

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 2000 - 054

APPROVAL OF AN AMENDMENT TO THE WATER QUALITY
CONTROL PLAN FOR THE LOS ANGELES REGION
INCORPORATING A TOTAL MAXIMUM DAILY LOAD FOR
TRASH FOR THE EAST FORK OF THE SAN GABRIEL RIVER

WHEREAS

The California Regional Water Quality Control Board, Los Angeles Region (LARWQCB), adopted a revised Water Quality Control Plan for the Los Angeles Region (Basin Plan) on June 13, 1994, which was approved by the State Water Resources Control Board (SWRCB) on November 17, 1994 and by the Office of Administrative Law (OAL) on February 23, 1995.

2. On October 28, 1999 the LARWQCB adopted Resolution No. 99-15 (Attachment A) amending the Basin Plan by establishing a Total Maximum Daily Load (TMDL) for trash for the East Fork of the San Gabriel River (Trash TMDL). On May 25, 2000, the LARWQCB adopted Resolution No. 00-10 (Attachment B), which revised the TMDL implementation dates contained within Resolution No. 99-15.
3. The SWRCB finds that the Trash TMDL is in conformance with the requirements for TMDL development specified in Section 303(e) of the Federal Clean Water Act (CWA) and SWRCB Resolution No. 68-16 (Statement of Policy with Respect to Maintaining High Quality of Waters in California).
4. The LARWQCB staff prepared documents and followed procedures satisfying environmental documentation requirements in accordance with the California Environmental Quality Act and other State laws and regulations.
5. The SWRCB will work with the California Department of Fish and Game to ensure that threatened or endangered species are protected, pursuant to Fish and Game Code Section 2055.
6. A Basin Plan amendment does not become effective until approved by the SWRCB and until the regulatory provisions are approved by OAL and the U.S. Environmental Protection Agency (USEPA).

THEREFORE BE IT RESOLVED THAT:

The SWRCB:

Approves LARWQCB Resolution No. 99-15, as amended by LARWQCB Resolution No. 00-10, which amends the Water Quality Plan for the Los Angeles Region with the following understandings:

- (a) Under existing law, the numeric target of "no trash in the river" is established in order to generate load allocations for the TMDL in order to bring the water body into compliance with water quality standards.
 - (b) Under existing law, the LARWQCB can take enforcement action, consistent with this TMDL, for actual or threatened trash discharges to the East Fork San Gabriel River that violate applicable water quality standards for trash. The applicable standards contain narrative objectives prohibiting floating, solid, suspended or settleable materials in the receiving waters in concentrations that cause nuisance or adversely affect beneficial uses. In addition, the LARWQCB can take enforcement action if the USFS fails to submit the TMDL Implementation Plan or fails to conduct the monitoring required under this TMDL.
2. Authorizes staff to submit the regulatory provisions of LARWQCB Resolution No. 99-15, as amended by LARWQCB Resolution No. 00-10, to OAL for approval.
 3. Authorizes staff to submit LARWQCB Resolution No. 99-15, as amended by LARWQCB Resolution No. 00-10, to U.S. EPA for approval, upon approval by OAL.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on June 15, 2000.


Maureen Marché
Administrative Assistant to the Board

State of California
California Regional Water Quality Control Board, Los Angeles Region

RESOLUTION NO. 00-010

**Amendment to the Water Quality Control Plan for the Los Angeles Region
to Incorporate the Trash Total Maximum Daily Load (TMDL) for the East Fork of
the San Gabriel River**

**WHEREAS, the California Regional Water Quality Control Board, Los Angeles
Region (hereinafter Regional Board), finds that:**

1. The Federal Clean Water Act (CWA) requires the Regional Board to develop Total Maximum Daily Loads (TMDLs) for each impaired water body found within its region. Specifically, Section 303(d)(1)(A) of the Clean Water Act requires that: "Each state shall identify those waters within its boundaries for which the effluent limitations . . . that are not stringent enough to implement any water quality standard applicable to such waters."
2. The East Fork of the San Gabriel River (East Fork) is located in the Angeles National Forest, Los Angeles County, California. It is located about three miles north of the City of Azusa and is one of the few pristine forests with such close proximity to a highly urbanized area. This has resulted in very heavy recreational use of this area.
3. The Regional Board determined that the level of trash in the East Fork exceeded the existing Water Quality Standards (WQS) necessary to protect the beneficial uses of the river. This determination was made after periodic field surveys conducted by Regional Board staff. Based upon Regional Board staff findings, the East Fork was listed on California's Draft 1996 Clean Water Act (CWA) Section 303(d) list as water quality impaired due to trash.
4. Upon establishment of the TMDL, the Regional Board is required to incorporate the regulatory elements of the TMDL, along with the appropriate implementation measures, into the Regional Board's Water Quality Control Plan, often referred to as "Basin Plan" (40 CFR 130.6(c)(1), 130.7).
5. On October 28, 1999, the Los Angeles Regional Water Quality Control Board adopted Resolution No. R99-15, "Amendment to the Water Quality Control Plan for the Los Angeles Region to Incorporate a Total Maximum Daily Load (TMDL) for the East Fork San Gabriel River."
6. Resolution No. R99-15 was submitted to the State Board on February 9, 2000 for approval. Extensive review by staff for technical, policy, and legal consistency considerations followed. Based on the State Board review and comments, revisions were made in regards to TMDL implementation dates.

ATTACHMENT

East Fork San Gabriel River

Trash TMDL

May 25, 2000

**California Regional Water Quality Control Board
Los Angeles Region
320 West Fourth Street
Los Angeles, California 90013**

Executive Summary

This TMDL addresses impairment of the East Fork of the San Gabriel River due to trash deposition and litter. The East Fork is located about three miles north of the City of Azusa and is under the jurisdiction of the United States Forest Service. The following are the key elements of this TMDL.

Problem Statement: There are four main areas in the East Fork, which are desirable to day users. Almost 8000 people visit these four informal picnic areas, a total of 39 acres, each day during the summer. Most of these visitors have large picnics and barbecue parties that generate over 400 32-gallon bags of trash each day, according to Forest Service estimates. Half of this trash is left in the streambed and river terrace area as litter. The Forest Service conducts daily trash sweeps and collects and removes approximately 200 32-gallon bags of uncontained trash from the area each weekend day. Areas in the East Fork other than these four informal picnic areas do not experience the same type of use and therefore are not sources of impairment to the river. The large number of visitors, their style of picnics, the lack of developed campsites, and the limited staff of the Forest Service contribute to the impairment of the river by trash.

