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**TECHNICAL REPORT:  
ADDRESSING FLOATING MATERIAL IN  
CHOLLAS AND PALETA CREEKS**

February 14, 2003

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## I. BACKGROUND

*but it is discharged from MS4*

Excessive trash is a societal environmental issue that is broader than the storm water pollution prevention programs that are solely charged with improving water quality. Littering is a behavior reflecting society's general perspective that trash and littering is everyone else's problem to take care of. The general population does not understand the incremental effects that littering has on San Diego's eco-system, and their role in litter prevention. Residents and businesses have an even harder time understanding the cause and effect relationship between littering and water quality problems in the region and their role in creating and preventing this problem. And, in the Mid-City region of the City of San Diego, where Chollas and Paleta Creeks are located, efforts to reduce and eliminate trash and littering are further compounded by the economic and cultural make-up of the area. This region is home to numerous first generation and immigrant populations unfamiliar with American environmental ideals and laws. Bringing an environmental sensibility to their attention and effectively changing practices is a long-term prospect requiring resources beyond those available to local storm water programs.

? Trash accumulates within the storm water conveyance system during periods of dry weather and then washes downstream during rain events. Making this connection and achieving behavior change is a challenge that is beyond the scope, resources and authority of municipal storm water programs. Litter is an issue that must be tackled and sustained at the state level through integration of solid waste program expertise with other environmental issues and programs impacted by litter pollution un-addressed in the current waste management structure. Lacking more effective methods and resources to tackle litter as a water quality pollutant, the City of San Diego addresses litter evenly throughout the City without consideration of location.

Pursuant to Section C.2 of the Municipal Storm Water Permit (California Regional Water Quality Control Board – San Diego Region, Order No. 2001-01), the City of San Diego is required to report twice a year on existing and planned Best Management Practices (BMPs) to prevent or reduce trash, debris, and other floating materials in Chollas and Paleta Creeks. This report represents the first of two annual reports to be submitted to the California Regional Water Quality Control Board – San Diego Region (henceforth referred to as the Regional Board) in 2003. The second report will be submitted on or before September 15, 2003. Subsequent reports are due on March 15<sup>th</sup> and September 15<sup>th</sup> of each year.

As previously reported, both Chollas and Paleta Creeks discharge into San Diego Bay. The Chollas Creek watershed is approximately 17,604 acres and Paleta Creek watershed is approximately 2,089 acres. The majority of the Chollas Creek watershed

is within the City of San Diego city limits. The Chollas and Paleta Creek watersheds are within the 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> City Council District boundaries. Portions of Lemon Grove and La Mesa are also within the watershed. The majority of the Paleta Creek watershed is within the City of San Diego limits; however, a portion of the City of National City is within the watershed as well. The mouths of both Chollas and Paleta Creeks discharge on federal (U.S. Navy) land. GIS maps showing the storm water conveyance system and land use within the Chollas and Paleta Creeks watersheds were previously submitted in our report dated October 19, 2001.

The City of San Diego has many ongoing programs intended to keep San Diego beautiful and encourage proper disposal of trash and debris. The following activities remove trash that would otherwise end up in receiving waters:

- Weekly residential trash pick up
- Trash pick up from public areas
- Recycling
- Household Hazardous Waste collection
- Volunteer cleanups
- Drain and inlet cleaning
- Channel cleaning
- Street Sweeping
- Enforcement of the San Diego Municipal Code (SDMC)
- Enforcement of applicable state codes through court actions

Not iterative  
BMPs

The Environmental Services Department addresses reports of illegal dumping and littering, enforcing San Diego Municipal Code (SDMC) Sections 54.0209 and 54.0210. The Environmental Services Department has Solid Waste Code Enforcement Officers who are responsible for anti-waste education and enforcing compliance with the City of San Diego Municipal Codes dealing with solid waste issues. The Environmental Services Department also works with community groups and/or volunteers in organizing community cleanup/recycling events to properly dispose of those items not collected by regular curbside collection services. Additionally, the Storm Water Pollution Prevention Program in the General Services Department enforces the City's *Storm Water Management and Discharge Control* ordinance, SDMC Section 43.03.

The Environmental Services Department also funds Community Cleanup events through out the year in partnership with the *I Love a Clean San Diego* organization. In these events, community residents take hands-on responsibility for keeping their neighborhoods clean. These beautification events work to cleanup local areas including parks, canyons and urban alleys. *I Love A Clean San Diego* assists community associations, homeowner associations, civic groups and local businesses

in organizing the community cleanups. Each year, the Community Cleanup Program helps approximately 30 communities coordinate cleanups in neighborhoods throughout the City of San Diego.

The City Attorney's Consumer and Environmental Protection Unit prosecutes violations of the San Diego Municipal Codes and applicable state codes through court actions.

## **II. LIMITATIONS**

The City is unable to anticipate and/or describe in detail what activities will be undertaken during the second part of calendar year 2003 (July 1, 2003 through December 31, 2003) as the budget for the latter part of the year has yet to be determined. Further, given the fiscal uncertainty at the State budget level and its potential to affect the resources of local jurisdictions (including the City of San Diego), all City departments have been forced to scale back their approved Fiscal Year 2003 budgets (July 1, 2003 through June 30, 2003) and reduce planned expenditures. This has also resulted in the scaling back of activities that were planned for the first half of 2003. It is anticipated that the fiscal limitations and uncertainty will continue into Fiscal Year 2004 and beyond.

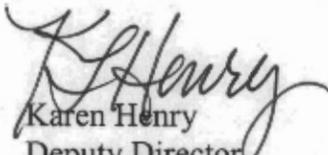
## **III. REPORT ORGANIZATION**

This report is organized in topical the areas listed below, as requested in the letter from Mr. John H. Robertus (Executive Office for the Regional Board) dated December 18<sup>th</sup>, 2002. Subsequent reports will conform to this format.

