

2000-2002

BIENNIAL REPORT



WATERSHED MANAGEMENT DIVISION

NPDES

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## Section Background

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The Water Quality Section of Environmental Programs Division was one of the sections that was reassigned to WMD. This section is responsible for administering the compliance of the NPDES Permit requirements for the Flood Control District and oversees the NPDES



Permit compliance efforts of the other departments in the County of Los Angeles. The Section subsequently was renamed to NPDES Section. At that time, the 1996 NPDES Permit was about to expire, the Section along with other cities participated in the public review and commenting process of the 2001 NPDES Permit. The 2001 Permit was adopted on December 13, 2001, and became effective on February 1, 2002. In addition, the Section also participates in the development of the Federal Clean Water Act (CWA) Section 303d requirement for TMDLs.

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## Mission

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To ensure compliance with the requirements of the National Pollutant Discharge Elimination System (NPDES) permit through the development and implementation of programs that control storm water pollution and protect the beneficial uses of the Water Bodies of the State; assume the leadership role for Storm Water Quality Improvement in the County by proactively encouraging, supporting and participating in research and public education efforts aimed at stormwater quality improvements and stormwater pollution prevention.

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## Accomplishments

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- Preparation and submittal of the Report of Waste Discharge Permit requirement to the Regional Board and negotiating the 2001 NPDES Permit.
- Creation of the BMPs Task Force.
- Preparation of the Integrated Receiving Waters Quality Impacts Report.
- Preparation and adoption of the Standard Urban Stormwater Management (SUSMP) Manual.
- Completion of five shoreline Low Flow Diversions projects.
- Revision of the Manuals for the Stormwater Quality Management Plan (SQMP) for the 2001 NPDES Permit.
- Creation of a proposed Trash TMDL Implementation Workplan for Ballona Creek and Los Angeles River.
- Creation of a proposed TMDL Implementation Plan for the Santa Monica Bay shoreline dry and wet weather bacteria.
- Commencement of the Trash TMDL Baseline Monitoring (including installation of CDS units and Catch Basin Inserts in the Los Angeles River and Ballona Creek watersheds).
- Initiation of a countywide Treatment Feasibility study of storm drain dry flows, a peak flow impacts study for new developments, a BMP effectiveness study, and an estuaries sediment toxicity study.
- Preparation of the Annual Stormwater Monitoring Reports.
- Preparation of the Annual Program Reports.

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## Municipal Storm Water NPDES Permit (1996 and 2001)

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### History of the NPDES Permit

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The CWA was enacted in 1972 and was amended in 1987. It established requirements for stormwater discharges through the issuance of NPDES Permit. The NPDES Permit was issued by the State to municipalities. The Permit prohibits nonstormwater discharges into the stormwater system. The Permit is complied through application of BMPs to the Maximum Extent Practicable (MEP).

To date, there have been three NPDES permits issued to the Los Angeles County. The first Municipal Permit was issued in June 1990, the second was issued in July 1996, and the current Permit was issued in December 2001.

## 1996 NPDES Permit

Issued in July of 1996 by the Regional Board under Order No. 96-054, NPDES No. CAS614001, the 1996 Permit covered an area of approximately 3,100 square miles. The County of Los Angeles and 85 incorporated cities were the Permittees.

The 1996 NPDES Permit sought to implement a watershed management approach and divided the Los Angeles County into six Watershed Management Areas (WMAs). These WMAs were identified as:

1. Malibu Creek and Rural Santa Monica Bay
2. Ballona Creek and Urban Santa Monica Bay
3. Los Angeles River
4. San Gabriel River
5. Dominguez Channel/Los Angeles Harbor
6. Santa Clara River

The 1996 NPDES Permit contained a requirement for Permittees to develop and implement programs for stormwater management within Los Angeles County. Five "Model Programs" were developed to provide guidance for Permittees to implement their own programs in compliance with the Permit. The five Model Programs were:

1. Public Information and Participation Program (PIPP)
2. Development Construction
3. Development Planning
4. Public Agency Activities
5. Illicit Connections and Illicit Discharges

In addition, the County of Los Angeles, designated as the Principal Permittee, was required to develop a Stormwater Monitoring Program. The five model

programs, together with the Stormwater Monitoring element and the Program Reporting and Evaluation program made up the Stormwater Management Program (SWMP).