Numeric Target: This TMDL establishes a target of zero trash in the river. Most of the trash observed was found in the river terrace area, and not in the river itself.

Source Analysis: It is litter deposition by the large number of users during peak summer months that cause the impairment. Because the popular picnic areas are not formal picnic sites there are no convenient trash receptacles. Because of this fact and the difficult access to these areas, only half of the trash is disposed of properly. The remainder is left scattered throughout the river terrace.

Load Allocation: The sum of all load allocations equals the TMDL. In this TMDL, there is only one "discharger", the United States Forest Service (USFS). Therefore, the load allocation assigned to Forest Service is zero trash.

Linkage: The large volume of trash deposited in the river terrace areas presents a significant threat of impairment. This TMDL proposes to eliminate trash in the river, and through Best Management Practices, reduce the threat of impairment to the river from litter.

Margin of Safety: The numeric target of zero leaves a significant margin of safety. This is the most conservative approach, as the narrative objectives for trash in the river may allow for some amount as long as it does not cause nuisance or beneficial use impairment.

Seasonal Variation: The peak use of this area, and thus most of the trash deposition, occurs during the warm months of the year. This is generally June through September.

Implementation: Implementation of this TMDL includes management practices designed to prevent deposition of litter in the four informal picnic areas. These may include placing "no litter" signs throughout the area, adding more trash receptacles, conducting more frequent trash sweeps, and having full time staff patrol the area and advise users of litter laws and direct them to the nearest trash receptacles. A monitoring program conducted by the Forest Service will serve to evaluate the effectiveness of the TMDL. The Regional Board will closely monitor the progress of the TMDL implementation.

The USFS's observations and those conducted in the field by the Los Angeles County Department of Public Works (Wood, 1998) in July 1998 indicate that litter deposition in the river terrace areas (between the summer low flow channel and the steep banks of the historic flood channel) of the East Fork is focused on the four flat (heavily used) areas that are adjacent to the East Fork Road. Regional Board staff has confirmed these findings. The following areas are the main source of trash in the East Fork San Gabriel River (see Figure 1):

The flats downstream of Follows Camp: Approximately 16 acres located about 2.6 miles east of Highway 39.

2. Oak Park vicinity: Approximately 9 acres located about 4.8 miles east of Highway 39.
3. Eldoradoville vicinity: Approximately 5 acres located around the confluence of East Fork with Cattle Canyon Creek, about 6 miles east of Highway 39.
4. Coyote Flats: Approximately 9 acres located near the East Fork Ranger Station, about 6.5 miles east of Highway 39.

The instream areas (i.e., watercourse) consists primarily of rock, sand and boulders. Downstream of Coyote Flats, the stream contains deep pools that seem to be formed by recreational dredging activities. DPW's observations indicate that these pools, when vacated by the dredgers, are spots where swimmers like to congregate (Wood, 1998). Visitors also build small dams with rocks to create swimming holes throughout the area.

Instream areas have flows throughout the year, although the flow rates vary. Flows are highest during the winter and early spring and lowest during the summer and early autumn (the primary recreation season). Although the DPW no longer measures flows in the East Fork, records at a stream flow gauging station the County formerly operated near Follows Camp indicate summer flow ranges from 2 cubic feet per second to over 100 cubic feet per second (DPW, 1987 and 1988). Instream areas contain riparian vegetation, including trees and dense mulefat. Areas where this vegetation provides shade appear to be the preferred locations for campers and picnickers.

The watershed of the East Fork is mostly undeveloped. Developed areas consist of the USFS's East Fork Fire Station and Oak Camp, privately owned camping grounds (Camp Williams and Follows Camp), and a few private residences. The East Fork Road is a paved thoroughfare that leads to the East Fork Station (about 6.5 miles from Highway 39). This road provides large numbers of recreational users relatively easy access to the East Fork area. Access from the roadside to the instream area consists mostly of very rough, steep dirt footpaths. However, an unpaved fire road provides access from the East Fork Station parking lot to Coyote Flats. At the flats located downstream of Follows Camp (about 2.6 miles east of Highway 39) access from the roadside consists of steep dirt footpaths, an unpaved fire road, and the Follows Camp access road.

Observations of USFS, DPW, and the Regional Board indicate that the majority of the recreational visitors are concentrated in the four main areas identified above. The four areas range in size from 5 acres to 16 acres. These areas are selected by users because of the large flat areas they provide in close proximity to the water. None of the four areas are improved. Because of forest density, access, and other factors, other areas of the East Fork are less desirable for picnics. As these are not formal picnic areas, there is an insufficient number of trash receptacles provided by the USFS. However, because these visitors leave such a large amount of

litter behind at the end of the day, the USFS must go in and remove it on a daily basis during the peak picnic season. On a typical weekend day during the summer, about 7,500 people can be found in the four informal picnic areas, which encompasses a total of about 39 acres.

DPW's observations did not encounter deposition of litter in the Camp Williams and Follows Camp facilities, which are privately owned and operated. DPW's observations indicate the Camp Williams and Follows Camp facilities are constantly supervised and patrolled by their owners and their employees. The owners provide campers with flyers stating their rules, which include prohibitions against littering. Those private campsites do not have the same problem with litter as the public lands next door.

Primary recreational activities occurring in these four informal campsites consist of picnicking, swimming and wading. DPW's and the Regional Board's observations indicate that the picnics occurring in these areas are the same as typical backyard barbecues, including the actual use of backyard barbecues (e.g., kettles, cart-type) transported by the visitors to the river terrace area. Once the picnics are over, the hot charcoals are usually dumped into or along the side of the river. Such picnics use a great deal of disposable material and thus produce large amounts of trash. The swimming and wading activities create a potential for direct deposition into the flowing part of the river. Picnicking occurs on the river terrace. It is the litter deposited in this area that causes the threat to water quality in the East Fork. A small amount of litter was observed in the river itself, however the current is swift so it is difficult to determine historic deposition into the stream. The large threat to the river results from the volume of litter left in the informal picnic areas adjacent to it.

