the Creek, and the Creek to the Bay. Lessons and activities were aligned with State of California content standards.

Urban Corps of San Diego replaced San Diego Canyonlands as a grant partner. Urban Corps members conducted door-to-door outreach in the target neighborhoods of Mt. View and Southcrest. Over 2000 bilingual materials were distributed, describing the Chollas Creek Family Stream Team “Come Dump on Us” free large trash pick-up days, creek cleaning and non native removal days, and reinforcing with families the clean water messages being communicated to students at school.

GWSDCC uploaded Creek clean-up videos to the website, as well as species cards for families to print and use during Creek walks. It is estimated that approximately 200 residents joined in trash abatement and Creek cleaning activities, and that another 600 participated in the large trash pick up “Come Dump on Us” events.

2. Collection; clean-ups; non native removal; landscape assistance; trashnet feasibility study.

A total of thirteen combined free large trash collection, creek cleaning, and non native removal events was conducted at the following locations:

Jackie Robinson YMCA

42nd and National Ave.

Southcrest Recreation Center

Southcrest Trails Park (formerly 38th and Alpha)

Over ten tons of trash were collected from residents or retrieved from Chollas Creek.

Additionally, the Fresh Creek Technologies Netting Trash Trap and other trash capture technologies were evaluated as potential abatement measures for the grant project area. These findings are included in the City of San Diego study entitled *Preliminary Trash Capture Device Feasibility for Chollas Creek* and will guide 2010-11 trash abatement activities.

3. Enforcement

Residents and GWSDCC staff walked the Creek in the grant project area in order to conduct an on-the-ground assessment of illegal dumping access points. Over a dozen sites were identified, most of which can be remedied through fence repair, signage, and additional illegal dumping hotline information dissemination to near-by residents. Illegal hotline/recycling refrigerator magnets and memo boards were printed and distributed. Fence repair and signage needs will be reported by GWSDCC to appropriate City agencies.

4. Tracking/Assessment

Given City of San Diego Stormwater's entry into the project as the assessment and evaluation partner, the Coastkeeper tracking activity was replaced, through the grant amendment and extension, with additional marketing, community outreach, and large trash pick up activities. The trash was characterized; residents were surveyed; unmet residential trash needs were explored amongst grant partners (Urban Corps, City Environmental Services Department, City Stormwater Pollution); and a cost analysis of the Chollas Creek Family Stream Team "Come Dump on Us" project was completed. Results were compared with trash abatement efforts in other parts of the country, and Best Management Practice recommendations were developed. These findings are in the City of San Diego report entitled *Chollas Creek Mobile Trash Collection Effectiveness Assessment*. A Port lobby display will feature project activities and outcomes.

CHOLLAS CREEK MOBILE TRASH COLLECTION EFFECTIVENESS ASSESSMENT

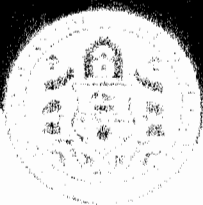
DRAFT REPORT

TASK ORDER #17 DOC ID# CSD-RT-10-URS17-01.D2



MAY 27, 2010

PROGRAM ASSESSMENT SERVICES
BMP DEVELOPMENT & ENGINEERING
ASSET MANAGEMENT SERVICES
ENVIRONMENTAL ASSESSMENT & PERMITTING
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MONITORING & INVESTIGATIONS



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SECTION 1 INTRODUCTION

The Groundwork San Diego Chollas Creek (GWSDCC) Chollas Creek Family Stream Team Initiative (CCFSTI) is a grant-funded effort to provide outreach, education, and assistance by engaging the local community to participate in trash cleanup, landscape assistance, and trash collection activities to address illegally-dumped materials and pollutants in Chollas Creek. The purpose of this Chollas Creek Mobile Trash Collection Effectiveness Assessment Report (Report) is to document activities and analysis methods that were used to assess the effectiveness of parts of the CCFSTI program that address illegal dumping and trash pollutant issues in portions of the Chollas Creek watershed.

1.1 BACKGROUND

The problem of illegal dumping is widespread among urban and rural communities throughout California and the United States. It is widely accepted that illegal dumping has significant environmental, financial, and societal impacts. These impacts include: public health and safety issues, potential decreases in water quality, decreases in property values, impediments to economic development, increased municipal operating costs, potential regulatory action against property owners, and lost revenues for impacted areas. In addition, municipalities and property owners can incur significant costs to clean up and dispose of illegally dumped materials.

According to survey results from an illegal dumping survey published by the California Integrated Waste Management Board (now known as Cal Recycle), the California State Association of Counties, and the League of California Cities, among the 33 counties that participated in the survey, more than \$17 million is spent annually to combat illegal dumping (California State Association of Counties, 2006). The counties reported that the most commonly dumped items, in order of appearance are: appliances, tires, household waste, furniture, vehicles, electronic waste, hazardous waste, and construction materials. In San Diego County, vacant lots and alleys were noted as common sites for illegal dumping and the annual jurisdictional costs related to illegal dumping exceeded \$1 million.

