Appendix L: San Bernardino County (Santa Ana Watershed Region) Subwatershed Fact Sheets

Subwatershed Fact Sheets

A series of Subwatershed Fact Sheets have been developed to provide the planner, environmental consultant, project proponent and other interested stakeholders a starting point for overall subwatershed particulars. These fact sheets should be used in conjunction with the geodatabase when analysis watershed needs. The watershed key map is Figure 1 in this document.

These Fact Sheets, as found in this appendix, should be used for preliminary data and initial guidance and should be printed out for use as a handout or for reference by planning staff, CEQA analysts and other stakeholder. The listing of the Fact Sheets as they presented is as follows:

- Big Bear Lake Watershed Fact Sheet
- Cucamonga Creek Watershed Fact Sheet
- Cypress Channel Watershed Fact Sheet
- Day Creek Watershed Fact Sheet
- Lytle Cajon Creek Watershed Fact Sheet
- Mill Creek Watershed Fact Sheet
- Rialto Channel Watershed Fact Sheet
- San Antonio Creek Watershed Fact Sheet
- San Sevaine Watershed Fact Sheet
- San Timoteo Watershed Fact Sheet
- Santa Ana (East) Watershed Fact Sheet
- Santa Ana (West) Watershed Fact Sheet
- Warm Channel Watershed Fact Sheet

This appendix is formatted for double sided printing.

Big Bear Lake Watershed Fact Sheet

Big Bear Lake Watershed

Big Bear Lake Watershed is located in the mountainous region of San Bernardino County and includes the county of San Bernardino and the cities of Big Bear Lake and Big Bear. Federal jurisdictions include the Angeles Forest (USFS) and Big Bear Lake (USACOE).

The following data summary provides general watershed information. Site specific information must be researched on the Stormwater Facility Mapping Tool (Watershed Geodatabase) found at:
http://sbcounty.permitrack.com/WAP/

~~Big Bear Lake Watershed Data Summary~~

Waterbodies: Grout Creek, North Creek, Rathbone Creek, Sand Canyon Creek, Knickerbocker Creek, Metcalf Creek, Big Bear Lake

Source Waters: 1) Headwater locations should be checked for spring sources 2) Effluent dominated sources include: Big Bear Waste Water Treatment Plant

Wetlands/Riparian Areas:

- Riparian/Wetland areas are identified on the geodatabase
- During the CEQA process, the jurisdictional delineations for riparian and wetland areas are delineated and included into the CEQA analysis per USACOE (Section 404), Calif. Dept. of Fish and Wildlife (Section 1600) and Calif. Water Resources Control Board (Section 401) permitting requirements.
- **Biological Sensitive Areas:** Mill Creek Watershed contains known mapped plant and animal sensitive areas. It is typically required to analyze sites with respect to biological criteria.
    - Expected Habitat:
        - Southern Rubber Boa – throughout forest areas
        - San Bernardino Bluegrass – throughout forest areas
        - Mountain Bladderpod –throughout forest areas
        - Bald Eagle – throughout watershed
    - No Fish, Rodents, Tortoise, Insects, Snakes

Groundwater Basins:

Depth to Groundwater is presented on the Geodatabase and is available from the following water purveyors:

http://www.bbmwd.com/Home.html

Flood Control Measures/ Plans:

- Watershed is located within San Bernardino County Flood Control District Zone 3 and 6 (SBCFCD) and must be in compliance with current operating procedures and requirements. Please contact SBCFCD for site specific information (909-387-8104).

Drainage channels: This watershed has both non -Engineered Hardened Maintained (non-EHM) and EHM channels. Projects not draining to an EHM must meet requirements in the WQMP Manual. (http://www.sbcounty.gov/dpw/land/npdes.asp)

Hydrologic Conditions of Concern (HCOC): Watershed must meet the HCOC criteria in the WQMP Manual.
Recharge information: Most of the watershed does not meet recharge geohydrology criteria due to soil and bedrock.

Beneficial Uses:

- **North Creek:** MUN, GWR, REC1, REC2, COLD, WILD, SPWN

- **Metcalf Creek:** MUN, GWR, REC1, REC2, COLD, WILD, SPWN
- **Grout Creek:** MUN, GWR, REC1, REC2, COLD, WILD, SPWN
- **Rathbone Creek:** MUN, GWR, REC1, REC2, COLD, WILD
- **Other Tributaries:** MUN, GWR, REC1, REC2, COLD, WILD
- **Big Bear Lake:** MUN, AGR, GWR, REC 1, REC2, WARM, COLD, WILD, RARE

303(d) Impairments:

- **Grout Creek:** Nutrients
- **Knickerbocker Creek:** Pathogens
- **Rathbone Creek:** Cadmium, Copper, Nutrients, Sedimentation/Siltation
- **Big Bear Lake:** Mercury, PCBs

Approved TMDLs:

- **Big Bear Lake:** Noxious plants, Nutrients

Water Quality Objectives ~~(mg/L):~~:

Discharges **must not cause exceedance** of the following Basin Plan Water Quality Objectives as presented in:
http://www.waterboards.ca.gov/rwqcb8/water_issues/programs/basin_plan/index.shtml

	~~Water Quality Objective~~						
~~Waterbody~~	~~TDS~~	~~Hardness~~	~~Sodium~~	~~Chloride~~	~~Total Inorganic Nitrogen~~	~~Sulfate~~	~~Chemical Oxygen Demand~~
~~Grout Creek~~	~~150~~	—	—	—	—	—	—
~~Metcalf Creek~~	Big Bear Lake~~175~~	Grout Creek	Rathbone Creek	Summit Creek	Knickerbocker Creek, Metcalf, North Creeks	Mountain Home Creek	Mountain Home Creek, East Fork
~~North Creek~~BASIN PLAN	~~175~~	—	—	—	—	—	—
Tributary Rule Waterbody~~Rathbone~~	~~300~~	—	—	—	—	—	—
~~Other Tributaries~~Notes	~~1~~	—	—	—	—	—	—
WAP Subwatershed~~Big Bear Lake~~*	Big Bear Lake	~~125~~Big Bear	~~20~~Big Bear	~~10~~Big Bear	~~.15~~Big Bear	~~10~~Big Bear	—Big Bear Lake
Impairment, 303(d) listing							
Hardness	125	NA	NA	NA	NA	100	NA
Sodium (mg/L)	20	NA	NA	NA	NA	30	NA
Chloride (mg/L)	10	NA	NA	NA	NA	10	NA
Sulfate (mg/L)	10	NA	NA	NA	NA	20	NA
Nitrate, as N (mg/L)	10	10	10	10	10	10	10
Floride (mg/L)	0.9	0.9	0.9	0.9	0.9	0.9	0.9
TDS	175	150	300	NA	175	200	NA
COD	NA	NA	NA	NA	NA	5.0	NA

MBAS	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Total Inorganic Nitrogen	0.15	NA	NA	NA	NA	1.0	NA

	Big Bear Lake Tributaries						
	Big Bear Lake	Grout Creek	Rathbone Creek	Summit Creek	Knickerbocker Creek, Metcalf, North Creeks	Mountain Home Creek	Mountain Home Creek, East Fork
As (CTR) (ug/L)	150	340	340	340	340	340	340
Cd (SSO) (ug/L)	Calc	Calc	Calc	Calc	Calc	Calc	Calc
Cr (CTR) (ug/L)	Calc	Calc	Calc	Calc	Calc	Calc	Calc
Cu SSO (ug/L)	Calc	Calc	Calc	Calc	Calc	Calc	Calc
Pb SSO (ug/L)	Calc	Calc	Calc	Calc	Calc	Calc	Calc
Hg (ug/L)	NA	NA	NA	NA	NA	NA	NA
Ni (CTR) (ug/L)	Calc	Calc	Calc	Calc	Calc	Calc	Calc
Se (CTR) (ug/L)	5	5	5	5	5	5	5
Ag (CTR) (ug/L)	Calc	Calc	Calc	Calc	Calc	Calc	Calc
Zn (CTR) (ug/L)	Calc	Calc	Calc	Calc	Calc	Calc	Calc
Total Coliform (Org/100mL)	100	100	100	100	100	100	100
Fecal Coliform (Org/100mL)	400	400	400	400	400	400	400
E.Coli (MPN/100mL)	126	126	126	126	126	126	126
pH	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5
DO (mg/L)	6	6	6	6	6	6	6
Boron (mg/L)	30	30	30	30	30	30	30

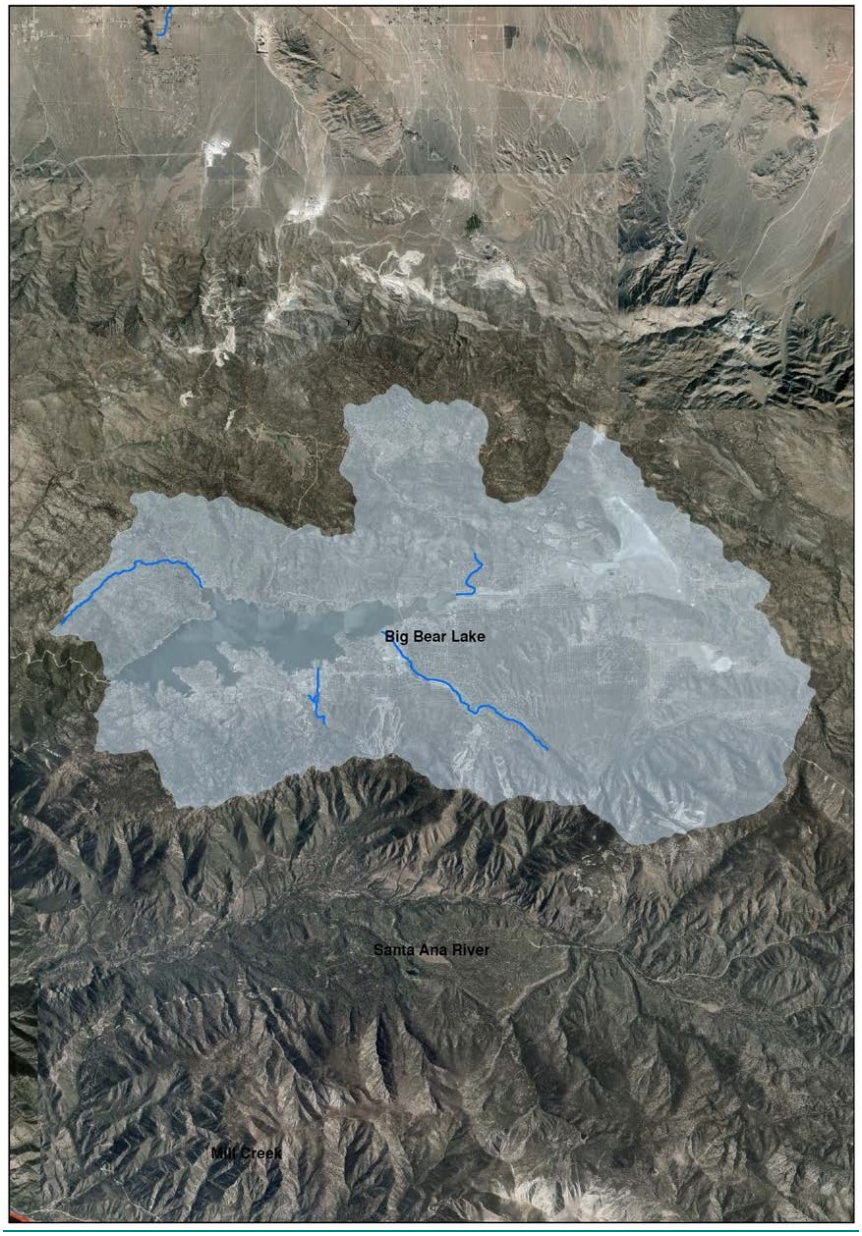
***additional objective: 0.~~15~~035 mg/l Phosphorus**

Land Use Information:

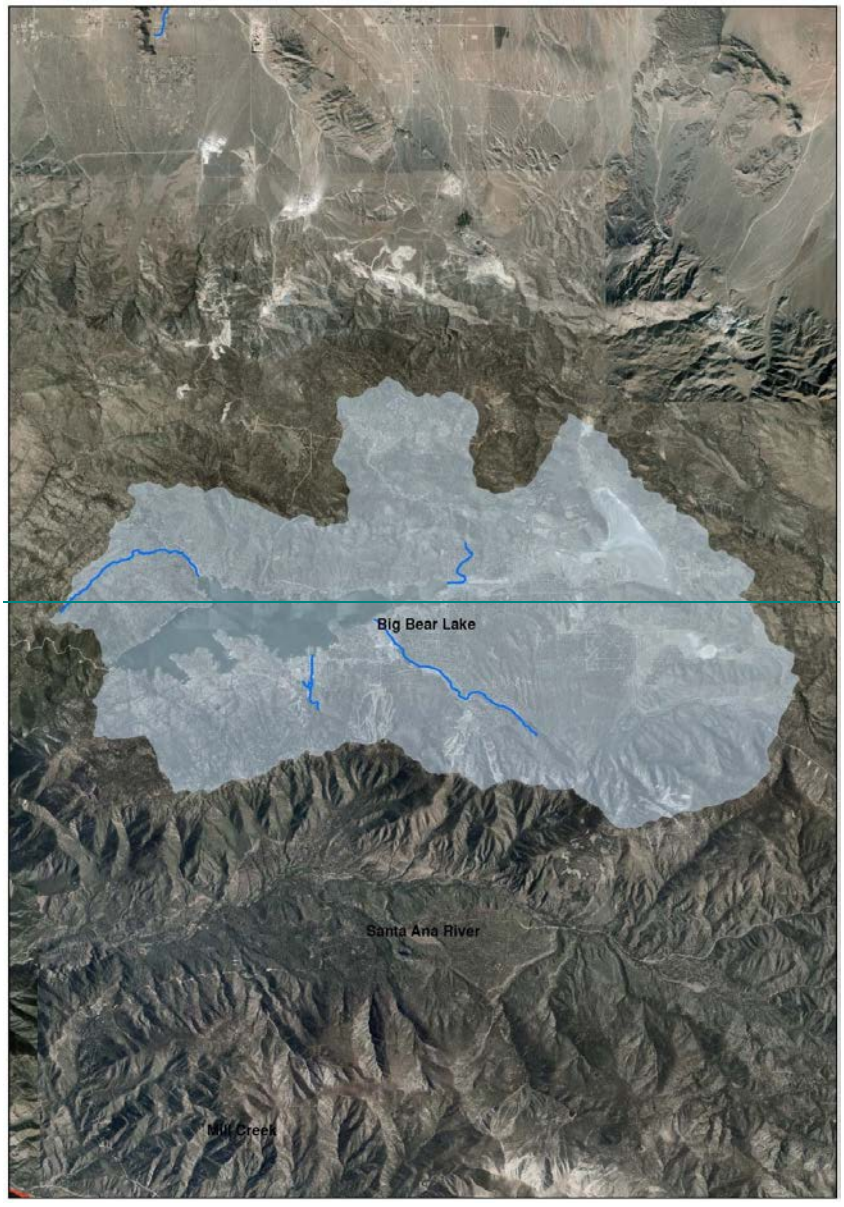
- **Percent Approximate Land Use by Category:** Open – 83% (Forest Service), Agriculture – 0%, Commercial/Industrial – 2%, Residential – 15%.
- **Regional Imperviousness Approximate Percentage:** 17% impervious; 83% pervious
- **Project-Specific Imperviousness Percentage:** Project specific impervious is to be provided by the project civil engineer
- **Land Use:** Allowable land use criteria is provided as part of the planning process through zoning and jurisdictional General or Specific Plans.
- **Soils:** Watershed is located within the mountains and is underlain by both alluvial and granitic bedrock. See the geodatabase soil information.

Items of Note:

None


Big Bear Lake
Santa Ana River
Mill Creek

BIG BEAR LAKE



Cucamonga Creek Watershed Fact Sheet

Cucamonga Creek Watershed

Cucamonga Creek Watershed is located within the western portion of San Bernardino County and includes portions of San Bernardino and Riverside counties and portions of the cities of Chino, Upland, Ontario, and Rancho Cucamonga. Federal jurisdictions include the United States Forest Service (Angeles Forest) and United States Army Corp of Engineers (Prado Basin).

The following data summary provides general watershed information. Site specific information can also be researched on the Stormwater Facility Mapping Tool (Watershed Geodatabase) found at: http://sbcounty.permitrack.com/WAP/

Waterbodies	**Primary Tributaries**	
Santa Ana Reach 3 (Prado Basin)	Demens Creek	Deer Creek
Cucamonga Creek	West Cucamonga	Lower Deer Creek

Source Waters:

~~**Source Waters:**~~

- Headwater locations should be checked for spring sources (i.e. mountain locations)
- Effluent dominated sources include: IEUA RP-1 (Cucamonga Creek)

Wetlands/Riparian Areas:

- Riparian/Wetland areas are identified on the geodatabase
- During the CEQA process, the jurisdictional delineations for riparian and wetland areas are delineated and included into the CEQA analysis per USACOE (Section 404), Calif. Dept. of Fish and Wildlife (Section 1600) and Calif. Water Resources Control Board (Section 401) permitting requirements.
- **Biological Sensitive Areas:** Cucamonga Creek Watershed contains known mapped plant and animal sensitive areas. It is typically required to analyze sites with respect to biological criteria.
  - Expected Habitat:
    - Delhi Sands –southern third of subwatershed
    - Least Bell Vireo – southern end of subwatershed
  - Potential Habitat:
    - Grassland/Remnant RAFSS – mid portion, east side of subwatershed
    - Riparian/Wetland – southern end of subwatershed
    - Riversidean Alluvial Fan Sage Scrub – locations along north end, along foothills
  - No Fish, Frog, Rodents, Tortoise, Insects, Snakes

Groundwater Basins:

- Depth to Groundwater is presented on the following CBWM map: http://www.cbwm.org/docs/engdocs/maps
- Per the obligations codified in the 2004 Basin Plan amendment it is regionally required to eliminate groundwater outflow to the Santa Ana River. This is the Hydraulic Control Monitoring Program and is managed through the Chino Basin Desalter Authority, the Chino Basin Watermaster and Inland Empire Utilities Agency. All areas south of the 60 Freeway must review this information.

Flood Control Measures/ Plans:

- Watershed is located within San Bernardino County Flood Control District Zone 1 (SBCFCD) and must be in compliance with current operating procedures and requirements. Please contact SBCFCD for site specific information (909-387-8104).

Drainage channels:

- All but the headwater and southern portion of the drainages are Engineered Hardened Maintained (EHM) Channels. Projects not draining to a EHM must meet requirements in the WQMP Manual (http://www.sbcounty.gov/dpw/land/npdes.asp

Hydrologic Conditions of Concern (HCOC):

- The northern two-thirds of the watershed is Hydrologic Conditions of Concern (HCOC) Exempt. Remaining portions of watershed must meet the HCOC criteria in the WQMP Manual (the headwaters and the southern one-third within City of Ontario).