### Storm Water Monitoring Reports

The County of Los Angeles prepared and submitted to the Regional Board, annual stormwater quality reports on the results of the monitoring program, including an Integrated Receiving Waters Impact report.

### Executive Advisory Committee (EAC) and Watershed Management Committees (WMC)

An EAC and a WMC for each of the WMAs were formed. The EAC's main role was to facilitate programs within each watershed and to enhance consistency among all the programs. The WMC's role was to provide the leadership framework to facilitate development of the Watershed Management Area Plans and foster cooperation among Permittees.



## Special Studies

During the 1996 Permit, the County of Los Angeles conducted two pilot studies. **The Wide Channel Pilot Study** was performed to evaluate the accuracy of a single point water quality intake in representing the water quality in wide channels. The results showed that the water quality appears to be homogeneous across the channel and that the single point sampler at the bottom of the channel represents the water in the channel as a whole.

A second study was the **Low Flow Pilot Study**. The purpose of this study was to assess the feasibility of modifying the sampling equipment at land use stations to monitor storms as small as 0.1 inch of rainfall. The study concluded with the recommendation that all land use sites be monitored for storms 0.25 inch or greater.

## Geographical Information System (GIS) Pollutant Loading Model

The 1996 Permit required the County of Los Angeles to assess the pollutant loading from all six WMA following the 1998-99 storm season. To assist the County of Los Angeles in implementing this requirement, Public Works developed a GIS application called the Pollutant Loading Model.

This model computes the total pollutant loading for selected pollutants originating in user-defined watersheds or political boundaries. It draws upon many data sources, such as predetermined drainage sub-basins, land use, historical and event rainfall data, water quality monitoring station results, and many other underlying geographic data.

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## 2001 NPDES Permit

The current NPDES Permit was issued on December 13, 2001 by the Regional Board under Order No. 01-182, NPDES No. CAS004001. The Flood Control District, the County of Los Angeles and 84 incorporated cities were the listed Permittees. The City of Long Beach which was part of the 1996 NPDES Permit, received its own NPDES Permit in 1999 under order No. 99-060 and is, therefore, not part of the 2001 Permit.

The 2001 NPDES Permit is the third permit issued to Flood Control District and Los Angeles County. While some elements of the 2001 Permit are a continuation of the 1996 Permit, many more have requirements that are either new or are more stringent.

### Major changes from the 1996 NPDES Permit

The model programs that made the SWMP of the 1996 Permit were modified and became the SQMP.

These programs are:

1. Public Information and Participation
2. Industrial/Commercial Facilities Control
3. Development Planning
4. Development Construction
5. Public Agency Activities
6. Illicit Connections/Illicit Discharges (IC/ID)



Some of the major changes from the 1996 permit include:

**Revised Receiving Waters Limitations Language.**  
The 2001 Permit removed the 'Safe Harbor' language that was present in the 1996 Permit. Under the current Permit, discharges from the Municipal Separate Storm Sewer System (MS4) that cause or contribute to the violation of the Water Quality Standards or Water Quality objectives are prohibited, regardless of compliance with the SQMP.