According to USFS observations and those of the DPW, the trash deposited in the river terrace areas consists mostly of: paper products (i.e. napkins, plates, boxes; containers for 12-packs) toys, plastic products (i.e. cups, grocery bags, beverage containers, six-pack rings, utensils, chip bags, candy wrappers), glass products (i.e. beverage containers, often broken) and Styrofoam products (i.e. cups, plates, broken ice chests). Another significant litter component is disposable diapers. Diapers may present a particularly large threat to water quality and public health from pathogens should they be left in the river. Other items observed include barbecue coals, metal products (i.e. cans, (beverage and food), broken beach chairs, and barbecue grills), clothing items (i.e. shoes), food remnants (i.e. bones, rinds and husks) and carpet fragments. These items are typical by-products of picnicking and swimming or wading activities.

Litter was not observed outside of these four areas. This is most likely due to the difference in the type of usage that occurs in other areas of the East Fork. There seems to be a strong "Pack It In, Pack It Out" ethic among hikers and recreational dredgers who are found in other areas of the East Fork year round. Due to this apparent difference in usage and behavior, the less accessible areas of the East Fork do not have a litter problem.

There are a number of specific factors that contribute to the litter problem on the East Fork:

1. Unbagged or Inadequately Bagged Trash

Almost no retail garbage bags were noticed during the DPW's observations. Most of the trash found at the picnic/camping sites was unbagged (merely piled) or bagged in flimsy plastic grocery bags. As a result, the trash is easily exposed to wind or scavenging animals. Corporate sponsors regularly donate a large number of sturdy plastic trash bags (32-gallon). USFS personnel, its contractors (Eco-teams) and volunteers distribute these bags throughout the four informal picnic areas each weekend during the summer, if bags are available.

Table 1: Uncontained Trash Collected at Each Site (In 32-Gallon Plastic Bags)

Location	Avg./Weekend Day
Total	222
Coyote Flats	28
Eldoradoville Vicinity	53
Oak Park Vicinity	74
d/s of Follows Camp	67

Numeric Target

Water quality standards for the East Fork of the San Gabriel River are comprised of the designated beneficial uses of the water and the water quality objectives designed to protect those beneficial uses and are found in Los Angeles Regional Board Water Quality Control Plan (Basin Plan, 1994). The beneficial uses (existing and potential) for the East Fork of the San Gabriel River are:

Municipal water supply (MUN), ground water recharge, water contact recreation (REC-1), non-contact water recreation (REC-2), warm freshwater habitat (WARM), cold freshwater habitat (COLD), wildlife habitat (WILD), rare, threatened, or endangered species (RARE), spawning, reproduction, and/or early development (SPWN), and wetland habitat (WET).

The beneficial uses that are potentially impacted by litter are listed in Table 2 below. Trash can impact the beneficial uses in a variety of ways. Trash is an aesthetic nuisance to swimmers and waders, and non-contact users such as hikers. Trash can also impact wildlife through ingestion or strangulation. Some trash may also release other toxic or biologically detrimental pollutants into the stream. Charcoal and used diapers in the river can result in human health impacts.

Table 2: Summary of Beneficial Uses Addressed in the East Fork San Gabriel River TMDL (Los Angeles Regional Board, 1994)

Beneficial Water Uses	Potential or Existing	Description
Water contact recreation	Existing	Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, or use of natural hot springs.
Non-contact water recreation	Existing	Uses of water for recreational activities involving proximity to water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking,

Table 3: Regional Board Basin Plan Water Quality Objectives

Water Quality Objective	Definition
Floating Material	<i>Waters shall not contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</i>
Solid, Suspended, or Settleable Material	<i>Waters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses.</i>

The Numeric Target established for the East Fork by this TMDL, based upon an interpretation of the above water quality objectives, is *zero trash in the river*.

Source Analysis

The Source Analysis for the East Fork relies on past reports prepared by the U.S. Forest Service, discussions with San Gabriel River Ranger District staff in June 1998 and DPW's recent field observations of July 3-5 and 17-19, 1998.

The primary source of trash in the East Fork comes from recreational use involving picnicking. Most of the picnicking activity occurs primarily on the weekends and holidays during warm weather months. The USFS reports (Simcox, 1989; Chavez, 1993) indicate, and the DPW's observations confirm, that the average size of a picnic group is about eight people, usually families. DPW's observations reveal that about half of a typical group consists of children. Due to the great numbers of children among the picnickers, one significant litter component is disposable diapers. Diapers are a significant threat to public health and water quality. Because picnickers engage in swimming and wading in the adjacent stream, picnic sites are chosen for their proximity to the water (Simcox, 1989; Chavez, 1993). As a result, another litter component is clothing, primarily shoes.

The USFS' observations and those conducted in the field by DPW (Wood, 1998) in July, 1998, indicate that litter deposition in the river terrace areas (between the summer low flow channel and the steep banks of the historic flood channel) of the East Fork is focused on the four, flat, heavily used areas that are adjacent to the East Fork Road. The following areas are the main source of trash in the East Fork San Gabriel River (see Figure 1):

1. The flats downstream of Follows Camp: Approximately 16 acres located about 2.6 miles east of Highway 39.
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The instream area (i.e., watercourse) consists primarily of rock, sand and boulders. Downstream of Coyote Flats the stream contains deep pools that seem to be formed by recreational dredging activities, which are regulated by the U.S. Forest Service (USFS) by means of dredging permits.

Load Allocation

By definition, the sum of the Load Allocation(s) is equivalent to the Total Maximum Daily Load. The TMDL for trash in the East Fork San Gabriel River is no trash in the river. While the USFS is not the only landowner in the area of the East Fork, it is the only party responsible for the areas of the East Fork where beneficial uses are impaired. Furthermore, the only source causing the impairment of the East Fork is on USFS owned property. In order to achieve the numeric target established by this TMDL, the load allocation for the USFS and any other discharger of litter into the East Fork is zero. Currently the USFS has been able to prevent 50 percent of the trash that is generated in the area from being deposited on the ground.

Linkage

To meet the numeric target of no trash in the river, the amount of litter deposited in the river terrace area must be significantly reduced. If the amount of litter adjacent to the river in each of the four problem areas is reduced, there will be less opportunity for trash to migrate, from wind, rain, or animals, into the river. Currently the daily volume of litter collected from the river terraces of the four informal picnic areas combined, measured in 32-gallon garbage bags, is approximately 200 during the peak use days. The target of no trash in the river must be achieved and maintained year round. The only way to demonstrate attainment of the numeric target is through monitoring results, as prescribed below.