Recharge information:

The watershed is highly managed with strict recharge criteria. Recharge management information is found at the following websites. *Recharge activities within this adjudicated watershed must meet existing hydrogeologic modeling criteria and groundwater management plans.*

Contact information and watershed specific information is found at:

http://www.ieua.org/sustain/gw/recharge.html
~~http://www.cbwm.org/rep_engineering.htm~~htt
p://www.cbwm.org/rep_engineering.htm
http://www.cbwcd.org/129/Percolation-Basins
~~http://www.cbwcd.org/129/Percolation-Basins~~

Beneficial Uses:

Discharges must not impair these beneficial uses:

- **Cucamonga Creek:** MUN, AGR, IND, PROC, GWR, POW, REC1, REC2, COLD, WILD
- **Deer Creek: (all intermittent/,mountain reach)** MUN, GWR, REC1, REC2, COLD, WILD
- **Santa Ana River Reach 3:** AGR, GWR, REC 1, REC2, WARM, WILD, RARE

http://www.waterboards.ca.gov/rwqcb8/water_issues/programs/basin_plan/index.shtml

303(d) Impairments:

- **Cucamonga:** Cadmium , Copper , Lead , Zinc, pH
- **Reach 3:** Lead

Approved TMDLs:

- **Cucamonga:** Coliform Bacteria,
- **Reach 3:** Copper (Wet season only)

Water Quality Objectives ~~(mg/L):~~:

Discharges **must not cause exceedance** of the following Basin Plan Water Quality Objectives as presented in:
http://www.waterboards.ca.gov/rwqcb8/water_issues/programs/basin_plan/index.shtml

	~~Water Quality Objective (mg/L)~~Cucamonga Creek						
~~Waterbody~~	~~TDS~~	~~Hardness~~	~~Sodium~~	~~Chloride~~	~~Total Inorganic Nitrogen~~		~~Sulfate~~	~~Chemical Oxygen Demand~~
	Cucamonga Creek ~~(~~ Reach 1 ~~=~~ (Valley Reach)	Cucamonga Creek - Reach 2 (Mtn reach)	Mill Creek (Prado Area)		Santa Ana			
BASIN PLAN								
Tributary Rule Waterbody								
Notes	Exempt from MUN		Exempt from MUN			Exempt from MUN		
WAP Subwatershed	Cucamonga Creek-	~~200~~Cucamonga	~~100~~Cucamonga Creek					
Impairment, 303(d) listing								
Hardness	NA	100	NA					
Sodium (mg/L)	NA	15	NA					
Chloride (mg/L)	NA	4.0	NA					140
Sulfate (mg/L)	NA	25	NA					150
Nitrate, as N (mg/L)	NA	10	NA					NA
Floride (mg/L)	NA	0.8	NA					NA
TDS	NA	200	NA					700
COD	NA	5.0	NA					30
MBAS	NA	0.05	NA					NA
Total Inorganic Nitrogen	NA	4.0	NA					10
As (CTR) (ug/L)	340	340	340					340
Cd (SSO) (ug/L)	4.0	Calc	4.0					4.0
Cr (CTR) (ug/L)	Calc	Calc	Calc					Calc
Cu SSO (ug/L)	37.0	Calc	37.0					37.0
Pb SSO (ug/L)	28.0	Calc	28.0					28.0
Hg (ug/L)	NA	NA	NA					NA
Ni (CTR) (ug/L)	Calc	Calc	Calc					Calc
Se (CTR) (ug/L)	5	5	5					5
Ag (CTR) (ug/L)	Calc	Calc	Calc					Calc
Zn (CTR) (ug/L)	Calc	Calc	Calc					Calc
Total Coliform (Org/100mL)	NA	100	NA					NA
Fecal Coliform (Org/100mL)	400	400	400					400
E.Coli (MPN/100mL)	126	126	NA					126

pH	6.5-8.5	6.5-8.5	6.5-8.5				6.5-8.5
DO (mg/L)	NA	6	5				5
~~Santa Ana River~~	~~70~~	~~35~~	~~11~~	~~140~~	~~10~~	~~150~~	

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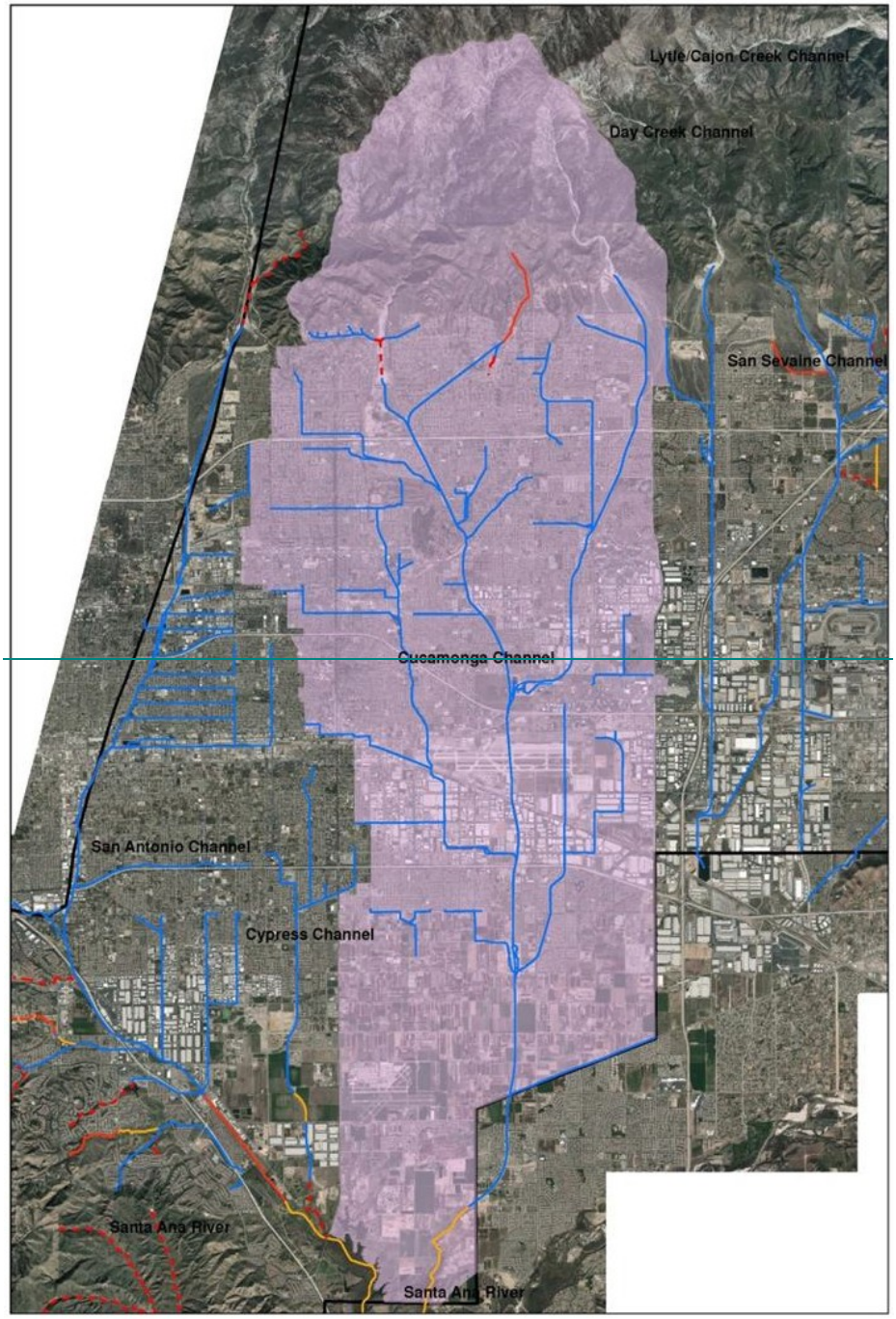
Land Use Information:

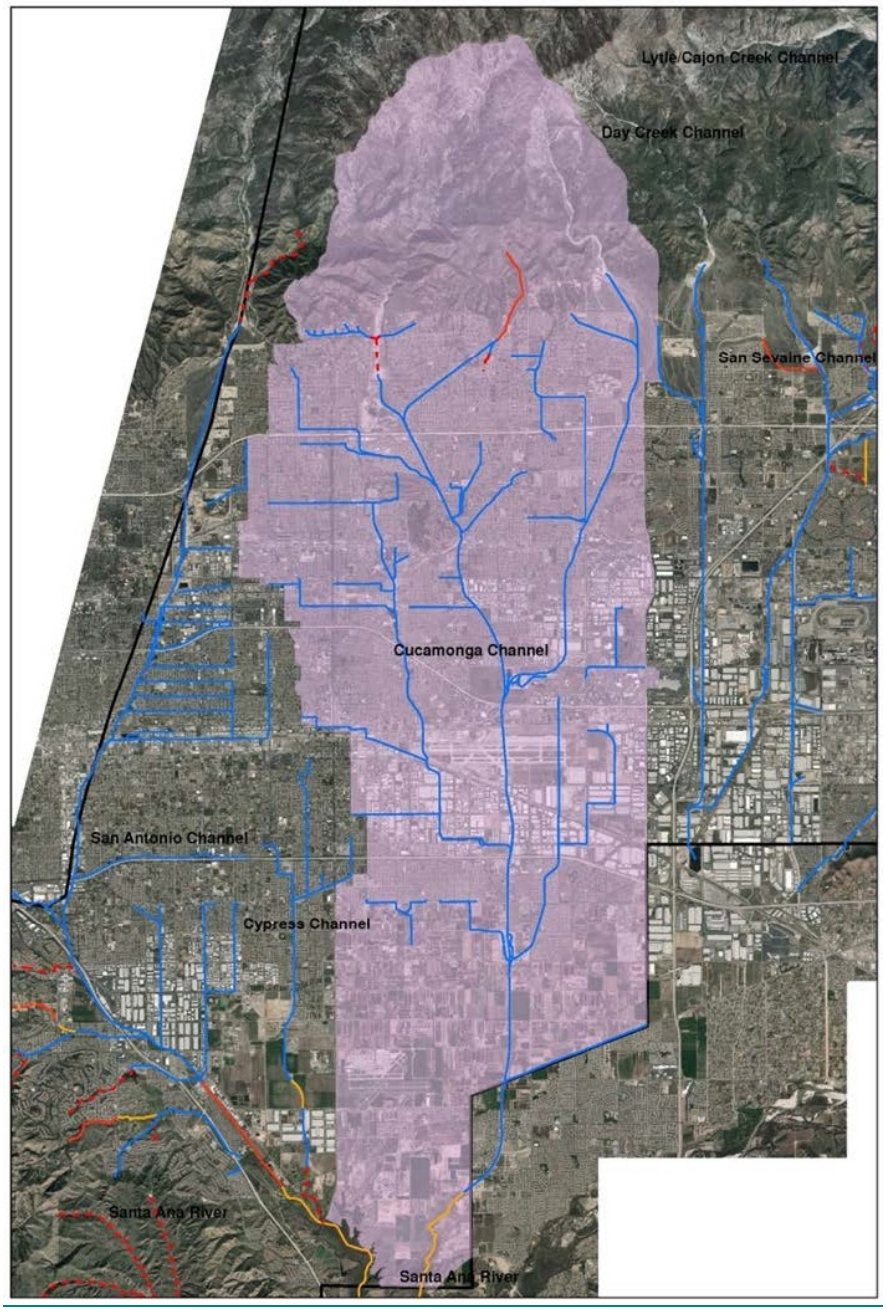
- **Percent Approximate Land Use by Category:** Open – 22%, Agriculture – 15%, Commercial/Industrial – 17%, Residential – 45%.
- **Regional Imperviousness Approximate Percentage:** 63% impervious; 37% pervious
- **Project – Specific Imperviousness Percentage:** Project specific impervious is to be provided by the project civil engineer
- **Land Use:** Allowable land use criteria is provided as part of the planning process through zoning and jurisdictional General or Specific Plans.
- **Soils:** Watershed is located within an alluvial fan. Soil types are typically coarse-grained Sands upslope near the mountains, with fine grained Silts and silty Sands located downslope, closer to Prado Basin. See the geodatabase soil information.

Items of Note:

- **CBRP compliance:** This watershed is within the CBRP compliance area. Stormwater runoff and urban discharges to the waterbodies are being investigated as part of the County of San Bernardino Areawide Stormwater CBRP program
  (http://www.sawpa.org/collaboration/projects/tmdl-taskforce/)
- **Infeasibility**
  Possible infiltration infeasibility constraints include:
  - Soil type (per project specific geotechnical report)
  - Locations within the Hydrologic Control Plan area
  - Perched groundwater or artisan groundwater conditions

Cucamonga Creek Watershed




Lytle/Cajon Creek Channel
Day Creek Channel
San Sevaine Channel
Cucamonga Channel
San Antonio Channel
Cypress Channel
Santa Ana River
Santa Ana River

~~October 2014~~

~~October 2014~~

Cypress Channel Watershed Fact Sheet

Cypress Channel Watershed

Cypress Channel Watershed is located within the western portion of San Bernardino County and includes portions of the City of Chino.

The following data summary provides general watershed information. Site specific information can also be researched on the Stormwater Facility Mapping Tool (Watershed Geodatabase) found at: http://sbcounty.permitrack.com/WAP/

Waterbodies:

Cypress Creek Santa Ana Reach 3 (Prado Basin)

Source Waters:

- There are no spring sources
- Effluent dominated sources include: IEUA Chino Desalter 1, and IEUA RP-5 (Cypress Channel)

Wetlands/Riparian Areas:

- Riparian/Wetland areas are identified on the geodatabase
- During the CEQA process, the jurisdictional delineations for riparian and wetland areas are delineated and included into the CEQA analysis per USACOE (Section 404), Calif. Dept. of Fish and Wildlife (Section 1600) and Calif. Water Resources Control Board (Section 401) permitting requirements.
- **Biological Sensitive Areas:**- Cypress Channel Watershed contains known mapped plant and animal sensitive areas. It is typically required to analyze sites with respect to biological criteria.
  - Expected Habitat:
    - Delhi Sands – eastern border
    - Least Bell Vireo – southern end of subwatershed
  - Potential Habitat:
    - Riparian/Wetland – southern half of watershed
  - No Tortoise, Fish, Frogs, Insects, Snakes

Groundwater Basins:

- Depth to Groundwater is presented on the following CBWM map http://www.cbwm.org/docs/engdocs/maps
- Per the obligations codified in the 2004 Basin Plan amendment it is regionally required to eliminate groundwater outflow to the Santa Ana River. This is the Hydraulic Control Monitoring Program and is managed through the Chino Basin Desalter Authority, the Chino Basin Watermaster and Inland Empire Utilities Agency. -All areas south of the 60 Freeway must review this information.

Flood Control Measures/ Plans:

- Watershed is located within San Bernardino County Flood Control District Zone 1 (SBCFCD) and must be in compliance with current operating procedures and requirements. Please contact SBCFCD for site specific information (909-387-8104).

Drainage channels:

- The majority of the watershed has been classified as Engineered Hardened Maintained (EHM) Channel with the exception of one channel portion south of the Chino Institution for Men and the channel portion within the El Prado Golf Course. -Projects not draining to a EHM must meet requirements in the WQMP Manual (http://www.sbcounty.gov/dpw/land/npdes.asp)

Hydrologic Conditions of Concern (HCOC):

- Northern portion of the watershed is Hydrologic Conditions of Concern (HCOC) Exempt. Remaining portions of watershed must meet the HCOC criteria in the WQMP Manual.

Recharge information: The watershed is highly managed with strict recharge criteria. Recharge management information is found at the following websites. *Recharge activities within this adjudicated watershed must meet existing hydrogeologic modeling criteria and groundwater management plans.* Contact information and watershed specific information is found at:

http://www.ieua.org/sustain/gw/recharge.html
http://www.cbwm.org/rep_engineering.htm
http://www.cbwcd.org/129/Percolation-Basins

Beneficial Uses:

Dischargers must not impair these beneficial uses:

- **Santa Ana River Reach 3:** AGR, GWR, REC 1, REC2, WARM, WILD, RARE

303(d) Impairments:

- **Santa Ana River Reach 3**: Lead
- **Santa Ana River Reach 3:** Copper (Wet season only)

Water Quality Objectives ~~(mg/L):~~:

~~Discharges **must not cause exceedance** of the following Basin Plan Water Quality Objectives as presented in: http://www.waterboards.ca.gov/rwqcb8/water_issues/programs/basin_plan/index.shtml~~

Discharges **must not cause exceedance** of the following Basin Plan Water Quality Objectives as presented in: http://www.waterboards.ca.gov/rwqcb8/water_issues/programs/basin_plan/index.shtml

	~~Water Quality Objective (mg/L)~~						
~~Waterbody~~	~~TDS~~	~~Hardness~~	~~Sodium~~	~~Chloride~~	~~Total Inorganic Nitrogen~~	~~Sulfate~~	~~Chemical Oxygen Demand~~
~~Santa Ana River Reach 3~~	~~700~~	~~350~~	~~110~~	~~140~~	~~10~~	~~150~~	~~30~~

	Cypress Channel	
	Cypress Channel	Santa Ana Reach 3 (Prado Dam to Mission Blvd, Riverside (base flow))
BASIN PLAN		
Tributary Rule Waterbody	SAR Reach 3	
Notes		Exempt from MUN
WAP Subwatershed	Cypress Channel	
Impairment, 303(d) listing		
Hardness	350	350
Sodium (mg/L)	110	110
Chloride (mg/L)	140	140
Sulfate (mg/L)	150	150

Nitrate, as N (mg/L)	NA	NA
Floride (mg/L)	NA	NA
TDS	700	700
COD	30	30
MBAS	NA	NA
Total Inorganic Nitrogen	10	10

	Cypress Channel	
	Cypress Channel	Santa Ana Reach 3 (Prado Dam to Mission Blvd, Riverside (base flow))
As (CTR) (ug/L)	340	340
Cd (SSO) (ug/L)	Calc	4.0
Cr (CTR) (ug/L)	Calc	Calc
Cu SSO (ug/L)	Calc	37.0
Pb SSO (ug/L)	Calc	28.0
Hg (ug/L)	NA	NA
Ni (CTR) (ug/L)	Calc	Calc
Se (CTR) (ug/L)	5	5
Ag (CTR) (ug/L)	Calc	Calc
Zn (CTR) (ug/L)	Calc	Calc
Total Coliform (Org/100mL)	NA	NA
Fecal Coliform (Org/100mL)	400	400
E.Coli (MPN/100mL)	126	126
pH	6.5-8.5	6.5-8.5
DO (mg/L)	5	5
Boron (mg/L)	30	30

Land Use Information:

- **Percent Approximate Land Use by Category:** Open – 9%, Agriculture – 11%, Commercial/Industrial – 17%, Residential – 62%.
- **Regional Imperviousness Approximate Percentage:** 80% impervious; 20% pervious
- **Project- Specific Imperviousness Percentage:** Project specific impervious is to be provided by the project civil engineer
- **Land Use:** Allowable land use criteria is provided as part of the planning process through zoning and jurisdictional General or Specific Plans.
- **Soils:** Watershed is located within an alluvial fan. Soil types are typically coarse-grained Sands upslope near the mountains, with fine grained Silts and silty Sands located downslope, closer to Prado Basin. See the geodatabase soil information.

