

California Regional Water Quality Control Board, Los Angeles Region

**Ballona Creek Watershed  
Dissolved Copper**

**Summary of Proposed Action**

Ballona Creek is proposed to be listed in the 2002 305(b) water quality assessment as not supporting (impaired) due to greater than ten percent (10%) exceedance of the dissolved copper acute and chronic water quality criteria for protection of freshwater aquatic life. This creek is already listed for elevated levels of copper in sediment and tissue. The beneficial uses affected by this impairment relate to aquatic life and include warm freshwater habitat and wildlife habitat.

**Table 1. 303(d) Listing/TMDL Information**

<b>Waterbody Name</b>	<b>Ballona Creek</b>	<b>Pollutants/Stressors</b>	Copper
<b>Hydrologic Unit</b>	405.13	<b>Source(s)</b>	Non-point sources
<b>Total Waterbody Size</b>	10 miles	<b>TMDL Priority</b>	Analytical Unit 57
<b>Size Affected</b>	4.3 miles	<b>TMDL Start Date (Mo/Yr)</b>	2002
<b>Extent of Impairment</b>	Ballona Creek to Estuary	<b>TMDL End Date (Mo/Yr)</b>	2004

**Watershed Characteristics**

Ballona Creek flows slightly over 10 miles from Los Angeles through Culver City, reaching the ocean at Playa del Rey. Except for the estuary of Ballona Creek which is composed of grouted rip-rap side slopes and an earth bottom, Ballona Creek is completely channelized and extends into a complex underground network of stormdrains which reaches to Beverly Hills and West Hollywood, draining 130 square miles of highly developed land, with both residential and commercial land uses. Tributaries of Ballona Creek include Centinela Creek, Sepulveda Canyon Channel, Benedict Canyon Channel, and numerous other storm drains. Adjacent to the downstream channel of Ballona Creek are the Marina del Rey Harbor, Ballona Lagoon and Venice Canals, Del Rey Lagoon and Ballona Wetlands. They are grouped as waterbodies in this subwatershed because of their proximity and various forms of hydrological connection to Ballona Creek. "Ballona Creek to Estuary" is defined from Rodeo Road at Jefferson Boulevard to the estuary.

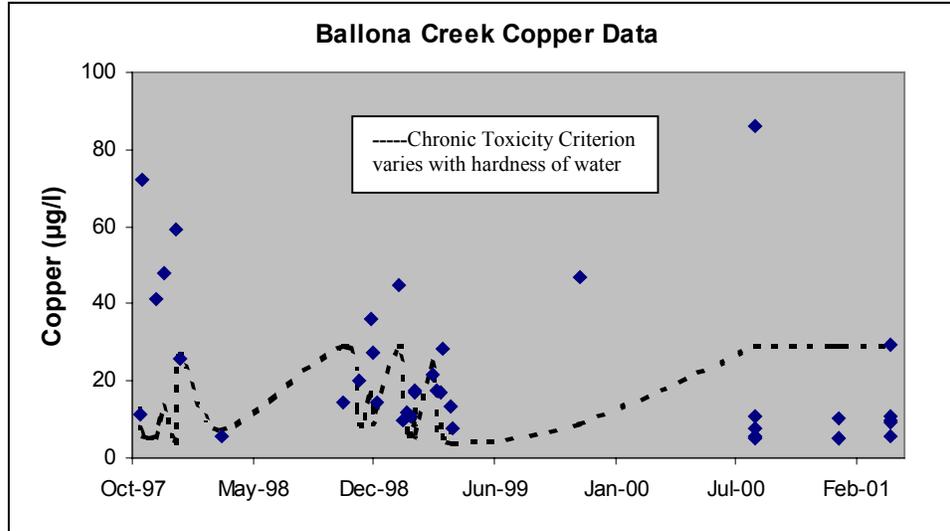
**Water Quality Objectives Not Attained**

Through the California Toxics Rule, the U.S. EPA promulgated water quality criteria for priority pollutants for the protection of freshwater aquatic life. The criteria for acute and chronic toxicity for copper are dependent on the hardness of the water. Based on the available hardness data, it was determined that the criteria for acute and chronic copper toxicity were exceeded in 44.7% and 55.3% of the sampling events, respectively.