Margin of Safety

A Margin of Safety is a required element in a TMDL and can be either implicit or explicit. The magnitude of the Margin of Safety is based on the level of uncertainty associated with the development of the TMDL. The largest area of uncertainty in this TMDL is regarding the amount of litter that causes an impairment of recreational and aquatic life beneficial uses. To address this uncertainty the target has been conservatively set at no trash in the river.

Seasonal Variation

The numeric target of zero trash applies year round; however, the four areas that constitute the problem areas of the East Fork are mainly used during the weekends of warm weather months. The area has year-round users, such as hikers and campers, however, it is during the summer season when litter deposition becomes a problem. The largest number of users visit from June through September. As mentioned above, it is the large number of users and the style of recreation that impairs the East Fork. During the off peak months of winter and fall, litter deposition is negligible. This fact provides for flexibility in the magnitude and frequency of some implementation measures selected to achieve this standard in winter months.

Implementation

Responsible Agency

The East Fork is located within the jurisdiction of the United States Forest Service. As the public entity responsible for lands in and around the East Fork of the San Gabriel River, the USFS has a fiduciary responsibility to preserve and maintain the East Fork. It is also the duty of the USFS to

county codes, citing the largest possible penalty amount. These signs should also be placed near the river terrace and roadside receptacles at each of the four informal picnic areas.

6. Enforce existing anti-litter laws. Personnel with authority to issue citations for litter law violations should increase patrolling in the area during peak use periods.

The Implementation Plan shall evaluate the need for additional measures to protect water quality. At a minimum this shall include the following:

The need, feasibility, and practicability of a prohibition of glass containers in the East Fork area.

2. Options for the disposal of hot charcoal, to prevent the deposition of charcoal in the stream.

Measures necessary to eliminate the improper disposal of used diapers.

Monitoring

Monitoring is an essential part of any TMDL. In order to ensure that the numeric target of this TMDL is being met, monitoring for trash in the river is necessary. Monitoring results will indicate the effectiveness of litter reduction measures in reducing the level of trash in the water. The U.S. Forest Service must conduct monitoring at locations downstream of each of the four informal recreational areas. During the peak usage months of June through September, monitoring shall be conducted downstream of one of the four sites each week. Using a rotating schedule for monitoring will result in each picnic area being monitored at least once each month during the peak period. Monitoring may be conducted every other month during the rest of the year. Monitoring will not only include sampling for trash flowing downstream of each of the four areas, but also visual observations of the river terrace areas. Sampling must be conducted in a manner that will measure both floatables and "bedload" trash. The USFS staff should conduct visual observations during their public education visits. Standard data sheets should be developed for recording observed trash levels.

Monitoring and sampling results must be maintained by the USFS to document progress in implementing this TMDL. An annual short-term study of trash in the river shall be conducted by the USFS. This shall be done by setting up trash collection nets in the river for a period of four days. One study per year shall be conducted during a holiday weekend (Friday through Monday), during the summer months. One four-day study during the wet season (October through May) shall also be conducted.

The USFS shall comply and submit to the Regional Board the results of monitoring on a monthly basis. The reports are due by the 15th day of the month following the collection of data.

The USFS and the Regional Board will use the monitoring and sampling data to evaluate the effectiveness of the BMPs implemented by the USFS. If the numeric target of zero trash is not being achieved after implementation of the above BMPs, modification to existing BMPs and/or additional BMPs must be developed.

**Proposed Amendments
to the
Water Quality Control Plan - Los Angeles Region
for the
San Gabriel River (East Fork) Trash TMDL**

Proposed for adoption by the California Regional Water Quality Control Board, Los Angeles Region on October 28, 1999.

Amendments:

Table of Contents

Add:

Chapter 7. TMDLs (Total Maximum Daily Loads)*

Introduction

Legal Basis and Authority

TMDL Components

Organization of Chapter

TMDL Summaries

San Gabriel River (East Fork) Trash TMDL

List of Figures, Tables and Inserts

Add:

Chapter 7. TMDLs (Total Maximum Daily Loads)

Tables

7-1 TMDL Summaries

Chapter 3. Water Quality Objectives

Regional Objectives for Inland Surface Waters

Floating Material

3-9

A third paragraph will be added under Floating Material referencing specific guidelines for the San Gabriel River (East Fork). Additional narrative to read: "See additional regulatory guidelines described under the San Gabriel River (East Fork) Trash Total Maximum Daily Load (Chapter 7)."

* Underlined text indicates the actual language to be added to existing Basin Plan text.

1991). A TMDL is defined as "the sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background" (40 CFR 130.2). Regulations further stipulate that TMDLs must be set at "levels necessary to attain and maintain the applicable narrative and numeric water quality standards with seasonal variations and a margin of safety that takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality" (40 CFR 130.7(c)(1)). The regulations in 40 CFR 130.7 also state that TMDLs shall take into account critical conditions for stream flow, loading and water quality parameters.

Upon establishment of TMDLs by the State or USEPA, the State is required to incorporate the TMDLs along with appropriate implementation measures into the State Water Quality Management Plan (40 CFR 130.6(c)(1), 130.7). This Water Quality Control Plan for the Los Angeles Region (Basin Plan), and applicable statewide plans, serve as the State Water Quality Management Plans governing the watersheds under the jurisdiction of the RWQCB.

Before approval by USEPA or incorporation into the Basin Plan, TMDLs must be subject to public review (40 CFR 130.7). Public review requirements for Basin Plan Amendments are described in Chapter 1 of this document.

TMDL Components

TMDLs include the following technical components, which provide the analytical basis for the TMDLs.