Items of Note:

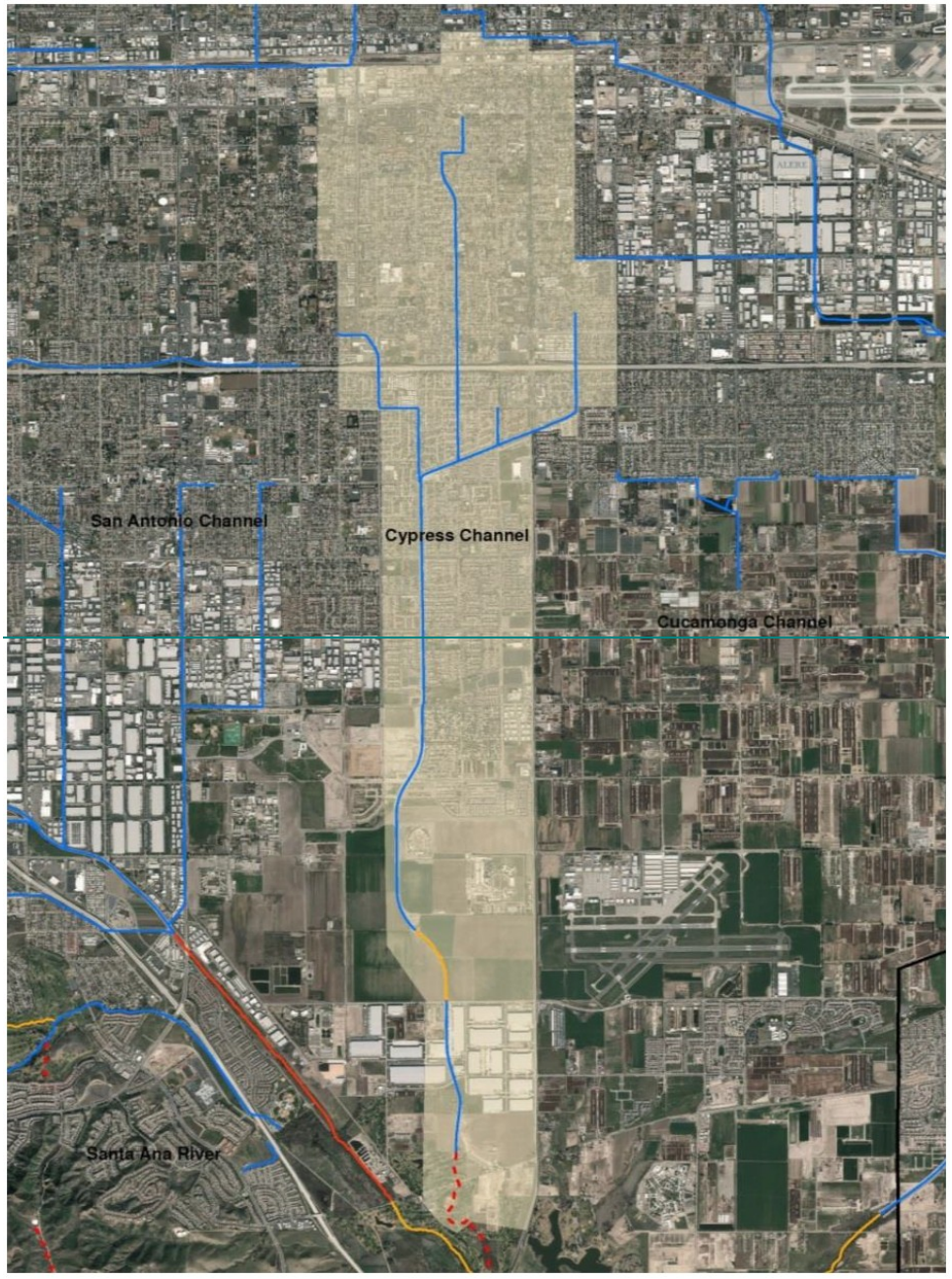
- **CBRP compliance:** This watershed is within the CBRP compliance area. Stormwater runoff and urban discharges to the waterbodies are being investigated as part of the County of San Bernardino Areawide Stormwater CBRP program
  (http://www.sawpa.org/collaboration/projects/tmdl-taskforce/)
- **Infeasibility**
  Possible infiltration infeasibility constraints include:
  - Soil type (per project specific geotechnical report)
  - Locations within the Hydrologic Control Plan area
  - Perched groundwater or artisan groundwater conditions

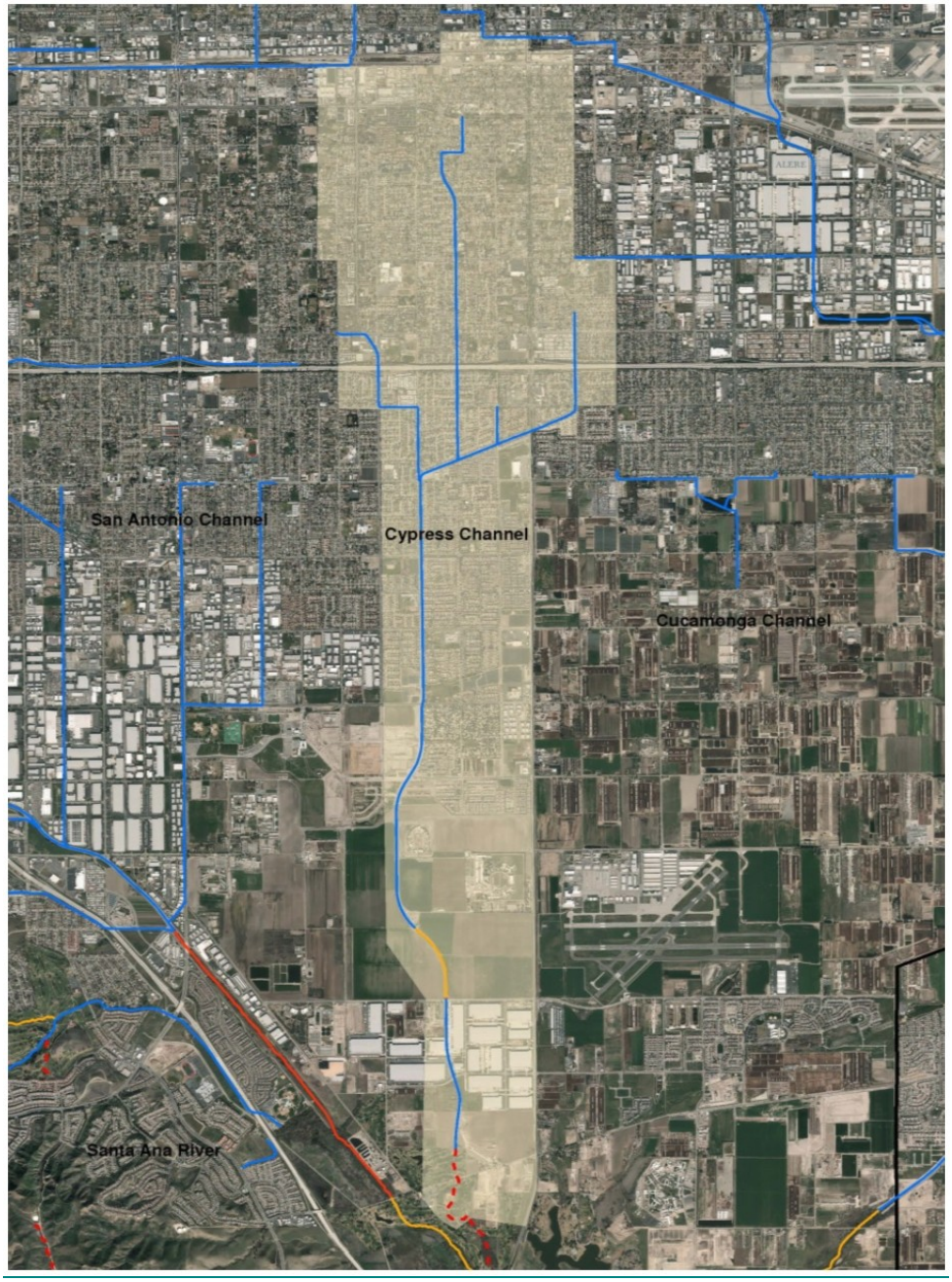
Cypress Channel Watershed

- **CBRP compliance:** This watershed is within the CBRP compliance area. Stormwater runoff and urban discharges to the waterbodies are being investigated as part of the County of San Bernardino Areawide Stormwater CBRP program (http://www.sawpa.org/collaboration/projects/tmdl-taskforce/)
- **Infeasibility**

  Possible infiltration infeasibility constraints include:
  - Soil type (per project specific geotechnical report)
  - Locations within the Hydrologic Control Plan area
  - Perched groundwater or artisan groundwater conditions

~~Cypress Channel Watershed~~




San Antonio Channel
Cypress Channel
Cucamonga Channel
Santa Ana River

Day Creek Watershed Fact Sheet

Day Creek Watershed

Day Creek Watershed is located in the midsection of the San Bernardino County valley and includes the counties of San Bernardino and Riverside and portions of the cities of Rancho Cucamonga, Ontario, and Fontana. Federal jurisdictions include the Angeles Forest (USFS).

The following data summary provides general watershed information. Site specific information must be researched on the Stormwater Facility Mapping Tool (Watershed Geodatabase) found at: http://sbcounty.permitrack.com/WAP/

~~Day Creek Watershed Data Summary~~

Waterbodies: Day Creek, Lower Etiwanda, Santa Ana Reach 3 (Prado Basin)

Source Waters: 1) Headwater locations should be checked for spring sources (i.e. mountain locations); 2) Effluent dominated sources include: IEUA RP-4

Wetlands/Riparian Areas:

- Riparian/Wetland areas are identified on the geodatabase
- During the CEQA process, the jurisdictional delineations for riparian and wetland areas are delineated and included into the CEQA analysis per USACOE (Section 404), Calif. Dept. of Fish and Wildlife (Section 1600) and Calif. Water Resources Control Board (Section 401) permitting requirements.
- **Biological Sensitive Areas:** Day Creek Watershed contains known mapped plant and animal sensitive areas. It is typically required to analyze sites with respect to biological criteria.
  - Expected Habitat:
    - Delhi Sands – southeast portion of subwatershed
    - Mountain Yellow Legged Frog – northern portion at foothills
    - Merriam K Rat – northern portion at foothills
  - Potential Habitat:
    - Riversidean Alluvial Fan Sage Scrub – northern portion at foothills
    - Grassland/Remnant RAFSS – southern portion of subwatershed
  - No Bird, Tortoise, Insects, Snakes

Groundwater Basins:

- Depth to Groundwater is presented on the following CBWM map: http://www.cbwm.org/docs/engdocs/maps

Flood Control Measures/ Plans:

- Watershed is located within San Bernardino County Flood Control District Zone 1 (SBCFCD) and must be in compliance with current operating procedures and requirements. Please contact SBCFCD for site specific information (909-387-8104).

Drainage channels: All drainages are Engineered Hardened Maintained (EHM) Channels

~~Flood Control Measures/ Plans:~~

- ~~Watershed is located within San Bernardino County Flood Control District Zone 1 (SBCFCD) and must be in~~

~~compliance with current operating procedures and requirements. Please contact SBCFCD for site specific information (909-387-8104).~~

~~**Drainage channels:** All drainages are Engineered Hardened Maintained (EHM) Channels~~

Hydrologic Conditions of Concern (HCOC): -Watershed is entirely within the Hydrologic Conditions of Concern (HCOC)- ~~Exempt~~
exempt area.
Recharge information: The watershed is highly managed with strict recharge criteria. Recharge management information is found at the following websites. *Recharge activities within this adjudicated watershed must meet existing hydrogeologic modeling criteria and groundwater management plans.* Recharge management information is found at the following websites and in the Stormwater Facility Mapping Tool

http://www.ieua.org/sustain/gw/recharge.html
http://www.cbwm.org/rep_engineering.htm
http://www.cvwdwater.com

Beneficial Uses:

~~**Recharge information:**~~ ~~The watershed is highly managed with strict recharge criteria. Recharge management information is found at the following websites.~~ ~~*Recharge activities within this adjudicated watershed must meet existing hydrogeologic modeling criteria and groundwater management plans.*~~ ~~Recharge management information is found at the following websites and in the Stormwater Facility Mapping Tool~~

~~**Beneficial Uses:**~~

- **Day Creek Channel:** MUN, PROC, GWR, REC1, REC2, COLD, WILD

- **East Etiwanda Creek** MUN, PROC, GWR, REC1, REC2, COLD, WILD, RARE
- **Santa Ana River Reach 3:** AGR, GWR, REC 1, REC2, WARM, WILD, RARE

303(d)/TMDLs:

~~**303(d)/TMDLs:**~~

- **Reach 3:** Lead

Approved TMDL:

~~**Approved TMDL:**~~

- **Reach 3:** Copper (Wet season only)

Water Quality Objectives ~~(mg/L):~~:

Discharges **must not cause exceedance** of the following Basin Plan Water Quality Objectives as presented in: http://www.waterboards.ca.gov/rwqcb8/water_issues/programs/basin_plan/index.shtml

	Day Creek		
	Day Creek (Valley Reach)	Day Creek (Mtn Reach)	Santa Ana Reach 3 (Prado Dam to Mission Blvd, Riverside (base flow))
BASIN PLAN			
Tributary Rule Waterbody	Chino-North Basin		
Notes	use underlying GW Basin Objectives		Exempt from MUN
WAP Subwatershed	Day Creek	Day Creek	
Impairment, 303(d) listing			
Hardness	NA	100	350
Sodium (mg/L)	NA	15	110
Chloride (mg/L)	NA	4.0	140
Sulfate (mg/L)	NA	25	150
Nitrate, as N (mg/L)	5.0	10.0	NA
Floride (mg/L)	NA	0.8	NA
TDS	420	200	700
COD	NA	5.0	30
MBAS	NA	0.05	NA
Total Inorganic Nitrogen	NA	4.0	10
As (CTR) (ug/L)	340	340	340

	Day Creek		
	Day Creek (Valley Reach)	Day Creek (Mtn Reach)	Santa Ana Reach 3 (Prado Dam to Mission Blvd, Riverside (base flow))
Cd (SSO) (ug/L)	Calc	Calc	4.0
Cr (CTR) (ug/L)	Calc	Calc	Calc
Cu SSO (ug/L)	Calc	Calc	37.0
Pb SSO (ug/L)	Calc	Calc	28.0
Hg (ug/L)	NA	NA	NA
Ni (CTR) (ug/L)	Calc	Calc	Calc
Se (CTR) (ug/L)	5	5	5
Ag (CTR) (ug/L)	Calc	Calc	Calc
Zn (CTR) (ug/L)	Calc	Calc	Calc
Total Coliform (Org/100mL)	?	100	NA
Fecal Coliform (Org/100mL)	?	400	400
E.Coli (MPN/100mL)	?	126	126
pH	6.5-8.5	6.5-8.5	6.5-8.5
DO (mg/L)	NA	6	5
Boron (mg/L)	30	30	30

~~Discharges **must not cause exceedance** of the following Basin Plan Water Quality Objectives as presented in: http://www.waterboards.ca.gov/rwqcb8/water_issues/programs/basin_plan/index.shtml~~

	~~Water Quality Objective (mg/L)~~						
~~Waterbody~~	~~TDS~~	~~Hardness~~	~~Sodium~~	~~Chloride~~	~~Total Inorganic Nitrogen~~	~~Sulfate~~	~~Chemical Oxygen Demand~~
~~Day Creek~~	~~200~~	~~100~~	~~15~~	~~4~~	~~4~~	~~25~~	~~5~~
~~East Etiwanda Creek~~	~~200~~	~~100~~	~~15~~	~~4~~	~~4~~	~~25~~	~~5~~
~~Santa Ana River Reach 3~~	~~700~~	~~350~~	~~110~~	~~140~~	~~10~~	~~150~~	~~30~~

~~http://www.waterboards.ca.gov/rwqcb8/water_issues/programs/basin_plan/index.shtml~~

Land Use Information:

- **Percent Approximate Land Use by Category:** Open – 52%, Agriculture – 0%, Commercial/Industrial – 31%, Residential – 17%.
- **Regional Imperviousness Approximate Percentage:** 48% impervious; 52% pervious
- **Project – Specific Imperviousness Percentage:** Project specific impervious is to be provided by the project civil engineer
- **Land Use:** Allowable land use criteria is provided as part of the planning process through zoning and jurisdictional General or Specific Plans.