1. Public Education and Outreach Efforts
  - 1.1 California Coastal Cleanup Day – City Participation
2. Enforcement
3. Storm Drain System and Creek Maintenance and Cleaning Efforts
4. Best Management Practices (BMPs)
  - 4.1 Structural Best Management Practices (BMPs)
  - 4.2 Non - Structural Best Management Practices (BMPs)
  - 4.3 BMP Action Plan
5. Creek Refuse Assessment Program
6. Collaborative Efforts
7. Trash Measures Effectiveness Assessment

#### IV. CERTIFICATION

*I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*



Karen Henry

Deputy Director

Storm Water Pollution Prevention Program

## 1. PUBLIC EDUCATION AND OUTREACH EFFORTS

During this reporting period, due to the difficulties involved with enforcing illegal dumping and littering, the City identified behavior modification as the primary means to deal with trash as non-point source of pollution in our waterways. Because "midnight dumping" activities are relatively easy to conduct without consequences, preventing these from occurring in the first place is our best line of defense. As such, the focus of our education efforts is to raise public awareness and to foster behavior changes to ultimately reduce non-point source pollution, including trash and litter.

As previously reported on February 21, 2002, we continue to identify specific outreach and educational opportunities to address trash as a pollutant. We are moving forward with our plans to produce radio and television public service announcements (PSAs) that address trash as a pollutant of concern. The City is currently working with two local companies to produce the "Litter Prisoners" and "Photo Mosaic" PSAs. The "Photo Mosaic" PSA will focus on several pollutants of concern in our watersheds (including trash), while the "Litter Prisoners" PSA will focus on litter exclusively. Further, the "Photo Mosaic" PSA will focus on San Diego Bay as a receiving water and will use images and icons from inland urbanized areas from the watersheds that drain into the Bay via Chollas and Paleta Creeks. As of this date, the PSA scripts have been completed and it is anticipated that they will air before the end of this calendar year. The City has expended a substantial amount of time and energy seeking funds to cover the costs of PSA development and airing, and would be prohibitive from a fiscal perspective without the financial support of Caltrans (District 11) and the Port of San Diego.

The City applied for two Proposition 13 grants that would partially address trash in the Chollas and Paleta Creeks watersheds (grant application summaries were submitted to the Regional Board as an attachment in our February 21, 2002 letter). One of these proposals, the *Chollas Creek Water Quality Protection and Habitat Enhancement* project, will provide for improvements within several segments of the Chollas Creek South Fork, including removal of concrete sections of the channel, widening of the floodplain, and creation and restoration of wetland and transitional upland habitats. Planned improvements would reinstate the functions and values of wetland habitat within Chollas Creek. The project will also implement an education plan to foster stewardship of the creek among its neighbors to ensure the health of the creek is maintained long after the project is completed. The education components will include an extensive public outreach effort within the watershed, regardless of jurisdictional boundaries, in partnership with schools, and community and environmental groups to modify behaviors (source control). The *Chollas Creek Water Quality Protection and Habitat Enhancement Project* was approved for

funding by the State Water Resources Control Board on October 17, 2002 under Resolution 2002-0152. Work on this project is anticipated to begin in Fiscal Year 2004.

The second Proposition 13 project proposal titled "*Water Quality Leaders*," would consist of a pilot study for existing developed areas and would focus on the commercial corridors in three different watersheds, including the Chollas Creek watershed. This project would involve working with area businesses to install catch basin inserts that would be maintained and monitored through a partnership with San Diego BayKeeper, participating businesses, and the City. Both structural and educational BMPs would be implemented and monitored to determine the appropriateness and effectiveness of each application. Unfortunately, this proposal has not yet been funded. The City believes this proposal has substantial merit because project implementation would cost-effectively help protect San Diego water bodies and beneficial uses. As such, the Storm Water Pollution Prevention Program will continue to pursue grant funding for this pilot project.

The City's already significant storm water educational challenges are compounded by the socio-economic make-up of the neighborhoods along Chollas and Paleta Creeks. The Mid-City community located in the Chollas Creek watershed is home to a large and diverse first generation immigrant population where environmental awareness as a community value is a new concept. It is estimated that there are approximately 75 dialects spoken within the area, representing a significant challenge in first, gaining access to these communities and secondly, achieving integration of environmental/storm water compliance behaviors.

Educational efforts planned for 2003 include the development and subsequent airing of the Public Service Announcements (PSAs) described above and continuing the Storm Water Pollution Prevention Program's THINK BLUE education efforts as outlined in "THINK BLUE, Year One in Review," (See attachment 1).

Councilmember Charles Lewis of Council District 4, who began his term in December 2002, intends to work with the City Storm Water Pollution Prevention Program to create a water quality educational module for Council District 4 residents (Council District 4 lies entirely within the Chollas and Paleta Creek watersheds) that the council office can include in outreach efforts to their constituents. The outreach will contain anti-litter information.

During the 2002 calendar year, the City also spent considerable resources participating in the Coastal Cleanup Day, September 21, 2002. Details of these efforts are provided below.

### 1.1 CALIFORNIA COASTAL CLEANUP DAY – CITY PARTICIPATION

The California Coastal Cleanup Day is considered the premier volunteer event focused on the marine environment in the country. It is estimated that since the program started in 1985, over 506,000 Californians have removed more than 7.5 million pounds of debris from our state's shorelines and coast. Beginning in 2002, the annual event was expanded to include inland sites, thus linking inland sites to the ocean. Within the San Diego region, San Diego BayKeeper organized cleanups in coastal areas while *I Love a Clean San Diego* (ILCSD) focused on inland areas. The cleanup was held on Saturday, September 21<sup>st</sup>, 2002.

The City of San Diego Storm Water Pollution Prevention Program sponsored the cleanup of three inland sites within the Chollas watershed working in conjunction with *I Love a Clean San Diego* and NASSCO, a prominent company in San Diego with facilities adjacent to Chollas Creek.

Storm Water Pollution Prevention Program staff led an extensive effort to plan and coordinate the clean-up with several organizations, City departments, and private individuals as well as leading the event on the day of the clean-up and completing follow-up tasks. It is estimated that over 200 staff hours were spent on this effort. The Port of San Diego, the Navy, the San Diego Police Department, Fox Channel 6, the Environmental Health Coalition, the Sherman Heights After School Program and Eric Bowlby of the Sierra Club are a few of the organizations and private individuals which worked with staff from the Storm Water Pollution Prevention Program (the Chollas Creek Clean-up Contact List is included as attachment 2).