**Incorporation of approved TMDLs into the Permit without a public hearing.**

**More stringent requirements in the 6 programs of the SQMP.**

**Requirement that Permittees conduct facility inspections which are the responsibility of the State.**

**Requirement that the Flood Control District develop numeric criteria to control storm peak flows from new development and redevelopment projects.**

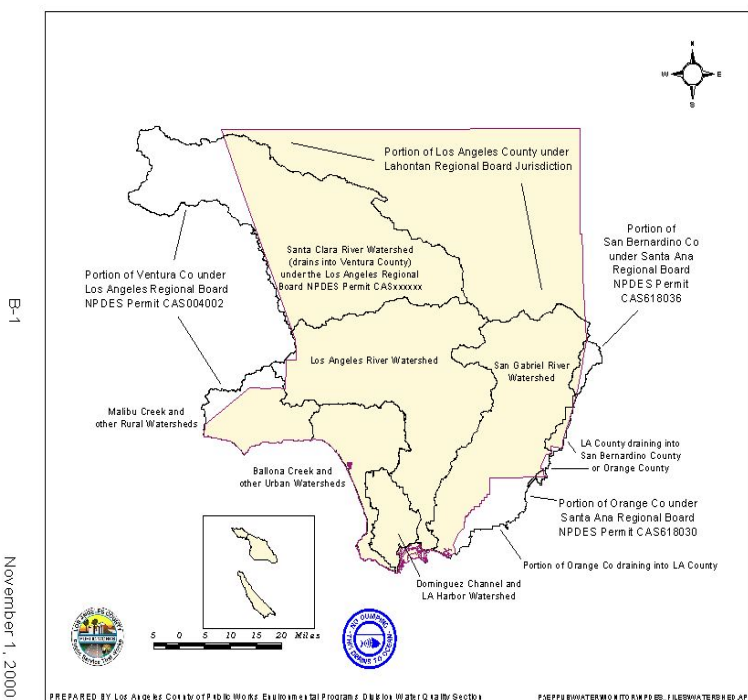
**Requirement to increase street sweeping and set new guidelines for classifying and cleaning catch basins.**

**Established deadlines for inspecting the storm drain system for illicit connections and for terminating illicit connections.**

**Eliminated the Land Use and Critical Source monitoring requirement that Permittees establish new monitoring requirements including: Tributary monitoring, water column toxicity monitoring, shoreline monitoring, trash monitoring, bioassessment analysis, new development impacts study, peak discharge impact study, and BMP effectiveness study.**

**The EAC is no longer mentioned in the Permit.**

**The six WMAs identified in the 1996 Permit are also identified in the 2001 Permit.**



B-1

November 1, 2000

Map of Los Angeles County Permitted Area

Los Angeles County Municipal Storm Water Permit  
Order No. 01-xxx

ATTACHMENT B  
MAP OF LOS ANGELES COUNTY PERMITTED AREA

CASxxxxx

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## Total Maximum Daily Load (TMDL)

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When the CWA was passed in 1972, it included Section 303, meant to serve as a safety net for the nation's impaired waters. The CWA's goal was for "fishable and swimmable" waters and called for all sewage treatment plants and industrial discharges to be brought up to a certain minimum standard. If these upgrades were accomplished and a water body was still impaired, the CWA required that all of the dischargers to the water body would have to improve the quality of their discharge beyond the minimum standard until the water body attained its acceptable use.

In California, the State's water quality is regulated by the nine semi-autonomous Regional Boards and the State Board under the Porter-Cologne Act and the delegated authority of the CWA. Each board assigns "beneficial uses" to each surface and groundwater body in its area of jurisdiction, choosing from a list of two dozen Beneficial Uses. Beneficial Uses range from drinking water supply to aquatic habitat to contact and non-contact recreation. The State and Regional Boards are required to monitor baseline conditions of all water bodies within the State, a process that has only just begun.



Controversy arises when a Regional Board claims a water body is impaired based on what could be sparse or old data, or when data is not used scientifically while other data is ignored. It is also possible that water bodies that are truly impaired may be overlooked.