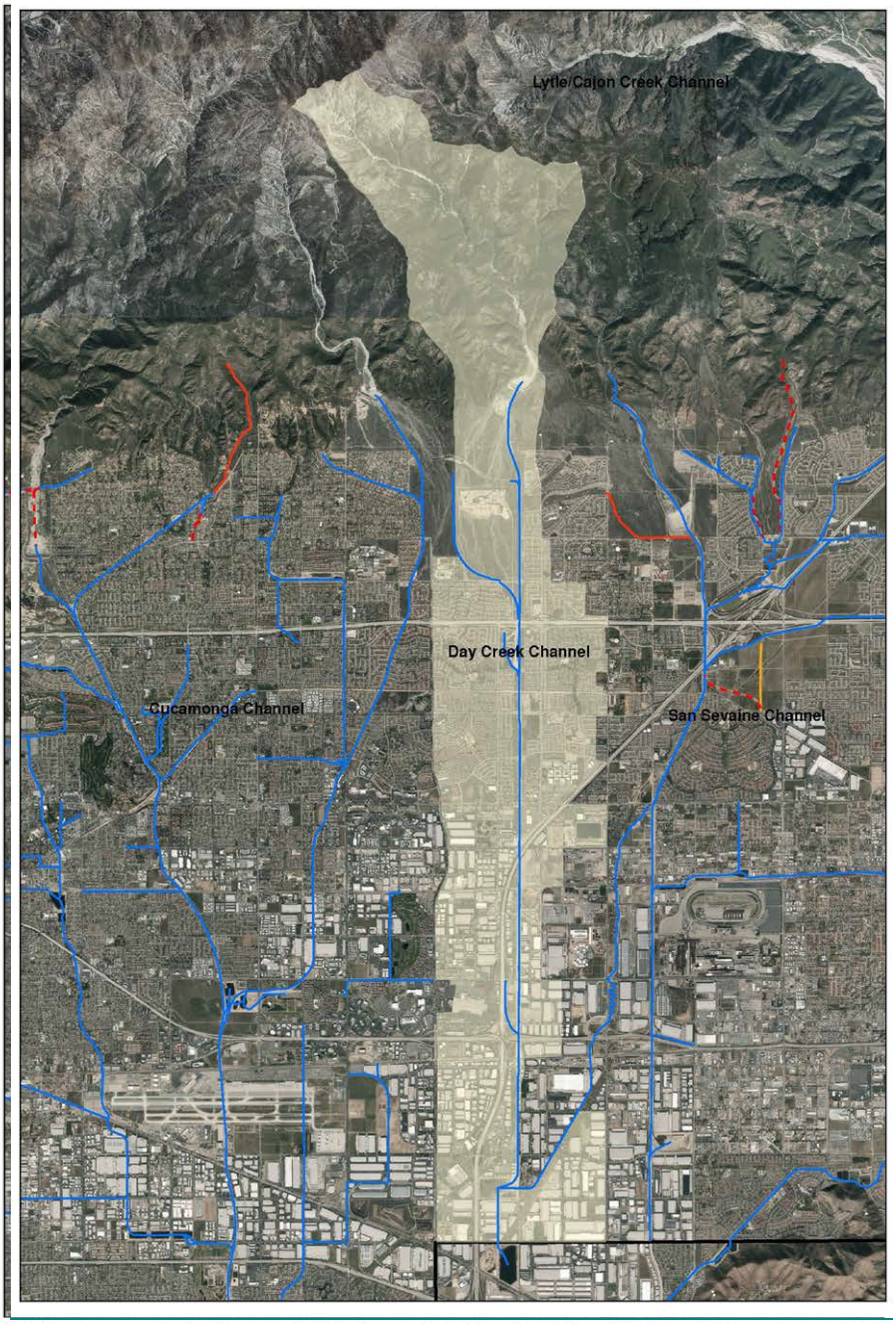
Soils: Watershed is located within an alluvial fan. Soil types are typically coarse-grained Sands upslope near the mountains, with fine grained Silts and silty Sands located downslope, closer to Prado Basin. See the geodatabase soil information

~~**Soils:** Watershed is located within an alluvial fan. Soil types are typically coarse grained Sands upslope near the mountains, with fine grained Silts and silty Sands located downslope, closer to Prado Basin. See the geodatabase soil information~~

Items of Note:

- **CBRP compliance:** This watershed is within the CBRP compliance area. Stormwater runoff and urban discharges to the waterbodies are being investigated as part of the County of San Bernardino Areawide Stormwater CBRP program (http://www.sawpa.org/collaboration/projects/tmdl-taskforce/)
- **Infeasibility**
  Possible infiltration infeasibility constraints include:
  - Soil type (per project specific geotechnical report)
  - Locations within the Hydrologic Control Plan area
  - Perched groundwater or artisan groundwater conditions (south end)

~~Day Creek Channel Watershed~~



Lytle/Cajon Creek Watershed Fact Sheet

Lytle and Cajon Creek Watershed

Lytle and Cajon Creek Watershed is located within the midsection of the San Bernardino County valley and includes the county of San Bernardino and portions of the cities of Colton, Fontana, Rialto and San Bernardino. Federal jurisdiction includes the Angeles Forest (USFS).

The following data summary provides general watershed information. Site specific information must be researched on the Stormwater Facility Mapping Tool (Watershed Geodatabase) found at:
http://sbcounty.permitrack.com/WAP/

~~Lytle and Cajon Creek Watershed Data Summary~~

Waterbodies: Lytle Creek, Cajon Creek, Devil Canyon Creek, Macy Storm Drain, Cable Creek, Muscoy Storm Drain, Santa Ana Reach 3 and 4

Source Waters: 1) Headwater locations should be checked for spring sources (i.e. mountain locations); 2) Effluent dominated sources include: none

Wetlands/Riparian Areas:

- Sensitive Riparian/Wetland areas are generally identified on the geodatabase. Due to the detailed documentation necessary, project level analysis is also required.
- ~~During the CEQA process, the jurisdictional delineations for riparian and wetland areas are delineated and included into the CEQA analysis per USACOE (Section 404), Calif. Dept. of Fish and Wildlife (Section 1600) and Calif. Water Resources Control Board (Section 401) permitting requirements.~~
- During the CEQA process, the jurisdictional delineations for riparian and wetland areas are delineated and included into the CEQA analysis per USACOE (Section 404), Calif. Dept. of Fish and Wildlife (Section 1600) and Calif. Water Resources Control Board (Section 401) permitting requirements.
- **Biological Sensitive Areas:**- Lytle and Cajon Creek Watersheds contains known mapped plant and animal sensitive areas. It is typically required to analyze sites with respect to biological criteria.
  - Expected Habitat:
    - Merriam K Rat – throughout subwatershed
  - Potential Habitat:
    - Riversidean Alluvial Fan Sage Scrub – throughout subwatershed
  - No Fish, Bird, Frogs, Snakes, Insects or Tortoise

Groundwater Basins:

Depth to Groundwater is presented on the Geodatabase and is available from the following water purveyors:

http://www.sbvmwd.com/
http://www.cbwm.org/docs/engdocs/maps

Flood Control Measures/ Plans:

- Watershed is located within San Bernardino County Flood Control District Zones 2 (SBCFCD) and must be in compliance with current operating procedures and requirements. Please contact SBCFCD for site specific information (909-387-8104).

Drainage channels: This watershed is both Engineered Hardened Maintained (EHM) and non -Engineered Hardened Maintained (non-EHM) Channels. Projects not draining to an EHM must meet requirements in the WQMP Manual (http://www.sbcounty.gov/dpw/land/npdes.asp)

Hydrologic Conditions of Concern (HCOC): Watershed must meet the HCOC criteria in the WQMP Manual.

Recharge information: The watershed is highly managed with strict recharge criteria. Recharge management information is found at the following websites. *Recharge activities within this adjudicated watershed must meet existing*

hydrogeologic modeling criteria and groundwater management plans. Recharge management information is found at the following websites and in the Stormwater Facility Mapping Tool.

~~http://www.sbvmwd.com/~~
~~http://www.ieua.org/sustain/gw/recharge.html~~

http://www.sbvmwd.com/
http://www.ieua.org/sustain/gw/recharge.html
http://www.cbwm.org/rep_engineering.htm

Beneficial Uses:

~~**Beneficial Uses:**~~

- **Cajon Creek**: MUN, GWR, REC 1, REC2, COLD, WILD, RARE (mountain reach only)
- **Devil Canyon Creek**: MUN, GWR, REC 1, REC2, COLD, WILD (mountain reach only)
- **Lytle Creek**: MUN, AGR, IND, PROC, GWR, POW, REC 1, REC2, COLD, WILD, RARE (South, Middle and North Forks)
- **Santa Ana River Reach 3**: AGR, GWR, REC 1, REC2, WARM, WILD, RARE

303(d) Impairments:

- **Cajon Creek:** Pathogens
- **Santa Ana River Reach 3:** Lead

Approved TMDLs:

- **Santa Ana River Reach 3:** Copper (Wet season only), Pathogens

Water Quality Objectives:
Discharges **must not cause exceedance** of the following Basin Plan Water Quality Objectives as presented in:
http://www.waterboards.ca.gov/rwqcb8/water_issues/programs/basin_plan/index.shtml

~~Waterbody~~	~~TDS~~	~~Hardness~~	~~Sodium~~	~~Chloride~~	~~Total Inorganic Nitrogen~~	~~Su~~
	~~Water Quality Objective (mg/~~					
	Cajon Creek- ~~(Mountain~~ (Valley Reach)	Cajon Creek ~~200~~ (Mt. reach)	~~100~~ Lytle Creek/Mt Reaches: S/M/N Forks and Coldwater Creek Canyon		~~30~~ East Rialto Channel	
BASIN PLAN						
Tributary Rule	Bunker		Chino-North		~~Devil~~	
Waterbody	Hill - A		Basin		~~Canyon~~	
Notes	use underlying GW Basin Objectives		use underlying GW Basin Objectives			
WAP Subwatershed	Lytle ~~Creek~~/	~~200~~Lytle /	~~100~~Lytle / Cajon		~~15~~Lytle /	

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Impairment, 303(d) listing			Pathogens				None	
Hardness	NA	100	NA				190	3
~~Santa Ana River~~	~~700~~N	~~35~~	~~110~~	~~140~~	~~10~~	~~150~~	30	Deleted Cells 1
Chloride (mg/L)	NA	10	NA				20	Deleted Cells 1
Sulfate (mg/L)	NA	20	NA				60	Deleted Cells 1
Nitrate, as N (mg/L)	2.7	10	5.0				NA	Inserted Cells N
Floride (mg/L)	0.8	0.8	NA				NA	N

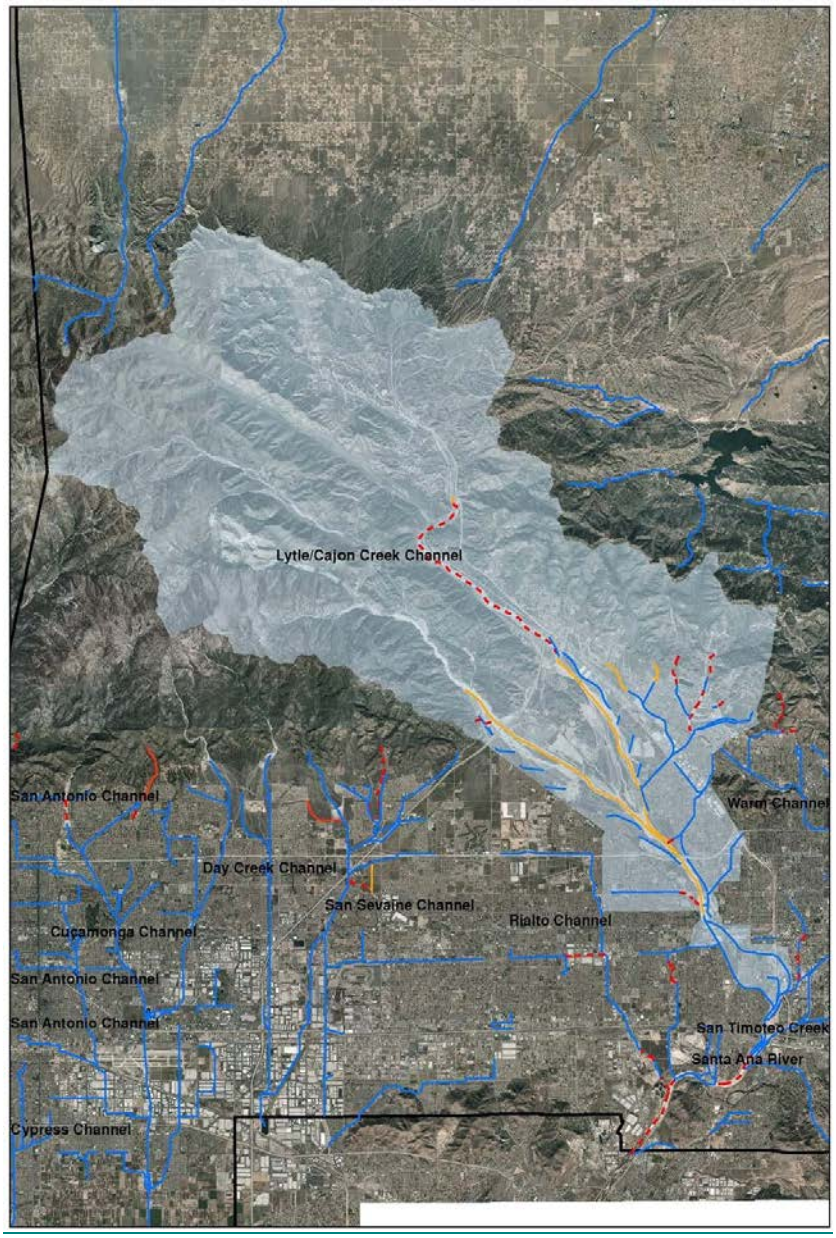
	Lytle/Cajon Creek				
	Cajon Creek (Valley Reach)	Cajon Creek (Mt. reach)	Lytle Creek/Mt Reaches: S/M/N Forks and Coldwater Creek Canyon	East Rialto Channel	Santa Ana Reach 3 (Prado Dam to Mission Blvd, Riverside (base flow))
TDS	310	200	420	300	700
COD	NA	5.0	NA	25	30
MBAS	0.05	0.05	NA	NA	NA
Total Inorganic Nitrogen	NA	1.0	NA	5.0	10
As (CTR) (ug/L)	340	340	340	340	340
Cd (SSO) (ug/L)	Calc	Calc	Calc	Calc	4.0
Cr (CTR) (ug/L)	Calc	Calc	Calc	Calc	Calc
Cu SSO (ug/L)	Calc	Calc	Calc	Calc	37.0
Pb SSO (ug/L)	Calc	Calc	Calc	Calc	28.0
Hg (ug/L)	NA	NA	NA	NA	NA
Ni (CTR) (ug/L)	Calc	Calc	Calc	Calc	Calc
Se (CTR) (ug/L)	5	5	5	5	5
Ag (CTR) (ug/L)	Calc	Calc	Calc	Calc	Calc
Zn (CTR) (ug/L)	Calc	Calc	Calc	Calc	Calc
Total Coliform (Org/100mL)	100	100	?	100	NA
Fecal Coliform (Org/100mL)	400	400	?	400	400
E.Coli (MPN/100mL)	126	126	?	126	126
pH	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5
DO (mg/L)	NA	6	NA	6	5
Boron (mg/L)	NA	30	30	30	30

Land Use Information:

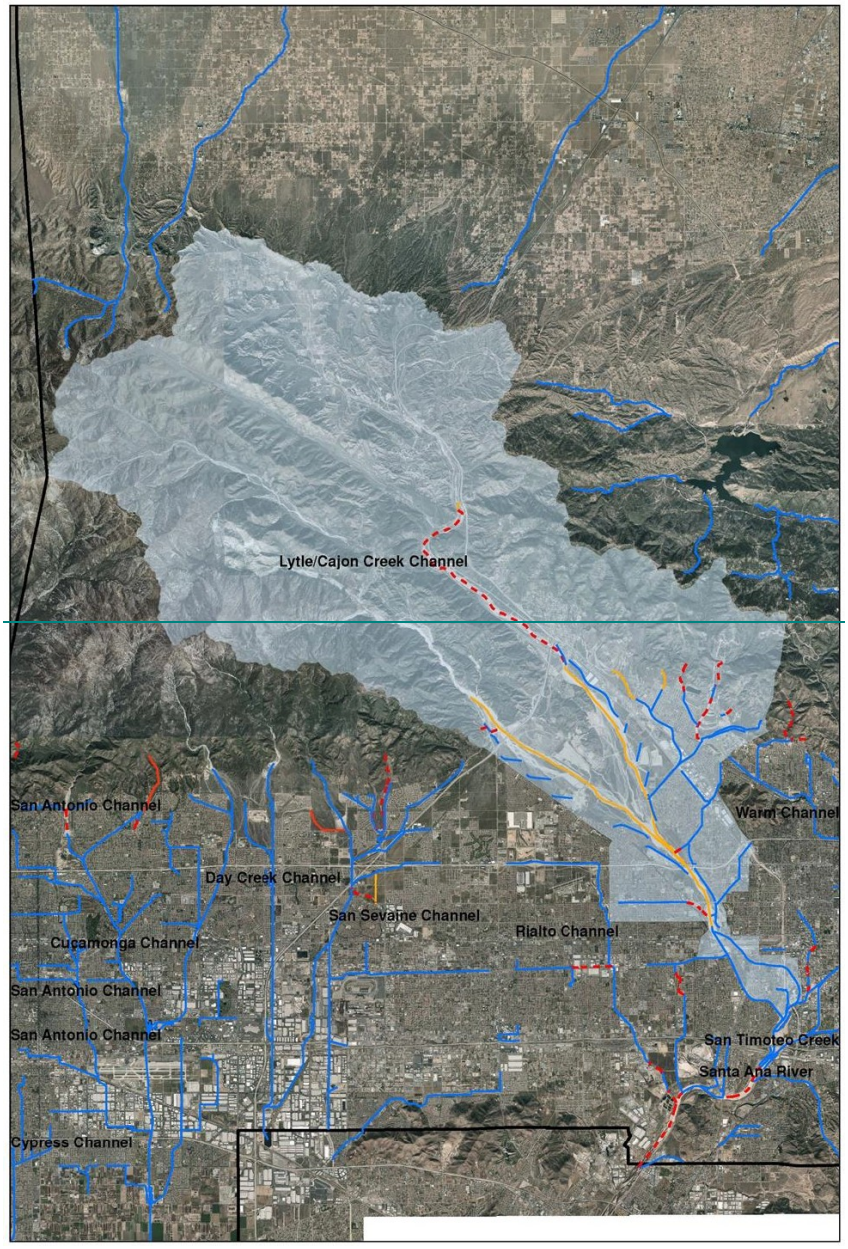
- **Percent Approximate Land Use ~~by Category~~:** Open – 88%, Agriculture – 0%, Commercial/Industrial – 4%, Residential – 8%.
- **Regional Imperviousness Approximate Percentage:** 12% impervious; 88% pervious
- **Project-specific Imperviousness Percentage:** Project specific impervious is to be provided by the project civil engineer
- **Land Use:** Allowable land use criteria is provided as part of the planning process through zoning and jurisdictional General or Specific Plans.
- ~~**Soils:** Watershed is located within an alluvial fan. Soil types are typically coarse-grained Sands upslope near the mountains, with fine grained Silts and silty Sands located downslope, closer to Prado Basin. See the geodatabase soil information.~~ **Soils:** Watershed is located within an alluvial fan. Soil types are typically coarse-grained Sands upslope near the mountains, with fine grained Silts and silty Sands located downslope, closer to Prado Basin. See the geodatabase soil information.

2 .

~~Lytle/~~



~~Cajon Creek~~ **Watershed**


Lytle/Cajon Creek Channel
San Antonio Channel
Day Creek Channel
San Sevaine Channel
Cucamonga Channel
San Antonio Channel
San Antonio Channel
Cypress Channel
Rialto Channel
Warm Channel
San Timoteo Creek
Santa Ana River

Mill Creek Watershed Fact Sheet

Mill Creek Watershed

Mill Creek Watershed is located at the eastern boundary of San Bernardino County valley and includes the county of San Bernardino and portions of the cities of Highland and Redlands. Federal jurisdictions include the Angeles Forest (USFS).

