California Regional Water Quality Control Board, Los Angeles Region

Santa Clara River Reach 3 (Freeman Diversion to Fillmore Street A)
Nitrite and Nitrate as Nitrogen, Nitrite as Nitrogen, Total Dissolved Solids

Summary of Proposed Action

Listing is proposed for Reach 3 (Freeman Diversion to Fillmore Street A) on the Santa Clara River for nutrients and their effects, and Total Dissolved Solids, which affect agriculture and municipal drinking supplies. This Reach will be listed as "Partially Supporting (Impaired)" for agriculture and "Fully Supporting but Threatened (Impaired)" for municipal drinking supplies.

Table 1. 303(d) Listing/TMDL Information

Waterbody Name	Reach 3 (Below Fillmore at Santa Paula)	**Pollutants/Stressors**	Nitrite and Nitrate as Nitrogen, Nitrite as Nitrogen, Total Dissolved Solids
Hydrologic Unit	403.21 & 403.31	**Source(s)**	non point and point sources
Total Waterbody Size		**TMDL Priority**	Nutrient: TMDL Analytical Unit 32 TDS: low
Size Affected	13.24	**TMDL Start Date (Mo/Yr)**	Nutrients: July 2001 TDS 2012
Extent of Impairment	Entire Reach	**TMDL End Date (Mo/Yr)**	Nutrients: March 2003 TDS 2014

Watershed Characteristics

The Santa Clara River is the largest river system in southern California that remains in a relatively natural state; this is a high quality natural resource for much of its length. The river originates in the northern slope of the San Gabriel Mountains in Los Angeles County, traverses Ventura County, and flows into the Pacific Ocean halfway between the cities of San Buenaventura and Oxnard.

Extensive patches of high quality riparian habitat are present along the length of the river and its tributaries. The endangered fish, the unarmored stickleback, is resident in the river. One of the largest of the Santa Clara River's tributaries, Sespe Creek, is designated a wild trout stream by the state of California and supports significant spawning and rearing habitat. The Sespe Creek is also designated a wild and scenic river. Piru and Santa Paula Creeks, which are tributaries to the Santa Clara River, also support good habitats for steelhead. In addition, the river serves as an important wildlife corridor. A lagoon exists at the mouth of the river and supports a large variety of wildlife.

Water Quality Objectives Not Attained

Nitrite and Nitrate as Nitrogen: 10 mg/L, Nitrite as Nitrogen: 1 mg/L, Total Dissolved Solids: 1300 mg/L

Beneficial Uses Affected

Agriculture, Municipal Drinking Supplies (designated as potential under the State Sources of Drinking Water Policy)

Data Assessment

Table 2. Summary of Nitrite and Nitrate as Nitrogen, Nitrite as Nitrogen, Total Dissolved Solids Data (in mg/L) for Santa Clara River Reach 3 (Below Fillmore at Santa Paula)

	Nitrite and Nitrate as Nitrogen	Nitrite as Nitrogen	Total Dissolved Solids
Dates of Sampling	1997-2000	1997-2000	1997-2000
Number of Samples (n)	45	30	189
Minimum Data Value	.3	0	400
Maximum Data Value	33	1.7	1630
Median Data Value	3.7	.45	1080
Arithmetic Mean Value	5.16	.53	1081
Standard Deviation	5.68	.483	221
Percent above Objective	11	17	20

Potential Sources

Point and Non point sources

References

1994 Basin Plan

California Regional Water Quality Control Board, Los Angeles Region

Pole Creek/Canyon
Tributary to Santa Clara River Reach 3
(Freeman Diversion to Fillmore Street A)
Sulfate, Total Dissolved Solids

Summary of Proposed Action

Listing as "Not Supporting (Impaired)" is proposed for Pole Creek on the Santa Clara River for Sulfate and Total Dissolved Solids, which affect agricultural beneficial use.

Table 1. 303(d) Listing/TMDL Information

Waterbody Name	Pole Creek/ Santa Clara River	**Pollutants/Stressors**	Sulfate, Total Dissolved Solids
Hydrologic Unit	403.31	**Source(s)**	Non point sources
Total Waterbody Size		**TMDL Priority**	Low
Size Affected	5.5	**TMDL Start Date (Mo/Yr)**	2012
Extent of Impairment	Entire creek	**TMDL End Date (Mo/Yr)**	2014

Watershed Characteristics

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Extensive patches of high quality riparian habitat are present along the length of the river and its tributaries. The endangered fish, the unarmored stickleback, is resident in the river. One of the largest of the Santa Clara River's tributaries, Sespe Creek, is designated a wild trout stream by the state of California and supports significant spawning and rearing habitat. The Sespe Creek is also designated a wild and scenic river. Piru and Santa Paula Creeks, which are tributaries to the Santa Clara River, also support good habitats for steelhead. In addition, the river serves as an important wildlife corridor. A lagoon exists at the mouth of the river and supports a large variety of wildlife.

