



ROB ROSHANIAN
Interim Public Works Director

Public Works Department - Public Works Administration
305 West Third Street • Oxnard, CA 93030 • (805) 385-8281 • Fax (805) 385-7907

January 31, 2013

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Mr. Sam Unger, Executive Officer
Regional Water Quality Control Board - Los Angeles
320 W. 4th Street, Suite 200
Los Angeles, CA 90012

**Subject: REVOLON SLOUGH AND BEARDSLEY WASH TRASH TMDL
MONITORING ANNUAL REPORT – 2012**

Dear Mr. Unger:

We are pleased to submit the 2012 Annual Report for monitoring trash inputs to Revolon Slough and Beardsley Wash, as required under Regional Board Resolution No. R4-2007-007. The monitoring program began in late 2009, and continued through 2012, following the Trash Management and Monitoring Program (TMMP) submitted to you in 2008.

If you have any questions or concerns regarding the Annual Report, please feel free to contact me, or ask your staff to contact Mark Pumford, Technical Services Manager, at (805) 385 - 8153.

Sincerely,

Rob Roshanian
Interim Public Works Director

Attachment

c: Dr. Eric Wu, Los Angeles Regional Water Quality Control Board

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ANNUAL REPORT - 2012

**REVOLON SLOUGH AND BEARDSLEY WASH TRASH TMDL
Regional Board Resolution No. R4-2007-007**

City of Oxnard
Public Works Department
January 2012



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5th Street Drain Data
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Section 1

Introduction

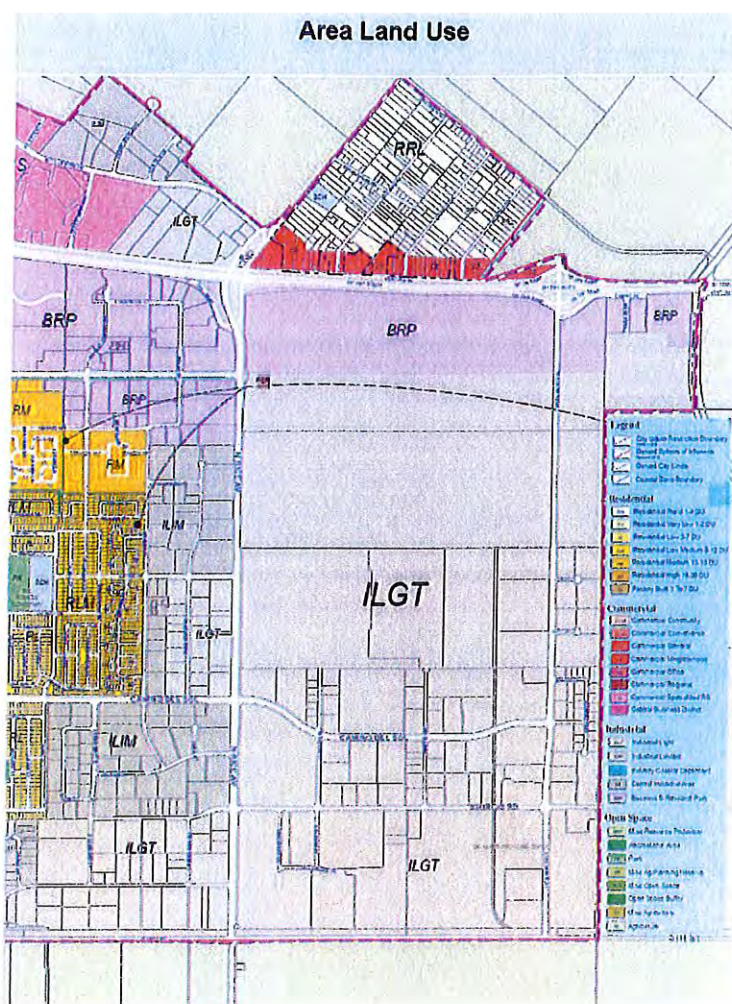
1.1 Environmental Setting

The City of Oxnard is the largest city in Ventura County, with a population of approximately 200,000. The City occupies the western edge of the Oxnard Plain, a flat, fertile land noted for its agricultural produce. Many large open-channel conveyances transport stormwater and urban runoff to major waterbodies, including three that discharge to the Beardsley Wash / Revolon Slough branch of the Calleguas Creek Watershed (CCWS). These three channels, the Nyeland Drain, Sturgis Drain, and 5th Street Drain, are listed as impaired for trash, and are subject to the Calleguas Creek Trash Total Maximum Daily Load (TMDL).

Calleguas Creek and its tributaries, including Revolon Slough and Beardsley Wash, are located in southeast Ventura County. Calleguas Creek drains an area of approximately 343 square miles from the Santa Susana Mountains to the Pacific Ocean. Water within the Calleguas Creek watershed travels 30 miles from the surrounding mountains through the Mugu Lagoon and empties into the Pacific Ocean. Revolon Slough starts as Beardsley Wash in the Camarillo Hills, and continues into Pleasant Valley, and then into the Oxnard Plain, where it is known as Revolon Slough. The Slough is concrete-lined just upstream of Central Avenue and remains lined with rip-rapped sides. The lower mile to mile and a half of the Slough to above Las Posas Road appears to be tidally influenced. The primary water sources for Beardsley Wash and Revolon Slough are agricultural runoff and storm water.

The land uses in the area of the three channels are predominately light industry within Oxnard city limits, and agricultural outside of the city limits.





The purpose of this document is to provide an analysis of the impacts of trash from these land uses in the monitored channels flowing to Beardsley Wash / Revolon Slough, and to recommend management measures to address the impacts.

1.2 Baseline Trash and Percent Reduction

The first monitoring event in each channel exhibited “normal” trash accumulation, based on past annual monitoring performed under City Corps’ Storm Drain Keeper Program. Additionally, trash accumulation drop-off rates were fairly consistent among the three channels. It can, therefore, be assumed that the first monitoring event is a representative baseline trash level against which future efforts and full capture devices can be compared for effectiveness. The following baseline trash quantities, by channel, were submitted to the Regional Board in the 2010 Annual Report:

Monitored Channel	Baseline Number of Pieces
Nyeland Drain	120
Sturgis Drain	105
5 th Street Drain	174

Section 5.5 will discuss the results of monitoring compared to these baseline numbers.

1.3 Municipal Stormwater Program

The City of Oxnard is a co-permittee to the Ventura Countywide Municipal Stormwater Program's National Pollutant Discharge Elimination System (NPDES) permit, with the County of Ventura Watershed Protection District (VCWPD) as the principal permittee. This regional permit requires the development and implementation of a stormwater management program that reduces pollutants carried in urban runoff to the maximum extent practicable (MEP). While MEP is not defined by the regulatory agencies, it generally means the application of best management practices (BMPs) that achieve a balance between effective reductions of a pollutant of concern and economic achievability. One of the potential pollutants of concern to any stormwater program is trash. BMPs to address trash consist of traditional of source control (education, street sweeping, and catch basin cleaning) and treatment control (e.g., trash grates and CDS devices). Many of the requirements of the municipal stormwater permit have led to a decrease in trash from baseline levels.

The requirements of the latest NPDES stormwater permit are:

5. Storm Drain Operation and Management

(a) Catch Basin Cleaning

(1) Each Permittee shall designate catch basin inlets within its jurisdiction as one of the following:

Priority A: Catch basins that are designated as consistently generating the highest volumes of trash.

Priority B: Catch basins that are designated as consistently generating moderate volumes of trash.

Priority C: Catch basins that are designated as generating low volumes of trash.

Within one year of Order adoption (May 7, 2010), Permittees shall submit a map or list of Catch Basins with their GPS coordinates and their designations. The map or list shall contain the rationale or data to support designations.

(2) Each Permittee shall inspect catch basins according to the following schedule:

Priority A: A minimum of 3 times during the wet season and once during the dry season every year.

Priority B: A minimum of once during the wet season and once during the dry season every year.

Priority C: A minimum of once per year.

Catch basins shall be cleaned as necessary on the basis of inspections.

Permittees shall maintain inspection records for Regional Board review.

(3) In addition to the preceding schedule, Permittees shall ensure that any catch basin that is determined to be at least 25% full of trash shall be cleaned out.

(b) Trash Management at Public Events

(1) Each Permittee shall require for any event in the public right of way or wherever it is foreseeable that substantial quantities of trash and litter may be generated, the following measures:

(A) Proper management of trash and litter generated; and

(B) Arrangement for temporary screens to be placed on catch basins; or

(C) Provide clean out of catch basins, trash receptacles, and grounds in the event area within 24 hours subsequent to the event.

(c) Trash Receptacles

(1) Each Permittee shall install trash receptacles, or equivalent trash capturing devices in areas subject to high trash generation within its jurisdiction no later than May 7, 2010.

(2) Each Permittee shall ensure that all trash receptacles are cleaned out and maintained as necessary to prevent trash overflow.