The following data summary provides general watershed information. Site specific information must be researched on the Stormwater Facility Mapping Tool (Watershed Geodatabase) found at:
http://sbcounty.permitrack.com/WAP/

Waterbodies: Mill Creek, Santa Ana Reach 4

Source Waters: 1) Headwater locations should be checked for spring sources (i.e. mountain locations); 2) Effluent dominated sources include: Redlands Waste Water Treatment Plant

Wetlands/Riparian Areas:

~~**Mill Creek Watershed Data Summary**~~

~~**Waterbodies:** Mill Creek, Santa Ana Reach 4~~
~~**Source Waters:** 1) Headwater locations should be checked for spring sources (i.e. mountain locations); 2) Effluent dominated sources include: Redlands Waste Water Treatment Plant~~

~~**Wetlands/Riparian Areas:**~~

- Riparian/Wetland areas are identified on the geodatabase
- During the CEQA process, the jurisdictional delineations for riparian and wetland areas are delineated and included into the CEQA analysis per USACOE (Section 404), Calif. Dept. of Fish and Wildlife (Section 1600) and Calif. Water Resources Control Board (Section 401) permitting requirements.
- ~~During the CEQA process, the jurisdictional delineations for riparian and wetland areas are delineated and included into the CEQA analysis per USACOE (Section 404), Calif. Dept. of Fish and Wildlife (Section 1600) and Calif. Water Resources Control Board (Section 401) permitting requirements.~~
- **Biological Sensitive Areas:** Mill Creek Watershed contains known mapped plant and animal sensitive areas. It is typically required to analyze sites with respect to biological criteria.
    - Expected Habitat:
        - Delhi Sands – Rialto/Colton area, southwest end of subwatershed
        - Mountain Yellow Legged Frog – northern end of City Creek
        - California Gnatcatcher – southwest end of subwatershed,
        - Southwest Willow Flycatcher – along Santa Ana River
        - Santa Ana Sucker Fish – in Santa Ana River
        - Merriam K Rat – Throughout length of Santa Ana River within Valley
    - Potential Habitat:
        - Coastal Sage Scrub – Southwest border and within Santa Ana River
        - Riparian/Wetland – throughout length of Santa Ana River
    - No Tortoise, Insects, Snakes

Groundwater Basins:
Depth to Groundwater is presented on the Geodatabase and is available from the following water purveyors:

http://www.sbvmwd.com/
http://www.cbwm.org/docs/engdocs/maps

Flood Control Measures/ Plans:

- Watershed is located within San Bernardino County Flood Control District Zone 3 (SBCFCD) and must be in compliance with current operating procedures and requirements. Please contact SBCFCD for site specific information (909-387-8104).

Drainage channels: This watershed is primarily non -Engineered Hardened Maintained (non-EHM) Channels. Projects not draining to a EHM must meet requirements in the WQMP Manual (http://www.sbcounty.gov/dpw/land/npdes.asp)

Hydrologic Conditions of Concern (HCOC): Watershed must meet the HCOC criteria in the WQMP Manual.

Recharge information: The watershed is highly managed with strict recharge criteria. Recharge management information is found at the following websites. *Recharge activities within this adjudicated watershed must meet existing hydrogeologic modeling criteria and groundwater management plans.* Recharge management information is found at the following websites and in the Stormwater Facility Mapping Tool.

http://www.sbvmwd.com/
http://www.ieua.org/sustain/gw/recharge.html
http://www.cbwm.org/rep_engineering.htm

Beneficial Uses:

- **Mill Creek:** MUN, AGR, GWR, POW, REC1, REC2, COLD, WILD, RARE (intermittent)
- **Santa Ana River Reach 4:** MUN, GWR, REC 1, REC2, WARM, WILD, RARE

303(d):

- **Mill Creek:** Pathogens
- **Santa Ana Reach 4:** Pathogens

Approved TMDLs:

- **None**

Water Quality Objectives ~~(mg/L):~~:

~~Discharges **must not cause exceedance** of the following Basin Plan Water Quality Objectives as presented in: http://www.waterboards.ca.gov/rwqcb8/water_issues/programs/basin_plan/index.shtml~~

Discharges **must not cause exceedance** of the following Basin Plan Water Quality Objectives as presented in: http://www.waterboards.ca.gov/rwqcb8/water_issues/programs/basin_plan/index.shtml

	~~Water Quality Objective (mg/L)~~						
~~Waterbody~~	~~TDS~~	~~Hardness~~	~~Sodium~~	~~Chloride~~	~~Total Inorganic Nitrogen~~	~~Sulfate~~	~~Chemical Oxygen Demand~~
~~Mill Creek (Reach 1)~~	~~200~~	~~100~~	~~30~~	~~10~~	~~1~~	~~20~~	~~5~~
~~Mill Creek (Reach 2)~~	~~110~~	~~100~~	~~25~~	~~5~~	~~1~~	~~15~~	~~5~~
~~Santa Ana River Reach 4~~	~~550~~	~~--~~	~~--~~	~~--~~	~~10~~	~~--~~	~~30~~

	Mill Creek		
	Mill Creek - Reach 1 (confluence at upper powerhouse)	Mill Creek - Reach 2 (Powerhouse to headwaters)	Santa Ana Reach 4 (Mission Blvd to San Jacinto Fault)
BASIN PLAN			
Tributary Rule Waterbody			
Notes			Exempt from MUN
WAP Subwatershed	Mill Creek	Mill Creek	
Impairment, 303(d) listing			

Hardness	100	100	NA
Sodium (mg/L)	30	25	NA
Chloride (mg/L)	10	5.0	NA
Sulfate (mg/L)	20	15	NA
Nitrate, as N (mg/L)	10	10	NA
Floride (mg/L)	0.8	0.8	NA
TDS	200	110	550
COD	5.0	5.0	30
MBAS	0.05	0.05	NA
Total Inorganic	1.0	1.0	10

	Mill Creek		
	Mill Creek - Reach 1 (confluence at upper powerhouse)	Mill Creek - Reach 2 (Powerhouse to headwaters)	Santa Ana Reach 4 (Mission Blvd to San Jacinto Fault)
Nitrogen			
As (CTR) (ug/L)	340	340	340
Cd (SSO) (ug/L)	Calc	Calc	4.0
Cr (CTR) (ug/L)	Calc	Calc	Calc
Cu SSO (ug/L)	Calc	Calc	37.0
Pb SSO (ug/L)	Calc	Calc	28.0
Hg (ug/L)	NA	NA	NA
Ni (CTR) (ug/L)	Calc	Calc	Calc
Se (CTR) (ug/L)	5	5	5
Ag (CTR) (ug/L)	Calc	Calc	Calc
Zn (CTR) (ug/L)	Calc	Calc	Calc
Total Coliform (Org/100mL)	100	100	NA
Fecal Coliform (Org/100mL)	400	400	400
E.Coli (MPN/100mL)	126	126	126
pH	6.5-8.5	6.5-8.5	6.5-8.5
DO (mg/L)	6	6	5
Boron (mg/L)	30	30	30

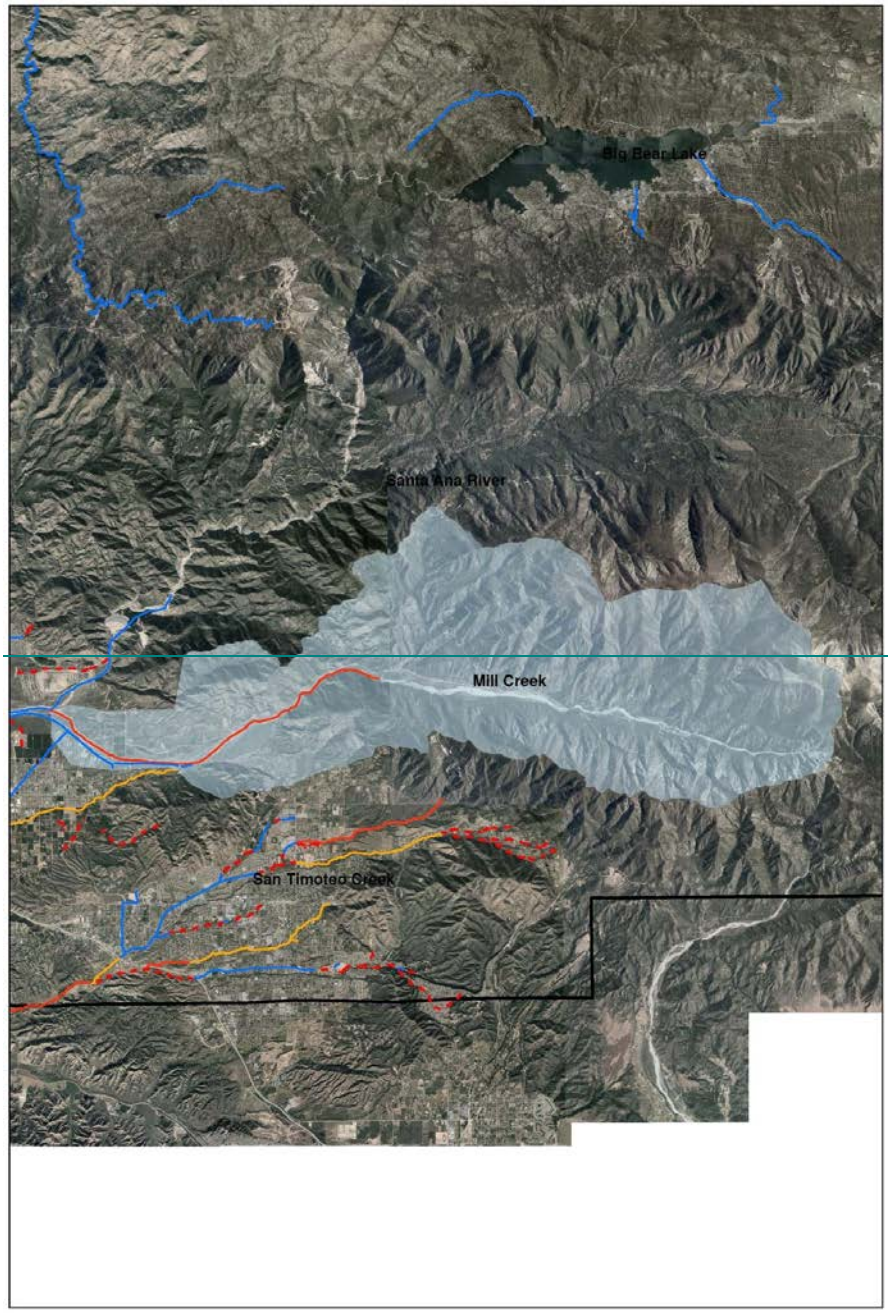
Land Use Information:

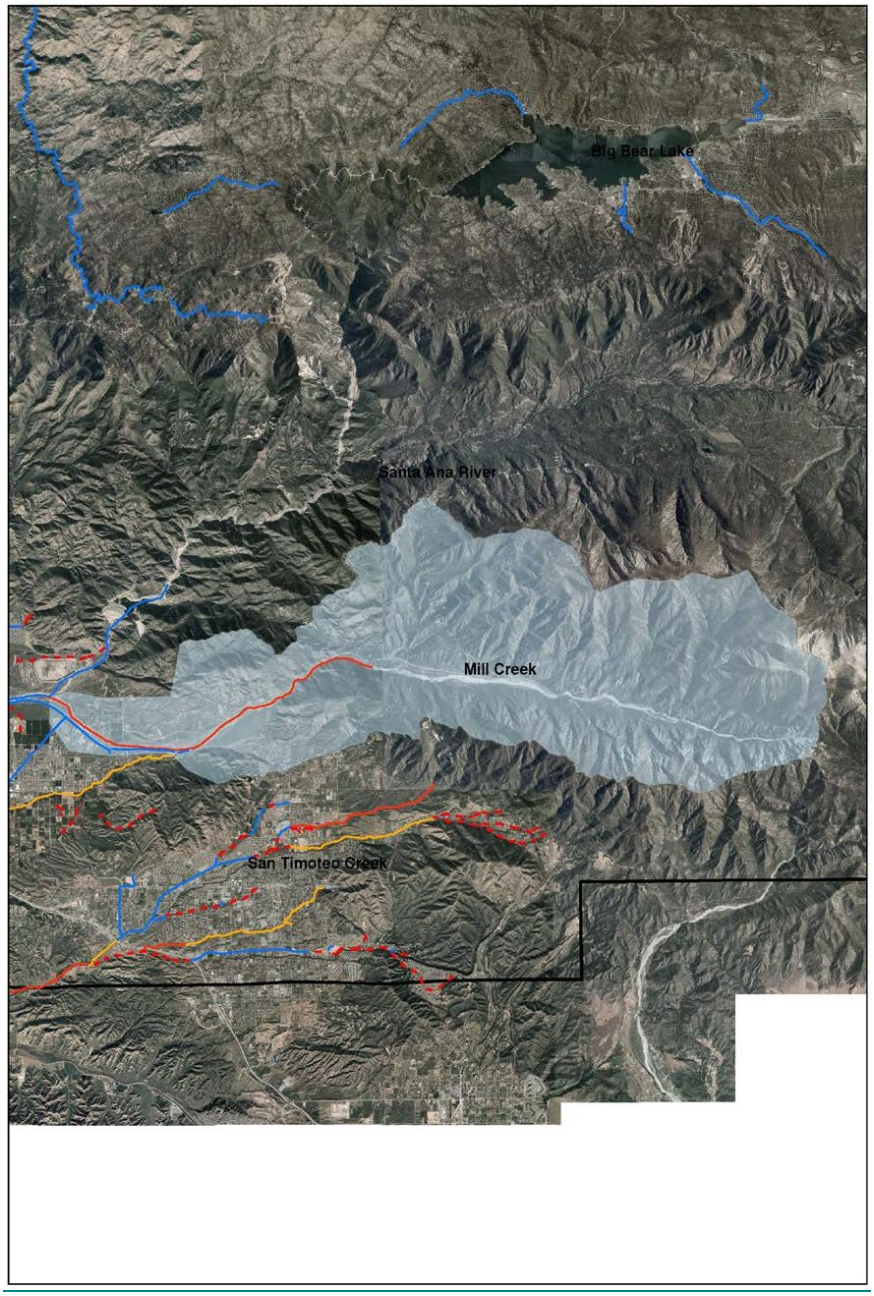
- **Percent Approximate Land Use by Category:** Open – 98%, Agriculture – 1%, Commercial/Industrial – 0%, Residential – 1%.
- **Regional Imperviousness Approximate Percentage:** 1% impervious; 99% pervious
- **Project – Specific Imperviousness Percentage:** Project specific impervious is to be provided by the project civil engineer
- **Land Use:** Allowable land use criteria is provided as part of the planning process through zoning and jurisdictional General or Specific Plans.
- **Soils:** Watershed is located within an alluvial fan. Soil types are typically coarse-grained Sands upslope near the mountains, with fine grained Silts and silty Sands located downslope, closer to Prado Basin. See the geodatabase soil information.

Items of Note:

None

~~Mill Creek Watershed~~




Big Bear Lake
Santa Ana River
Mill Creek
San Timoteo Creek

Rialto Channel Watershed Fact Sheet

Rialto Channel Watershed

Rialto Channel Watershed is located in the midsection of the San Bernardino County valley and includes the ~~county of San Bernardino and portions of the cities of Colton, Fontana and Rialto.~~

~~**Rialto Channel Watershed Data Summary**~~

county of San Bernardino and portions of the cities of Colton, Fontana and Rialto.

The following data summary provides general watershed information. Site specific information must be researched on the Stormwater Facility Mapping Tool (Watershed Geodatabase) found at: http://sbcounty.permitrack.com/WAP/

Waterbodies: Cactus Channel, Rialto Channel, East Fontana Storm Drain, Santa Ana Reach 3 (Prado Basin)

Source Waters: 1) Headwater locations should be checked for spring sources (i.e. mountain locations); 2) Effluent dominated sources include: Rialto Waste Water Treatment Plant and the RIX Facility

Wetlands/Riparian Areas:

- Riparian/Wetland areas are identified on the geodatabase
- During the CEQA process, the jurisdictional delineations for riparian and wetland areas are delineated and included into the CEQA analysis per USACOE (Section 404), Calif. Dept. of Fish and Wildlife (Section 1600) and Calif. Water Resources Control Board (Section 401) permitting requirements.
- **Biological Sensitive Areas :** Rialto Channel Watershed contains known mapped plant and animal sensitive areas. It is typically required to analyze sites with respect to biological criteria.
    - Expected Habitat:
        - Delhi Sand – Southeast border
        - Merriam K Rat – Northwest corner
    - Potential Habitat:
        - Riversidean Alluvial Fan Sage Scrub – northwest corner
    - No Fish, Birds, Frogs, Snakes, Insects or Tortoise

Groundwater Basins:

- Depth to Groundwater is presented on the following CBWM map http://www.cbwm.org/docs/engdocs/maps

Drainage channels: The main Rialto Channel drainage has been designated as Engineered Hardened Maintained (EHM), however East Fontana Storm Drain has been designated as Non-EHM. Refer to the Watershed Geodatabase for site specific data.

Hydrologic Conditions of Concern (HCOC): While most of the watershed is Hydrologic Conditions of Concern (HCOC) Exempt there are remaining portions of watershed must meet the HCOC criteria in the WQMP Manual. Refer to the Watershed Geodatabase for site specific data.

Recharge information: The watershed is highly managed with strict recharge criteria. Recharge management

information is found at the following websites. *Recharge activities within this adjudicated watershed must meet existing*

hydrogeologic modeling criteria and groundwater management plans. Recharge management information is found at the following websites and in the Stormwater Facility Mapping Tool.

http://www.ieua.org/sustain/gw/recharge.html
http://www.cbwm.org/rep_engineering.htm

Beneficial Uses:

~~Recharge management information is found at the following websites and in the Stormwater Facility Mapping Tool:~~

~~http://www.ieua.org/sustain/gw/recharge.html~~
~~http://www.cbwm.org/rep_engineering.htm~~

~~**Beneficial Uses:**~~

- **Santa Ana River Reach 3:** AGR, GWR, REC 1, REC2, WARM, WILD, RARE

303(d) Impairments:

~~**303(d) Impairments:**~~

- Lead

Approved TMDLs:

~~**Approved TMDLs:**~~

- **Reach 3:** Copper (Wet season only)

Water Quality Objectives ~~(mg/L):~~:

Discharges **must not cause exceedance** of the following Basin Plan Water Quality Objectives as presented in:
http://www.waterboards.ca.gov/rwqcb8/water_issues/programs/basin_plan/index.shtml

~~Discharges **must not cause exceedance** of the following Basin Plan Water Quality Objectives as presented in:~~
~~http://www.waterboards.ca.gov/rwqcb8/water_issues/programs/basin_plan/index.shtml~~

	~~Water Quality Objective (mg/L)~~						
~~Waterbody~~	~~TDS~~	~~Hardness~~	~~Sodium~~	~~Chloride~~	~~Total Inorganic Nitrogen~~	~~Sulfate~~	~~Chemical Oxygen Demand~~
~~Rialto Channel~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~
~~Santa Ana River Reach 3~~	~~700~~	~~350~~	~~110~~	~~140~~	~~10~~	~~150~~	~~30~~

	Rialto Channel	
	Rialto Channel	Santa Ana Reach 3 (Prado Dam to Mission Blvd, Riverside (base flow))
BASIN PLAN		
Tributary Rule Waterbody	SAR Reach 4	
Notes		Exempt from MUN
WAP Subwatershed	Rialto Channel	
Impairment, 303(d) listing	None	
Hardness	NA	350
Sodium (mg/L)	NA	110

Chloride (mg/L)	NA	140
Sulfate (mg/L)	NA	150
Nitrate, as N (mg/L)	NA	NA
Floride (mg/L)	NA	NA
TDS	550	700
COD	30	30
MBAS	NA	NA
Total Inorganic Nitrogen	10	10
As (CTR) (ug/L)	340	340
Cd (SSO) (ug/L)	Calc	4.0
Cr (CTR) (ug/L)	Calc	Calc
Cu SSO (ug/L)	Calc	37.0
Pb SSO (ug/L)	Calc	28.0
Hg (ug/L)	NA	NA
Ni (CTR) (ug/L)	Calc	Calc
Se (CTR) (ug/L)	5	5
Ag (CTR) (ug/L)	Calc	Calc

	Rialto Channel	
	Rialto Channel	Santa Ana Reach 3 (Prado Dam to Mission Blvd, Riverside (base flow))
Zn (CTR) (ug/L)	Calc	Calc
Total Coliform (Org/100mL)	NA	NA
Fecal Coliform (Org/100mL)	400	400
E.Coli (MPN/100mL)	126	126
pH	6.5-8.5	6.5-8.5
DO (mg/L)	5	5
Boron (mg/L)	30	30

Land Use Information:

- **Percent Approximate Land Use by Category:** Open – 5%, Agriculture – 0%, Commercial/Industrial – 43%, Residential – 52%.
- **Regional Imperviousness Approximate Percentage:** 95% impervious; 5% pervious
- **Project-Specific Imperviousness Percentage:** Project specific impervious is to be provided by the project civil engineer
- **Land Use:** Allowable land use criteria is provided as part of the planning process through zoning and jurisdictional General or Specific Plans.
- **Soils:** Watershed is located within an alluvial fan. Soil types are typically coarse-grained Sands upslope near the mountains, with fine grained Silts and silty Sands located downslope, closer to Prado Basin. See the geodatabase soil information.