Given the diversity of the community where the clean-up sites were located, the City produced flyers in English, Spanish and Somali (copies of the flyers are included as attachment 3). It is estimated that over 1,500 flyers were distributed in the community through a variety of means.

A great amount of energy and time was spent choosing the sites, coordinating with other City departments and staff to ensure public safety during the clean-up day, soliciting volunteers and working with numerous parties in order to make the event a success.

Clean-up site selection was based on location, accessibility, trash quantity, and safety considerations. The three sites selected were as follows:

Site No. 1

Winona Avenue, one block south of the intersection with Wightman Street  
Zip Code 92105

Thomas Guide Page - 1270

Site No. 2

33rd Street and McLarens Lane (one block south)

Zip Code 92102

Thomas Guide Page - 1289

Site No. 3 (Port of San Diego Jurisdiction)

NASSCO at parking lot No. 6

Chollas Channel & Harbor Drive

Thomas Guide Page - 1289

Site No. 3, located at the NASSCO parking lot No. 6 in the Port of San Diego, was chosen based on discussions with NASSCO, initiated by our office. Joining with volunteer staff from the Storm Water Pollution Prevention Program and *I Love A Clean San Diego*, over forty NASSCO volunteers cleaned the Chollas Creek bed and the adjacent NASSCO parking lots. As a permanent means of preventing trash & debris from entering the creek, NASSCO installed fencing along the sides of Chollas Creek prior to this event, and installed trash cans in the No. 6 parking lot. Fencing was identified by the Storm Water Pollution Prevention Program as one of several BMPs that could be implemented by NASSCO in order to prevent trash from reaching the stream. NASSCO estimates the cost of the fencing was \$5,000.00. On July 1, 2002, NASSCO distributed an Environmental Gram regarding nonstructural BMPs for parking cleanliness. In December 2002, NASSCO implemented BMP 408 - Parking Lot Housekeeping (these materials are included as attachment 4). Table 1 shows the results obtained during the cleanup.

**Table 1. Chollas Creek Cleanup Statistics.**

LOCATION	TOTAL MILEAGE CLEANED	NUMBER OF CLEAN-UP VOLUNTEERS	TOTAL NUMBER OF TRASH BAGS AND WEIGHT	TOTAL NUMBER OF RECYCLABLES AND WEIGHT
<u>Site No. 1</u> (Winona Avenue, one block south of the intersection with Wightman Street)	0.50 miles	30	51 bags - 490 lbs	4 bags - 26 lbs
<u>Site No. 2</u> (33rd Street and McLarens Lane)	0.25 miles	17	18 bags - 445 lbs	none

LOCATION	TOTAL MILEAGE CLEANED	NUMBER OF CLEAN-UP VOLUNTEERS	TOTAL NUMBER OF TRASH BAGS AND WEIGHT	TOTAL NUMBER OF RECYCLABLES AND WEIGHT
Site No. 3 (NASSCO at parking lot No. 6)	1.50 miles	40	38 bags - 1,303 lbs	10 bags - 50 lbs
<b>TOTAL</b>	<b>1.75 miles</b>	<b>87 Volunteers</b>	<b>107 bags - 2,238 lbs</b>	<b>14 bags - 76 lbs</b>

Before and after pictures of the three sites were taken to document the effects of the clean-up day (see attachment 5). In addition, a "site captain" staffed each of the three sites during the clean-up day. All three site captains were employees of the Storm Water Pollution Prevention Program that volunteered their time during the event. Additionally, many other Storm Water Pollution Prevention Program staff members participated along with members of their families as volunteers in the Coastal Cleanup Day.

Finally, once the event was carried out, staff from the Storm Water Pollution Prevention Program followed up by mailing thank-you letters to numerous volunteers, private citizens, public and private agencies, other organizations, and other City personnel who helped to make the event a success (a sample thank-you letter is included as attachment 6).

## 2. ENFORCEMENT

As previously noted, the Environmental Services Department (Environmental Services) has had the primary responsibility for responding to trash issues and operates under different sections of the San Diego Municipal Code (SDMC, Sections 54.0209 and 54.0210) than does the Storm Water Pollution Prevention Program (SDMC, Section 43.03). Both programs have hotlines to which they respond. Environmental Services typically receives calls regarding trash or gross pollutants whereas Storm Water receives reports of liquid discharges into the storm drain system and/or receiving waters.

Due to the difficulty in actually catching someone in the act of illegally dumping or proving the source of the trash, enforcement by means of imposing penalties or issuing Notices of Violation is rare. Therefore, most "enforcement" actions for gross pollutants are conducted by either requesting an owner to clean up his/her property or the City having to properly remove and dispose of trash from the public right-of-way.

Environmental Services has a Code Compliance section that responds to reports and phone calls. Their process for enforcement includes a letter to the property owner notifying them of the time period in which the trash must be removed followed by a site visit to confirm compliance. Environmental Services also responds to calls from other City Departments for illegal dumping on City property (which is the case for Chollas and Paleta Creeks). Therefore, based on historical records, each Department within the City may have a budget for having Environmental Services to pick up trash within another Department's area of responsibility. Although Street Division is responsible for inspecting channels, it is from a flood control perspective and their crews would have to submit a request to Environmental Services to pick up trash within the watercourse. Because Environmental Services staff has been trained for hazardous materials handling, they can enter into an area and properly dispose of materials such as paint cans whereas Street Division crews are not appropriately equipped or trained to respond to some instances of illegal disposal.

*Does this mean  
no one removes  
trash?*

The Storm Water Pollution Prevention Program also has a Code Compliance section that responds to reports of illegal discharges. As previously mentioned, their focus is on liquid discharges that are generally much more easily traced to the source than illegal dumping activities. Thus, illegal liquid discharges violations are considered more easily enforceable. However, as a result of the September 27, 2001 letter distributed to the Copermittees by the Regional Board in regards to litter, the Storm Water Code Compliance staff now considers trash in their enforcement actions. If they are unable to take enforcement action for trash, the issue is referred to Environmental Services. To date, there have not been any Notices of Violation issued by the Storm Water code compliance officers specifically for trash being disposed of into Chollas and Paleta Creeks.