(d) Catch Basin Labels

(1) Each Permittee shall inspect the legibility of the catch basin stencil or label nearest each catch basin and inlet before the wet season begins.

(2) Each Permittee shall record and re-stencil or re-label within 15 days of inspection, catch basins with illegible stencils.

(e) Additional Trash Management Practices

(1) Each Permittee shall install trash excluders, or equivalent devices on or in catch basins or outfalls to prevent the discharge of trash to the storm drain system or receiving water no later than two years after Order adoption date in areas defined as Priority A (subpart 5(a)(1)) except in sites where the application of such BMP(s) alone will cause flooding. Lack of maintenance that causes flooding is not an acceptable exception to the requirement to install BMPs. Alternatively the Permittee may implement alternative or enhanced BMPs beyond the provisions of this permit (such as but not limited to increased street sweeping, adding trash cans near trash generation sites, prompt enforcement of trash accumulation, increased trash collection on public property, increased litter prevention messages or trash nets within the MS4) that provide substantially equivalent removal of trash. Permittees shall demonstrate that BMPs, which substituted for trash excluders provide equivalent trash removal performance as excluders. When outfall trash capture is provided, revision of the schedule for inspection and cleanout of catch basins in task 5.(a)(2) may be proposed by the Permittee for approval by the Executive Officer.

(f) Storm Drain Maintenance

(1) Each Permittee shall implement a program for Storm Drain Maintenance no later than November 3, 2009 that includes the following:

(A) Visual monitoring of Permittee-owned open channels and other drainage structures for debris at least annually.

(B) Remove trash and debris from open channel storm drains a minimum of once per year before the wet season.

(C) Eliminate the discharge of contaminants during MS4 maintenance and clean outs.

(D) Quantify the amount of materials removed using techniques appropriate for quantifying solid waste and ensure the materials are properly disposed of.

(h) Permittee Owned Treatment Control BMPs

(1) Each Permittee shall implement an inspection and maintenance program for all Permittee owned treatment control BMPs, including post-construction treatment control BMPs.

(2) Each Permittee shall ensure proper operation of all treatment control BMPs and maintain them as necessary for proper operation, including all postconstruction treatment control BMPs.

(3) Any residual water produced by a treatment control BMP and not being internal to the BMP performance when being maintained shall be:

(A) Hauled away and legally disposed of; or

(B) Applied to the land without runoff; or

(C) Discharged to the sanitary sewer system (with permits of authorization); or

(D) Treated or filtered to remove bacteria, sediments, nutrients, and meet the limitations set in Table 11 (Discharge Limitations for Dewatering Treatment BMPs) prior to discharge to the MS4.

6. Streets and Roads Maintenance

(a) Maintenance

(1) Each Permittee shall perform street sweeping of curbed streets in commercial areas and areas subject to high trash generation to control trash and debris at least two times per month.

These requirements are implemented by a variety of departments within the City of Oxnard, as described below:

Ventura County NPDES Compliance Activities

Drainage Facilities Maintenance

As a Co-permittee to an NPDES stormwater permit, the City of Oxnard conducts routine cleaning of drainage facilities. Inspections are conducted at least once per year prior to the wet-weather season, which begins October 1. The inspections include visual observations of catch basins and open channels for accumulated trash and debris. Accumulated material is routinely removed from facilities to prevent trash and debris discharges and to maintain hydraulic capacity. Catch basin cleaning is conducted on an as-needed basis to keep trash and debris levels below 25% of catch basin capacity.

Roadway Maintenance

The Annual Report summarizes Co-permittee street sweeping activities. Streets in residential areas are reportedly swept at least six times per year. These practices do not specifically address the maintenance and cleaning activities in the vicinity of the Drains. However, cleaning activities are conducted in areas immediately adjacent to and tributary to the Drains.

Public Education & Outreach Programs

The VCWPD and the City of Oxnard participate in countywide efforts that are a combination of educational outreach and activities aimed to increase knowledge of stormwater pollution impacts and methods to reduce pollutant problems. The programs aim to change behaviors through activities and programs such as community outreach, storm drain inlet stenciling, and prohibition postings at access points to drainage channels.

Examples of community outreach efforts by Co-Permittees include:

- Coastal Cleanup Day - This program has enjoyed widespread public, multi-city and multi-agency involvement. This program provides volunteers an opportunity to clean local beaches and inland waterways. The most recent event for which data was available occurred in September 2010. Over 2,200 volunteers cleaned 12 beaches and 6 inland waterway sites. Over 15,000 pounds of trash and 2,575 pounds of recyclables were collected.
- Presentations at schools, community groups, and public events
- Newspaper articles and advertisements
- Television and radio announcements
- Brochures
- Stormwater websites

1.4 Oxnard City Corps Stormdrain Keeper Program

The Oxnard City Corps (City Corps) has been operating in VCWPD drainage channels since April 2002, as part of the Oxnard City Corps Stormdrain Keeper Program. City Corps' storm drain cleaning program was jointly funded by the City of Oxnard and the VCWPD for the first year, and subsequently funded by City of Oxnard since. Besides the cleaning effort in the drainage channels, City Corps also has a street sweeping contract with the City of Oxnard, operating sweepers in downtown Oxnard twice per day.

City Corps' inspection and cleaning activities are coordinated through the VCWPD. A seven-member crew currently inspects and cleans the Wooley, J Street, Oxnard Industrial, and Oxnard West Drains three times per week.

As a result of its operations, City Corps has identified large amounts of trash and debris, reportedly from dumping activities at 9th Street and Ventura Road. Three large apartment complexes are located at the surrounding intersection. The City's Code Enforcement Compliance Specialists are working with apartment management

to ensure the level of solid waste and recycling service is appropriate for the trash generated at these complexes.

City Corps staff members are highly motivated, and have been involved in discussing options and solutions for reducing trash and debris within the drains. City Corps has discussed treatment control devices with the City of Oxnard to control trash and debris.

1.5 Calleguas Creek Watershed Trash TMDL

Beardsley Wash and Revolon Slough were listed as impaired waterbodies based on the narrative water quality objective in the Basin Plan for floating material:

“Waters shall not contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses”;

and for solid, suspended, or settleable materials:

“Waters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses.”

By Regional Board Resolution No. R4-2007-007, the Basin Plan was modified to incorporate a Total Maximum Daily Load for Trash in Revolon Slough and Beardsley Wash. The numeric target for the Revolon Slough and Beardsley Wash TMDL is 0 (zero) trash within Revolon Slough, Beardsley Wash and their tributaries. Regional Board staff did not find information to justify any value other than zero that would fully support the designated beneficial uses. Further, court rulings have found that a numeric target of zero trash is legally valid. The numeric target was used to calculate the Load Allocations for nonpoint sources and Waste Load Allocations for point sources. The Effective Date of the Trash TMDL is March 6, 2008.

1.5.1 TMDL Implementation Schedule

1.5.1.1 Trash Monitoring Plan

The Basin Plan Amendment for the incorporation of the Trash TMDL included the following requirements for the preparation and implementation of a trash monitoring program for point source discharges, which are now incorporated into the Ventura County Municipal Stormwater permit:

Task No.	Task	Responsible Jurisdiction	Date
1	Submit Trash Monitoring and Reporting Plan, including a plan for defining the trash baseline WLA and a proposed definition of "major rain event".	City of Camarillo; City of Oxnard; Ventura County Watershed Protection District; Ventura County; Caltrans; Local land owners with conveyances	6 months from effective date of TMDL. If a plan is not approved by the Executive Officer within 9 months, the Executive Officer will establish an appropriate monitoring plan.
2	Implement Trash Monitoring and Reporting Plan.	City of Camarillo; City of Oxnard; Ventura County Watershed Protection District; Ventura County; Caltrans; Local land owners with conveyances	6 months from receipt of letter of approval from Regional Board Executive Officer, or the date a plan is established by the Executive Officer.
3	Submit results of Trash Monitoring and Reporting Plan, recommend trash baseline WLA, and propose prioritization of Full Capture System installation or implementation of other measures to attain the required trash reduction.	City of Camarillo; City of Oxnard; Ventura County Watershed Protection District; Ventura County; Caltrans; Local land owners with conveyances	2 years from receipt of letter of approval for the Trash Monitoring and Reporting Plan from Regional Board Executive Officer.

The City of Oxnard submitted its Trash Management and Monitoring Program to lay out the City's program for removing and evaluating trash downstream of proposed full-capture devices in the three channels flowing to Revolon Slough and Beardsley Wash (see Chapter 3.0).

On April 29, 2010, the City provided the first progress report on the implementation of the Trash Management and Monitoring Program. This annual report is submitted in compliance with Task No. 3 above, and proposes Wasteload Allocation baseline levels of trash in the three channels being monitored.