Water Quality Objectives Not Attained

Sulfate: 650 mg/L, Total Dissolved Solids: 1300 mg/L

Beneficial Uses Affected

Agriculture

Data Assessment

Table 2. Summary of Sulfate, TDS Data for Pole Creek/ Santa Clara River

	Sulfate (mg/L)	TDS (mg/L)
Dates of Sampling	1997-2000	1997-2000
Number of Samples (n)	12	12
Minimum Data Value	310	630
Maximum Data Value	850	1700
Median Data Value	753	1390
Arithmetic Mean Value	723	1374
Standard Deviation	135	256
Percent above Objective	97.	91.7

Potential Sources

Non Point Sources

References

1994 Basin Plan

California Regional Water Quality Control Board, Los Angeles Region

Todd Barranca-Wheeler Creek/Canyon
Tributary to Santa Clara River Reach 3
(Freeman Diversion to Fillmore Street A)
Sulfate, Total Dissolved Solids

Summary of Proposed Action

Listing as "Not Supporting (Impaired)" is proposed for Todd Barranca-Wheeler Creek/Canyon on the Santa Clara River for Sulfate and Total Dissolved Solids, which affect agricultural beneficial use.

Table 1. 303(d) Listing/TMDL Information

Waterbody Name	Todd Barranca-Wheeler Creek/Canyon	**Pollutants/Stressors**	Sulfate, Total Dissolved Solids
Hydrologic Unit	403.21	**Source(s)**	Non point sources
Total Waterbody Size		**TMDL Priority**	Low
Size Affected	4.17	**TMDL Start Date (Mo/Yr)**	2012
Extent of Impairment	Entire creek	**TMDL End Date (Mo/Yr)**	2014

Watershed Characteristics

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Extensive patches of high quality riparian habitat are present along the length of the river and its tributaries. The endangered fish, the unarmored stickleback, is resident in the river. One of the largest of the Santa Clara River's tributaries, Sespe Creek, is designated a wild trout stream by the state of California and supports significant spawning and rearing habitat. The Sespe Creek is also designated a wild and scenic river. Piru and Santa Paula Creeks, which are tributaries to the Santa Clara River, also support good habitats for steelhead. In addition, the river serves as an important wildlife corridor. A lagoon exists at the mouth of the river and supports a large variety of wildlife.

Water Quality Objectives Not Attained

Sulfate: 650 mg/l., Total Dissolved Solids: 1300 mg/L (Waterbody tributary to Santa Clara River Reach 3 between Freeman Diversion and Fillmore Street A with objectives in Basin Plan Table 3-8)

Beneficial Uses Affected

Agriculture

Data Assessment

Table 2. Summary of Sulfate, Total Dissolved Solids Data for Todd Barranca-Wheeler Creek/ Santa Clara River

	Sulfate (mg/L)	TDS (mg/L)
Dates of Sampling	1997-2000	1997-2000
Number of Samples (n)	12	12
Minimum Data Value	650	1410
Maximum Data Value	1380	2650
Median Data Value	875.5	1920
Arithmetic Mean Value	905	1952
Standard Deviation	176	302
Percent above Objective	91.7	100

Potential Sources

Non Point Sources

References

1994 Basin Plan

California Regional Water Quality Control Board, Los Angeles Region

Hopper Creek
Tributary to Santa Clara River Reach 4
(Fillmore Street A to Blue Cut Gauging Station)
Sulfate/Total Dissolved Solids

Summary of Proposed Action

Listing as "Not Supporting (Impaired)" is proposed for Hopper Creek, a tributary of the Santa Clara River, Reach 4, for Sulfate and Total Dissolved Solids, which affect agricultural beneficial use, due to greater than 25 percent exceedance of the objective.

Table 1. 303(d) Listing/TMDL Information

Waterbody Name	Hopper Creek/Santa Clara River	**Pollutants/Stressors**	sulfate/ total dissolved solids
Hydrologic Unit	403.41	**Source(s)**	nonpoint sources, point sources
Total Waterbody Size		**TMDL Priority**	Low
Size Affected	13.65	**TMDL Start Date (Mo/Yr)**	2012
Extent of Impairment	Entire reach	**TMDL End Date (Mo/Yr)**	2014

Watershed Characteristics

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Extensive patches of high quality riparian habitat are present along the length of the river and its tributaries. The endangered fish, the unarmored stickleback, is resident in the river. One of the largest of the Santa Clara River's tributaries, Sespe Creek, is designated a wild trout stream by the state of California and supports significant spawning and rearing habitat. The Sespe Creek is also designated a wild and scenic river. Piru and Santa Paula Creeks, which are tributaries to the Santa Clara River, also support good habitats for steelhead. In addition, the river serves as an important wildlife corridor. A lagoon exists at the mouth of the river and supports a large variety of wildlife.