In the City of San Diego (City), there are over 25,000 reports of illegal dumping, littering, and waste-related violations each year. These reports are investigated by the City's Solid Waste Code Enforcement team, a group within the City Environmental Services Department (ESD) responsible for enforcing the City's solid waste codes. In addition to the reported incidence of illegal dumping addressed by the Solid Waste Code Enforcement team, there is evidence that numerous natural creek channels, concrete-lined stormwater conveyances, and other waterways are impacted by illegal dumping. During storm events, these channels and conveyances can transport significant discharges of urban runoff (stormwater) which can carry trash, debris, and other large illegally dumped materials downstream.

The City manages a large Municipal Separate Storm Sewer System (MS4) that discharges stormwater and urban runoff to creek, bay, and ocean receiving waters throughout the City limits. The San Diego Regional Water Quality Control Board (RWQCB) regulates the discharge of urban runoff through the City's MS4 under the National Pollutant Discharge Elimination System (NPDES) permit program, and the City is identified as a discharger (or "Copermittee") under RWQCB Order No. R9-2007-0001 (San Diego Regional Water Quality Control Board, 2007). Under the NPDES permit program, the City must reduce the discharge of pollutants in urban runoff to the Maximum Extent Practicable (MEP) through a

combination of pollution prevention, source control, and treatment control Best Management Practices (BMPs).

In response to NPDES permit obligations and as a result of other program drivers, the City has engaged in a multi-faceted urban runoff management program in the six watershed management areas that fall within the City limits. As an integral part of these BMP efforts, the City also has developed a process to assess and track project efficiency in order to both assess the cost and pollutant removal efficiency of individual urban runoff management projects as well as document the effectiveness of projects as required by the NPDES permit. In the Chollas Creek watershed, the City is performing a variety of BMP projects that include public outreach, targeted aggressive street sweeping, Low Impact Development, and collaboration with non-profit and other groups in alternative pollutant reduction efforts such as trash cleanup day sponsorships.

In early 2009, GWSGCC received grant funding from the San Diego Unified Port District to initiate the CCFSTI program to perform a coordinated community education and participation program. The CCFSTI program was designed to reduce illegal dumping in portions of Chollas Creek by implementing community education and outreach programs, hosting Refuse Collection Events at designated community centers, and providing non-native vegetation removal services. The CCFSTI project area is focused in the communities adjacent to the south fork of Chollas Creek roughly bounded by Interstate 805 (I-805) and Interstate 15 (I-15) (Figure 1-1). Education and outreach activities within the project area include print and electronic “clean water” messaging, bilingual door-to-door outreach, and volunteer training and education activities. The Refuse Collection Event portion of the program aims to reduce illegal dumping of trash and other items in Chollas Creek and other public areas by publicized collection events held at local community centers. The Refuse Collection Events are designed to encourage local residents to dispose of trash or unwanted large household items (such as furniture, appliances, and toys) in designated trash bins during the bimonthly events. The CCFSTI program also includes a non-native vegetation (*Arundo donax*) removal component for portions of Chollas Creek and a removal of non-natives and replacement with landscaping alternatives component for qualifying creek-side residents.

The Chollas Creek watershed is a 16,270-acre drainage system with headwaters in La Mesa and Lemon Grove. This watershed traverses numerous neighborhoods such as City Heights, Encanto, southeastern San Diego, and Barrio Logan, to name a few (Figure 1-1). Urban development in the Chollas Creek watershed has resulted in channelization of segments of the creek, floodplain encroachment, and the loss of associated wetland habitats. Chollas Creek discharges to San Diego Bay and consists of two main tributaries, the north fork and south fork. The lower approximately one mile of the creek is tidally influenced. The two main stems of the creek bifurcate near the upstream extent of the tidal influence. Throughout the watershed, the creek is a mix of highly developed earthen channels and concrete channels.



SECTION 1 INTRODUCTION

1.1 PURPOSE OF THIS DOCUMENT

The purpose of this document is to perform a preliminary feasibility assessment of the implementation of trash capture device(s) in portions of the Chollas Creek watershed in San Diego, California. Trash capture devices can be effective Best Management Practices (BMPs) for the removal of anthropogenic and natural litter and debris in urban environments. This Technical Memorandum identifies four available trash capture technologies, including the Fresh Creek Netting TrashTrap® (Fresh Creek Technologies, Inc.) for potential installation in Chollas Creek. The trash capture BMPs selected for consideration are based on known hydrology, site installation opportunities and constraints, environmental permitting requirements, installation costs, long-term operations and maintenance costs and other considerations. This Technical Memorandum may be used for preliminary planning purposes to assess the feasibility of implementation of trash capture BMPs in portions of the Chollas Creek watershed.