1.5.1.2 Trash Management Plan

The City of Oxnard originally proposed to install three FreshCreek trash netting devices, similar to the device installed in the Oxnard West Drain, in the channels flowing to the Calleguas Creek Watershed. The proposed devices were intended to capture the City's potential contribution of trash at the city limits.

City staff has since met with Regional Board staff to discuss the Trash Management Plan, in light of the data available to date under the Monitoring Program. The data indicate that the majority of the waste removed from the channels is deposited by wind transport instead of the expected transport through the City's storm drain system. Additionally, the intensive permit requirements for catch basin and open channel maintenance, combined with the TMDL Monitoring Program, have resulted in most of the trash being removed before given the opportunity to be transported to receiving waters via the MS4. The City therefore proposed to Regional Board staff that the best full-capture strategy may be catch basin inserts for the sub-drainage basins (Attachment 4). Proposed funding would continue to be under the City's Measure O, which passed in 2009, and is a ½ cent sales tax increase to go toward increased city services.

1.5.1.3 MFAC

The City of Oxnard is also listed under the TMDL for non-point source contributions of trash to Revolon Slough and Beardsley Wash. As there are no non-point sources owned by the City, we have no facilities for which we can apply for a conditional waiver; however, we believe the requirements for an MFAC (below) are met by our current monitoring program.

3	Implement MFAC/BMP Program.	City of Camarillo; City of Oxnard; Ventura County; Agricultural dischargers; Ventura County Watershed Protection District; Caltrans; Local land owners with conveyances	Six months from receipt of Notice of Acceptance from Regional Board Executive Officer.
4	Submit annual TMRP reports including proposal for revising MFAC/BMP for Executive Officer approval.	City of Camarillo; City of Oxnard; Ventura County; Agricultural dischargers; Ventura County Watershed Protection District; Caltrans; Local land owners with conveyances	Two years from effective date of TMDL, and annually thereafter.

Section 2

City of Oxnard Trash Management and Monitoring Program

2.1 Trash Management

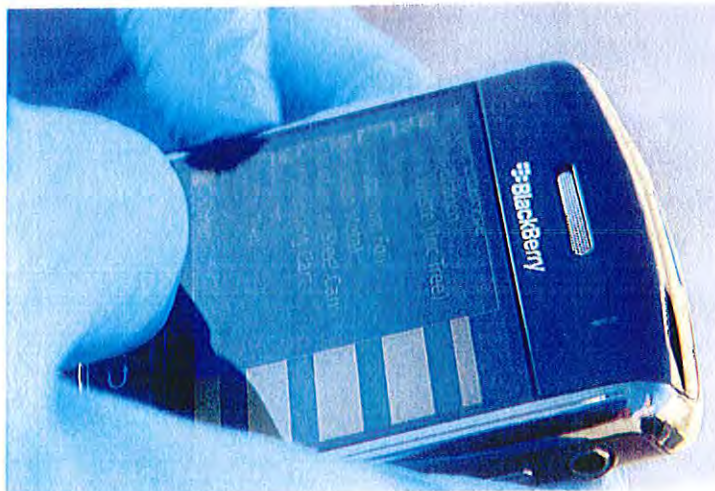
By letter dated September 3, 2008, the City of Oxnard transmitted its proposed Trash Management and Monitoring Program to the Regional Board. The trash management measures proposed in the Program included the installation of FreshCreek Trash Netting full-capture systems on three drains. The City completed preliminary design for these full-capture systems, and requested funding through the City's Measure O Fund, funded by a sales tax increase. As all potential Measure O projects need approval by a Citizen Oversight Committee

(http://www.cityofoxnard.org/uploads/measure_o_oversight_committee_agenda.pdf), City staff proceeded with inclusion of the purchase of one of the full capture devices under the Capital Improvement Project list.

This Annual Report proposes a change from the in-channel trash netting systems to catch basin insert devices within the drainage areas that flow to Beardsley Wash/Revolon Slough. Funding for these devices will similarly be submitted for consideration with Measure O funding. Enhanced existing BMPs (e.g., more frequent street sweeping and channel and catch basin maintenance), as well as the actual removal of litter during monitoring, continue to be proposed as interim BMPs until the full capture devices are installed.

2.2 Trash Monitoring

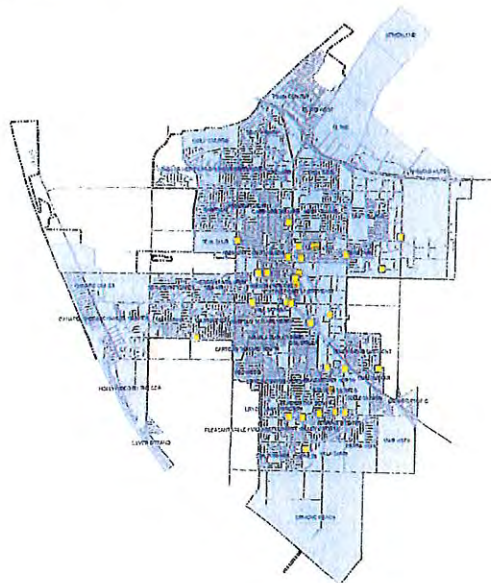
The Program proposed monitoring the three drains flowing to Revolon Slough / Beardsley Wash in a manner similar to the City Corps' Stormdrain Keeper Program. The CCWS monitoring would still utilize City Corps; however, instead of using manual data entry, City Corps crews were equipped with Blackberry Phones. The GPS-enable Blackberry phones and field checklist application were purchased by a grant supporting the use of new technology for municipal enterprise programs. The use of this technology is described in Section 3, Monitoring Methods.



These monitoring methodologies were moved upstream of the open channels this year when City Corps crews were engaged to perform the catch basin surveys and cleanings. Again, crews took GPS points for the catch basins, and a drop-down menu allowed them to quickly categorize percent trash, leaves, and sediment in the catch basin prior to maintenance.



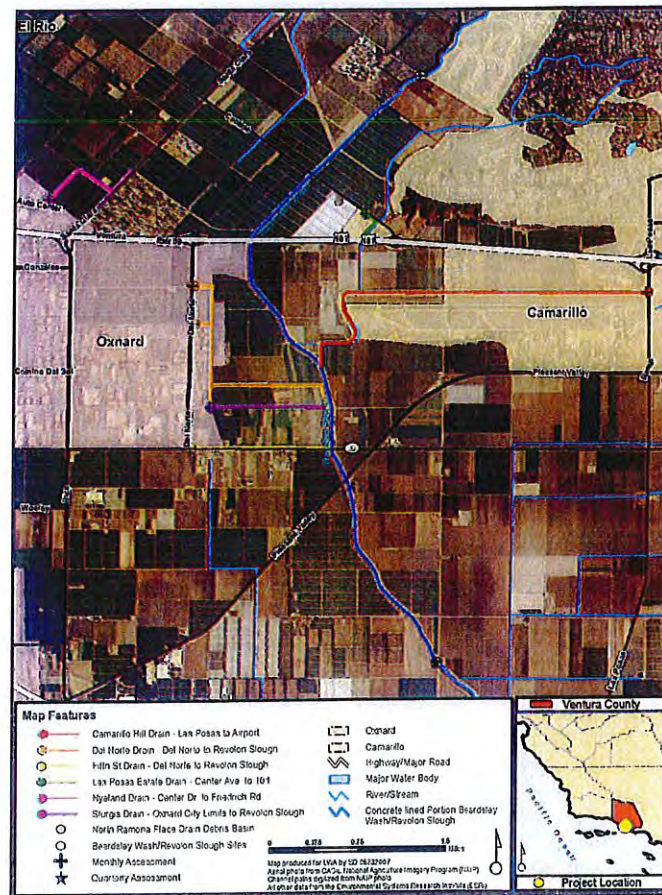
As shown on the map produced from the catch basin survey (below), there are no high priority catch basins (in yellow) within the Oxnard drainage areas tributary to Revolon Slough / Beardsley Wash.



Section 3

Monitoring Methods

Below is a map of the monitoring locations originally proposed by the stakeholders when considering TMDL implementation in the Beardsley Wash / Revolon Slough drains. The City of Oxnard proposed management measures and monitoring of the Nyeland Drain (pink), the Sturgis Drain (labeled Del Norte in the graphic and colored orange), and the 5th Street Drain (yellow).