**Beneficial Uses Affected**

- Warm Freshwater Habitat
- Wildlife Habitat

**Data Assessment**



**Table 2. Summary of Copper Data for Ballona Creek to Estuary**

Dates of Sampling	11/97- 4/01
Number of Samples (n)	38
Minimum Data Value	5 µg/L
Maximum Data Value	86 µg/L
Median Data Value	14.3 µg/L
Arithmetic Mean Value	22 µg/L
Standard Deviation	20 µg/L
Percent above Criteria	44.7% (acute), 55.3% (chronic)

**Potential Sources**

Most of the exceedances occurred in stormwater samples collected by the Los Angeles County Department of Public Works Stormwater Monitoring Program. Therefore the most likely source of dissolved copper loading is stormwater runoff. Another potential source is dry-weather urban runoff.

**References**

- Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, 1994
- Watershed Management Initiative, 2000
- California Toxics Rule

California Regional Water Quality Control Board, Los Angeles Region

**Ballona Creek Watershed  
Dissolved Lead**

**Summary of Proposed Action**

Ballona Creek is proposed to be listed in the 2002 305(b) water quality assessment as not supporting (impaired) due to greater than ten percent (10%) exceedance of the dissolved lead chronic water quality criterion for protection of freshwater aquatic life. This creek is already listed for elevated levels of lead in sediment and tissue. The beneficial uses affected by this impairment relate to aquatic life and include warm freshwater habitat and wildlife habitat.

**Table 1. 303(d) Listing/TMDL Information**

<b>Waterbody Name</b>	<b>Ballona Creek</b>	<b>Pollutants/Stressors</b>	Lead
<b>Hydrologic Unit</b>	405.13	<b>Source(s)</b>	Non-point sources
<b>Total Waterbody Size</b>	10 miles	<b>TMDL Priority</b>	Analytical Unit 57
<b>Size Affected</b>	4.3 miles	<b>TMDL Start Date (Mo/Yr)</b>	2002
<b>Extent of Impairment</b>	Ballona Creek to Estuary	<b>TMDL End Date (Mo/Yr)</b>	2004

**Watershed Characteristics**

Ballona Creek flows slightly over 10 miles from Los Angeles through Culver City, reaching the ocean at Playa del Rey. Except for the estuary of Ballona Creek which is composed of grouted rip-rap side slopes and an earth bottom, Ballona Creek is completely channelized and extends into a complex underground network of stormdrains which reaches to Beverly Hills and West Hollywood, draining 130 square miles of highly developed land, with both residential and commercial land uses. Tributaries of Ballona Creek include Centinela Creek, Sepulveda Canyon Channel, Benedict Canyon Channel, and numerous other storm drains. Adjacent to the downstream channel of Ballona Creek are the Marina del Rey Harbor, Ballona Lagoon and Venice Canals, Del Rey Lagoon and Ballona Wetlands. They are grouped as waterbodies in this subwatershed because of their proximity and various forms of hydrological connection to Ballona Creek. "Ballona Creek to Estuary" is defined from Rodeo Road at Jefferson Boulevard to the estuary.