In previous reports we have submitted information from the Environmental Services Department's tracking system for incidents of illegal dumping and litter problems from July 1, 1998 through June 30, 2001. Data for three years were submitted (vs. five years) because it was not until July 1998 that the date tracking system became available. As an attachment, please find an updated map depicting the locations of this information that covers the period January 1, 2002 to December 31, 2002 (attachment 7). Between January 1, 2002 and December 31, 2002, Environmental Services removed approximately 170 tons of vegetation, trash and debris from Chollas and Paleta Creek Watersheds from 41 completed '999's and 4,455 service requests. Between January 1, 2002 and December 31, 2002, approximately 13,371 investigations were conducted.

*Was any of  
this from  
w/in creeks?*

Staff from the Office of the City Attorney has also researched and identified state and local statutes that could be used to pursue further legal actions (beyond imposing penalties and/or issuing Notices of Violation), if necessary, against property owners

or those responsible for illegal dumping activities. Further, staff from the Office of the City Attorney has also conducted additional outreach efforts within City departments (reaching park rangers, lifeguards and police) to spread the word and encourage City personnel to be especially diligent in regard to illegal dumping activities. As part of this outreach, City staff has also been reminded about how to report violations and how pertinent San Diego Municipal Code sections are enforced.

NASSCO implemented BMPs at their parking lots at the urging of Storm Water Pollution Prevention Program staff. NASSCO installed fencing along the sides of Chollas Creek and trashcans in the parking lot in September of 2002 as a permanent means of preventing trash and debris from entering the creek. Additionally, in July 2002, NASSCO's Environmental Engineering Department conducted Parking Lot Cleanliness awareness training via an Electronic-Gram (enclosed as an attachment) that was distributed throughout the shipyard. Lastly, NASSCO has developed and implemented BMP # 488 - Parking Lot Housekeeping (details enclosed as an attachment) starting in December 2002. The NASSCO site is on Port of San Diego property. Therefore, the Storm Water Pollution Prevention Program will continue to monitor the trash in at the site and coordinate with Port District staff if enforcement actions are necessary.

In 2003, the City of San Diego will continue to implement the enforcement programs described above.

### 3. STORM DRAIN SYSTEM AND CREEK MAINTENANCE AND CLEANING EFFORTS

During this reporting period, the Transportation Department's Street Division cleaned 698 drainage structures, 1,666 lineal feet of drainage pipes and 6,577 lineal feet of channel, removing 275 tons of trash and debris from the Chollas Creek watershed and 120 tons of trash and debris from Paleta Creek watershed from January 1, 2002 to December 31, 2002. Street Division staff also removed 1905 tons of debris from the Chollas Creek watershed and 173 tons of debris from Paleta Creek watershed through the Street Sweeping Program.

Chollas and Paleta Creeks are scheduled for two annual inspections in September and March of each year. Should the inspections reveal the need for cleaning, the creeks are scheduled and cleaned as soon as possible. Additionally, during inclement weather the Street Division performs critical drain inspections. These inspections include known problem areas in the Chollas and Paleta Creek watersheds. The Urban Runoff Management Plan's *Storm Water Conveyance System Component* (component 2.1.11) identifies the known problem areas and the objective of the cleaning. Additional cleaning efforts are based on identified problem areas. Further, the Street

above states  
streets can  
remove trash

cleaning?  
frequency?  
on time  
reads?

no, it  
doesn't

Division was instrumental in the Clean-up event discussed detail under Section 2.1 above "California Coastal Cleanup Day - City Participation."

Between January 1, 2002 and December 31, 2002, Environmental Services removed approximately 170 tons of vegetation, trash and debris from Chollas and Paleta Creek Watersheds from 41 completed '999's and 4,455 service requests. Between January 1, 2002 and December 31, 2002, 58 Community Clean-up and Recycling Events were held, collecting approximately 1,332 tons of trash, debris and recyclables within these watersheds.

As previously reported, studies have shown that trash re-accumulates approximately 7-10 days after cleaning efforts, which would negate channel cleaning as an effective permanent solution. Large-scale (mechanical) trash removal is an inefficient, expensive and reactive strategy that does nothing to eliminate the source of the trash problem (unless trash removal is combined with education and outreach). To tackle the source of trash issues proactively, and in the most cost-effective manner (and thus, a more efficient standard of MEP), the City continues to focus its efforts on continuing anti-litter education to facilitate the cultural shift needed to reduce the sources of trash pollution.

During this reporting period, the City focused on property ownership research around the areas targeted for the September 21<sup>st</sup> clean-up event. As part of event organization, outreach materials were distributed to numerous property owners and residents located along the targeted areas.

Additional measures undertaken by the Street Division during channel inspection and maintenance activities in 2002 included, (1) identification of problem areas and cleaning the storm water conveyance system in "known problem areas" with emphasis prior to the rainy season; and, (2) removing trash and debris from open channels prior to the rainy season and/or as needed. Previously, unless trash impeded the flow of a watercourse, it was not considered in the channel crew's inspection routine. Policy changes instituted in 2002 have resulted in the removal of trash from drainage channels regardless of their effect on water flows.

The City will continue to work diligently within its constraints to ameliorate the trash issues in this and other watersheds. We believe that it is premature to state that the City's existing BMPs are ineffective but rather that we need to explore additional alternatives for reducing illegal dumping of gross pollutants. It is evident that the City's current practices, however limited, are effective in ensuring proper disposal of trash thus preventing tons of trash from entering into our storm drain system and receiving waters.

why not once a week?  
exceedance of  
wgs - go beyond MEP

?  
??

- if BMPs are effective, why so much trash in creek?