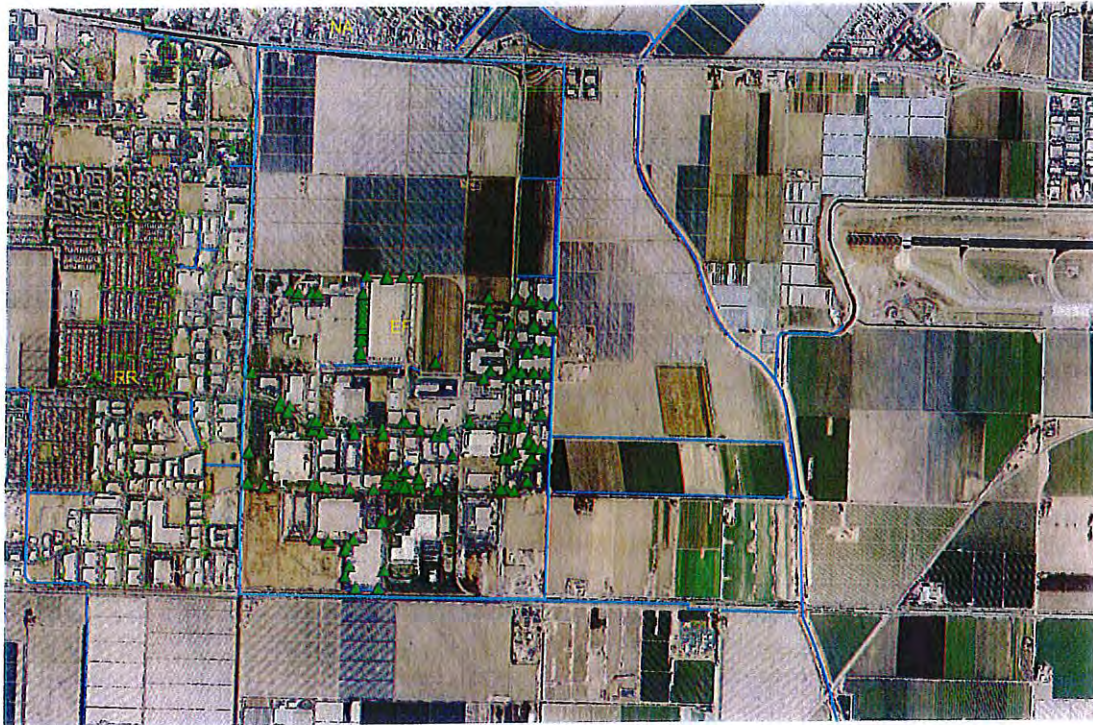


3.1 5th Street Drain

The 5th Street Drain, in the Project area, takes flows primarily from commercial and industrial areas of the City, including the Del Norte Recycling facility. These facilities installed various post-construction treatment devices when they were constructed, so many of the pollutants of concern have been eliminated. The open channel in the project area potentially receives runoff from 5th Street (State Highway 34), a Caltrans highway.

Downstream of the Oxnard city limit, other land uses include agriculture, oil and gas production, and state highway.

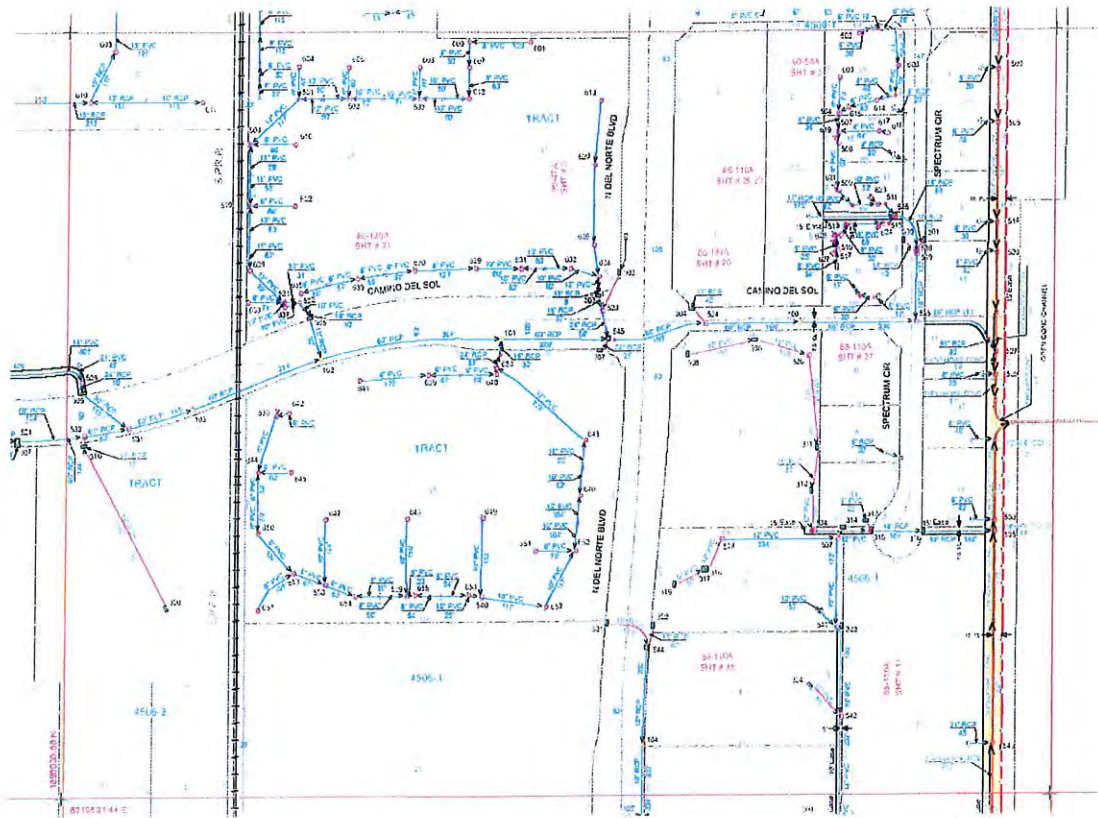
In the Trash Management and Monitoring Plan submitted by the City, a full-capture device was proposed for installation near the city limit; downstream of Oxnard MS4 input. Following discussions with Regional Board staff, an alternative full-capture strategy was suggested. City staff proposed that all of the catch basins that flow to the 5th Street and Sturgis drains (green triangles on the map below) are to receive catch basin inserts.



None of these catch basins are currently Priority A.

3.2 Sturgis Drain

The Sturgis Drain receives mixed flows from commercial / industrial and agricultural areas. The drainage area is shown below:



None of these catch basins are currently Priority A.

The originally proposed FreshCreek full-capture device would have captured the joined north/south flows of the channel as they transition to the east, and to Revolon Slough. The sub-drainage area is now proposed for catch basin inserts (see Section 3.1 above).

3.3 Nyeland Drain

The Nyeland Drain receives commercial / industrial flows before entering agricultural drainage areas. The Nyeland drainage area is shown below:



The originally proposed FreshCreek device would have captured the joined north-bound flows as they daylight. Catch basin inserts are now proposed, as noted in the map above

None of these catch basins are currently Priority A.

3.4 Trash & Debris Characterization

City Corps crews are provided with GPS-enabled Blackberry phones with a drop-down menu application by Freeance. This application mirror the forms previously used in channel trash studies, without the need to manually enter the data into a database program. Additionally, the City Corps crews have the opportunity to photograph unusual trash types, which become part of the database.



Real-time data is linked to desktop computers by the application and the BlackBerry server. An example screen shot for Nyeland Drain monitoring (teal) is shown below:



All monitoring data points are in yellow.

Section 4

Trash Data

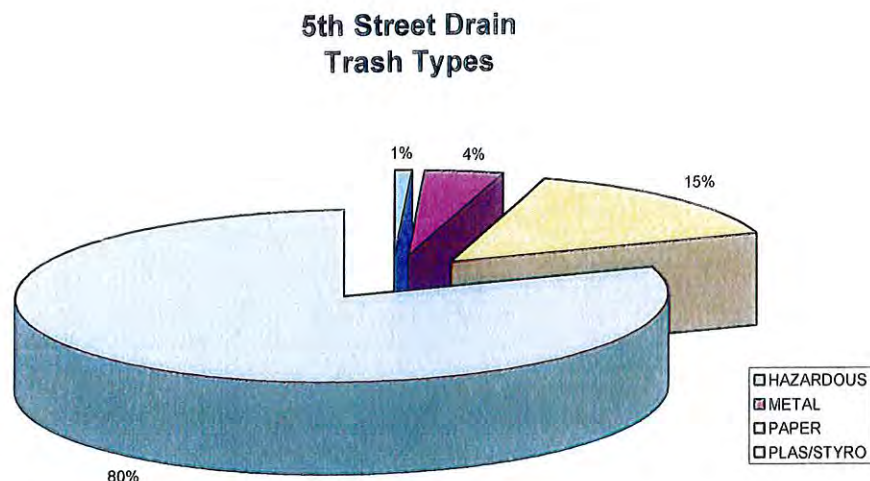
Trash data are incorporated into an ArcView GIS layer real-time as they are collected.

The data from the three drains may be exported to database programs for further analysis and submittal to the Regional Board. A description of the drain data collected and included in this annual report follow, and the truncated data sets are included in Attachments 1 through 3.