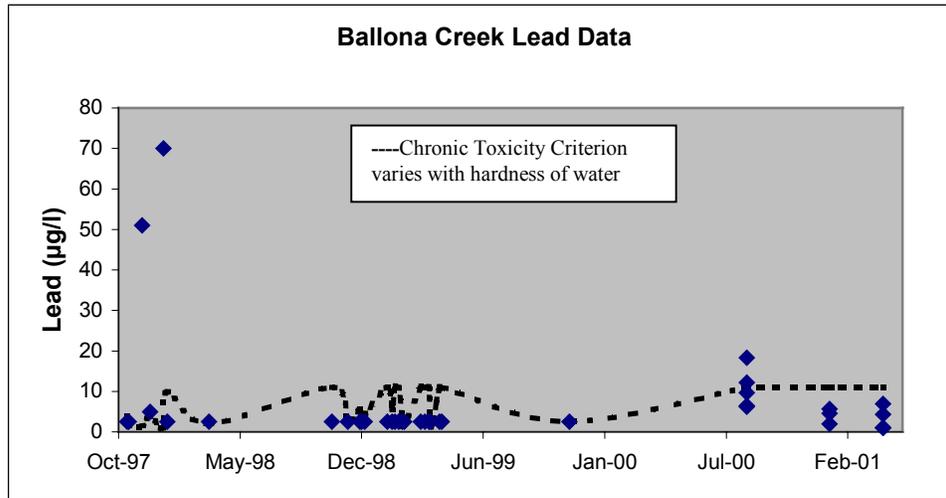
**Water Quality Objectives Not Attained**

Through the California Toxics Rule, the U.S. EPA promulgated water quality criteria for priority pollutants for the protection of freshwater aquatic life. The criteria for acute and chronic toxicity for lead are dependent on the hardness of the water. Based on the available hardness data, it was determined that the criterion for chronic lead toxicity was exceeded in 13.2% of the sampling events.

**Beneficial Uses Affected**

- Warm Freshwater Habitat
- Wildlife Habitat

**Data Assessment**



**Table 2. Summary of Lead Data for Ballona Creek to Estuary**

Dates of Sampling	11/97 – 04/01
Number of Samples (n)	38
Minimum Data Value	1 µg/l
Maximum Data Value	70 µg/l
Median Data Value	2.5 µg/l
Arithmetic Mean Value	6.9 µg/l
Standard Deviation	13.4 µg/l
Percent above Chronic Criterion	13.2%

**Potential Sources**

Most of the exceedances occurred in stormwater samples collected by the Los Angeles County Department of Public Works Stormwater Monitoring Program. Therefore the most likely source of dissolved lead loading is stormwater runoff. Another potential source is dry-weather urban runoff.

**References**

- Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, 1994
- Watershed Management Initiative, 2000
- California Toxics Rule

California Regional Water Quality Control Board, Los Angeles Region

**Ballona Creek Watershed  
Dissolved Zinc**

**Summary of Proposed Action**

Ballona Creek is proposed to be listed in the 2002 305(b) water quality assessment as not supporting (impaired) due to greater than ten percent (10%) exceedance of the dissolved zinc acute and chronic water quality criteria for protection of freshwater aquatic life. The beneficial uses affected by this impairment relate to aquatic life use support and include warm freshwater habitat and wildlife habitat.

**Table 1. 303(d) Listing/TMDL Information**

<b>Waterbody Name</b>	<b>Ballona Creek</b>	<b>Pollutants/Stressors</b>	Zinc
<b>Hydrologic Unit</b>	405.13	<b>Source(s)</b>	Non-point sources
<b>Total Waterbody Size</b>	10 miles	<b>TMDL Priority</b>	Analytical Unit 57
<b>Size Affected</b>	4.3 miles	<b>TMDL Start Date (Mo/Yr)</b>	2002
<b>Extent of Impairment</b>	Ballona Creek to Estuary	<b>TMDL End Date (Mo/Yr)</b>	2004

**Watershed Characteristics**

Ballona Creek flows slightly over 10 miles from Los Angeles through Culver City, reaching the ocean at Playa del Rey. Except for the estuary of Ballona Creek which is composed of grouted rip-rap side slopes and an earth bottom, Ballona Creek is completely channelized and extends into a complex underground network of stormdrains which reaches to Beverly Hills and West Hollywood, draining 130 square miles of highly developed land, with both residential and commercial land uses. Tributaries of Ballona Creek include Centinela Creek, Sepulveda Canyon Channel, Benedict Canyon Channel, and numerous other storm drains. Adjacent to the downstream channel of Ballona Creek are the Marina del Rey Harbor, Ballona Lagoon and Venice Canals, Del Rey Lagoon and Ballona Wetlands. They are grouped as waterbodies in this subwatershed because of their proximity and various forms of hydrological connection to Ballona Creek. "Ballona Creek to Estuary" is defined from Rodeo Road at Jefferson Boulevard to the estuary.