The Storm Water Pollution Prevention Program continues to support the efforts of Mr. Eric Bowlby of the Sierra Club in regards to the Canyons Preservation campaign. Mr. Bowlby worked closely with staff from the Storm Water Pollution Prevention Program in order to recruit "*Friends of Chollas Creek*" volunteers. City staff facilitated the printing of materials in English and Spanish for Mr. Bowlby's use and spent time speaking Spanish with Mr. Bowlby at his request (he wanted to practice his language skills prior to going canvassing for volunteers in the neighborhoods along Chollas Creek). City staff also assisted Mr. Bowlby spread the word about the Sierra Club fundraising event, the "San Diego Canyons Music Festival" (to support the Canyons Preservation campaign), via the County's Project Clean Water site, as well as wide e-mail notices and flyer distribution in partnership with staff from the City's Planning Department.

During 2003, the City will carry out its standard two annual inspections within the Creeks as described above as well as continue to perform critical drain system inspections during inclement weather. Additionally, the Street Division is currently studying the feasibility of re-entering into an agreement with the U.S. Navy to provide cleaning of trash and debris from the containment boom in Chollas Creek. As previously noted, the City's ability to remove trash above and beyond what is currently done will depend on identification of a funding source.

*considering reduction in BMPs?*

A summary of the estimated trash removed from the Chollas and Paleta Creek watersheds is provided in Table 2, below.

**Table 2. Estimate (in tons) of trash removed from the Chollas and Paleta Creek Watersheds.**

Watershed:	Source of Trash Removal:			
	Environmental Services	Streets Division	Navy/City Trash Boom	September 2002 Cleanup
Chollas Creek	1,502*	2,180	10.6	1.1
Paleta Creek		293	0	0

\*Combined total for both watersheds.

**Reporting Period Total (in tons): 3,986.7**

#### **4. BEST MANAGEMENT PRACTICES (BMPs)**

##### **4.1 STRUCTURAL BEST MANAGEMENT PRACTICES (BMPs)**

Illegal dumping is an illusive problem to control. Studies have been conducted that show that approximately 60-70 % of trash that ends up in waterways is due to leaves and vegetation. Additionally, wind transports light debris (usually floatables) into low-lying areas such as channels. Littering and illegal dumping can thus make source identification a moving target.

The Los Angeles (L.A.) region, which has a zero tolerance level imposed under a TMDL issued for trash is in the process of complying. We contacted the County of L.A. in February of 2002 and found that their strategy is to install approximately 500 catch basin inserts over the course of the next two years. We also contacted Caltrans to inquire about the Litter Management Pilot Studies being conducted throughout the state. They are currently evaluating two in-line structural BMPs but have also focused their efforts on an educational campaign as well as identification of the source of the litter. Interestingly enough, they have found that most of the littering witnessed along freeways was unintentional. For the structural BMPs, Caltrans has looked towards installation on smaller tributaries (a few acres in size) for increased effectiveness. Without further studies, it is difficult for the City to equate the primarily residential and commercial make-up along Chollas and Paleta Creeks with that of freeways. From our field visits, it does appear that much of the trash in the creeks is due to illegal dumping since there were not large deposits of debris visible in or near the outlets along the creeks.

As previously reported, trash is removed from the storm drain system and receiving waters in the Chollas and Paleta Creek watersheds due to the following activities:

- Weekly residential trash pick up
- Trash pick up from public areas
- Recycling
- Household Hazardous Waste collection
- Volunteer cleanups
- Drain and inlet cleaning
- Channel cleaning
- Street Sweeping
- Enforcement of the San Diego Municipal Code (SDMC)
- Enforcement of applicable state codes through court actions

Through these services, the City of San Diego is effectively preventing tons of trash from entering into our waterways.

Physical cleaning of the entire reaches of Chollas and Paleta Creeks by City crews is not an optimal option because it is an "end of pipe" solution that fails to eliminate the source of the problem, and is therefore, inherently less efficient. As previously reported, studies have shown that trash re-accumulates approximately 7-10 days after cleaning efforts, which would negate channel cleaning as an effective permanent solution. Large-scale (mechanical) trash removal is an inefficient, expensive and reactive strategy that does nothing to eliminate the cause of the litter problem (unless trash removal is combined with education and outreach). To tackle the source of trash issues proactively, and in the most cost-effective manner (and thus, a more efficient standard of MEP), the City continues to focus its efforts on continuing anti-litter education to facilitate the cultural shift needed to reduce the sources of trash pollution. In addition, property and environmental constraints may make regular creek cleaning difficult. More in-depth research is necessary to determine how property boundaries relate to creek limits and if the results reveal that private ownership extends into the creek bed, then the City would have to request permission to access the property. The same is true for volunteer clean up events (see Section 4.2 for further discussion). This task in and of itself could prove to very time consuming and potentially prohibitive. Additionally, restrictions on impacting native habitat may also reduce access to portions of the creeks.

In order for structural BMPs to be effective, they typically need to be installed in strategic locations in tributaries that have been identified as chronic sources of trash. Additionally, trash collecting BMPs located within main conveyance channels/creeks often fail because of their maintenance intensive nature and because they cannot sustain structural integrity due to the forces exerted by flows experienced during high intensity rain events.

As previously reported, the Transportation Department's Streets Division entered into an agreement with the U.S. Navy to provide funding to clean trash and debris from Chollas Creek at the area where the Navy has installed a containment boom. This cleaning effort resulted in the removal of 10.6 tons of trash and debris from the Chollas Creek watershed. The \$31,892.37 that the City allocated to the Navy's trash removal effort has been spent and no further funding sources have been identified this fiscal year. As noted above, the Transportation Department's Street Division will continue to pursue this partnership with the U.S. Navy assuming funding is allocated to meet this purpose once the fiscal year 2004 budget (July 1, 2003 through June 30, 2004) is adopted by the City Council.

Street Division staff also removed 2,180 tons of debris from the Chollas Creek watershed and 293 tons of debris from Paleta Creek watershed through the Storm Drain Maintenance and Street Sweeping Programs.