4.1 5th Street Drain

Test runs of the data collection and management program were performed on the 5th Street Drain. These test run data are part of the GIS layer, but are not included in the data analysis for this report. Additionally, trash removal efforts were made upstream of the city limit (Project) line, and these data points will be retained in the layer, but will not be part of the data analysis or reporting.

508 pieces of trash were recovered and tabulated in 2012. The relative percent of types of trash in the major categories is depicted below:



The full Data set is found in Attachment 1.

4.2 Sturgis Drain

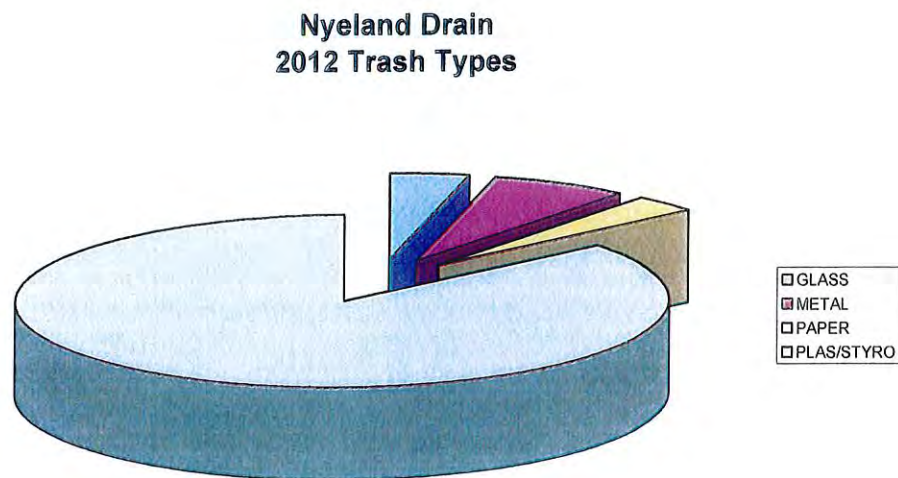
In 2012, Sturgis recorded only 10 pieces of trash, all plastic or Styrofoam.

The full Data set is found in Attachment 2.

4.3 Nyeland Drain

The Project area for Nyeland Drain extends from where the drain daylights north of Auto Center Drive to its juncture with Santa Clara Avenue.

264 pieces of trash were recovered and tabulated in 2012. The relative percent of types of trash in the major categories is depicted below:



Data for the 2012 calendar year are found in Attachment 3.

Section 5

Data Analysis and Recommendations

Monitoring for the Trash TMDL has been on-going since December 2009. All channels have been monitored three times this year. As discussed with Regional Board staff last year, the data are showing a greater than expected amount of wind-blown trash, with the highest percentages of trash removed being plastic and paper.

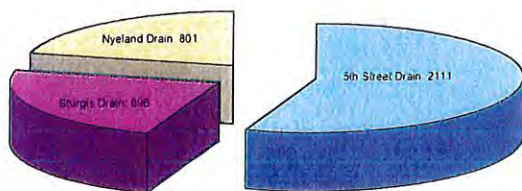
While we experienced less intense wind events in 2012, the trash observed continued to be predominately plastic and Styrofoam. It is clear from the fenced channel data, Sturgis Drain, that less overall trash is found when there is less exposure to wind. In addition to the trend analyses in Section 5.5 of this report, there are analyses of identifiable trash with possible sources, and a comparison of amounts found to the TMDL-required reductions in trash.

The data tend to confirm that the major pathway of trash entering the channels is overland by wind, and the data indicate that there are sporadic correlations between labeled trash and a local source.

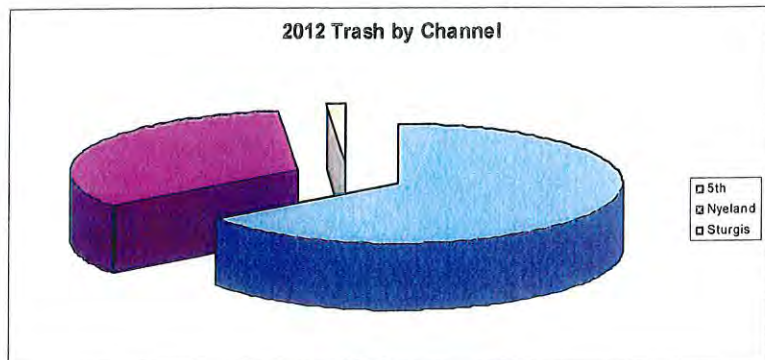
5.1 Observations

The largest numbers of trash were found in the 5th Street Drain. This is probably due to the large amount of vehicular traffic on the adjacent State Route 34 highway. 5th Street Drain had the closest percentages between plastic/Styrofoam and paper classes of trash, which may also indicate trash thrown or blown from vehicles. Below is a comparison between long-term trash numbers and 2012 trash collection numbers for the three channels.

Total Trash Found
2009-2012

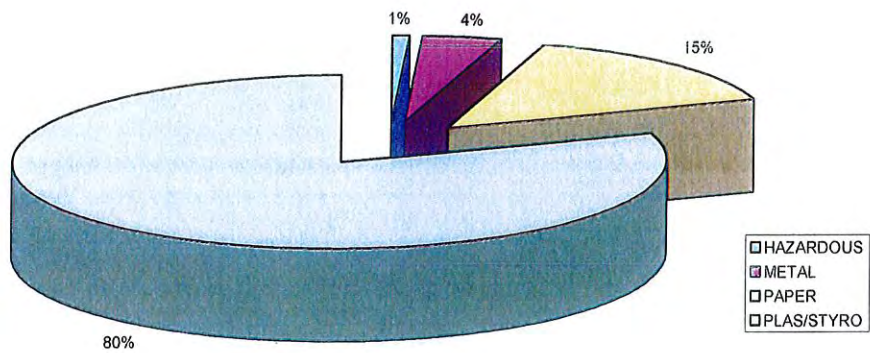


2012 Trash by Channel

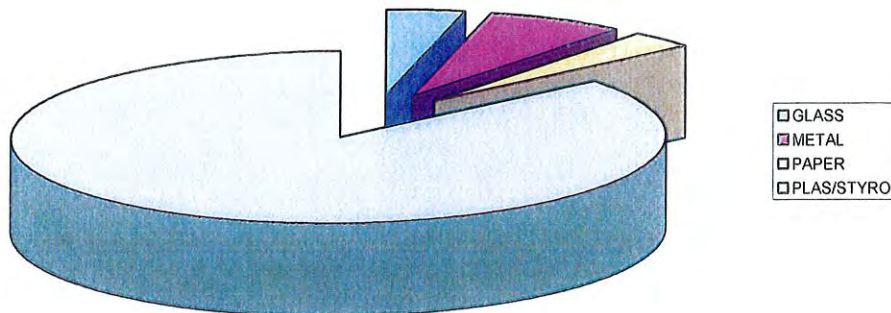


For the two channels that had trash types other than plastic and Styrofoam, the relative amounts of the major types of trash are shown below:

**5th Street Drain
Trash Types**



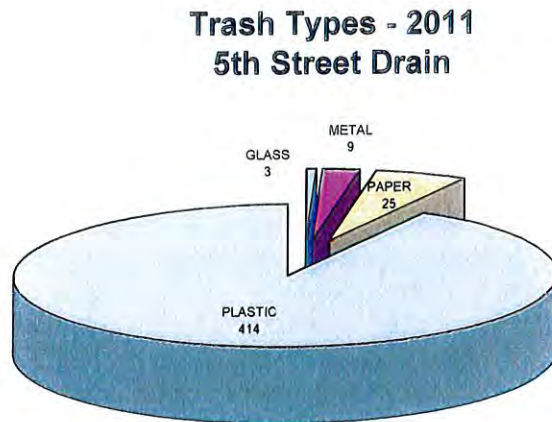
**Nyeland Drain
Trash Types**



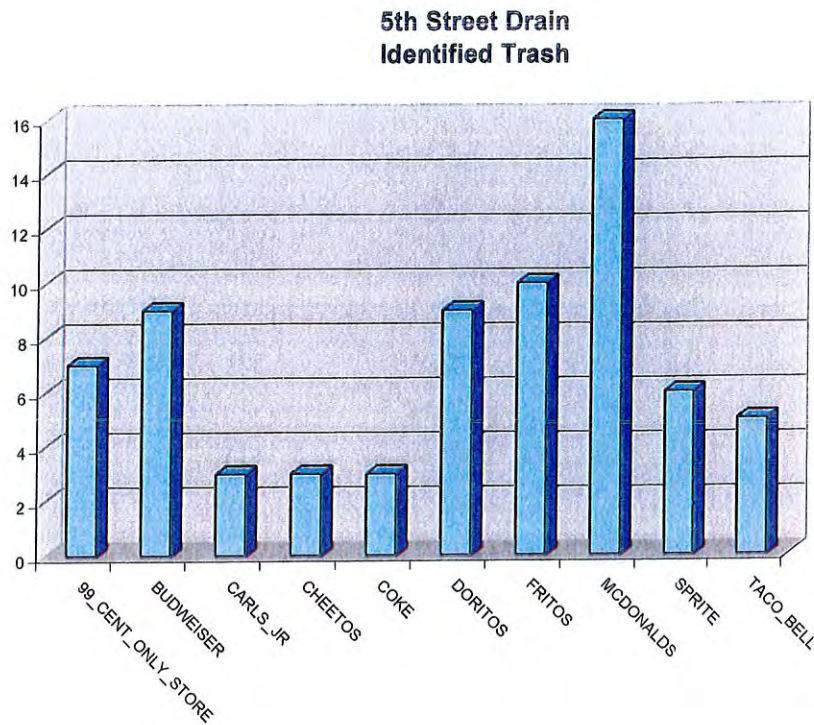
Due to the frequent high wind events in 2011, more frequent collection events were needed, again, mainly in the Fifth Street Drain. The winds of 2012 were of lesser frequency and magnitude, but still lead to a large volume of wind-blown trash, unrelated to rainfall events.