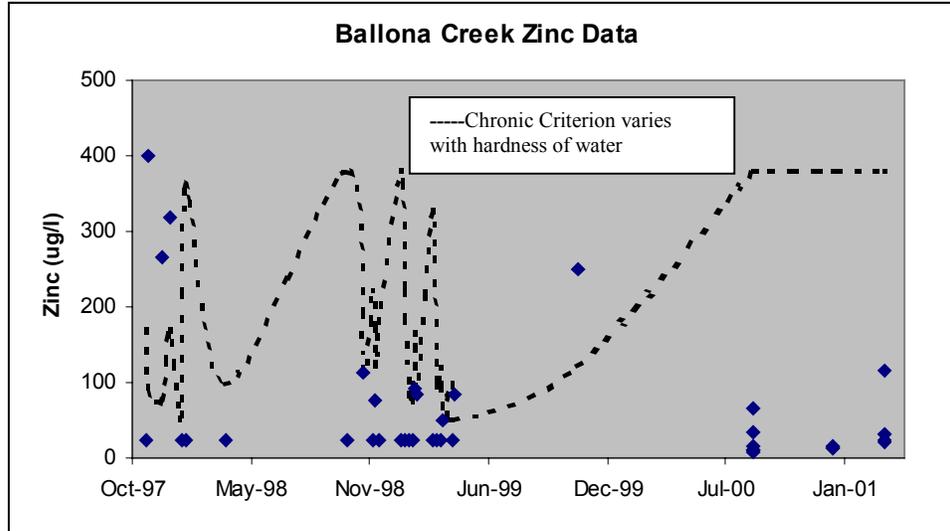
**Water Quality Objectives Not Attained**

Through the California Toxics Rule, the U.S. EPA promulgated water quality criteria for priority pollutants for the protection of freshwater aquatic life. The criteria for acute and chronic toxicity for zinc are dependent on the hardness of the water. Based on the available hardness data, it was determined that the acute and chronic criteria for zinc were exceeded in 12.8% of the sampling events. The more recent data indicates compliance with criteria. If this continues zinc can be removed from the list in the next cycle.

**Beneficial Uses Affected**

- Warm Freshwater Habitat
- Wildlife Habitat

**Data Assessment**



**Table 2. Summary of Zinc Data for Ballona Creek to Estuary**

Dates of Sampling	11/97 – 4/01
Number of Samples (n)	39
Minimum Data Value	57.6 µg/l
Maximum Data Value	400 µg/l
Median Data Value	25 µg/l
Arithmetic Mean Value	64.7 µg/l
Standard Deviation	90 µg/l
Percent above Criterion	12.8% (for both acute and chronic)

**Potential Sources**

All of the exceedances occurred in stormwater samples collected by the Los Angeles County Department of Public Works Stormwater Monitoring Program. Therefore the most likely source of dissolved zinc loading is stormwater runoff.

**References**

- Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, 1994
- Watershed Management Initiative, 2000
- California Toxics Rule

California Regional Water Quality Control Board, Los Angeles Region

**Ballona Creek Watershed  
pH**

**Summary of Proposed Action**

Ballona Creek is proposed to be listed in the 2002 305(b) water quality assessment as partially supporting (impaired) due to greater than ten percent (10%) exceedance of the pH water quality standard outlined in the Basin Plan. The beneficial uses affected by this impairment relate to aquatic life and include warm freshwater habitat and wildlife habitat.