1.2 BACKGROUND

Solid waste in the form of bottles, cans, plastics, paper products, newspapers, shopping bags, cigarettes, automobile parts, construction and demolition debris, furniture, and other anthropogenic materials can accumulate in urban creeks and other areas until removed by local authorities or transported downstream by wind or storm events. During storm events, these trash and anthropogenic debris items can be transported via all types of conveyances including: municipal separate storm sewer system (MS4) pipes, flood control channels, creeks, streams, rivers, lagoons, bays, and ultimately deposited in the ocean. During the transport process, trash and debris can become entangled in vegetation along the banks and floodplains of waterbodies and have a variety of deleterious impacts on receiving waters including:

- Unpleasant aesthetics
- Potential health hazard to humans (*e.g.*, bacteria, pathogens, prescription medications, toxics, etc.)
- Pathogens and pollutants that may be integrated into the food chain, poisoning aquatic life and potentially impacting fish and shellfish harvesting industries
- Potential for regulatory action requiring the removal and/or treatment of debris
- Increased maintenance costs incurred to remove trash
- Aquatic fauna risk entanglement or suffocation from trash

Figure 1-1 through Figure 1-4 present examples of current debris loads in Chollas Creek.

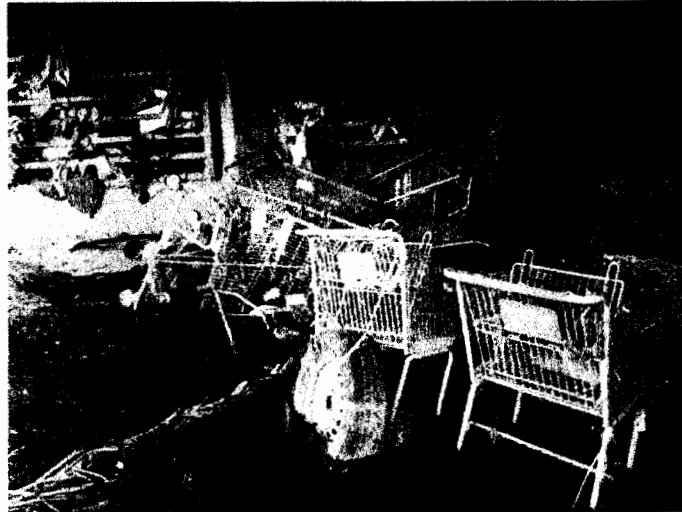


Figure 1-3: Example of Shopping Cart Accumulation in Chollas Creek



Figure 1-4: Example of Plastic Bags in Chollas Creek

In 2001, the San Diego Regional Water Quality Control Board (RWQCB) was notified that significant quantities of floating material and trash are frequently present at the mouth of Chollas Creek. These quantities of trash and floating material were considered an exceedance of the water quality objective for floating material as stated within the *Water Quality Control Plan for the San Diego Basin* (Basin Plan). The Basin Plan states that: “waters shall not contain floating material, including solids, liquids, foams, and scum in concentrations which cause nuisance or adversely affect beneficial uses.”

In September of 2001, the RWQCB sent “Directives Issued Pursuant to California Water Code Sections 13267, 13225, and 13383 for an Investigation of Exceedances of Water Quality Objectives for Floating Material in Chollas and Paleta Creeks” to National City and the City of San Diego (City). Both National City and the City responded to the directives. Programs were initiated to reduce and eliminate the amount of trash and floating material within these two creeks. In September 10, 2003, the RWQCB Executive



Officer's Report stated that: "Excessive trash in Chollas and Paleta Creeks continues to be a significant water quality problem." The RWQCB subsequently directed these cities to develop and implement additional BMPs to address discharge of trash into these creeks. The cities then committed to additional frequency of scheduled municipal cleaning of the creeks and public education.

The RWQCB has identified the lower 3.5 mile portion of Chollas Creek as an impaired water body on the 2006 "Clean Water Act Section 303(d) List of Water Quality Limited Segments" (303(d) list) for copper, indicator bacteria, lead, and zinc. The Federal Clean Water Act (CWA) regulates that the RWQCB must also prioritize the water bodies on the 303(d) list and develop Total Maximum Daily Loads (TMDLs) for water bodies that do not meet regulatory standards. A TMDL for Diazinon has also been developed based on previous 303(d) listings and was approved by the Environmental Protection Agency (EPA) in 2003. TMDLs for dissolved copper, lead, and zinc for the lower portion of Chollas Creek were also approved by EPA in late 2008 and a TMDL for indicator bacteria is currently being finalized. In addition to the pollutants identified on the 303(d) list and in TMDLs, other pollutants such as suspended sediment (as TSS), turbidity, surfactants (as MBAS), biochemical oxygen demand, chemical oxygen demand and trash have been identified as exceeding water quality objectives and potentially contributing to incidence of aquatic toxicity observed during wet weather monitoring events (Weston 2008).

The water quality and trash problems in Chollas Creek may be alleviated by the implementation of various BMPs designed to treat stormwater prior to discharge to or within receiving waters. This Technical Memorandum document may serve as a preliminary feasibility document for potential installation of trash capture nets or other devices in Chollas Creek to treat trash and debris in stormwater flows. The result of this preliminary desktop assessment will provide the basis for additional site-specific planning and design activities for the implementation of trash capture BMPs in Chollas Creek.