In the 5th, Nyeland, and Sturgis Drains, all other classes of trash were masked by the overwhelming amount of plastic/Styrofoam trash found. As previously discussed, the amount of trash in the 5th Street Drain was above the baseline, due to the extreme wind events of 2011. Similarly, the Nyeland Drain had quantities of trash roughly equal to last year's monitoring. These two drains have little or no fencing to protect the channel from wind-blown trash. In contrast, the Sturgis Drain, as it traverses the agricultural land on its way to the Revolon Slough, is closely bordered by fencing on both sides. It is difficult at this stage of the program to determine the sources of the wind-blown trash, as the high winds, usually predominantly Santa Anas, were blowing in both directions this year.

5.2 5th Street Drain



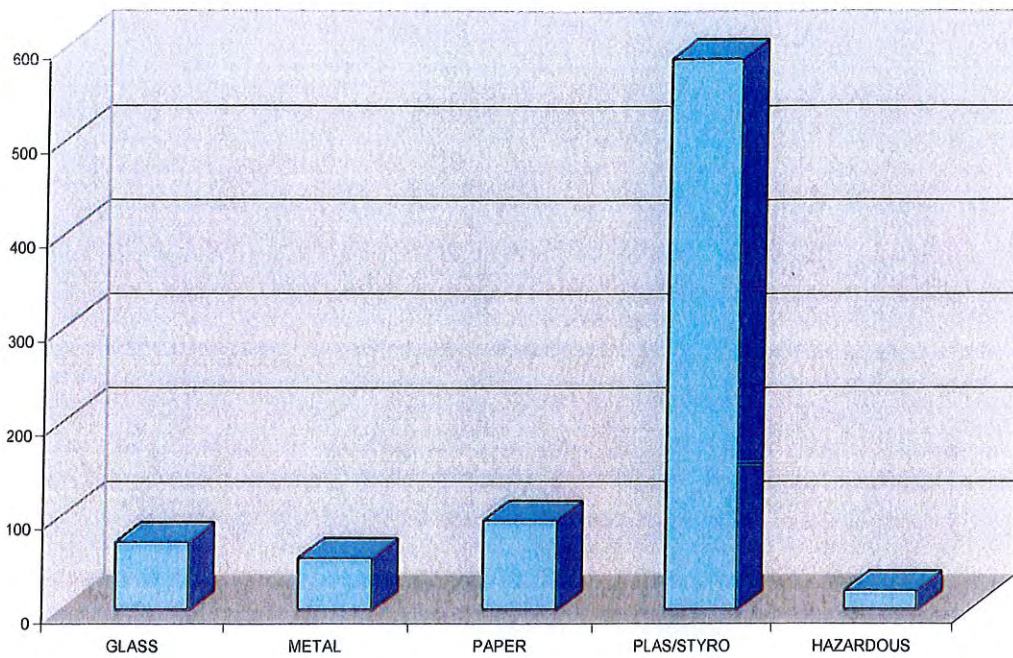
Discounting the Plastics category, 37 pieces of trash were found in the 5th Street Drain. Paper was the next most abundant trash type. Of the plastic and Styrofoam found, most were observed to be plastic pieces, consistent with a channel adjacent to a highway (State Route 34) with considerable vehicular traffic. The types of identifiable trash found are presented in the graphic below:



5.3 Sturgis Drain

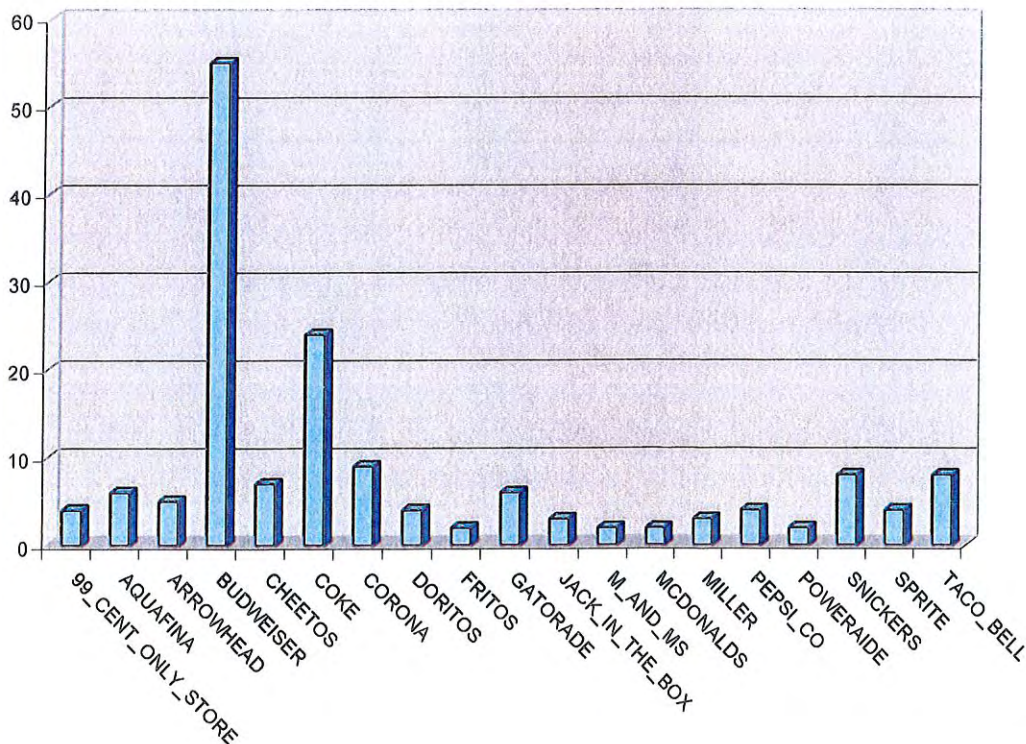
Sturgis Drain trash for 2012 consisted of 5 Styrofoam cups and 5 plastic pieces. Since the monitored section of channel is fenced, it is difficult to determine the source of these pieces. However, the Sturgis Drain is also monitored upstream of the study area. The upstream area is mixed commercial/industrial (fenced) and agricultural (partially fenced). The historical data show the same types of trash in approximately the same proportions:

Sturgis Drain Trash Types



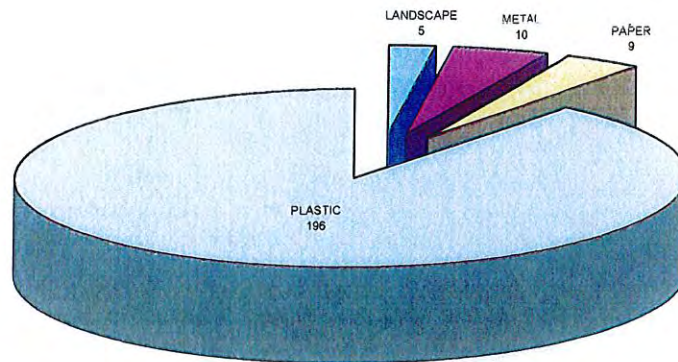
The identifiable pieces of trash are shown below. None of the fast food trash are from local establishments, which may indicate issues with trash management of the trucks or recycling facility in the area.