- **Problem Statement:** A description of the waterbody/watershed setting, beneficial use impairments, and pollutants or stressors causing the impairment.
- **Numeric Targets:** For each stressor addressed in the TMDL, appropriate measurable indicators and associated numeric targets based on numeric or narrative water quality standards, which express the target or desired condition for the existing or potential beneficial uses.
- **Source Analysis:** An assessment of relative contributions of pollutant or stressor sources to the waterbody and the extent of needed discharge reductions or controls.
- **Loading Capacity/Seasonal Variations and Critical Conditions/Linkage Analysis:** The loading capacity is an estimate of the assimilative capacity of the waterbody for the pollutant of concern taking into account seasonal variations and critical conditions. The linkage analysis describes the analytical basis for concluding that the load allocations along with the margin of safety will not exceed the loading capacity of the waterbody.
- **Load Allocations/Margin of Safety:** The allocation of allowable loads or load reductions among different sources, providing an adequate margin of safety. These allocations are usually expressed as waste load allocations for point sources, load allocations for nonpoint sources, and contributions from

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Table 7-1 TMDL Summaries

Watershed	Reach	Pollutant
<i>San Gabriel River</i>	<i>East Fork</i>	<i>Trash</i>
Element	Derivation of Numbers	
<i>Problem Statement</i>	High recreational use of the river results in trash being deposited in and along the stream, posing a threat to water quality.	
<i>Water Quality Objective</i>	Waters shall not contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. Water shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses.	
<i>Numeric Target</i>	No trash in the river	
<i>Source Analysis</i>	Picnicking and camping are the primary sources of trash.	
<i>Responsible Party</i>	U.S. Forest Service	
<i>Load Allocations</i>	Zero trash discharged to the river.	
<i>Margin of Safety</i>	Implicit Margin of Safety based on conservative interpretation of narrative standard	
<i>Seasonal Variations and Critical Conditions</i>	Peak recreational usage is June through September based on Forest Service, Regional Board and Los Angeles County Department of Public Works field observations.	
<i>Implementation Measures</i>	The USFS shall submit a "TMDL Implementation Plan" within 60 days of the effective date of this amendment. The Plan shall include a detailed discussion of litter control measures to be	

State of California
California Regional Water Quality Control Board, Los Angeles Region

RESOLUTION NO. R 99-15

**Amendment to the Water Quality Control Plan for the Los Angeles Region
To Incorporate a Total Maximum Daily Load (TMDL) for the East Fork San
Gabriel River**

WHEREAS, the California Regional Water Quality Control Board, Los Angeles Region (hereinafter Regional Board), finds that:

- 1 The Federal Clean Water Act (CWA) requires the Regional Board to develop Total Maximum Daily Loads (TMDLs) for each impaired water body found within its region. Specifically, section 303(d)(1)(A) of the Clean Water Act requires that: "Each state shall identify those waters within its boundaries for which the effluent limitations...that are not stringent enough to implement any water quality standard applicable to such waters."
- 2 The East Fork of the San Gabriel River (East Fork) is located in the Angeles National Forest, Los Angeles County, California. It is located about three miles north of the City of Azusa and is one of the few pristine forests with such close proximity to a highly urbanized area. This has resulted in very heavy recreational use of this area.
- 3 The Regional Board determined that the level of trash in the East Fork exceeded the existing Water Quality Standards (WQS) necessary to protect the beneficial uses of the river. This determination was made after periodic field surveys conducted by Regional Board staff. Based upon Regional Board staff findings, the East Fork was listed on California's Draft 1996 Clean Water Act (CWA) Section 303(d) list as water quality impaired due to trash.
- 4 As part of an agreement between the Los Angeles County Department of Public Works (DPW) and the Regional Board regarding Waste Discharge Requirements for the San Gabriel Canyon Sediment Management Plan, DPW agreed to initiate development of a TMDL. A draft TMDL was completed in August 1998. The Regional Board held a public workshop on April 13, 1999 to solicit public comments on the TMDL.
- 5 In response to comments, Regional Board staff prepared a revised draft TMDL. This revised draft was mailed out for public comments on August 2, 1999.
- 6 After receiving comments on the August 2, 1999 draft, Regional Board staff revised the TMDL. This TMDL incorporates elements that address the statutory and regulatory requirements for a TMDL along with needed documentation of the basis for the TMDL. These elements include: an assessment of the pollutant problems and

East Fork San Gabriel River

Litter TMDL

October 28, 1999

**California Regional Water Quality Control Board
Los Angeles Region
320 West Fourth Street
Los Angeles, California 90013**

Executive Summary

This TMDL addresses impairment of the East Fork of the San Gabriel River due to trash deposition and litter. The East Fork is located about three miles north of the City of Azusa and is under the jurisdiction of the United States Forest Service. The following are the key elements of this TMDL.

Problem Statement: There are four main areas in the East Fork, which are desirable to day users. Almost 8000 people visit these four informal picnic areas, a total of 39 acres, each day during the summer. Most of these visitors have large picnics and barbecue parties that generate over 400 32-gallon bags of trash each day, according to Forest Service estimates. Half of this trash is left in the streambed and river terrace area as litter. The Forest Service conducts daily trash sweeps and collects and removes approximately 200 32-gallon bags of uncontained trash from the area each weekend day. Areas in the East Fork other than these four informal picnic areas do not experience the same type of use and therefore are not sources of impairment to the river. The large number of visitors, their style of picnics, the lack of developed campsites, and the limited staff of the Forest Service contribute to the impairment of the river by trash.

Numeric Target: This TMDL establishes a target of zero trash in the river. Most of the trash observed was found in the river terrace area, and not in the river itself.

Source Analysis: It is litter deposition by the large number of users during peak summer months that cause the impairment. Because the popular picnic areas are not formal picnic sites there are no convenient trash receptacles. Because of this fact and the difficult access to these areas, only half of the trash is disposed of properly. The remainder is left scattered throughout the river terrace.

Load Allocation: The sum of all load allocations equals the TMDL. In this TMDL, there is only one "discharger", the United States Forest Service (USFS). Therefore, the load allocation assigned to Forest Service is zero trash.

Linkage: The large volume of trash deposited in the river terrace areas presents a significant threat of impairment. This TMDL proposes to eliminate trash in the river, and through Best Management Practices, reduce the threat of impairment to the river from litter.

Margin of Safety: The numeric target of zero leaves a significant margin of safety. This is the most conservative approach, as the narrative objectives for trash in the river may allow for some amount as long as it does not cause nuisance or beneficial use impairment.

Seasonal Variation: The peak use of this area, and thus most of the trash deposition, occurs during the warm months of the year. This is generally June through September.

Implementation: Implementation of this TMDL includes management practices designed to prevent deposition of litter in the four informal picnic areas. These include placing "no litter" signs throughout the area, adding more trash receptacles, conducting more frequent trash sweeps, and having full time staff patrol the area and advise users of litter laws and direct them to the nearest trash receptacles. A monitoring program conducted by the Forest Service will serve to evaluate the effectiveness of the TMDL. The Regional Board will closely monitor the progress of the TMDL implementation.