**Table 1. 303(d) Listing/TMDL Information**

<b>Waterbody Name</b>	<b>Ballona Creek</b>	<b>Pollutants/Stressors</b>	pH
<b>Hydrologic Unit</b>	405.13	<b>Source(s)</b>	Non-point sources
<b>Total Waterbody Size</b>	10 miles	<b>TMDL Priority</b>	Low
<b>Size Affected</b>	4.3 miles	<b>TMDL Start Date (Mo/Yr)</b>	2011.
<b>Extent of Impairment</b>	Ballona Creek to Estuary	<b>TMDL End Date (Mo/Yr)</b>	2013

**Watershed Characteristics**

Ballona Creek flows slightly over 10 miles from Los Angeles through Culver City, reaching the ocean at Playa del Rey. Except for the estuary of Ballona Creek which is composed of grouted rip-rap side slopes and an earth bottom, Ballona Creek is completely channelized and extends into a complex underground network of stormdrains which reaches to Beverly Hills and West Hollywood, draining 130 square miles of highly developed land, with both residential and commercial land uses. Tributaries of Ballona Creek include Centinela Creek, Sepulveda Canyon Channel, Benedict Canyon Channel, and numerous other storm drains. Adjacent to the downstream channel of Ballona Creek are the Marina del Rey Harbor, Ballona Lagoon and Venice Canals, Del Rey Lagoon and Ballona Wetlands. They are grouped as waterbodies in this subwatershed because of their proximity and various forms of hydrological connection to Ballona Creek. “Ballona Creek to Estuary” is defined from Rodeo Road at Jefferson Boulevard to the estuary.

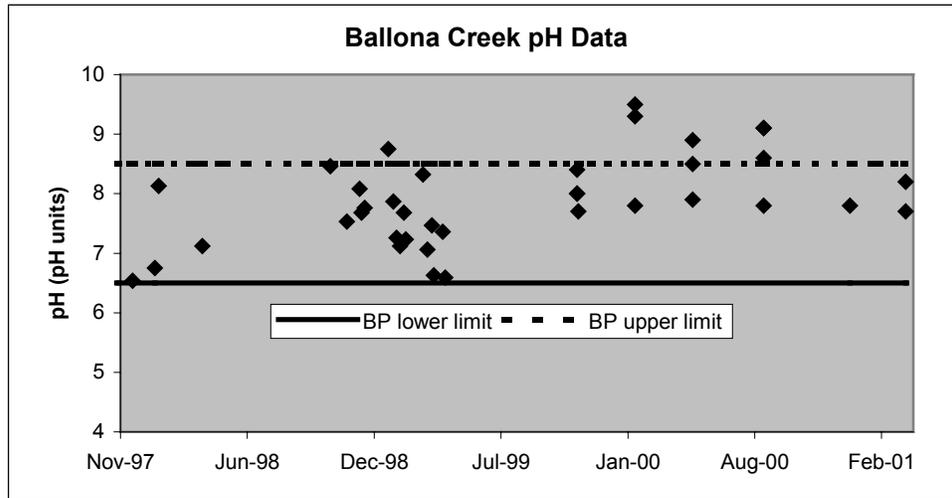
**Water Quality Objectives Not Attained**

The Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties contains water quality standards for the protection of beneficial uses of waterbodies in the region. The allowable range for pH is between 6.5 to 8.5. Analysis of available data determined that the upper limit for pH was exceeded in 17.5% of the sampling events.

**Beneficial Uses Affected**

- Warm Freshwater Habitat
- Wildlife Habitat

**Data Assessment**



**Table 2. Summary of pH Data for Ballona Creek to Estuary**

Dates of Sampling	11/97 – 4/01
Number of Samples (n)	40
Minimum Data Value	6.54
Maximum Data Value	9.5
Median Data Value	7.8
Arithmetic Mean Value	7.84
Standard Deviation	0.76
Percent above Upper Limit	17.5%

**Potential Sources**

Possible sources include urban and stormwater runoff.

**References**

Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, 1994  
 Watershed Management Initiative, 2000

California Regional Water Quality Control Board, Los Angeles Region

**Ballona Creek Watershed  
Total Aluminum**

**Summary of Proposed Action**

Ballona Creek is proposed to be listed in the 2002 305(b) water quality assessment as fully supporting but threatened (impaired) due to greater than ten percent (10%) exceedance of the total aluminum water quality criteria for protection of potential drinking water sources. The beneficial use affected by this impairment is the potential for municipal and domestic supply (MUN).