**Sturgis Drain
Trash Identifiers**



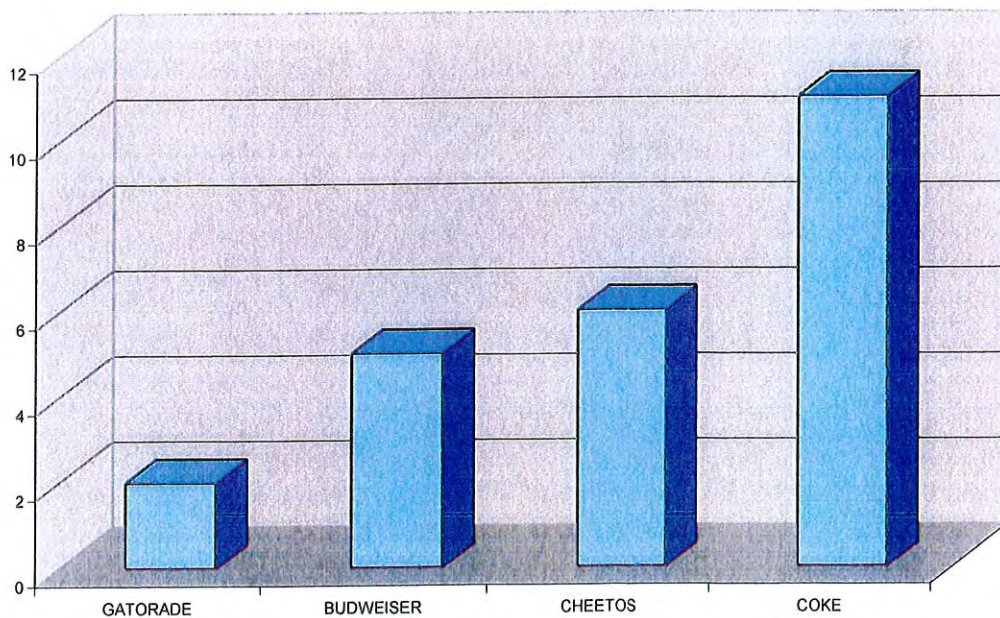
5.4 Nyeland Drain

**Trash Types - 2011
Nyeland Drain**



As with the 5th Street Drain, plastics were the dominant trash type, with the sub-types, shown in the graphic below - typical wind-blown items. Unlike 5th Street Drain, however, there are a relatively small number of trash pieces. Most of the plastic and Styrofoam trash found are indicative of fast food establishments and markets.

**Nyeland Drain
2012 Identified Trash**





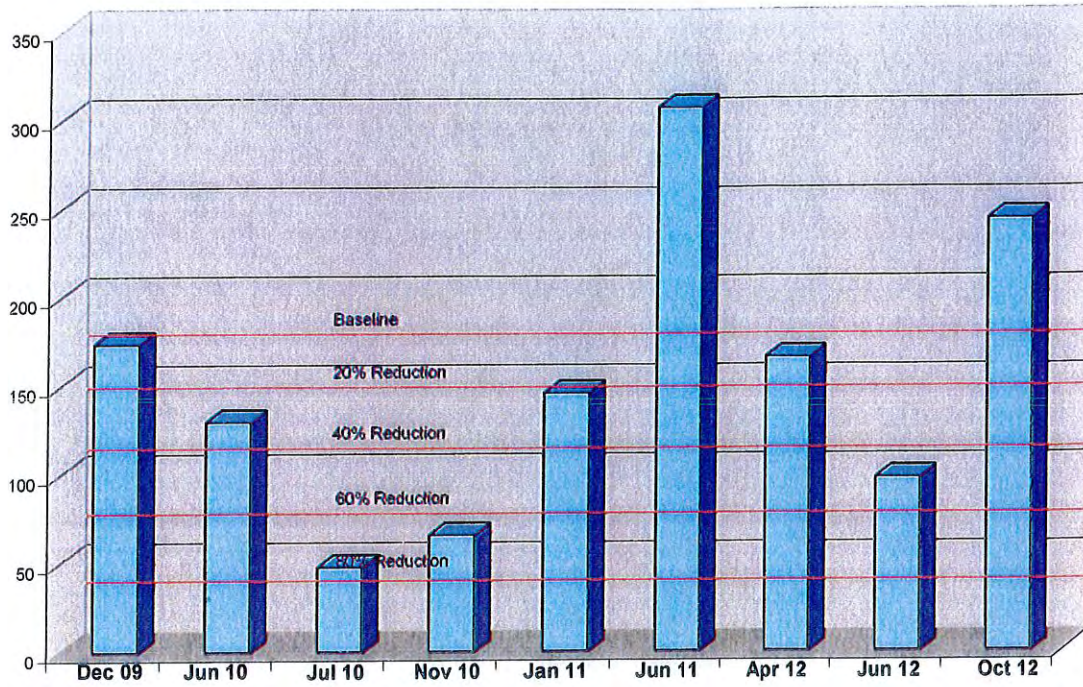
Food Establishments in the Nyeland Drain Basin

5.5 Comparison to Baseline

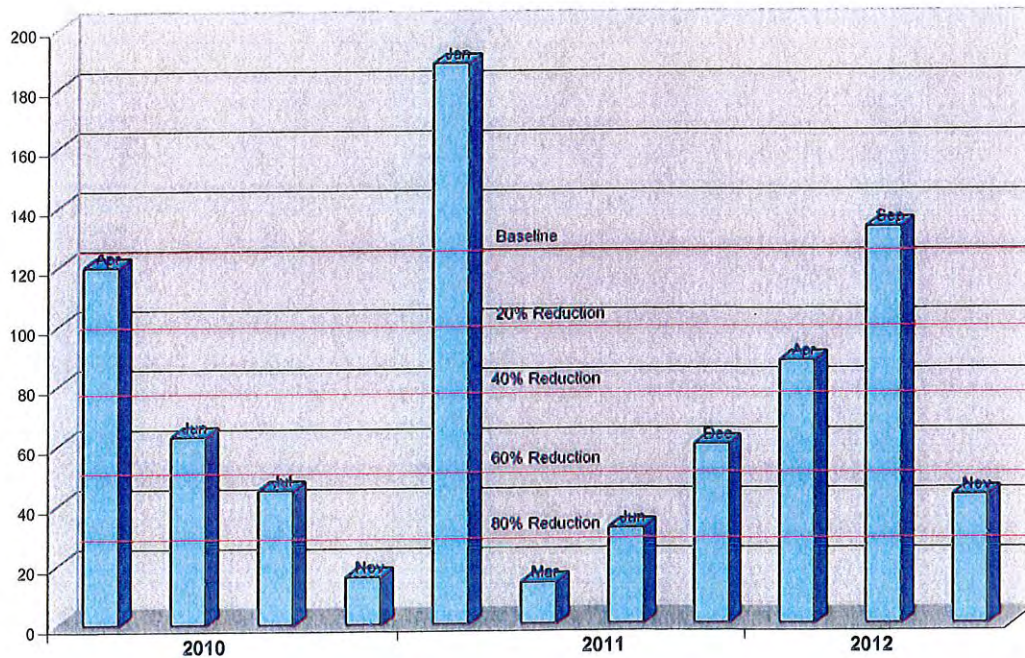
All three channel segments had three monitoring and removal events from December 2009 to December 2010. As hoped, the second event showed far less trash removed, with a further, smaller, reduction in trash removed during the final event. Eventually, we expected the number of pieces removed to stabilize to a true baseline, measuring enhanced BMP performance. It is against this baseline that we would like to compare pre- and post- full capture device results.

This has not been the case for the 5th Street and Nyeland Drains, as seen in the following total numbers of trash found graphics, by channel:

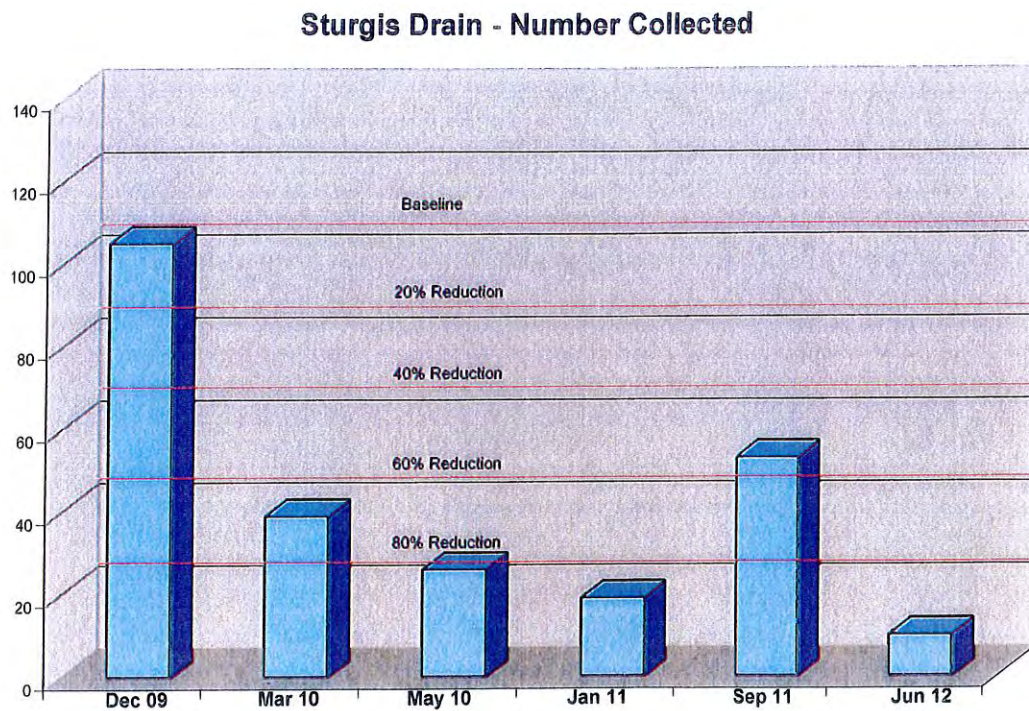
5th Street Drain - Number Collected



Nyeland Drain - Number Collected



Sturgis Drain retained its downward trend for the first monitoring event of the year; however, September's collection saw an increase in trash to a level greater than all but the baseline monitoring.