To date, the City has not been able to allocate funds to study the feasibility of the use of structural BMPs within this watershed, although the City's Urban Runoff Management Plan identifies the need for a drainage master plan (Component 1.6, *Watershed Planning*). The master drainage plan and watershed studies would identify deficiencies in the storm drain system, identify appropriate areas for storm water BMPs, and recommend improvements. As already noted, our *Water Quality Leaders* Proposition 13 grant proposal was not successful. Implementation of the *Water Quality Leaders* project would have provided the City with funding sources to implement structural BMPs and evaluate their effectiveness.

As a permanent means of preventing trash & debris from entering the creek, NASSCO installed fencing along the sides of Chollas Creek prior to the September 2002 Chollas Creek Cleanup event, and installed trash cans in the No. 6 parking lot of the NASSCO facility.

In 2003, Storm Water Pollution Prevention Program staff will research grant funding sources in order to study the implementation of structural BMPs as a pilot project within our most intensely urbanized watersheds (including the Chollas and Paleta Creeks watersheds) and pursue pertinent grant funding opportunities as resources allow.

#### 4.2 NON - STRUCTURAL BEST MANAGEMENT PRACTICES (BMPs)

During the reporting period, the Storm Water Pollution Prevention Program implemented a series of non-structural BMPs specifically focused at addressing trash in Chollas and Paleta Creeks, including: distributed educational letters to property owners affected by the September 2002 Cleanup Event; coordinated with Copermittees affected by the September 2002 Cleanup Event; Arranged news stories with FOX 6 news discussing the issue of litter in Chollas and Paleta Creeks and promoting the clean-ups, and applied for two grants in the Chollas watershed (*Chollas Creek Water Quality Protection and Habitat Enhancement Project*, approved for funding by the State Water Resources Control Board in October, 2002, and *Water Quality Leaders*). And, in December 2002, City Council District 4, which represents residents in the communities surrounding Chollas and Paleta Creeks, distributed 200 brochures announcing the "Chollas Creek Enhancement Project." On December 4, 2002, the Mayor and Council Members Scott Peters of District 1, and Charles Lewis of District 4 co-hosted a community press conference kicking off the Chollas Creek Enhancement Project and related water quality improvement efforts in this watershed.

I know

Between January 1, 2002 and December 31, 2002, Environmental Services removed approximately 170 tons of vegetation, trash and debris from Chollas and Paleta Creek Watersheds from 41 completed '999's and 4,455 service requests. Between January 1,

2002 and December 31, 2002, 58 Community Clean-up and Recycling Events were held, collecting approximately 1,332 tons of trash, debris and recyclables within these watersheds.

Joining with volunteer staff from the Storm Water Division and *I Love A Clean San Diego*, over forty NASSCO volunteers cleaned the Chollas Creek bed and the adjacent NASSCO parking lots during the September 2002 Chollas Creek Cleanup event.

In future years, the Storm Water Pollution Prevention Program, along with various partners, intends to implement additional non-structural BMPs, including: public service announcements in the fall of 2003 in coordination with Caltrans and the Port of San Diego; tailored brochures in fiscal year 2004 (pending adequate funding); begin implementation of the Chollas Creek Water Quality Protection and Habitat Enhancement Project; establish a storm water education/outreach learning module for Council District 4 to use in the community; consider implementation of a criminal prosecution process for the Storm Water Pollution Prevention Program; participation in volunteer cleanup efforts. In addition, the Streets Division may implement additional trash awareness outreach and cleaning (pending additional funding).

#### 4.3 BMP ACTION PLAN

Table 3 below provides an update on the potential BMPs reported previously in the February 21, 2002 letter.

**Table 3. Potential & Actual BMPs implemented to address trash in the Chollas and Paleta Creek watersheds.**

BMP	ESTIMATED IMPLEMENTATION DATE	COMMENTS
<b>NON-STRUCTURAL BMPs:</b>		
<i>EDUCATION</i>		
Trash focus for public outreach	Fall 2003	In partnership with Caltrans – District 11 and the Port of San Diego
<ul style="list-style-type: none"> <li>• Public service announcements</li> </ul>		
<ul style="list-style-type: none"> <li>• Tailored brochures</li> </ul>	FY 2004	Pending budget approval or identification of grant sources and grant award
<ul style="list-style-type: none"> <li>• District 4 Storm Water Outreach module</li> </ul>	FY2004	Pending continued Council interest and funding
<ul style="list-style-type: none"> <li>• Trash &amp; Litter impact module for Watershed display boards</li> </ul>	FY2004	Pending Copermittee agreement on WURMP education elements. Intend to add Litter education module and materials to Watershed display boards shared by Copermittees

BMP	ESTIMATED IMPLEMENTATION DATE	COMMENTS
Letters to Property Owners	Ongoing	Outreach to property owners done as part of September 2002 Clean-Up event – <del>May</del> expand to all property owners <del>pending</del> allocation for this activity in FY 2004 budget approval - Otherwise, activity <del>may</del> be postponed and carried out in conjunction with outreach to be implemented as part of the <i>Chollas Creek Water Quality Protection and Habitat Enhancement Project</i> beginning in calendar year 2004
Letters with brochures to residents in Council District 4	Completed	Councilmember Charles Lewis' office distributed 200
Letters to Copermittees	Completed	Reached all copermittees within Chollas and Paleta creeks watersheds via e-mail correspondence on August 7, 2002.
Inter- and Intra-Agency Coordination	Ongoing	A great deal of coordination with other City departments has taken place to date in concert with the preparation of the September 2002 Clean-Up event. Additionally, outreach to other City departments has been done by the Office of the City Attorney as described in Section 3 "Enforcement" above. The City will continue discussions with Caltrans staff in order to identify opportunities for partnership between our agencies in order to abate trash concerns. As already noted, Caltrans is a valuable partner to the City providing financial support to the Think Blue PSAs currently under development.
<i>Chollas Creek Water Quality Protection and Habitat Enhancement Project – Proposition 13 Grant</i>	Calendar Year 2004	Approved for funding by the State Water Resources Control Board on October 17, 2002 under Resolution 2002-0152.
<i>Water Quality Leaders - Proposition 13 Grant</i>	N/A	Grant application denied. City will continue to pursue grant funding as time and resources permit.
<i>ENFORCEMENT</i>		
Criminal Prosecution	Calendar Year 2005	Currently under consideration. May continue to be studied assuming budget for FY 2004 supports allocation of monies for this activity.
Illegal Dumping Enforcement	Ongoing	
<i>MAINTENANCE</i>		