The USFS's observations and those conducted in the field by the Los Angeles County Department of Public Works (Wood, 1998) in July 1998 indicate that litter deposition in the river terrace areas (between the summer low flow channel and the steep banks of the historic flood channel) of the East Fork is focused on the four flat (heavily used) areas that are adjacent to the East Fork Road. Regional Board staff has confirmed these findings. The following areas are the main source of trash in the East Fork San Gabriel River (see Figure 1):

1. The flats downstream of Follows Camp: Approximately 16 acres located about 2.6 miles east of Highway 39.
2. Oak Park vicinity: Approximately 9 acres located about 4.8 miles east of Highway 39
3. Eldoradoville vicinity: Approximately 5 acres located around the confluence of East Fork with Cattle Canyon Creek, about 6 miles east of Highway 39.
4. Coyote Flats: Approximately 9 acres located near the East Fork Ranger Station, about 6.5 miles east of Highway 39.

The instream areas (i.e., watercourse) consists primarily of rock, sand and boulders. Downstream of Coyote Flats, the stream contains deep pools that seem to be formed by recreational dredging activities. DPW's observations indicate that these pools, when vacated by the dredgers, are spots where swimmers like to congregate (Wood, 1998). Visitors also build small dams with rocks to create swimming holes throughout the area.

Instream areas have flows throughout the year, although the flow rates vary. Flows are highest during the winter and early spring and lowest during the summer and early autumn (the primary recreation season). Although the DPW no longer measures flows in the East Fork, records at a stream flow gauging station the County formerly operated near Follows Camp indicate summer flow ranges from 2 cubic feet per second to over 100 cubic feet per second (DPW, 1987 and 1988). Instream areas contain riparian vegetation, including trees and dense mulefat. Areas where this vegetation provides shade appear to be the preferred locations for campers and picnickers.

The watershed of the East Fork is mostly undeveloped. Developed areas consist of the USFS's East Fork Fire Station and Oak Camp, privately owned camping grounds (Camp Williams and Follows Camp), and a few private residences. The East Fork Road is a paved thoroughfare that leads to the East Fork Station (about 6.5 miles from Highway 39). This road provides large numbers of recreational users relatively easy access to the East Fork area. Access from the roadside to the instream area consists mostly of very rough, steep dirt footpaths. However, an unpaved fire road provides access from the East Fork Station parking lot to Coyote Flats. At the flats located downstream of Follows Camp (about 2.6 miles east of Highway 39) access from the roadside consists of steep dirt footpaths, an unpaved fire road, and the Follows Camp access road.

Observations of USFS, DPW, and the Regional Board indicate that the majority of the recreational visitors are concentrated in the four main areas identified above. The four areas range in size from 5 acres to 16 acres. These areas are selected by users because of the large flat areas they provide in close proximity to the water. None of the four areas are improved. Because of forest density, access, and other factors, other areas of the East Fork are less desirable for picnics. As these are not formal picnic areas, there is an insufficient number of trash receptacles provided by the USFS. However, because these visitors leave such a large amount of

litter behind at the end of the day, the USFS must go in and remove it on a daily basis during the peak picnic season. On a typical weekend day during the summer, about 7,500 people can be found in the four informal picnic areas, which encompasses a total of about 39 acres.

DPW's observations did not encounter deposition of litter in the Camp Williams and Follows Camp facilities, which are privately owned and operated. DPW's observations indicate the Camp Williams and Follows Camp facilities are constantly supervised and patrolled by their owners and their employees. The owners provide campers with flyers stating their rules, which include prohibitions against littering. Those private campsites do not have the same problem with litter as the public lands next door.

Primary recreational activities occurring in these four informal campsites consist of picnicking, swimming and wading. DPW's and the Regional Board's observations indicate that the picnics occurring in these areas are the same as typical backyard barbecues, including the actual use of backyard barbecues (e.g., kettles, cart-type) transported by the visitors to the river terrace area. Once the picnics are over, the hot charcoals are usually dumped into or along the side of the river. Such picnics use a great deal of disposable material and thus produce large amounts of trash. The swimming and wading activities create a potential for direct deposition into the flowing part of the river. Picnicking occurs on the river terrace. It is the litter deposited in this area that causes the threat to water quality in the East Fork. A small amount of litter was observed in the river itself, however the current is swift so it is difficult to determine historic deposition into the stream. The large threat to the river results from the volume of litter left in the informal picnic areas adjacent to it.

According to USFS observations and those of the DPW, the trash deposited in the river terrace areas consists mostly of: paper products (i.e. napkins, plates, boxes, containers for 12-packs) toys, plastic products (i.e. cups, grocery bags, beverage containers, six-pack rings, utensils, chip bags, candy wrappers), glass products (i.e. beverage containers, often broken) and Styrofoam products (i.e. cups, plates, broken ice chests). Another significant litter component is disposable diapers. Diapers may present a particularly large threat to water quality and public health from pathogens should they be left in the river. Other items observed include barbecue coals, metal products (i.e. cans, (beverage and food), broken beach chairs, and barbecue grills), clothing items (i.e. shoes), food remnants (i.e. bones, rinds and husks) and carpet fragments. These items are typical by-products of picnicking and swimming or wading activities.

Litter was not observed outside of these four areas. This is most likely due to the difference in the type of usage that occurs in other areas of the East Fork. There seems to be a strong "Pack It In, Pack It Out" ethic among hikers and recreational dredgers who are found in other areas of the East Fork year round. Due to this apparent difference in usage and behavior, the less accessible areas of the East Fork do not have a litter problem.

There are a number of specific factors that contribute to the litter problem on the East Fork:

1. Unbagged or Inadequately Bagged Trash

Almost no retail garbage bags were noticed during the DPW's observations. Most of the trash found at the picnic/camping sites was unbagged (merely piled) or bagged in flimsy plastic grocery bags. As a result, the trash is easily exposed to wind or scavenging animals. Corporate sponsors regularly donate a large number of sturdy plastic trash bags (32-gallon). USFS personnel, its contractors (Eco-teams) and volunteers distribute these bags throughout the four informal picnic areas each weekend during the summer, if bags are available.