Water Quality Objectives Not Attained

Sulfate: 600 mg/L; Total Dissolved Solids: 1300 mg/L (Table 3-8 in LA Regional Board Basin Plan)

Beneficial Uses Affected

Agriculture

Data Assessment

Table 2. Summary of Sulfate/TDS Data for Hopper Creek

	Sulfate (mg/L)	TDS (mg/L)
Dates of Sampling	1997-2000	1997-2000
Number of Samples (n)	12	11
Minimum Data Value	580	1220
Maximum Data Value	801	1700
Median Data Value	714	1430
Arithmetic Mean Value	717	1444
Standard Deviation	63	131
Percent above Objective	91.7	91.7

Potential Sources

Non Point sources and Point sources

References

1994 Basin Plan

California Regional Water Quality Control Board, Los Angeles Region

Piru Creek
Tributary to Santa Clara River Reach 4
(Fillmore A Street and Blue Cut Gauging Station)
pH

Summary of Proposed Action

Listing as "Partially Supporting" (impaired) is proposed for Piru Creek on the Santa Clara River for pH, which affects aquatic life beneficial use because the objective is exceeded 17 percent of the time.

Table 1. 303(d) Listing/TMDL Information

Waterbody Name	Piru Creek/ Santa Clara River	**Pollutants/Stressors**	pH
Hydrologic Unit	403.41	**Source(s)**	Non point sources, Conservation discharge
Total Waterbody Size		**TMDL Priority**	Analytical Unit 32
Size Affected		**TMDL Start Date (Mo/Yr)**	2001
Extent of Impairment	Entire creek	**TMDL End Date (Mo/Yr)**	2003

Watershed Characteristics

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Water Quality Objectives Not Attained

pH: <6.5 or > 8.5

Beneficial Uses Affected

Aquatic Life

Data Assessment

Table 2. Summary of pH Data for Piru Creek/ Santa Clara River

Dates of Sampling	1997-2000
Number of Samples (n)	24
Minimum Data Value	7.6
Maximum Data Value	8.8
Median Data Value	8.4
Arithmetic Mean Value	8.29
Standard Deviation	.36
Percent above Objective	17

Potential Sources

Non Point Sources, Conservation Releases

References

1994 Basin Plan

California Regional Water Quality Control Board, Los Angeles Region

Sespe Creek
Tributary to Santa Clara River Reach 3
(Freeman Diversion to Fillmore Street A)
Chloride, pH

Summary of Proposed Action

Listing is proposed for Sespe Creek on the Santa Clara River for chloride and pH, which affect agricultural and aquatic life beneficial uses. The proposed listing would be "Not Supporting" for the agricultural beneficial use and "Partially Supporting" for the aquatic life beneficial use.

Table 1. 303(d) Listing/TMDL Information

Waterbody Name	Sespe Creek/ Santa Clara River	**Pollutants/Stressors**	Chloride, pH
Hydrologic Unit	403.31, 403.32	**Source(s)**	non point sources
Total Waterbody Size	41.5	**TMDL Priority**	Chloride: Analytical Unit 31 pH: Analytical Unit 32
Size Affected		**TMDL Start Date (Mo/Yr)**	Chloride: 1998 pH: 2001
Extent of Impairment	Entire creek	**TMDL End Date (Mo/Yr)**	Chloride: 2002 pH: 2003

Watershed Characteristics

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Increasing loads of nitrogen and salts in supplies of ground water threaten beneficial uses including irrigation and drinking water. Other threats to water quality include increasing development in floodplain areas which has necessitated flood control measures such as channelization that results in increased runoff volumes and velocities, erosion, and loss of habitat. In many of these highly disturbed areas the exotic giant reed (*Arundo donax*) is gaining a foothold.

Many of the smaller communities in this watershed remain unsewered. In particular, in the Agua Dulce area of the upper watershed, impacts on drinking water wells from septic tanks is a major concern. The community is undertaking a wellhead protection effort, with oversight by Board staff. Development pressure, particularly in the upper watershed, threatens habitat and the water quality of the river. The effects of septic system use in the Oxnard Forebay area is also of concern.

Water Quality Objectives Not Attained

Chloride: 60 mg/L, pH <6.5 or >8.5 (Table 3-8 of the LA Regional Board Basin Plan)

Beneficial Uses Affected

Agriculture, Aquatic Life

Data Assessment

Table 2. Summary of Chloride and pH Data for Sespe Creek / Santa Clara River

	Chloride (mg/L)	pH (units)
Dates of Sampling	1997-2000	1997-2000
Number of Samples (n)	16	24
Minimum Data Value	6	7.2
Maximum Data Value	118	9
Median Data Value	34	8.3
Arithmetic Mean Value	49	8.25
Standard Deviation	35	.39
Percent above Objective	44	25

Potential Sources

Non point sources

References

Basin Plan (1994)