BMP	ESTIMATED IMPLEMENTATION DATE	COMMENTS
<u>Street Division</u> – Cleaning efforts	Ongoing	Street Division staff also removed 2,180 tons of debris from the Chollas Creek watershed and 293 tons of debris from Paleta Creek watershed through the Storm Drain Maintenance and Street Sweeping Programs.
<u>Street Division</u> – Additional trash awareness and <u>cleaning</u> efforts	July 2003	<del>Pending</del> budget approval.
<u>Environmental Services:</u> Abatement of Illegal Dumping and Clean-Up & Recycling Events	Ongoing.  Data for 2002 Calendar Year	Between January 1, 2002 and December 31, 2002, Environmental Services removed approximately 170 tons of vegetation, trash and debris from Chollas and Paleta Creek Watersheds from 41 completed '99's and 4,455 service requests. Between January 1, 2002 and December 31, 2002, 58 Community Clean-up and Recycling Events were held, collecting approximately 1,332 tons of trash, debris and recyclables within these watersheds.
Volunteer Clean-ups	Ongoing, prior to next rainy season	September 2002 Chollas Creek Clean up involved Storm Water Pollution Prevention Program staff and numerous other organizations and volunteers. Additional events to be implemented with consideration of staffing and budget constraints.
<i>OTHER</i>		
Pursue Grant Funding	Ongoing	Identify grant funding opportunities that may support implementation of structural and non-structural BMPs to address trash in intensely urbanized watersheds within the City of San Diego, including the Paleta and Chollas Creeks watersheds. Constrained by staffing and budget limitations.
<i>STRUCTURAL BMPs:</i>		
Boom Cleaning	Completed in 2001/2002 rainy season	Collaborative agreement with the Navy. City contributed \$30,000 to this effort during calendar year 2002. Currently studying feasibility of extending previous cooperative agreement with Navy assuming funds are allocated to this activity in the budget for FY 2004.

BMP	ESTIMATED IMPLEMENTATION DATE	COMMENTS
Parking Lot Clean Up at Chollas mouth	Ongoing	Coordination with Port District, NASSCO. NASSCO parking lots were cleaned during the September 2002 Cleanup Event and implemented permanent good housekeeping practices to periodically clean the parking lot in combination with fencing and new trash cans.
Research Fencing	Ongoing	Fencing at NASSCO parking lot completed in September of 2002. Other opportunities for fencing as a trash BMP are currently being considered. It should be noted that no funding to install fencing that may be determined to be an appropriate control mechanism has been identified to date.
Master Drainage Plan	Unknown	To date, the City has not been able to allocate funds to study the feasibility of the use of structural BMPs within this watershed, although the City's Urban Runoff Management Plan identifies the need for a drainage master plan (Component 1.6, <i>Watershed Planning</i> ). The master drainage plan and watershed studies would identify deficiencies in the storm drain system, identify appropriate areas for storm water BMPs, and recommend improvements.
<i>Water Quality Leaders Grant Proposal</i>	N/A	Grant application denied. City will continue to pursue grant funding sources to implement this project as time and resources permit.

**5. CREEK REFUSE ASSESSMENT PROGRAM**

The Storm Water Pollution Prevention Program will implement a Creek Refuse Assessment Program as part of our Dry Weather Monitoring activities in the Chollas and Paleta Creek watershed areas. The Dry Weather Monitoring component of the

**City of San Diego  
Storm Water Pollution Prevention Program  
Dry Weather Storm Drain Field Monitoring Data Sheet**

ROUTINE / NON-ROUTINE \_\_\_\_\_

**SITE DESCRIPTION**

Observed Land Use	Residential	Commercial	Industrial	Open	Watershed
Conveyance Type	Manhole	Culvert	Open Channel	Drainage	GIS (NAD 83)
Construction	Concrete	Steel	Plastic	Natural	N
					W
					Site ID
					Site Description
					TB Page
					Date/Time
					Field Staff

**OBSERVATIONS** (\*\*\*(describe below))

**Physical**

	1	2	3	4	Light	Surf	Overcast	Partly Cloudy
Color	None	Murky	Chemical	Sewage	Light	> 72 hours	< 32 hours	< 3 hours
Color	None	Brown (Milky)	White (Milky)	Gray	Lum. Haze	None	< 0.1"	> 0.1"
Clarity	Clear	Translucent	Slightly Cloudy	Opaque	Rainfall			
Floatables	None	Trash	Sublime/Toys	Stems				
Deposits	None	Sediment	Particulates	Fecal Matter				

**Biological**

Fossils	None	Insects	Decid. Inverts	Fish	Bird	Mammal
Flora	None	Woods / Grass	Algae	Catsails	Wetland Area	

**DISCHARGE ESTIMATION**

Filling Creek or Run Culvert*		Filling a Bottle or Known Volume*		Filling Pipe*	
Volume	gals	Volume	ml	Discharge	g/s
Time to Fill	sec	Time to Fill	sec	Depth	ft
Velocity	ft/sec	Volume	gals	Velocity	ft/sec
Flow	gpm	Flow	gpm	Flow	gpm

Flow Observed? Yes / No / Possible      Evidence of overland flow near sampling site? Yes / No (\*\*\*(describe below))

**WATER SAMPLING**

Field Screening Sample Collected?	Yes / No	Analytical Lab Sample Collected?	Yes / No
Temp	°C	TSS (suspended)	mg/L
pH	units	Conductivity	µmhos
Turbidity	NTU	Phosphate as P <sub>5</sub>	mg/L
Copper	µg/L	Surface	mg/L
Cadmium	µg/L	Distance	µg/L
Lead	µg/L	Chlorophyll	µg/L
Zinc	µg/L	Oil and Grease	mg/L
		Nitrate as N	mg/L
		Ammonia as N	mg/L
		Total Coliforms	MPN/100 ml
		Fecal Coliforms	MPN/100 ml
		Enterococci	MPN/100 ml
		Total Bacteria	mg/L

**COMMENTS / NOTES** ---

\_\_\_\_\_

\_\_\_\_\_

Quality Check \_\_\_\_\_ Date \_\_\_\_\_

*not consistent w/ 1/15/26/7 monitoring request*

updated Municipal Storm Water Permit (Order No. 2001-01) expanded the physiochemical monitoring conducted under the previous Municipal Storm Water Permit.