If a Regional Board determines that a water body is not supporting its beneficial use, that water body makes its way onto the Federal 303(d) Impaired Water Bodies list. Once on the list, a plan, called a TMDL, is supposed to be developed with the goal of removing the water body's impairments. While Section 303(d), of the CWA has been in effect since 1972, only a few TMDLs had been developed across the Country up until the early 90's. It was not until the recent filing of third party lawsuits, brought against the U.S. Environmental Protection Agency (EPA) by citizen organizations, that identification of impaired water bodies and TMDL development intensified. To date, there have been more than 40 legal actions in at least 38 states, and EPA is under court order or consent decrees in many states to ensure that TMDLs are established, either by the state or by EPA. In California, there are 1,472 303 (d) listings involving 509 water bodies.

A TMDL plan specifies the maximum amount of a pollutant that a water body can receive and still meet water quality standards. In order to return an impaired water body to support its beneficial uses, the pollution above that maximum has to be "budgeted" by allocating it among the various dischargers to the water body. Typical dischargers include sewage treatment plants and industrial discharge. These types of discharges are commonly called "point source" discharges because their effluent can be said to discharge from a single pipe. Another type of effluent occurs when it rains. The discharge that flows out of storm drains, as the result of a storm, is commonly called a "nonpoint source" discharge because it runs off across the land surface and enters a water body at many points.

Pollution associated with each type of discharge can be different. If an impairment is due to the pollution discharged by a point source discharger, ammonia for instance, the point source discharger would have to modify its treatment process to reduce ammonia in the waste water. Nonpoint source pollution, pathogens for example, is harder to mitigate because its source is not yet fully understood, because with nonpoint source pollution, two extremely variable and unpredictable factors are at work: mother nature and human behavior. Nonetheless, TMDLs will require that mitigation of nonpoint source pollution must be accomplished.

One of the more palatable aspects of NPDES Municipal Stormwater permits is the fact that, to date, there have been no numerical standards imposed on stormwater and nonpoint source dis-



charges. Instead, compliance has been based on the timely implementation of numerous BMPs that are enumerated or developed in each Permit. BMPs are commonly prefabricated proprietary devices, like oil-water separators; specially designed applications, such as vegetated runoff conveyances; or programs such as public education believed to improve runoff quality by their construction or execution. The alternative to BMP implementation requirements is for a stormwater Permit to dictate that runoff shall not have more than so many milligrams per liter of a constituent. Most stormwater Permittees agree that implementation-based regulations are easier to swallow than nu-

merical water quality limits; however, the TMDL limitations that are on the horizon worry the nonpoint source dischargers because TMDLs will impose numerical limits on a substance that is almost beyond control. Another fear, among growth-friendly governments, is that the setting of point source and nonpoint source discharge limits will now inhibit plans for future development.

As of August, 2002, the following TMDLs have been approved or are under development for water bodies in the Los Angeles County:

- Santa Clara River: Chloride, Nutrients
- Santa Monica Bay Beaches: Dry Weather Bacteria, Wet Weather Bacteria

- Los Angeles River: Trash
- Ballona Creek: Trash
- San Gabriel River, East Fork: Trash
- Marina del Rey: Bacteria, Organics, Metals
- Malibu: Bacteria, Nutrients

## Task Forces and Committees

Numerous committees and task forces have been established to support the many agencies and stakeholders who have interests and responsibilities in the Municipal Stormwater Permit, TMDLs, and related matters. These committees include:

### Watershed Management Committees

Each of the 6 major WMAs within the Municipal Permit area (Malibu Creek and adjacent rural areas, Ballona Creek and adjacent urban areas, Dominguez Channel and Los Angeles Harbor, Los Angeles River, San Gabriel River, and Santa Clara River) is organized into a Watershed Management Committee comprised of a representative from the Flood Control District and each city within that watershed. Each WMC is required to meet at least quarterly under the 2001 Permit; however, Malibu Creek and Ballona Creek. WMCs have elected to meet monthly. The Flood Control District serves as the chair and/or secretary for the Dominguez, Los Angeles, San Gabriel, and Santa Clara WMCs.