Items of Note:

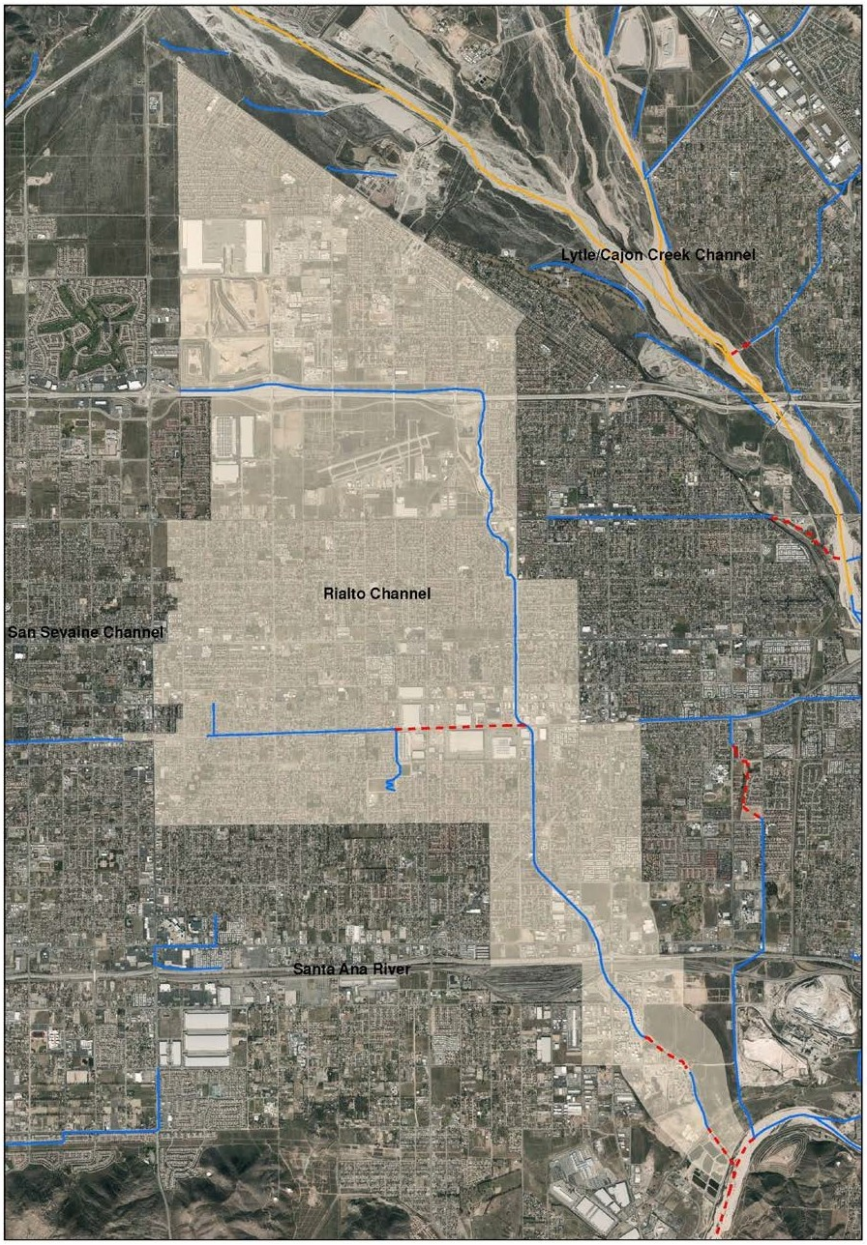
- **CBRP compliance:** This watershed is within the CBRP compliance area. Stormwater runoff and urban discharges to the waterbodies are being investigated as part of the County of San Bernardino Areawide Stormwater CBRP program
  (http://www.sawpa.org/collaboration/projects/tmdl-taskforce/)
- **Infeasibility**
  Possible infiltration infeasibility constraints include:
  - Soil type (per project specific geotechnical report)
  - Locations within the Hydrologic Control Plan area
  - Perched groundwater or artisan groundwater conditions (south end)

2

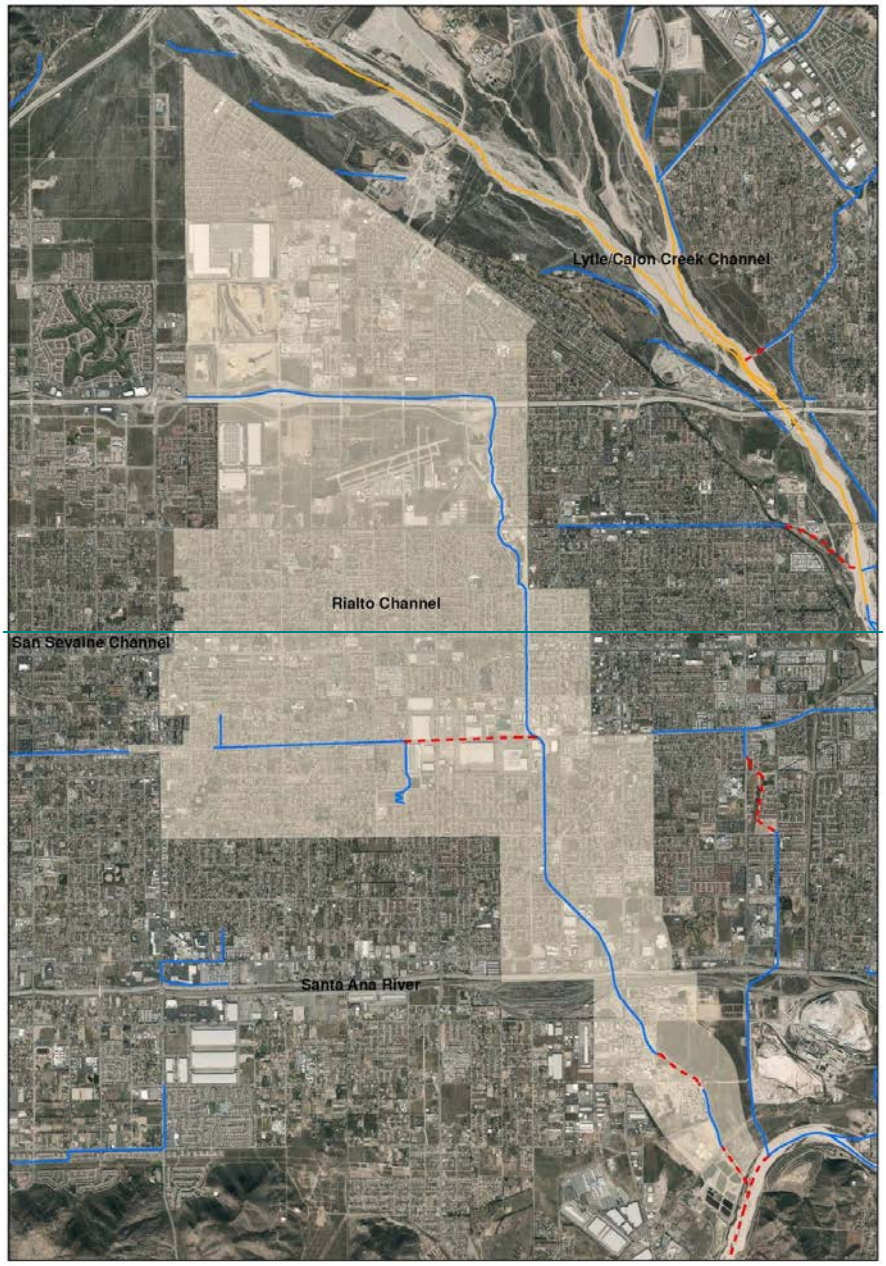
Rialto Channel Watershed-
~~Fact Sheet~~

~~October 2014~~

~~Rialto Channel~~



~~Watershed~~



October 2014

San Antonio Creek Watershed Fact Sheet

San Antonio Channel Watershed

San Antonio Channel Watershed is located at the western boundary of San Bernardino County and includes portions of the counties of San Bernardino, Los Angeles, and Riverside, all of the City of Montclair and portions of the cities of Pomona, Claremont, Upland, Ontario, Chino and Chino Hills. Federal jurisdictions include the United States Forest Service (Angeles Forest) and United States Army Corp of Engineers (Prado Basin).

The following data summary provides general watershed information. Site specific information can also be researched on the Stormwater Facility Mapping Tool (Watershed Geodatabase) found at: http://sbcounty.permitrack.com/WAP/

Waterbodies :

San Antonio Channel
Chino Creek
Santa Ana Reach 3 (Prado Basin)

Primary Tributaries:

Little Chino Creek
English Canyon
Carbon Canyon Creek
Los Serranos Channel
Chino Storm Drain

Source Waters:

- Headwater locations should be checked for spring sources (i.e. Chino Hills and mountain locations)
- Effluent dominated sources include: IEUA Carbon Canyon Water Reclamation Facility (San Antonio Channel), IEUA RP-2 (Chino Creek)

Wetlands/Riparian Areas:

- Riparian/Wetland areas are identified on the geodatabase
- During the CEQA process, the jurisdictional delineations for riparian and wetland areas are delineated and included into the CEQA analysis per USACOE (Section 404), Calif. Dept. of Fish and Wildlife (Section 1600) and Calif. Water Resources Control Board (Section 401) permitting requirements.
- **Biological Sensitive Areas**: San Antonio Creek Watershed is contains known mapped plant and animal sensitive areas. It is typically required to analyze sites with respect to biological criteria.
  - Expected Habitat:
    - Delhi Sands – Eastern portion, near Chino Storm Drain
    - Least Bell Vireo – South end of subwatersehd
  - Potential Habitat:
    - Coastal Sage Scrub – southern end
    - Riparian/Wetlands – southern end
  - No Fish, Frogs, Snakes, Insects or Tortoise

Groundwater Basins:

- Depth to Groundwater is presented on the following CBWM map: http://www.cbwm.org/docs/engdocs/maps
- Per the obligations codified in the 2004 Basin Plan amendment it is regionally required to eliminate groundwater outflow to the Santa Ana River. This is the Hydraulic Control Monitoring Program and is managed through the Chino Basin Desalter Authority, the Chino Basin Watermaster and Inland Empire Utilities Agency. All areas south of the 60 Freeway must review this information.

Flood Control Measures/ Plans:

- Watershed is located within San Bernardino County Flood Control District Zone 1 (SBCFCD) and must be in compliance with current operating procedures and requirements. Please contact SBCFCD for site specific

information (909-387-8104).

Drainage channels:

- All but nine drainage courses are Engineered Hardened Maintained (EHM) Channels. Projects not draining to a EHM must meet requirements in the WQMP Manual (http://www.sbcounty.gov/dpw/land/npdes.asp)

Hydrologic Conditions of Concern (HCOC)

- Northeast portion of the watershed is Hydrologic Conditions of Concern (HCOC) Exempt
- Remaining watershed portions must meet the HCOC requirements in the WQMP Manual

Stormwater Recharge information: The watershed is highly managed with strict recharge criteria. Recharge management information is found at the following websites. *Recharge activities within this adjudicated watershed must meet existing hydrogeologic modeling criteria and groundwater management plans.*

Contact information and watershed specific information is found at:

http://www.ieua.org/sustain/gw/recharge.html
http://www.cbwm.org/rep_engineering.htm
http://www.cbwcd.org/129/Percolation-Basins

Beneficial Uses:

Discharges must not impair these beneficial uses:

- **San Antonio Creek:** MUN, AGR, IND, PROC, GWR, POW, REC1, REC2, COLD, WILD
- **Chino Creek:** MUN, GWR, REC1, REC2, WARM, LWARM, WILD, RARE
- **Santa Ana River Reach 3:** AGR, GWR, REC 1, REC2, WARM, WILD, RARE

303(d) Impairments

- **San Antonio Creek:** pH
- **Chino Creek:** Chemical oxygen demand (COD), pH
- **Santa Ana River Reach 3:** Lead

Approved TMDLs:

- **Chino Creek:** Pathogens, Nutrients, Coliform, Bacteria
- **Santa Ana River Reach 3:** Copper (Wet season only)

Water Quality Objectives ~~(mg/L):~~:

Discharges **must not cause exceedance** of the following Basin Plan Water Quality Objectives as presented in:
http://www.waterboards.ca.gov/rwqcb8/water_issues/programs/basin_plan/index.shtml

	~~Water Quality Objective (mg/L)~~San Antonio Channel							
~~Waterbody~~	~~TDS~~ Chino Creek 1 - 1A	~~Hardness~~ Chino Creek 1 - 1B	~~Sodium~~ Prado Park (wetlands)	San ~~Chloride~~Antonio Creek (Valley	~~Total Inorganic Nitrogen~~ San Antonio	~~Sulfate~~ Santa Ana Reach 3 (Prado Dam to Mission Blvd, Riverside (base flow))	~~Chemical Oxygen Demand~~	
~~San Antonio~~	~~225~~	~~150~~	~~20~~	~~6~~	~~4~~	~~25~~		~~5~~
Tributary Rule Waterbody				Chino-	~~700~~	~~350~~	~~110~~	~~140~~
~~Chino Creek Reach 1B~~	~~700~~	~~350~~	~~110~~	~~Creek Reach 140~~use	~~10~~	~~150~~		~~30~~
Notes	Exempt from MUN	Exempt from MUN	Exempt from MUN	underlying GW Basin Objectives		Exempt from MUN		

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~~Santa Ana River Reach 3~~ WAP Subwatershed	~~700~~San Antonio	~~350~~San Antonio	~~110~~San Antonio	~~140~~San Antonio	~~10~~San Antonio Channel	~~150~~	~~30~~

	San Antonio Channel					
	Chino Creek 1 - 1A	Chino Creek 1 - 1B	Prado Park (wetlands)	San Antonio Creek (Valley Reach)	San Antonio Creek (Mtn Reach)	Santa Ana Reach 3 (Prado Dam to Mission Blvd, Riverside (base flow))
Impairment, 303(d) listing						
Hardness	350	240	NA	NA	150	350
Sodium (mg/L)	110	75	NA	NA	20	110
Chloride (mg/L)	140	75	NA	NA	6.0	140
Sulfate (mg/L)	150	60	NA	NA	25	150
Nitrate, as N (mg/L)	NA	NA	NA	5.0	10	NA
Floride (mg/L)	NA	NA	NA	NA	NA	NA
TDS	700	550	700	420	225	700
COD	30	15	NA	NA	5.0	30
MBAS	NA	NA	NA	NA	0.05	NA
Total Inorganic Nitrogen	10	8.0	10	NA	4.0	10
As (CTR) (ug/L)	340	340	150	340	340	340
Cd (SSO) (ug/L)	Calc	4.0	Calc	Calc	Calc	4.0
Cr (CTR) (ug/L)	Calc	Calc	Calc	Calc	Calc	Calc
Cu SSO (ug/L)	Calc	37.0	Calc	Calc	Calc	37.0
Pb SSO (ug/L)	Calc	28.0	Calc	Calc	Calc	28.0
Hg (ug/L)	NA	NA	NA	NA	NA	NA
Ni (CTR) (ug/L)	Calc	Calc	Calc	Calc	Calc	Calc
Se (CTR) (ug/L)	5	5	5	5	5	5
Ag (CTR) (ug/L)	Calc	Calc	Calc	Calc	Calc	Calc
Zn (CTR) (ug/L)	Calc	Calc	Calc	Calc	Calc	Calc
Total Coliform (Org/100mL)	NA	100	NA	?	100	NA
Fecal Coliform (Org/100mL)	400	400	NA	?	400	400
E.Coli (MPN/100mL)	126	126	NA	?	126	126
pH	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5
DO (mg/L)	5	5	5	NA	6	5
Boron (mg/L)	30	30	30	30	30	30

Land Use Information:

- **Percent Approximate Land Use -by Category:** Open – 2%, Agriculture – 3%, Commercial/Industrial – 34%, Residential – 61%.
- **Regional Imperviousness Approximate Percentage:** 95% impervious; 5% pervious
- **Project-Specific Imperviousness Percentage:** Project specific impervious is to be provided by the project civil engineer

- **Land Use:** Allowable land use criteria is provided as part of the planning process through zoning and jurisdictional General or Specific Plans.

- **Soils:** Watershed is located within an alluvial fan. Soil types are typically coarse-grained Sands upslope near the mountains, with fine grained Silts and silty Sands located downslope, closer to Prado Basin. See the geodatabase soil information.