**Table 1. 303(d) Listing/TMDL Information**

<b>Waterbody Name</b>	<b>Ballona Creek</b>	<b>Pollutants/Stressors</b>	Aluminum
<b>Hydrologic Unit</b>	405.13	<b>Source(s)</b>	Non-point sources
<b>Total Waterbody Size</b>	10 miles	<b>TMDL Priority</b>	Analytical Unit 57
<b>Size Affected</b>	4.3 miles	<b>TMDL Start Date (Mo/Yr)</b>	2002
<b>Extent of Impairment</b>	Ballona Creek to Estuary	<b>TMDL End Date (Mo/Yr)</b>	2004

**Watershed Characteristics**

Ballona Creek flows slightly over 10 miles from Los Angeles through Culver City, reaching the ocean at Playa del Rey. Except for the estuary of Ballona Creek which is composed of grouted rip-rap side slopes and an earth bottom, Ballona Creek is completely channelized and extends into a complex underground network of stormdrains which reaches to Beverly Hills and West Hollywood, draining 130 square miles of highly developed land, with both residential and commercial land uses. Tributaries of Ballona Creek include Centinela Creek, Sepulveda Canyon Channel, Benedict Canyon Channel, and numerous other storm drains. Adjacent to the downstream channel of Ballona Creek are the Marina del Rey Harbor, Ballona Lagoon and Venice Canals, Del Rey Lagoon and Ballona Wetlands. They are grouped as waterbodies in this subwatershed because of their proximity and various forms of hydrological connection to Ballona Creek. "Ballona Creek to Estuary" is defined from Rodeo Road at Jefferson Boulevard to the estuary.

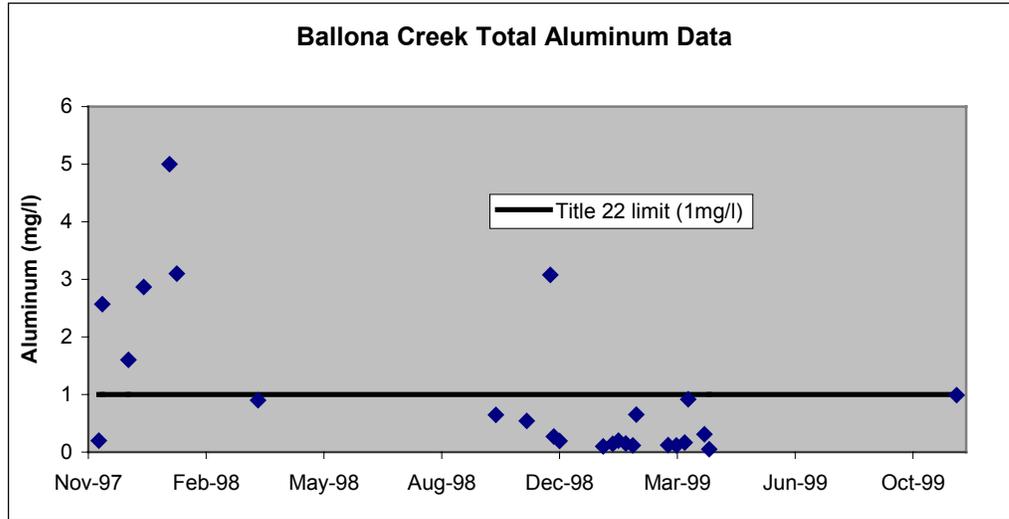
**Water Quality Objectives Not Attained**

Title 22 of the California Code of Regulations specifies maximum contaminant levels for drinking water supplies. These maximum contaminant levels (MCLs) are incorporated into the Basin Plan as water quality objectives to protect the MUN beneficial use. The objective for aluminum is 1 mg/l. Analysis of available data determined that this limit was exceeded in 24% of the sampling events. The more recent data indicates compliance with criteria. If this trend continues, aluminum can be removed from the list in the next cycle.