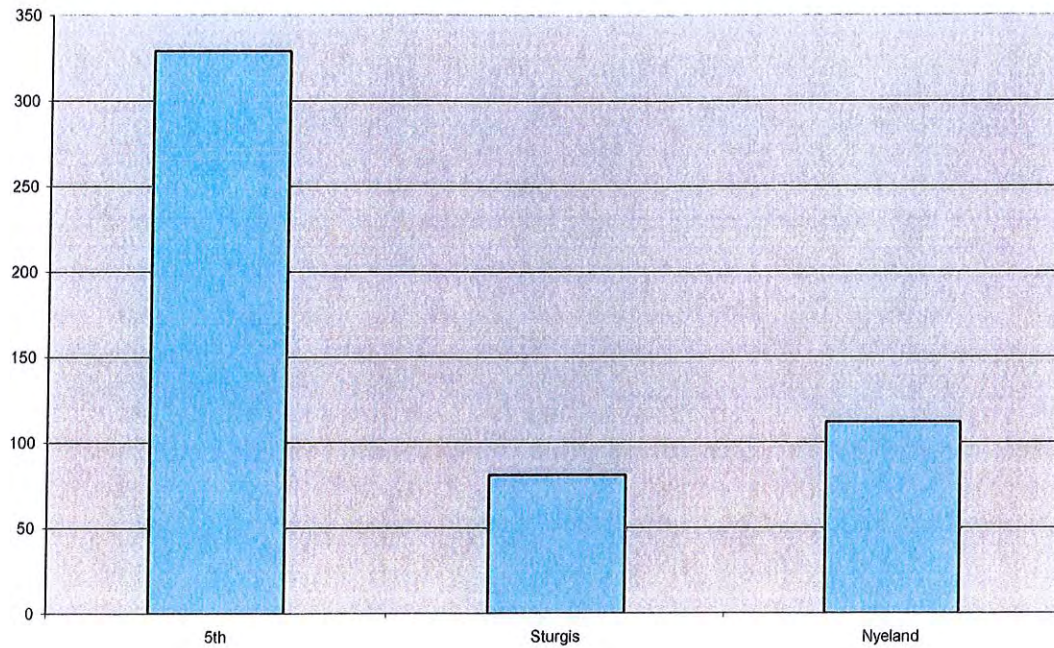
These data probably show the results of having a channel that is fenced along the entire length.

The City is still proposing full-capture devices for the catch basins in the drainage basins leading to Revolon Slough / Beardsley Wash. We will be sending in the request for full-capture certification based on the installation of the in-house manufactured device proposed and shown below:



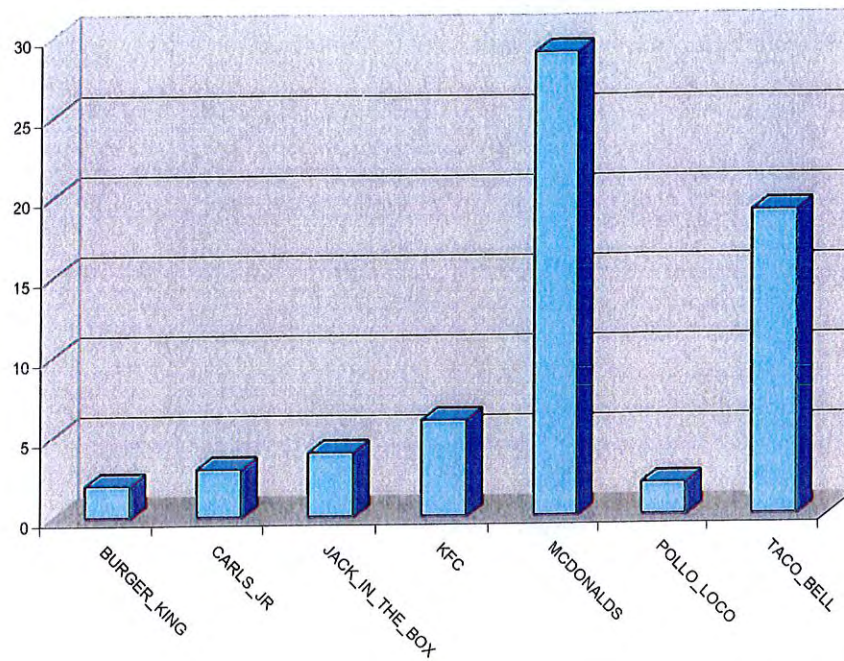
Additional trash management efforts include the regional bag-ban being spearheaded by BEACON (Beach Erosion Authority for Clean Oceans and Nourishment). This would address much of the wind-blown trash issues in the TMDL channels by addressing market plastic bags:

Plastic Grocery Bags

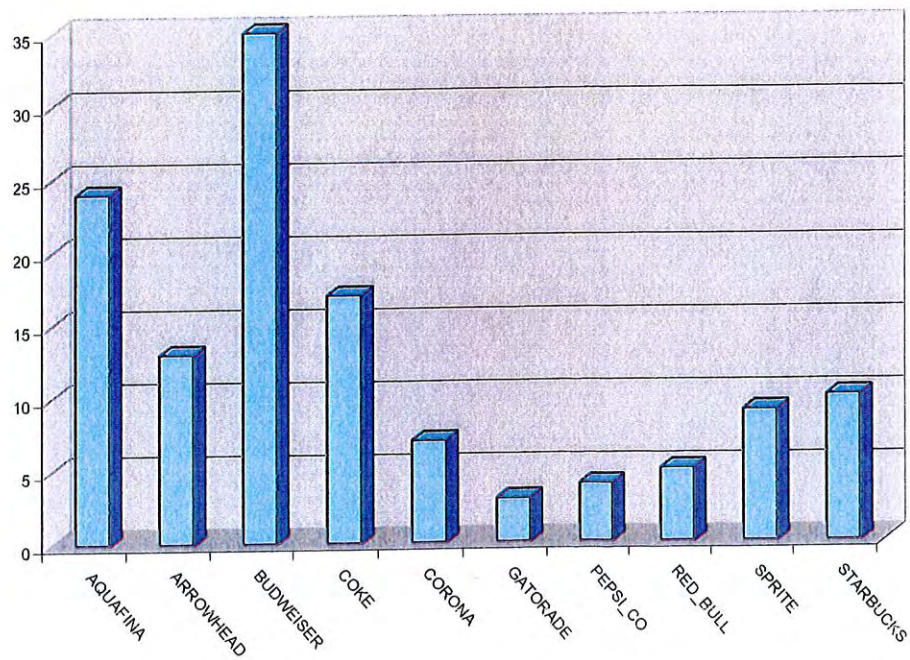


Current and future outreach will focus on trash from fast food and throw-away drink containers, and requiring enhanced parking lot trash maintenance programs. These trash numbers are shown on the following charts:

Fast Food Chart



Drinks Chart



IMPORTANT!

Super Bowl XLVII is causing delays in the New Orleans, LA area. [Learn More](#)

**800899873224**

Ship (P/U) date :
Thur 1/31/2013 4:27 pm
OXN US



Delivered
Signed for by: M.PINTO

Actual delivery :
Fri 2/01/2013 9:27 am
LOS, CA US

Travel History

Date/Time	Activity	Location
- 2/01/2013 - Friday		
9:27 am	Delivered	LOS, CA
8:37 am	On FedEx vehicle for delivery	LOS ANGELES, CA
7:39 am	Delivery exception Customer not available or business closed	LOS ANGELES, CA
7:00 am	On FedEx vehicle for delivery	LOS ANGELES, CA
5:54 am	At local FedEx facility	LOS ANGELES, CA
- 1/31/2013 - Thursday		
8:27 pm	At destination sort facility	LOS ANGELES, CA
7:02 pm	Left FedEx origin facility	OXNARD, CA
4:27 pm	Picked up	OXNARD, CA

Local Scan

Shipment Facts

Tracking number	800899873224	Service	FedEx First Overnight
Door tag number	DT103319593374	Delivered To	Receptionist/Front Desk
Shipper reference	TRANSTMDL REPORT	Packaging	FedEx Envelope
Special handling section	Deliver Weekday		

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