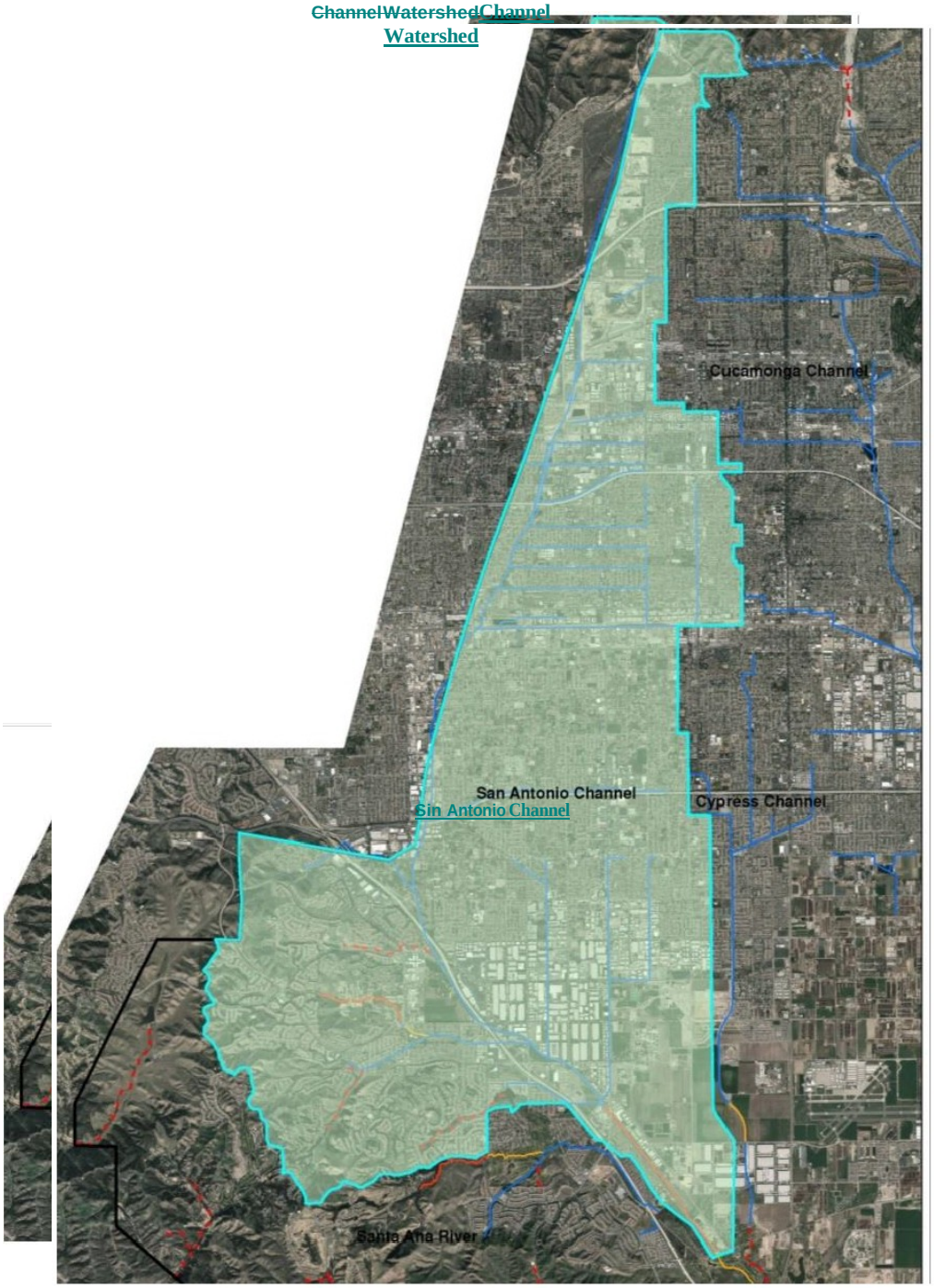
Items of Note:

~~- **Soils:** Watershed is located within an alluvial fan. Soil types are typically coarse-grained Sands upslope near the mountains, with fine grained Silts and silty Sands located downslope, closer to Prado Basin. See the geodatabase soil information.~~

~~**Items of Note:**~~

- **CBRP compliance:** This watershed is within the CBRP compliance area. Stormwater runoff and urban discharges to the waterbodies are being investigated as part of the County of San Bernardino Areawide Stormwater CBRP program
  (http://www.sawpa.org/collaboration/projects/tmdl-taskforce/)
- **Infeasibility**
  Possible infiltration infeasibility constraints include:
  - Soil type (per project specific geotechnical report)
  - Locations within the Hydrologic Control Plan area
  - Perched groundwater or artisan groundwater conditions

San Antonio ~~Channel~~Watershed~~Channel~~ Watershed



San Sevaine Watershed Fact Sheet

San Sevaine Watershed

San Sevaine Watershed is located in the midsection of the San Bernardino County valley and includes the counties of San Bernardino and Riverside and portions of the cities of Rancho Cucamonga, Ontario, and Fontana. Federal jurisdictions include the Angeles Forest (USFS).

The following data summary provides general watershed information. Site specific information must be researched on the Stormwater Facility Mapping Tool (Watershed Geodatabase) found at: http://sbcounty.permitrack.com/WAP/

~~San Sevaine Watershed Data Summary~~

Waterbodies: Etiwanda Creek Channel, San Sevaine Channel, Declez Channel, Santa Ana Reach 3 (Prado Basin)

Source Waters: 1) Headwater locations should be checked for spring sources (i.e. mountain locations); 2) Effluent dominated sources include: none

Wetlands/Riparian Areas:

- Riparian/Wetland areas are identified on the geodatabase
- ~~During the CEQA process, the jurisdictional delineations for riparian and wetland areas are delineated and included into the CEQA analysis per USACOE (Section 404), Calif. Dept. of Fish and Wildlife (Section 1600) and Calif. Water Resources Control Board (Section 401) permitting requirements.~~
- During the CEQA process, the jurisdictional delineations for riparian and wetland areas are delineated and included into the CEQA analysis per USACOE (Section 404), Calif. Dept. of Fish and Wildlife (Section 1600) and Calif. Water Resources Control Board (Section 401) permitting requirements.
- **Biological Sensitive Areas**: San Sevaine Watershed contains known mapped plant and animal sensitive areas. It is typically required to analyze sites with respect to biological criteria.
    - Expected Habitat:
        - Delhi Sand – Southern border
        - California Gnatcatcher – Southern border
        - Merriam K Rat – North end, base of foothills
    - Potential Habitat:
        - Coastal Sage Scrub – Southern border
        - Riversidean Alluvial Fan Sage Scrub – north portion, primarily above 210 freeway
    - No Fish, Frogs, Snakes, Insects or Tortoise

Groundwater Basins:

- Depth to Groundwater is presented on the following CBWM map: http://www.cbwm.org/docs/engdocs/maps

Flood Control Measures/ Plans:

- Watershed is located within San Bernardino County Flood Control District Zone 1 (SBCFCD) and must be in compliance with current operating procedures and requirements. Please contact SBCFCD for site specific information (909-387-8104).

Drainage channels: While most drainages are Engineered Hardened Maintained (EHM) Channels, there are earthen channels remaining in this watershed as identified in the Geodatabase.

Hydrologic Conditions of Concern (HCOC): The watershed is Hydrologic Conditions of Concern (HCOC) Exempt.

Recharge information: The watershed is highly managed with strict recharge criteria. Recharge management information is found at the following websites. *Recharge activities within this adjudicated watershed must meet existing*

hydrogeologic modeling criteria and groundwater management plans. Recharge management information is found at the following websites and in the Stormwater Facility Mapping Tool.

~~http://www.ieua.org/sustain/gw/recharge.html~~

~~http://www.cbwm.org/rep_engineering.htm~~

http://www.ieua.org/sustain/gw/recharge.html

Beneficial Uses: http://www.cbwm.org/rep_engineering.htm

- **San Sevaine Creek: : (all intermittent/mountain reach)** MUN, GWR, REC1, REC2, COLD, WILD
- **Etiwanda Creek:** MUN, PROC, GWR, REC1, REC2, COLD WILD, RARE
- **Santa Ana River Reach 3:** AGR, GWR, REC 1, REC2, WARM, WILD, RARE

303(d) Impairments:

- **Reach 3:** Lead

Approved TMDLs:

- **Reach 3:** Copper (Wet season only), Pathogens

Water Quality Objectives ~~(mg/L):~~:

~~Discharges **must not cause exceedance** of the following Basin Plan Water Quality Objectives as presented in: http://www.waterboards.ca.gov/rwqcb8/water_issues/programs/basin_plan/index.shtml~~

Discharges **must not cause exceedance** of the following Basin Plan Water Quality Objectives as presented in: http://www.waterboards.ca.gov/rwqcb8/water_issues/programs/basin_plan/index.shtml

	~~Water Quality Objective (mg/L)~~						
~~Waterbody~~	~~TDS~~	~~Hardness~~	~~Sodium~~	~~Chloride~~	~~Total Inorganic Nitrogen~~	~~Sulfate~~	~~Chemical Oxygen Demand~~
~~San Sevaine Channel~~	~~200~~	~~–~~	~~–~~	~~–~~	~~–~~	~~–~~	~~–~~
~~East Etiwanda Creek~~	~~200~~	~~100~~	~~15~~	~~4~~	~~4~~	~~25~~	~~5~~
~~Santa Ana River Reach 3~~	~~700~~	~~350~~	~~110~~	~~140~~	~~10~~	~~150~~	~~30~~

	San Sevaine Channel			
	San Sevaine Channel (Valley Reach)	East Etiwanda Creek (Valley Reach)	East Etiwanda Creek (Mtn Reach)	Santa Ana Reach 3 (Prado Dam to Mission Blvd, Riverside (base flow))
BASIN PLAN				
Tributary Rule Waterbody		Chino-North Basin		
Notes		use underlying GW Basin Objectives		Exempt from MUN
WAP Subwatershed	San Sevaine	San Sevaine	San Sevaine	
Impairment, 303(d) listing				
Hardness	NA	NA	100	350
Sodium (mg/L)	NA	NA	15	110

Chloride (mg/L)	NA	NA	4.0	140
Sulfate (mg/L)	NA	NA	25	150
Nitrate, as N (mg/L)	10	5.0	10	NA
Floride (mg/L)	NA	NA	0.8	NA
TDS	200	420	200	700
COD	NA	NA	5.0	30
MBAS	0.05	NA	0.05	NA
Total Inorganic Nitrogen	NA	NA	4.0	10
As (CTR) (ug/L)	340	340	340	340
Cd (SSO) (ug/L)	Calc	Calc	Calc	4.0
Cr (CTR) (ug/L)	Calc	Calc	Calc	Calc

	San Sevaine Channel			
	San Sevaine Channel (Valley Reach)	East Etiwanda Creek (Valley Reach)	East Etiwanda Creek (Mtn Reach)	Santa Ana Reach 3 (Prado Dam to Mission Blvd, Riverside (base flow))
Cu SSO (ug/L)	Calc	Calc	Calc	37.0
Pb SSO (ug/L)	Calc	Calc	Calc	28.0
Hg (ug/L)	NA	NA	NA	NA
Ni (CTR) (ug/L)	Calc	Calc	Calc	Calc
Se (CTR) (ug/L)	5	5	5	5
Ag (CTR) (ug/L)	Calc	Calc	Calc	Calc
Zn (CTR) (ug/L)	Calc	Calc	Calc	Calc
Total Coliform (Org/100mL)	100	?	100	NA
Fecal Coliform (Org/100mL)	400	?	400	400
E.Coli (MPN/100mL)	126	?	126	126
pH	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5
DO (mg/L)	5	NA	6	5
Boron (mg/L)	30	30	30	30

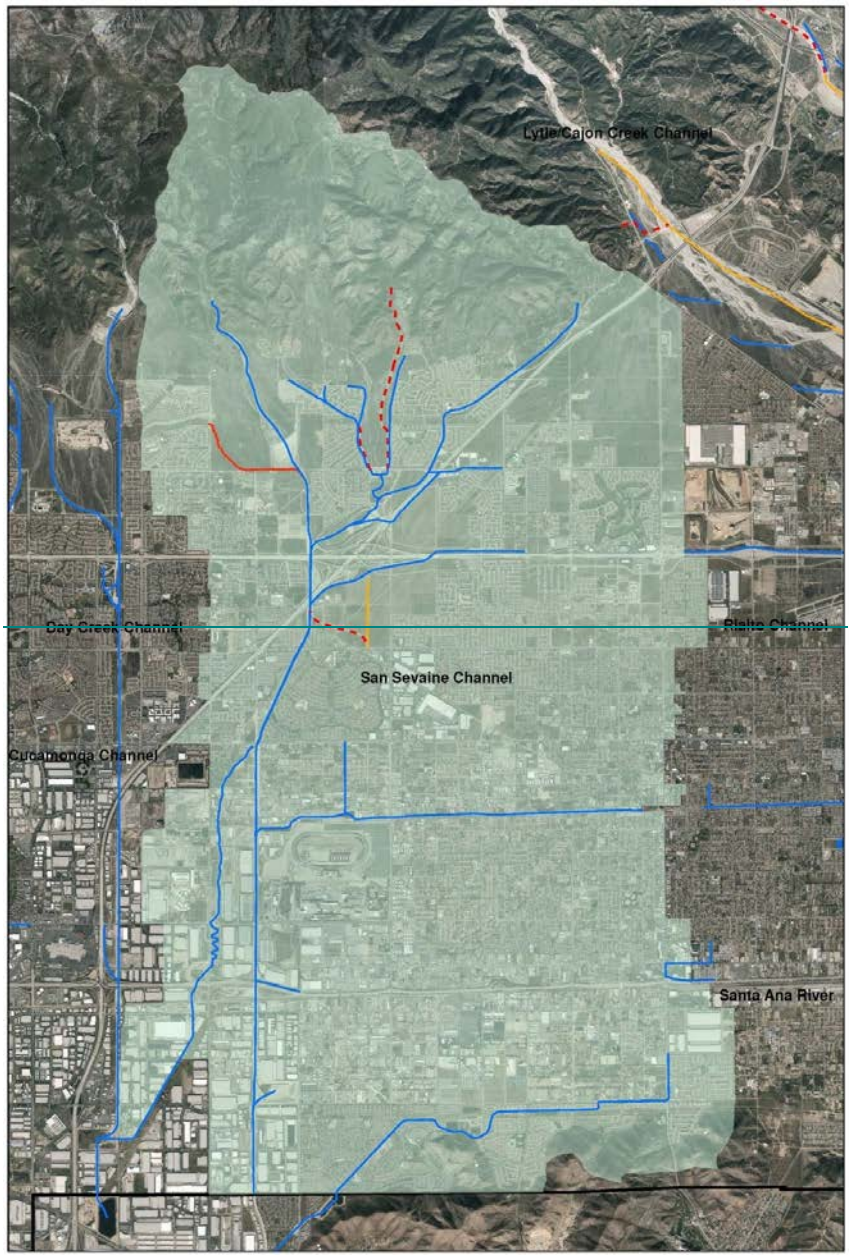
Land Use Information:

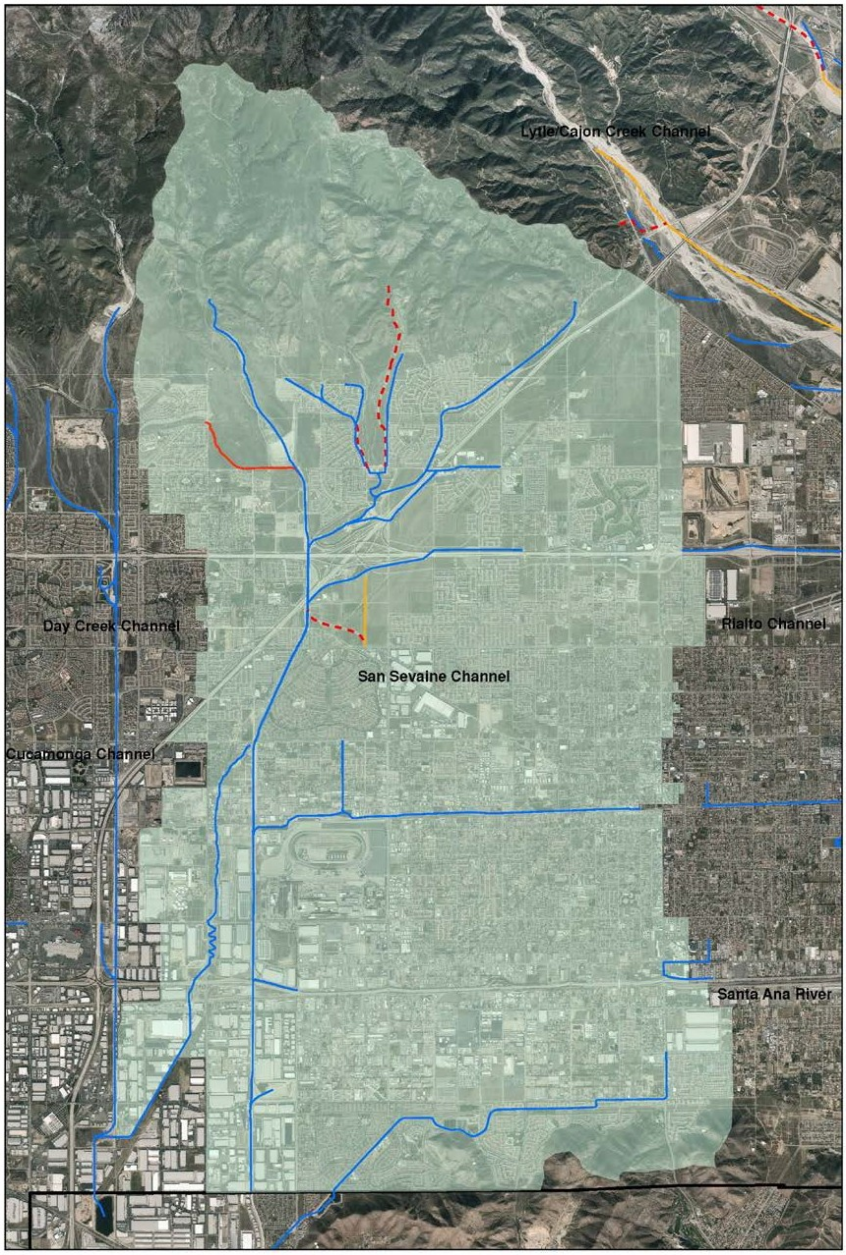
- **Percent Approximate Land Use by Category:** Open – 30%, Agriculture – 0%, Commercial/Industrial – 48%, Residential – 22%.
- **Regional Imperviousness Approximate Percentage:** 70% impervious; 30% pervious
- **Project- Specific Imperviousness Percentage:** Project specific impervious is to be provided by the project civil engineer
- **Land Use:** Allowable land use criteria is provided as part of the planning process through zoning and jurisdictional General or Specific Plans.
- **Soils:** Watershed is located within an alluvial fan. Soil types are typically coarse-grained Sands upslope near the mountains, with fine grained Silts and silty Sands located downslope, closer to Prado Basin. See the geodatabase soil information.

Items of Note:

- **CBRP compliance:** This watershed is within the CBRP compliance area. Stormwater runoff and urban discharges to the waterbodies are being investigated as part of the County of San Bernardino Areawide Stormwater CBRP program
  (http://www.sawpa.org/collaboration/projects/tmdl-taskforce/)
- **Infeasibility**
  Possible infiltration infeasibility constraints include:
  - Soil type (per project specific geotechnical report)
  - Locations within the Hydrologic Control Plan area
  - Perched groundwater or artisan groundwater conditions (south end)

SAN SEVAINE CHANNEL WATERSHED




Lytle/Cajon Creek Channel
Day Creek Channel
Rialto Channel
San Sevaine Channel
Cucamonga Channel
Santa Ana River

San Timoteo Creek Watershed Fact Sheet

San Timoteo Creek Watershed

San Timoteo Watershed is located at the eastern boundary of San Bernardino County valley and includes the counties of San Bernardino and Riverside and portions of the cities of Loma Linda, Redlands, and Yucaipa. Federal jurisdictions include the Angeles Forest (USFS).