**Beneficial Uses Affected**

- Potential Municipal and Domestic Supply

**Data Assessment**



**Table 2. Summary of Total Aluminum Data for Ballona Creek to Estuary**

Dates of Sampling	11/97 – 11/99
Number of Samples (n)	25
Minimum Data Value	0.05mg/l
Maximum Data Value	5 mg/l
Median Data Value	0.31mg/l
Arithmetic Mean Value	1.0mg/l
Standard Deviation	1.3mg/l
Percent above Chronic Criterion	24%

**Potential Sources**

All of the exceedances occurred in stormwater samples collected by the Los Angeles County Department of Public Works Stormwater Monitoring Program. Therefore the most likely source of total aluminum loading is stormwater runoff.

**References**

Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, 1994  
 Watershed Management Initiative, 2000

California Regional Water Quality Control Board, Los Angeles Region

**Ballona Creek Watershed  
Total Selenium**

**Summary of Proposed Action**

Ballona Creek is proposed to be listed in the 2001 305(b) water quality assessment as not supporting (impaired) due to greater than ten percent (10%) exceedance of the total selenium chronic water quality criterion for protection of freshwater aquatic life. The beneficial uses affected by this impairment relate to aquatic life and include warm freshwater habitat and wildlife habitat.

**Table 1. 303(d) Listing/TMDL Information**

<b>Waterbody Name</b>	<b>Ballona Creek</b>	<b>Pollutants/Stressors</b>	Selenium
<b>Hydrologic Unit</b>	405.13	<b>Source(s)</b>	Non-point sources
<b>Total Waterbody Size</b>	10 miles	<b>TMDL Priority</b>	Analytical Unit 57
<b>Size Affected</b>	4.3 miles	<b>TMDL Start Date (Mo/Yr)</b>	2002
<b>Extent of Impairment</b>	Ballona Creek to Estuary	<b>TMDL End Date (Mo/Yr)</b>	2004

**Watershed Characteristics**

Ballona Creek flows slightly over 10 miles from Los Angeles through Culver City, reaching the ocean at Playa del Rey. Except for the estuary of Ballona Creek which is composed of grouted rip-rap side slopes and an earth bottom, Ballona Creek is completely channelized and extends into a complex underground network of stormdrains which reaches to Beverly Hills and West Hollywood, draining 130 square miles of highly developed land, with both residential and commercial land uses. Tributaries of Ballona Creek include Centinela Creek, Sepulveda Canyon Channel, Benedict Canyon Channel, and numerous other storm drains. Adjacent to the downstream channel of Ballona Creek are the Marina del Rey Harbor, Ballona Lagoon and Venice Canals, Del Rey Lagoon and Ballona Wetlands. They are grouped as waterbodies in this subwatershed because of their proximity and various forms of hydrological connection to Ballona Creek. "Ballona Creek to Estuary" is defined from Rodeo Road at Jefferson Boulevard to the estuary.

**Water Quality Objectives Not Attained**

The California Toxic Rule established Recommended Water Quality criteria for the protection of freshwater aquatic life. The recommended limit for chronic toxicity for total selenium is 5ug/l. This was exceeded in 12 % of the sampling events.



California Regional Water Quality Control Board, Los Angeles Region

**Ballona Creek Watershed  
Bis(2-ethylhexyl)phthalate [Di(2-ethylhexyl)phthalate]**

**Summary of Proposed Action**

Ballona Creek is proposed to be listed in the 2002 305(b) water quality assessment as partially supporting (impaired) due to the median value of the samples exceeding the Bis(2-ethylhexyl)phthalate water quality objective for protection of potential drinking water sources. The beneficial use affected by this impairment is the potential for municipal and domestic supply (MUN).