Table 1: Uncontained Trash Collected at Each Site (In 32-Gallon Plastic Bags)

Location	Avg./Weekend Day
Total	222
Coyote Flats	28
Eldoradoville Vicinity	53
Oak Park Vicinity	74
d/s of Follows Camp	67

Numeric Target

Water quality standards for the East Fork of the San Gabriel River are comprised of the designated beneficial uses of the water and the water quality objectives designed to protect those beneficial uses and are found in Los Angeles Regional Board Water Quality Control Plan (Basin Plan, 1994). The beneficial uses (existing and potential) for the East Fork of the San Gabriel River are:

Municipal water supply (MUN), ground water recharge, water contact recreation (REC-1), non-contact water recreation (REC-2), warm freshwater habitat (WARM), cold freshwater habitat (COLD), wildlife habitat (WILD), rare, threatened, or endangered species (RARE), spawning, reproduction, and/or early development (SPWN), and wetland habitat (WET).

The beneficial uses that are potentially impacted by litter are listed in Table 2 below. Trash can impact the beneficial uses in a variety of ways. Trash is an aesthetic nuisance to swimmers and waders, and non-contact users such as hikers. Trash can also impact wildlife through ingestion or strangulation. Some trash may also release other toxic or biologically detrimental pollutants into the stream. Charcoal and used diapers in the river can result in human health impacts.

Table 2: Summary of Beneficial Uses Addressed in the East Fork San Gabriel River TMDL (Los Angeles Regional Board, 1994)

Beneficial Water Uses	Potential or Existing	Description
Water contact recreation	Existing	Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, or use of natural hot springs.
Non-contact water recreation	Existing	Uses of water for recreational activities involving proximity to water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking.

Table 3: Regional Board Basin Plan Water Quality Objectives

Water Quality Objective	Definition
Floating Material	<i>Waters shall not contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</i>
Solid, Suspended, or Settleable Material	<i>Waters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses.</i>

The Numeric Target established for the East Fork by this TMDL, based upon an interpretation of the above water quality objectives, is zero trash in the river.

Source Analysis

The Source Analysis for the East Fork relies on past reports prepared by the U.S. Forest Service, discussions with San Gabriel River Ranger District staff in June 1998 and DPW's recent field observations of July 3-5 and 17-19, 1998.

The primary source of trash in the East Fork comes from recreational use involving picnicking. Most of the picnicking activity occurs primarily on the weekends and holidays during warm weather months. The USFS reports (Simcox, 1989; Chavez, 1993) indicate, and the DPW's observations confirm, that the average size of a picnic group is about eight people, usually families. DPW's observations reveal that about half of a typical group consists of children. Due to the great numbers of children among the picnickers, one significant litter component is disposable diapers. Diapers are a significant threat to public health and water quality. Because picnickers engage in swimming and wading in the adjacent stream, picnic sites are chosen for their proximity to the water (Simcox, 1989; Chavez, 1993). As a result, another litter component is clothing, primarily shoes.

The USFS' observations and those conducted in the field by DPW (Wood, 1998) in July, 1998, indicate that litter deposition in the river terrace areas (between the summer low flow channel and the steep banks of the historic flood channel) of the East Fork is focused on the four, flat, heavily used areas that are adjacent to the East Fork Road. The following areas are the main source of trash in the East Fork San Gabriel River (see Figure 1):

1. The flats downstream of Follows Camp: Approximately 16 acres located about 2.6 miles east of Highway 39.
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4. Coyote Flats: Approximately 9 acres located near the East Fork Ranger Station, about 6.5 miles east of Highway 39.

The instream area (i.e., watercourse) consists primarily of rock, sand and boulders. Downstream of Coyote Flats the stream contains deep pools that seem to be formed by recreational dredging activities, which are regulated by the U.S. Forest Service (USFS) by means of dredging permits.

Load Allocation

By definition, the sum of the Load Allocation(s) is equivalent to the Total Maximum Daily Load. The TMDL for trash in the East Fork San Gabriel River is no trash in the river. While the USFS is not the only landowner in the area of the East Fork, it is the only party responsible for the areas of the East Fork where beneficial uses are impaired. Furthermore, the only source causing the impairment of the East Fork is on USFS owned property. In order to achieve the numeric target established by this TMDL, the load allocation for the USFS and any other discharger of litter into the East Fork is zero. Currently the USFS has been able to prevent 50 percent of the trash that is generated in the area from being deposited on the ground.

Linkage

To meet the numeric target of no trash in the river, the amount of litter deposited in the river terrace area must be significantly reduced. If the amount of litter adjacent to the river in each of the four problem areas is reduced, there will be less opportunity for trash to migrate, from wind, rain, or animals, into the river. Currently the daily volume of litter collected from the river terraces of the four informal picnic areas combined, measured in 32-gallon garbage bags, is approximately 200 during the peak use days. The target of no trash in the river must be achieved and maintained year round. The only way to demonstrate attainment of the numeric target is through monitoring results, as prescribed below.

Margin of Safety

A Margin of Safety is a required element in a TMDL and can be either implicit or explicit. The magnitude of the Margin of Safety is based on the level of uncertainty associated with the development of the TMDL. The largest area of uncertainty in this TMDL is regarding the amount of litter that causes an impairment of recreational and aquatic life beneficial uses. To address this uncertainty the target has been conservatively set at no trash in the river.

Seasonal Variation

The numeric target of zero trash applies year round; however, the four areas that constitute the problem areas of the East Fork are mainly used during the weekends of warm weather months. The area has year-round users, such as hikers and campers, however, it is during the summer season when litter deposition becomes a problem. The largest number of users visit from June through September. As mentioned above, it is the large number of users and the style of recreation that impairs the East Fork. During the off peak months of winter and fall, litter deposition is negligible. This fact provides for flexibility in the magnitude and frequency of some implementation measures selected to achieve this standard in winter months.

Implementation

Responsible Agency

The East Fork is located within the jurisdiction of the United States Forest Service. As the public entity responsible for lands in and around the East Fork of the San Gabriel River, the USFS has a fiduciary responsibility to preserve and maintain the East Fork. It is also the duty of the USFS to

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county codes, citing the largest possible penalty amount. These signs should also be placed near the river terrace and roadside receptacles at each of the four informal picnic areas.

6. Enforce existing anti-litter laws. Personnel with authority to issue citations for litter law violations should increase patrolling in the area during peak use periods.