### Watershed Advisory Committees

Section staff acts as water quality liaison with the nonpermit related watershed committees supported by the Division.

### BMP Task Force

Public Works formed and supports a voluntary committee comprised of stakeholders interested in stormwater BMPs. Public Works designed and sponsors a web page for the Task Force: [www.BMPLA.org](http://www.BMPLA.org).

### BMP Task Force Mission Statement

The mission of the BMP Task Force is to be an ongoing forum to facilitate the selection, implementation and financing of effective BMPs through: data gath-



Installation of catch basin insert to prevent debris entering into

ering, analysis, and exchange; stakeholder coordination; and outreach.

### Other Ongoing and Ad Hoc Committees

Section staff also serve on committees that were formed either by Public Works or other agencies for special purposes, such as:

- Santa Monica Bay Restoration Project TAC Committee
- Southern California Stormwater Monitoring Coalition
- Grant application committees formed by various stakeholders to apply for water quality improvement grants
- Bight 2003 Regional Monitoring Steering Committee



Installation of storm drain insert device to treat storm water

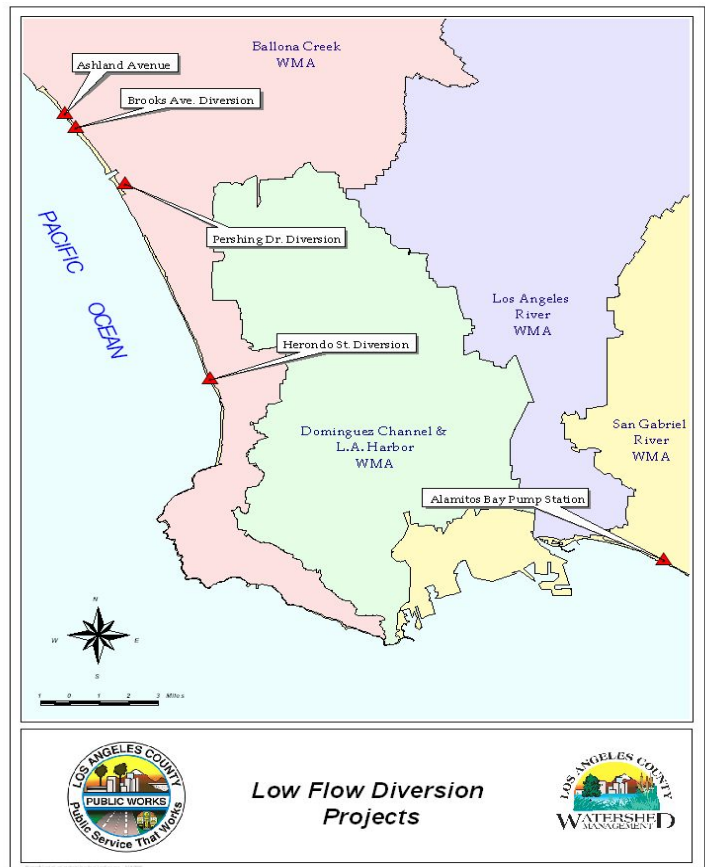
## Low Flow Diversions

A new type of water quality device, designed, constructed, and maintained by Public Works, began operating at numerous shoreline locations stretching from Santa Monica to Long Beach. These underground "low-flow-diversions" re-route residual summer flows from the storm drains to sewage treatment plants where bacteria and other pollutants are removed.

Five diversion projects were constructed on drains which previously discharged to popular beaches during the summer. The diversions are located at Redondo Beach, Alamitos Bay in Long Beach, Playa Del Rey, Venice Beach, and Ocean Park in Santa Monica. Some modifications are still underway at a couple of these sites to improve design efficiency. Collectively, the five diversions remove over one million gallons of bacteria-laden runoff each week and have already been the subject of praise from the press and local leaders.