**Table 1. 303(d) Listing/TMDL Information**

<b>Waterbody Name</b>	<b>Ballona Creek</b>	<b>Pollutants/Stressors</b>	Bis(2-ethylhexyl)phthalate
<b>Hydrologic Unit</b>	405.13	<b>Source(s)</b>	Non-point sources
<b>Total Waterbody Size</b>	10 miles	<b>TMDL Priority</b>	Analytical Unit 55
<b>Size Affected</b>	4.3 miles	<b>TMDL Start Date (Mo/Yr)</b>	2002
<b>Extent of Impairment</b>	Ballona Creek to Estuary	<b>TMDL End Date (Mo/Yr)</b>	2004

**Watershed Characteristics**

Ballona Creek flows slightly over 10 miles from Los Angeles through Culver City, reaching the ocean at Playa del Rey. Except for the estuary of Ballona Creek which is composed of grouted rip-rap side slopes and an earth bottom, Ballona Creek is completely channelized and extends into a complex underground network of stormdrains which reaches to Beverly Hills and West Hollywood, draining 130 square miles of highly developed land, with both residential and commercial land uses. Tributaries of Ballona Creek include Centinela Creek, Sepulveda Canyon Channel, Benedict Canyon Channel, and numerous other storm drains. Adjacent to the downstream channel of Ballona Creek are the Marina del Rey Harbor, Ballona Lagoon and Venice Canals, Del Rey Lagoon and Ballona Wetlands. They are grouped as waterbodies in this subwatershed because of their proximity and various forms of hydrological connection to Ballona Creek. "Ballona Creek to Estuary" is defined from Rodeo Road at Jefferson Boulevard to the estuary.

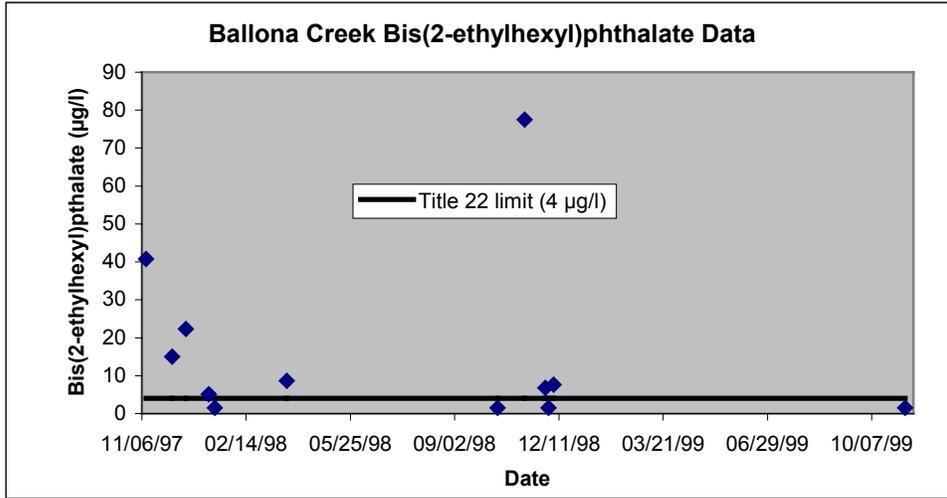
**Water Quality Objectives Not Attained**

Title 22 of the California Code of Regulations specifies maximum contaminant levels for drinking water supplies. These maximum contaminant levels (MCLs) are incorporated into the Basin Plan as water quality objectives to protect the MUN beneficial use. The objective for Bis(2-ethylhexyl)phthalate is 4 µg/l. Analysis of available data determined that the median value of the samples exceeded this limit.

**Beneficial Uses Affected**

- Potential Municipal and Domestic Supply

**Data Assessment**



**Table 2. Summary of Bis(2-ethylhexyl)phthalate Data for Ballona Creek to Estuary**

Dates of Sampling	11/97 – 11/99
Number of Samples (n)	12
Minimum Data Value	1.5 µg/l
Maximum Data Value	77.5 µg/l
Median Data Value	7.2 µg/l
Arithmetic Mean Value	15.8 µg/l
Standard Deviation	22.6 µg/l
Percent above Objective	75 %

**Potential Sources**

All of the exceedances occurred in stormwater samples collected by the Los Angeles County Department of Public Works Stormwater Monitoring Program. Therefore the most likely source of Bis(2-ethylhexyl) phthalate loading is stormwater runoff.

**References**

Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, 1994  
 Watershed Management Initiative, 2000