The Implementation Plan shall evaluate the need for additional measures to protect water quality. At a minimum this shall include the following:

1. The need, feasibility, and practicability of a prohibition of glass containers in the East Fork area.
2. Options for the disposal of hot charcoal, to prevent the deposition of charcoal in the stream.
3. Measures necessary to eliminate the improper disposal of used diapers.

Monitoring

Monitoring is an essential part of any TMDL. In order to ensure that the numeric target of this TMDL is being met, monitoring for trash in the river is necessary. Monitoring results will indicate the effectiveness of litter reduction measures in reducing the level of trash in the water. The U.S. Forest Service must conduct monitoring at locations downstream of each of the four informal recreational areas. During the peak usage months of June through September, monitoring shall be conducted downstream of one of the four sites each week. Using a rotating schedule for monitoring will result in each picnic area being monitored at least once each month during the peak period. Monitoring may be conducted every other month during the rest of the year. Monitoring will not only include sampling for trash flowing downstream of each of the four areas, but also visual observations of the river terrace areas. Sampling must be conducted in a manner that will measure both floatables and "bedload" trash. The USFS staff should conduct visual observations during their public education visits. Standard data sheets should be developed for recording observed trash levels.

Monitoring and sampling results must be maintained by the USFS to document progress in implementing this TMDL. An annual short-term study of trash in the river shall be conducted by the USFS. This shall be done by setting up trash collection nets in the river for a period of four days. One study per year shall be conducted during a holiday weekend (Friday through Monday), during the summer months. One four-day study during the wet season (October through May) shall also be conducted.

The USFS shall comply and submit to the Regional Board the results of monitoring on a monthly basis. The reports are due by the 15th day of the month following the collection of data.

The USFS and the Regional Board will use the monitoring and sampling data to evaluate the effectiveness of the BMPs implemented by the USFS. If the numeric target of zero trash is not being achieved after implementation of the above BMPs, modification to existing BMPs and/or additional BMPs must be developed.

**Proposed Amendments
to the
Water Quality Control Plan - Los Angeles Region
for the
San Gabriel River (East Fork) Trash TMDL**

Proposed for adoption by the California Regional Water Quality Control Board, Los Angeles Region on October 28, 1999.

Amendments:

Table of Contents

Add:

Chapter 7. TMDLs (Total Maximum Daily Loads)*

Introduction

Legal Basis and Authority

TMDL Components

Organization of Chapter

TMDL Summaries

San Gabriel River (East Fork) Trash TMDL

List of Figures, Tables and Inserts

Add:

Chapter 7. TMDLs (Total Maximum Daily Loads)

Tables

7-1 TMDL Summaries

Chapter 3. Water Quality Objectives

Regional Objectives for Inland Surface Waters

Floating Material

3-9

A third paragraph will be added under Floating Material referencing specific guidelines for the San Gabriel River (East Fork). Additional narrative to read: "See additional regulatory guidelines described under the San Gabriel River (East Fork) Trash Total Maximum Daily Load (Chapter 7)."

* Underlined text indicates the actual language to be added to existing Basin Plan text.

1991). A TMDL is defined as "the sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background" (40 CFR 130.2). Regulations further stipulate that TMDLs must be set at "levels necessary to attain and maintain the applicable narrative and numeric water quality standards with seasonal variations and a margin of safety that takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality" (40 CFR 130.7(c)(1)). The regulations in 40 CFR 130.7 also state that TMDLs shall take into account critical conditions for stream flow, loading and water quality parameters.

Upon establishment of TMDLs by the State or USEPA, the State is required to incorporate the TMDLs along with appropriate implementation measures into the State Water Quality Management Plan (40 CFR 130.6(c)(1), 130.7). This Water Quality Control Plan for the Los Angeles Region (Basin Plan), and applicable statewide plans, serve as the State Water Quality Management Plans governing the watersheds under the jurisdiction of the RWQCB.

Before approval by USEPA or incorporation into the Basin Plan, TMDLs must be subject to public review (40 CFR 130.7). Public review requirements for Basin Plan Amendments are described in Chapter 1 of this document.

TMDL Components

TMDLs include the following technical components, which provide the analytical basis for the TMDLs.

- **Problem Statement:** A description of the waterbody/watershed setting, beneficial use impairments, and pollutants or stressors causing the impairment.
- **Numeric Targets:** For each stressor addressed in the TMDL, appropriate measurable indicators and associated numeric targets based on numeric or narrative water quality standards, which express the target or desired condition for the existing or potential beneficial uses.
- **Source Analysis:** An assessment of relative contributions of pollutant or stressor sources to the waterbody and the extent of needed discharge reductions or controls.
- **Loading Capacity/Seasonal Variations and Critical Conditions/Linkage Analysis:** The loading capacity is an estimate of the assimilative capacity of the waterbody for the pollutant of concern taking into account seasonal variations and critical conditions. The linkage analysis describes the analytical basis for concluding that the load allocations along with the margin of safety will not exceed the loading capacity of the waterbody.
- **Load Allocations/Margin of Safety:** The allocation of allowable loads or load reductions among different sources, providing an adequate margin of safety. These allocations are usually expressed as waste load allocations for point sources, load allocations for nonpoint sources, and contributions from

Table 7-1 TMDL Summaries

Watershed	Reach	Pollutant
<i>San Gabriel River</i>	<i>East Fork</i>	<i>Trash</i>
Element	Derivation of Numbers	
<i>Problem Statement</i>	High recreational use of the river results in trash being deposited in and along the stream, posing a threat to water quality.	
<i>Water Quality Objective</i>	Waters shall not contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. Water shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses.	
<i>Numeric Target (water quality standard for trash for the East Fork)</i>	No trash in the river	
<i>Source Analysis</i>	Picnicking and camping are the primary sources of trash.	
<i>Responsible Party</i>	U.S. Forest Service	
<i>Load Allocations</i>	Zero trash discharged to the river.	
<i>Margin of Safety</i>	Implicit Margin of Safety based on conservative interpretation of narrative standard	
<i>Seasonal Variations and Critical Conditions</i>	Peak recreational usage is June through September based on Forest Service, Regional Board and Los Angeles County Department of Public Works field observations.	
<i>Implementation Measures</i>	The USFS shall submit a "TMDL Implementation Plan" by February 1, 2000. The Plan shall include a detailed discussion of litter control measures to be implemented. The TMDL specifies that	