California Regional Water Quality Control Board
Los Angeles Region

Ventura River Watershed Draft Fact Sheets
2002 303(d) List of Impaired Waterbodies

California Regional Water Quality Control Board, Los Angeles Region

Ventura River Estuary
Total & Fecal Coliform

Summary of Proposed Action

The Ventura River Estuary is proposed to be listed in the 2002 305(b) water quality assessment as "Partially Supporting (Impaired)" due to exceedance of the total and fecal coliform objectives. The beneficial uses that are affected by this impairment include water contact recreation and shellfish harvesting.

Table 1. 303(d) Listing/TMDL Information

Waterbody Name	Ventura River Estuary	**Pollutants/Stressors**	Total and Fecal Coliform
Hydrologic Unit	402.10	**Source(s)**	Point Sources; Nonpoint Sources; Natural Sources
Total Waterbody Size		**TMDL Priority**	low
Size Affected	0.35 miles	**TMDL Start Date (Mo/Yr)**	2012
Extent of Impairment	Estuary	**TMDL End Date (Mo/Yr)**	2014

Watershed Characteristics

The Ventura River and its tributaries drain a coastal watershed in western Ventura County. The watershed covers a fan-shaped area of 235 square miles, which is situated within the western Transverse Ranges (the only major east-west mountain ranges in the continental U.S.). From the upper slopes of the Transverse Ranges, the surface water system in the Ventura River watershed generally flows in a southerly direction to an estuary, located at the mouth of the Ventura River. Groundwater basins composed of alluvial aquifers deposited along the surface water system, are highly interconnected with the surface water system and are quickly recharged or depleted, according to surface flow conditions. Topography in the watershed is rugged and as a result, the surface waters that drain the watershed have very steep gradients, ranging from 40 feet per mile at the mouth to 150 feet per mile at the headwaters.

Precipitation varies widely in the watershed. Most occurs as rainfall during just a few storms, between November and March. Summer and fall months are typically dry. Although snow occurs at higher elevations, melting snowpack does not sustain significant runoff in warmer months. The erratic weather pattern, coupled with the steep gradients throughout most of the watershed, result in high flow velocities with most runoff reaching the ocean.

Water Quality Objectives Not Attained

Ocean Plan total coliform limit of 1000/100ml exceeded with a frequency greater than 20%.

Water Contact Recreation

Basin Plan fecal coliform limit of 400/100 ml exceeded with a frequency greater than 10%.

"In waters designated for water contact recreation (REC-1), the fecal coliform concentration shall not ... nor shall more than 10 percent of total samples during any 30-day period exceed 400/100 ml."

Shellfish Harvesting

"In all waters where shellfish can be harvested for human consumption (SHELL), the median total coliform concentration throughout the water column for any 30-day period shall not exceed 70/100 ml, nor shall more than ten percent of the samples collected during any 30-day period exceed 230/100 ml for a five-tube decimal dilution test or 330/100 ml when a three-tube decimal dilution test is used."

Beneficial Uses Affected

Water Contact Recreation
Shellfish Harvesting

Data Assessment

Table 2. Summary of Total & Fecal Coliform Data for the Ventura River Estuary

	Total Coliform	Fecal Coliform
Dates of Sampling	1/21/98-7/26/00	1/21/98-7/26/00
Number of Samples (n)	37	37
Minimum Data Value	90	7
Maximum Data Value	24192	1722
Median Data Value	2200	153
Arithmetic Mean Value	6503	335
Standard Deviation	8894	475
Percent above Objective	65% based on 1000/100 ml 86% based on 230/100 ml 100% based on 70/100 ml	16% exceed 400/100ml objective

Potential Sources

One large land use within the Ventura River watershed is stables and horse property. Without BMPs implemented to contain horse feces from entering the river, this land use is a potential source.

References

Basin Plan (1994)
Watershed Management Initiative Chapter (2000)

California Regional Water Quality Control Board, Los Angeles Region

Ventura River Watershed – Canada Larga
Fecal Coliform

Summary of Proposed Action

Canada Larga, a tributary to the Ventura River, whose confluence is in Reach 2, is proposed to be listed in the 2002 305(b) water quality assessment as "Partially Supporting (Impaired)" due to greater than 10 percent exceedance of the fecal coliform objective. The beneficial use that is affected by this impairment is water contact recreation.