At a cost of approximately \$400,000 each, much of it funded by grants, the diversions are an effective and inconspicuous method to improve water quality. Because the diversions are built underground, they do not mar the aesthetics of the beach - an important factor for recreation and tourism.

The systems work during summer months when there are still residual storm drain flows, much of which is highly polluted. These residual flows come from groundwater infiltration, overwatering lawns, hosing off driveways, washing cars in the street, and other activities. Runoff mixes with litter, motor oil, cigarette butts, fertilizer/pesticides, and animal droppings. The resulting bacteria-laden soup creates health risks for swimmers, harms marine life, and causes beach closures.



During storm season, diversions are shut down to preserve capacity at sewage treatment plants. A rain gage shutoff is also used to deal with unexpected storm events. For the rest of the year, however, all storm drain flows are routed to the sewage treatment plant and away from beachgoers.

Although these projects are highly effective, they are just one element in the County's overall water quality enhancement effort. The most critical item is to educate the public that stormwater pollution is everyone's responsibility. The diversions remove a percentage of contaminants in specific areas, however, the ultimate solution is for all residents and businesses to minimize the amount of pollution from entering our storm drains.

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# Standard Urban Storm Water Mitigation Plan (SUSMP) Manual

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In March, 2000, the Regional Board established requirements for a SUSMP to be implemented on priority development and redevelopment projects. The requirements call for the incorporation of BMPs during the project planning phase. Permittees then had until September 8, 2000, to create or amend local ordinances. Implementation would then begin on October 8, 2000. An appeal by Permittees to the State Board postponed the actual implementation until February 15, 2001.

The SUSMP manual was written by a committee of city representatives under the direction of WMD. The purpose of the manual is to provide technical guidance to the development and engineering commu-

nities in the design of BMPs. These BMPs are designed into the project during the planning phase and are meant to treat or recharge runoff from up to the first 3/4 inch of rainfall. The manual includes tables and charts for calculating treatment flow rates and volumes, as well as design criteria for various types of structural BMP devices.

Development Planning for  
Storm Water Management



September 2002

A Manual for the Standard Urban Storm  
Water Mitigation Plan (SUSMP)

Los Angeles County Department of Public Works



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## Lessons Learned

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The Section cannot over-emphasize the value of stakeholder involvement. The Permittee cities feel especially vulnerable, and often look to the County for guidance. If anything, in some instances, coordination outside of Public Works has been more successful than coordination within Public Works. Some divisions are still learning the significance of the Municipal Stormwater Permit.

One particularly successful coordination effort occurred with the quarterly meetings of neighboring

principal stormwater Permittees, such as Ventura County and the City of Long Beach. This enables WMD to stay abreast of Permit activities in other municipalities and it becomes valuable information when WMD is involved with the Regional Board on the terms of the Stormwater Permit.

The process from applying to adopting the current Stormwater Permit took about 18 months. It is recommended that the County start preparing the Report of Waste Discharge as soon as possible.



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## Future

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This Section sees the future Municipal Stormwater Permit, due for renewal in 2006, to be possibly six separate permits—one for each major watershed. To accommodate this change, WMD will have to readjust. Probably one readjustment would be to assimilate some of the duties and activities of the current NPDES Section into the other watershed sections.

More TMDL requirements will also be mandated. Within the next 10 years, we expect to see at least 37 more TMDLs assigned to various water bodies within Los Angeles County. The development and

implementation of each TMDL will be of great importance to WMD and Public Works as a whole. The TMDL requirements are strong arguments for reorganizing the Division to incorporate NPDES duties within each watershed section. Enormous funds will be required to comply with these TMDLs.

In March 2003, Phase II Municipal Stormwater Permit requirements will take effect in the Los Angeles County's unincorporated areas of Antelope Valley. Similar, but less stringent than the Phase I Municipal Stormwater Permit, the Phase II Permit will also require ongoing compliance and funding.