The City's standard criterion for evaluating and recording observations now includes trash observations, as shown on the Dry Weather Storm Drain Field Monitoring Data Sheet. Monitoring staff identify trash characteristics in the storm drain's discharge "plume area" at storm drain outlets where they discharge into a large open conveyance channels or the natural drainages and creeks. The "plume area" has been defined as approximately 10-20

yards (30-60 feet) upstream and downstream of the storm drain outlet. Trash monitoring within open conveyance channels and manholes/catch basins used similar criteria; staff noted conditions within a 20-yard diameter of the monitoring point and in the visible areas within manholes/catch basins.

During the 2002 monitoring period, ninety percent (30 of 33) of the sites sampled were storm drain outlets. The remaining ten percent were collected in open conveyance systems. Effectively, city staff monitored trash within 990-1,980 lineal feet of channel using the representative assessment methods developed from the updated Municipal Permit Dry Weather Monitoring requirements. Our standard criterion for evaluating and recording observations has been expanded to include a photo documentation of the trash in these two creek watersheds.

The assessment performed in 2002 and in subsequent years will assist in identifying sources and "hot spots" of trash from the tributary land uses and neighborhoods. In addition to trash, monitoring staff documents unique deposition characteristics near outlets and monitoring sites looking for particulates that might identify sources of waste and trash. The 2002 Dry Weather Monitoring in the Chollas and Paleta Creek information is included with this report as attachment 8.

The Creek Refuse Assessment Program as proposed will provide the City and the Regional Board with <sup>no</sup> quantifiable trash data that can be used as a baseline and to evaluate the effectiveness of BMPs. We will review the Creek Refuse Assessment Program on an annual basis to determine if enhancements are needed and if there is funding available to make the enhancements.

## 6. COLLABORATIVE EFFORTS

*haven't said a word so far*

During the previous reporting period, the Storm Water Pollution Prevention Program participated in the collaborative development of the San Diego Bay Watershed Urban Runoff Management Plan, completed in January 2003. This Plan created a framework for collaboration between Chollas Creek watershed copermittees, businesses, interested public, and other stakeholders. The City of San Diego will collaborate with the Port of San Diego, as lead copermittee in the San Diego Bay watershed, to ensure that trash issues are addressed in the San Diego Bay Watershed Urban Runoff Management Program's implementation.

In addition, the Storm Water Pollution Prevention Program coordinated with other City departments, NASSCO, the City of Lemon Grove, and several environmental organizations during the September 2002 Clean-Up event and related media and news stories on trash issues; coordinated with the Port of San Diego, City of La Mesa, City of Lemon Grove, Environmental Health Coalition, San Diego BayKeeper, Gompers School, San Diego Unified School District, and Southwestern College to develop the Chollas Creek Water Quality Protection and Habitat Enhancement Project grant; coordinated with Caltrans and the Port of San Diego to created PSAs focused on trash issues; and coordinated with the U.S. Navy and Port of San Diego to install and maintain trash booms in Chollas Creek. Additionally, the Office of the City Attorney participated in outreach to other City departments.

## 7. TRASH MEASURES EFFECTIVENESS ASSESSMENT

*?*

While there is no baseline data that would allow the City to assess effectiveness of measures taken to date to address trash issues within the Chollas and Paleta Creeks watersheds, and while there is no legal or functional standard for determining whether

trash is impacting beneficial uses, the City believes that positive steps have been taken as measured by the amount of trash removed reported in this and previous reports. Additionally, we believe a significant contribution towards the long-term health of these watersheds has been made through the efforts related to the September 21<sup>st</sup>, 2002 Clean-Up event. While this is a one-time event, seeds have been planted to allow the City to continue to participate in similar events in subsequent years as funding and staffing resources permit. We also believe that we have established solid partnerships through our leadership on this event that will allow the City to build on these efforts on future endeavors.

We anticipate refining the effectiveness measures used to track trash control efforts. We recognize that littering and illegal dumping are the major causes of trash and debris in receiving waters and related exceedances of water quality standards.

An enforcement official must witness the act of littering or illegal dumping to issue a citation. Therefore, actually catching someone in the act rarely happens and enforcement has not proven to be an effective tool in modifying people's behaviors. In recognizing this, the City has taken on an additional burden of responsibility by implementing programs for essentially picking up after others to keep our public areas free of trash and debris and to educate the general public of the environmental impacts of their actions. Our emphasis will continue to be on education via our Think Blue program and its mission, "to raise public awareness and to foster behavior changes to reduce non-point source pollution."

The City has implemented extensive measures to prevent trash from entering into our storm drain system and will continue to explore cost-effective and meaningful ways of reducing illegal dumping of gross pollutants.

Because the Chollas and Paleta Creeks watersheds are not entirely within the City of San Diego, we recognize the importance of coordinating our efforts with those of other jurisdictions within these watersheds. The City has already ventured into a watershed approach to address trash by working with the United States Navy, Caltrans, the City of Lemon Grove, the Port District, and NASSCO, and we will engage willing stakeholders in developing and implementing solutions to address excessive trash in our watersheds that may preclude beneficial uses. The City will continue to address trash concerns through a comprehensive and cost-effective approach that focuses on pollution prevention and participatory decision-making.

Attachments:

1. THINK BLUE Year in Review
2. Chollas Creek Cleanup Contact List
3. Chollas Creek Cleanup Flyer (English and Spanish)
4. NASSCO Environmental Gram and Parking Lot Housekeeping
5. Chollas Creek Cleanup Photos
6. Chollas Creek Cleanup Thank You Letter
7. Environmental Services Map of Illegal Dumping Sites
8. Dry Weather Monitoring Information