Table 1. 303(d) Listing/TMDL Information

Waterbody Name	Ventura River	**Pollutants/Stressors**	Fecal Coliform
Hydrologic Unit	402.10	**Source(s)**	Unknown
Total Waterbody Size		**TMDL Priority**	Low
Size Affected	8.01 miles	**TMDL Start Date (Mo/Yr)**	2012
Extent of Impairment	Entire reach of Canada Larga, a tributary to the Ventura River in Reach 2	**TMDL End Date (Mo/Yr)**	2014

Watershed Characteristics

The Ventura River and its tributaries drain a coastal watershed in western Ventura County. The watershed covers a fan-shaped area of 235 square miles, which is situated within the western Transverse Ranges (the only major east-west mountain ranges in the continental U.S.). From the upper slopes of the Transverse Ranges, the surface water system in the Ventura River watershed generally flows in a southerly direction to an estuary, located at the mouth of the Ventura River. Groundwater basins composed of alluvial aquifers deposited along the surface water system, are highly interconnected with the surface water system and are quickly recharged or depleted, according to surface flow conditions. Topography in the watershed is rugged and as a result, the surface waters that drain the watershed have very steep gradients, ranging from 40 feet per mile at the mouth to 150 feet per mile at the headwaters.

Precipitation varies widely in the watershed. Most occurs as rainfall during just a few storms, between November and March. Summer and fall months are typically dry. Although snow occurs at higher elevations, melting snowpack does not sustain significant runoff in warmer months. The erratic weather pattern, coupled with the steep gradients throughout most of the watershed, result in high flow velocities with most runoff reaching the ocean.

Water Quality Objectives Not Attained

Water Contact Recreation

Basin Plan fecal coliform limit of 400/100 ml exceeded with a frequency greater than 10%.

"In waters designated for water contact recreation (REC-1), the fecal coliform concentration shall not ... nor shall more than 10 percent of total samples during any 30-day period exceed 400/100 ml."

Beneficial Uses Affected

Water contact recreation

Data Assessment

Table 2. Summary of Fecal Coliform and E. coli Data for Canada Larga, a tributary to the Ventura River

	Fecal Coliform	E. coli	Combined
Dates of Sampling	10/28/99-6/21/00	1/20/01-6/22/01	10/28/99-6/22/01
Number of Samples (n)	9	10	19
Minimum Data Value	2	74	2
Maximum Data Value	900	1860	1860
Median Data Value	80	334.5	201
Arithmetic Mean Value	187	453.3	N/a
Standard Deviation	285.2	507.2	N/a
Percent above Objective	11%	30% (see note below)	21.05%

Note: E. coli is a subset of fecal coliform and is compared to the fecal coliform objective of 400/100 ml.

Potential Sources

Horse stables, land use, cattle, wildlife

References

Basin Plan (1994)
Watershed Management Initiative Chapter (2000)

California Regional Water Quality Control Board, Los Angeles Region

Ventura River Watershed – Canada Larga
Dissolved Oxygen

Summary of Proposed Action

Canada Larga, a tributary to the Ventura River, whose confluence is in Reach 2, is proposed to be listed in the 2002 305(b) water quality assessment as "Partially Supporting (Impaired)" due to greater than 10 percent exceedance of the instantaneous dissolved oxygen objective. The beneficial uses that are affected by this impairment relate to aquatic life and include warm freshwater habitat, coldwater habitat, wildlife habitat, spawning, reproduction and/or early development, and migration of aquatic organisms.

Table 1. 303(d) Listing/TMDL Information

Waterbody Name	Ventura River	**Pollutants/Stressors**	Low Dissolved Oxygen
Hydrologic Unit	402.10	**Source(s)**	Unknown
Total Waterbody Size		**TMDL Priority**	TMDL Analytical Unit 88
Size Affected	8.01 miles	**TMDL Start Date (Mo/Yr)**	2003
Extent of Impairment	Entire reach of Canada Larga, a tributary to the Ventura River in Reach 2	**TMDL End Date (Mo/Yr)**	2005

Watershed Characteristics

The Ventura River and its tributaries drain a coastal watershed in western Ventura County. The watershed covers a fan-shaped area of 235 square miles, which is situated within the western Transverse Ranges (the only major east-west mountain ranges in the continental U.S.). From the upper slopes of the Transverse Ranges, the surface water system in the Ventura River watershed generally flows in a southerly direction to an estuary, located at the mouth of the Ventura River. Groundwater basins composed of alluvial aquifers deposited along the surface water system, are highly interconnected with the surface water system and are quickly recharged or depleted, according to surface flow conditions. Topography in the watershed is rugged and as a result, the surface waters that drain the watershed have very steep gradients, ranging from 40 feet per mile at the mouth to 150 feet per mile at the headwaters.

Precipitation varies widely in the watershed. Most occurs as rainfall during just a few storms, between November and March. Summer and fall months are typically dry. Although snow occurs at higher elevations, melting snowpack does not sustain significant runoff in warmer months. The erratic weather pattern, coupled with the steep gradients throughout most of the watershed, result in high flow velocities with most runoff reaching the ocean.

Water Quality Objectives Not Attained

The Basin Plan states, "At a minimum (see specifics below), the **mean** annual dissolved oxygen concentration of **all** waters shall be greater than 7 mg/L, and no single determination shall be less than 5.0 mg/L, except when natural conditions cause lesser concentrations."

Beneficial Uses Affected

warm freshwater habitat
coldwater habitat
wildlife habitat
spawning, reproduction, and/or early development
migration of aquatic organisms

Data Assessment

Table 2. Summary of Dissolved Oxygen Data for Canada Larga, a tributary to the Ventura River

	Dissolved Oxygen (mg/L)
Dates of Sampling	6/28/99-6/22/01
Number of Samples (n)	21
Minimum Data Value	2.4
Maximum Data Value	13.33
Median Data Value	
Arithmetic Mean Value	9.26
Standard Deviation	3.41
Percent below Objective	23.8 % of the data are below the minimum objective of 5 mg/L

Potential Sources

Unknown – may be high BOD due to exceedances of fecal coliform objective.

References

Basin Plan (1994)
Watershed Management Initiative Chapter (2000)

California Regional Water Quality Control Board, Los Angeles Region

Ventura River Watershed – San Antonio Creek
Total Nitrogen

Summary of Proposed Action

San Antonio Creek of the Ventura River, a tributary to Reach 4 of the Ventura River, is proposed to be listed in the 2002 305(b) water quality assessment as "Partially Supporting (Impaired)" due to greater than 10 percent exceedance of the nitrogen objective listed in Table 3-8 of the Basin Plan.

Table 1. 303(d) Listing/TMDL Information

Waterbody Name	Ventura River	**Pollutants/Stressors**	Total Nitrogen
Hydrologic Unit	402.20 and 402.32	**Source(s)**	Unknown
Total Waterbody Size		**TMDL Priority**	TMDL Analytical Unit 88
Size Affected	14.44 miles	**TMDL Start Date (Mo/Yr)**	2003
Extent of Impairment	San Antonio Creek	**TMDL End Date (Mo/Yr)**	2005

Watershed Characteristics

The Ventura River and its tributaries drain a coastal watershed in western Ventura County. The watershed covers a fan-shaped area of 235 square miles, which is situated within the western Transverse Ranges (the only major east-west mountain ranges in the continental U.S.). From the upper slopes of the Transverse Ranges, the surface water system in the Ventura River watershed generally flows in a southerly direction to an estuary, located at the mouth of the Ventura River. Groundwater basins composed of alluvial aquifers deposited along the surface water system, are highly interconnected with the surface water system and are quickly recharged or depleted, according to surface flow conditions. Topography in the watershed is rugged and as a result, the surface waters that drain the watershed have very steep gradients, ranging from 40 feet per mile at the mouth to 150 feet per mile at the headwaters.

Precipitation varies widely in the watershed. Most occurs as rainfall during just a few storms, between November and March. Summer and fall months are typically dry. Although snow occurs at higher elevations, melting snowpack does not sustain significant runoff in warmer months. The erratic weather pattern, coupled with the steep gradients throughout most of the watershed, result in high flow velocities with most runoff reaching the ocean.

Water Quality Objectives Not Attained

Table 3-8 of the Basin Plan, located on page 3-12, states that the water quality objective for nitrogen for Reach 3 of the Ventura River is 5 mg/L.

Beneficial Uses Affected

N/A (objective is specific to waterbody)

Data Assessment

Table 2. Summary of Total Nitrogen Data for San Antonio Creek, a tributary to Reach 4 of the Ventura River

	Nitrogen (mg/L)
Dates of Sampling	1/21/98-5/24/00
Number of Samples (n)	23
Minimum Data Value	0.06
Maximum Data Value	14.5
Median Data Value	
Arithmetic Mean Value	3.45
Standard Deviation	3.4
Percent above Objective	17.4%

Potential Sources

Unknown.

References

Basin Plan (1994)
Watershed Management Initiative Chapter (2000)