The following data summary provides general watershed information. Site specific information must be researched on the Stormwater Facility Mapping Tool (Watershed Geodatabase) found at:
http://sbcounty.permitrack.com/WAP/

~~San~~ **~~Timoteo Creek Watershed Data Summary~~**

Waterbodies: Live Oak Creek, Wildwood Creek, Wilson Creek, Oak Glen Creek, San Timoteo Creek, Santa Ana Reach 4

Source Waters: 1) Headwater locations should be checked for spring sources (i.e. mountain locations); 2) Effluent dominated sources include: none

Wetlands/Riparian Areas:

- Riparian/Wetland areas are identified on the geodatabase
- ~~During the CEQA process, the jurisdictional delineations for riparian and wetland areas are delineated and included into the CEQA analysis per USACOE (Section 404), Calif. Dept. of Fish and Wildlife (Section 1600) and Calif. Water Resources Control Board (Section 401) permitting requirements.~~
- During the CEQA process, the jurisdictional delineations for riparian and wetland areas are delineated and included into the CEQA analysis per USACOE (Section 404), Calif. Dept. of Fish and Wildlife (Section 1600) and Calif. Water Resources Control Board (Section 401) permitting requirements.
- **Biological Sensitive Areas**~~:~~: San Timoeto Creek Watershed contains known mapped plant and animal sensitive areas. It is typically required to analyze sites with respect to biological criteria.
  - Expected Habitat:
    - Merriam K Rat – where subwatershed meets Santa Ana River
  - Potential Habitat:
    - Coastal Sage Scrub – eastern end, northern portion above Wilson Creek and large area north of Live Oak Creek
    - Riparian/Wetlands – Along Live Oak Creek and where subwatershed meets Santa Ana River
  - No Fish, Frogs, Snakes, Insects or Tortoise

Groundwater Basins:
Depth to Groundwater is presented on the Geodatabase and is available from the following water purveyors:

http://www.sbvmwd.com
http://www.yvwd.dst.ca.us

Flood Control Measures/ Plans:

- Watershed is located within San Bernardino County Flood Control District Zone 3 (SBCFCD) and must be in compliance with current operating procedures and requirements. Please contact SBCFCD for site specific information (909-387-8104).

Drainage channels: This watershed has both non -Engineered Hardened Maintained (non-EHM) and EHM channels. Projects not draining to an EHM must meet requirements in the WQMP Manual. (http://www.sbcounty.gov/dpw/land/npdes.asp)

Hydrologic Conditions of Concern (HCOC): Watershed must meet the HCOC criteria in the WQMP Manual.

Recharge information: The watershed is highly managed with strict recharge criteria. Recharge management information is found at the following websites. *Recharge activities within this adjudicated watershed must meet existing hydrogeologic modeling criteria and groundwater management plans.* Recharge management information is found at the following websites and in the Stormwater Facility Mapping Tool.

http://www.sbvmwd.com
http://www.yvwd.dst.ca.us

Beneficial Uses:

- **San Timoteo Creek:** MUN, AGR, GWR, REC1, REC2, WARM, WILD (need to analyze on a site specific basis using Basin Plan)
- ~~**San Timoteo Creek:** MUN, AGR, GWR, REC1, REC2, WARM, WILD (need to analyze on a site specific basis using Basin Plan)~~
- **Tributary Creeks to San Timoteo:** -MUN, GWR, REC1, REC2, WARM, WILD, SPWN (need to analyze on a site specific basis using Basin Plan)
- **Santa Ana River Reach 4:** MUN, GWR, REC 1, REC2, WARM, WILD, RARE

303(d) Impairments

~~**303(d) Impairments**~~

- **Santa Ana Reach 4:** Pathogens

Approved TMDLs:

~~**Approved TMDLs:**~~

- **None**

Water Quality Objectives ~~(mg/L):~~:

Discharges **must not cause exceedance** of the following Basin Plan Water Quality Objectives as presented in:
http://www.waterboards.ca.gov/rwqcb8/water_issues/programs/basin_plan/index.shtml

~~Discharges **must not cause exceedance** of the following Basin Plan Water Quality Objectives as presented in:~~
~~http://www.waterboards.ca.gov/rwqcb8/water_issues/programs/basin_plan/index.shtml~~

	~~Water Quality Objective (mg/L)~~						
~~Waterbody~~	~~TDS~~	~~Hardness~~	~~Sodium~~	~~Chloride~~	~~Total Inorganic Nitrogen~~	~~Sulfate~~	~~Chemical Oxygen Demand~~
~~San Timoteo Creek~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~	~~--~~
~~Tributary Creeks~~	~~230- 290~~	~~125-175~~	~~50~~	~~40-60~~	~~3-6~~	~~45~~	~~5-15~~
~~Santa Ana River Reach 4~~	~~550~~	~~--~~	~~--~~	~~--~~	~~10~~	~~--~~	~~30~~

	San Timoteo Creek

	San Timeoto Creek - Reach 1A (SAR Confluence to Barton Rd)	San Timeoto Creek - Reach 1B (Barton Rd to San Tim Cyn Rd)	San Timeoto Creek - Reach 2 (San Tim Cyn Rd to Yucaipa Crk)	Oak Glen, Potato Canyon, Birch Creeks, Little San Gregornio Creek	Yucaipa Creek	Santa Ana Reach 4 (Mission Blvd to San Jacinto Fault)
BASIN PLAN						
Tributary Rule Waterbody						
Notes	Exempt from MUN	Exempt from MUN	Exempt from MUN			Exempt from MUN
WAP Subwatershed	San Timoteo	San Timoteo	San Timoteo	San Timoteo	San Timoteo	
Impairment, 303(d) listing						
Hardness	NA	NA	NA	125	175	NA
Sodium (mg/L)	NA	NA	NA	50	60	NA
Chloride (mg/L)	NA	NA	NA	40	60	NA
Sulfate (mg/L)	NA	NA	NA	45	45	NA
Nitrate, as N (mg/L)	5.0	5.0	5.0	10	10	NA

	San Timoteo Creek					
	San Timoteo Creek - Reach 1A (SAR Confluence to Barton Rd)	San Timoeto Creek - Reach 1B (Barton Rd to San Tim Cyn Rd)	San Timeoto Creek - Reach 2 (San Tim Cyn Rd to Yucaipa Crk)	Oak Glen, Potato Canyon, Birch Creeks, Little San Gregornio Creek	Yucaipa Creek	Santa Ana Reach 4 (Mission Blvd to San Jacinto Fault)
Floride (mg/L)	NA	NA	NA	0.8	0.8	NA
TDS	400	400	400	230	290	550
COD	NA	NA	NA	5.0	15	30
MBAS	NA	NA	NA	0.05	0.05	NA
Total Inorganic Nitrogen	NA	NA	NA	3.0	6.0	10
As (CTR) (ug/L)	340	340	340	340	340	340
Cd (SSO) (ug/L)	Calc	Calc	Calc	Calc	Calc	4.0
Cr (CTR) (ug/L)	Calc	Calc	Calc	Calc	Calc	Calc
Cu SSO (ug/L)	Calc	Calc	Calc	Calc	Calc	37.0
Pb SSO (ug/L)	Calc	Calc	Calc	Calc	Calc	28.0
Hg (ug/L)	NA	NA	NA	NA	NA	NA
Ni (CTR) (ug/L)	Calc	Calc	Calc	Calc	Calc	Calc
Se (CTR) (ug/L)	5	5	5	5	5	5
Ag (CTR) (ug/L)	Calc	Calc	Calc	Calc	Calc	Calc
Zn (CTR) (ug/L)	Calc	Calc	Calc	Calc	Calc	Calc
Total Coliform (Org/100mL)	100	100	100	100	100	NA
Fecal Coliform (Org/100mL)	400	400	400	400	400	400
E.Coli (MPN/100mL)	126	126	126	126	126	126
pH	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5
DO (mg/L)	NA	NA	NA	5	5	5
Boron (mg/L)	NA	NA	NA	30	15	30

Land Use Information:

- **Percent Approximate Land Use -by Category:** Open – 55%, Agriculture – 3%, Commercial/Industrial – 6%, Residential – 39%.
- **Regional Imperviousness Approximate Percentage:** 48% impervious; 52% pervious
- **Project-Specific Imperviousness Percentage:** Project specific impervious is to be provided by the project civil engineer
- **Land Use:** Allowable land use criteria is provided as part of the planning process through zoning and jurisdictional General or Specific Plans.
- ~~**Soils:** Watershed is located within an alluvial fan. Soil types are typically coarse-grained Sands upslope near the mountains, with fine grained Silts and silty Sands located downslope, closer to Prado Basin. See the geodatabase soil information.~~

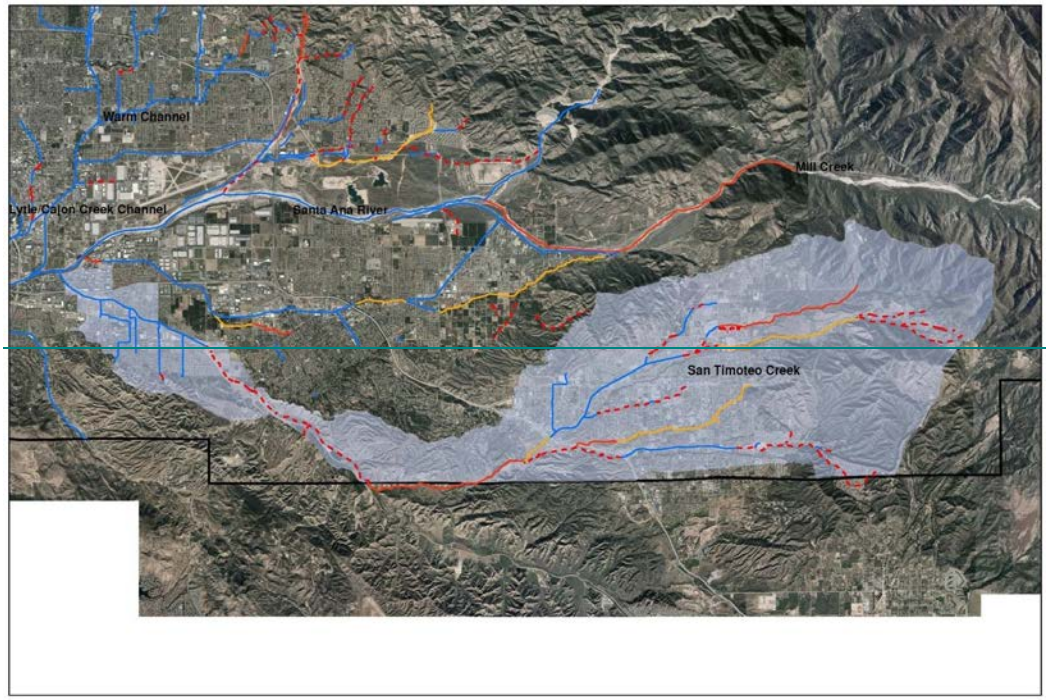
~~**Items of Note:**~~

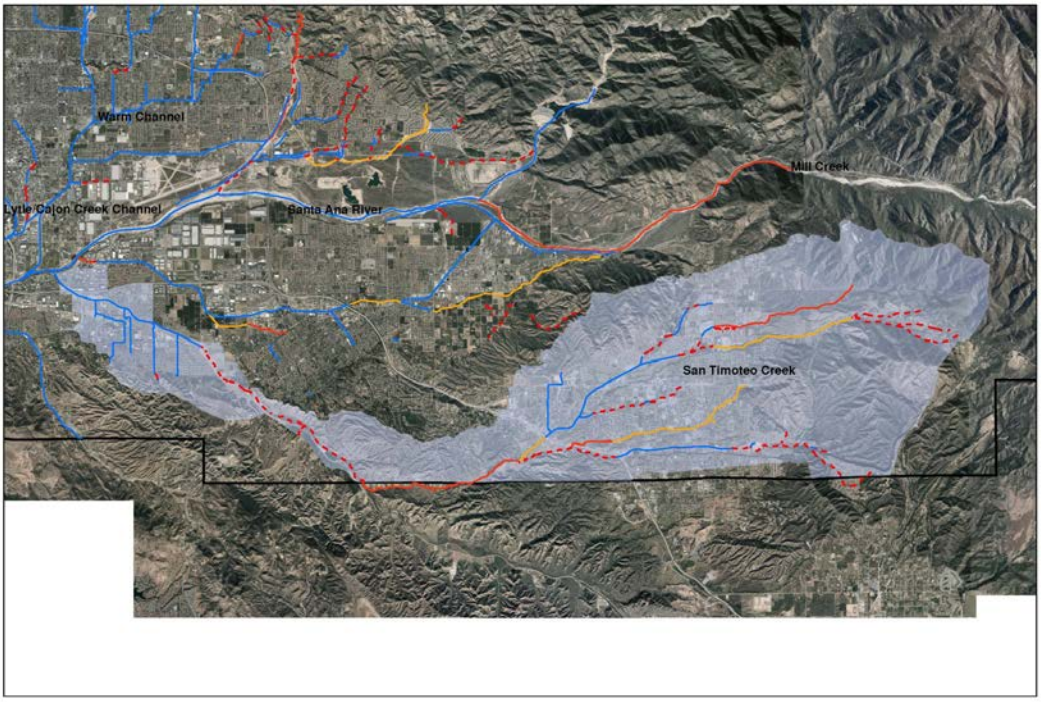
- **Soils:** Watershed is located within an alluvial fan. Soil types are typically coarse-grained Sands upslope near the mountains, with fine grained Silts and silty Sands located downslope, closer to Prado Basin. See the geodatabase soil information.

Items of Note:

None

San Timoteo Creek Watershed




Warm Channel
Mill Creek
Lytle/Colon Creek Channel
Santa Ana River
San Timoteo Creek

Santa Ana (East) Watershed Fact Sheet

Santa Ana River (East) Watershed

Santa Ana River (East) Watershed is located at the eastern boundary of San Bernardino County valley and includes the county of San Bernardino and portions of the cities of Rialto, Colton, San Bernardino, Loma Linda, Highland and Redlands. Federal jurisdiction includes the Angeles Forest (USFS).

The following data summary provides general watershed information. Site specific information must be researched on the Stormwater Facility Mapping Tool (Watershed Geodatabase) found at:
http://sbcounty.permitrack.com/WAP/

Waterbodies: Plunge Creek, Oak Creek, Zanja (Mission) Creek, Santa Ana Reach 3 and 4

Source Waters: 1) Headwater locations should be checked for spring sources (i.e. mountain locations); 2) Effluent dominated sources include: Colton Waste Water Treatment Plant and San Bernardino Waste Water Treatment Plant~~Santa Ana River (East) Watershed Data Summary~~

~~**Waterbodies:** Plunge Creek, Oak Creek, Zanja (Mission) Creek, Santa Ana Reach 3 and 4~~
~~**Source Waters:** 1) Headwater locations should be checked for spring sources (i.e. mountain locations); 2) Effluent dominated sources include: Colton Waste Water Treatment Plant and San Bernardino Waste Water Treatment Plant~~

Wetlands/Riparian Areas:

- Riparian/Wetland areas are identified on the geodatabase
- During the CEQA process, the jurisdictional delineations for riparian and wetland areas are delineated and included into the CEQA analysis per USACOE (Section 404), Calif. Dept. of Fish and Wildlife (Section 1600) and Calif. Water Resources Control Board (Section 401) permitting requirements.
- ~~During the CEQA process, the jurisdictional delineations for riparian and wetland areas are delineated and included into the CEQA analysis per USACOE (Section 404), Calif. Dept. of Fish and Wildlife (Section 1600) and Calif. Water Resources Control Board (Section 401) permitting requirements.~~
- **Biological Sensitive Areas:** Santa Ana River Watershed contains known mapped plant and animal sensitive areas. It is typically required to analyze sites with respect to biological criteria.
    - Expected Habitat:
        - Delhi Sands – Rialto/Colton area, southwest end of subwatershed
        - Mountain Yellow Legged Frog – northern end of City Creek
        - California Gnatcatcher – southwest end of subwatershed,
        - Southwest Willow Flycatcher – along Santa Ana River
        - Santa Ana Sucker Fish – in Santa Ana River
        - Merriam K Rat – Throughout length of Santa Ana River within Valley
    - Potential Habitat:
        - Coastal Sage Scrub – Southwest border and within Santa Ana River
        - Riparian/Wetland – throughout length of Santa Ana River
    - No Tortoise, Insects, Snakes

Groundwater Basins:

Depth to Groundwater is presented on the Geodatabase and is available from the following water purveyors:

http://www.sbvmwd.com/

http://www.cbwm.org/docs/engdocs/maps

Flood Control Measures/ Plans:

Watershed is located within San Bernardino County Flood Control District Zones 2 and 3 (SBCFCD) and must be in compliance with current operating procedures and requirements. Please contact SBCFCD for site specific information (909-387-8104).

Drainage channels: This watershed is both Engineered Hardened Maintained (EHM) and non -Engineered Hardened Maintained (non-EHM) Channels. Projects not draining to an EHM must meet requirements in the WQMP Manual (http://www.sbcounty.gov/dpw/land/npdes.asp)

Hydrologic Conditions of Concern (HCOC): Watershed must meet the HCOC criteria in the WQMP Manual.

Recharge information: The watershed is highly managed with strict recharge criteria. Recharge management information is found at the following websites. *Recharge activities within this adjudicated watershed must meet existing hydrogeologic modeling criteria and groundwater management plans.* Recharge management information is found at the following websites and in the Stormwater Facility Mapping Tool.

http://www.sbvmwd.com/
http://www.ieua.org/sustain/gw/recharge.html
http://www.cbwm.org/rep_engineering.htm

Beneficial Uses:

- **Santa Ana River Reach 3**: AGR, GWR, REC 1, REC2, WARM, WILD, RARE
- **Santa Ana River Reach 4:** MUN, GWR, REC 1, REC2, WARM, WILD, RARE

303(d) Impairments:

- **Santa Ana Reach 3:** Lead
- **Santa Ana Reach 4:** Pathogens

Approved TMDLs:

- **Santa Ana Reach 3:** Copper (Wet season only), Pathogens

Water Quality Objectives (mg/L):
Discharges **must not cause exceedance** of the following Basin Plan Water Quality Objectives as presented in:
http://www.waterboards.ca.gov/rwqcb8/water_issues/programs/basin_plan/index.shtml

Waterbody		Water Quality Objective (mg/L)						
		TDS	Hardness	Sodium	Chloride	Total Inorganic Nitrogen	Sulfate	Chemical Oxygen Demand
	Santa Ana River Reach 4 (Mission Blvd to San Jacinto Fault)	700	350	110	140			
	Santa Ana Reach 3 (Prado Dam to Mission Blvd, Riverside (base flow))	330	–	–	–			
BASIN PLAN								
Tributary Rule Waterbody								
Notes	Exempt from MUN	Exempt from MUN						
WAP Subwatershed								
Impairment, 303(d) listing								
Hardness	NA	350						
Sodium (mg/L)	NA	110						

Deleted Cells
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Chloride (mg/L)	NA	140
Sulfate (mg/L)	NA	150
Nitrate, as N (mg/L)	NA	NA
Floride (mg/L)	NA	NA

	Santa Ana River East	
	Santa Ana Reach 4 (Mission Blvd to San Jacinto Fault)	Santa Ana Reach 3 (Prado Dam to Mission Blvd, Riverside (base flow))
TDS	550	700
COD	30	30
MBAS	NA	NA
Total Inorganic Nitrogen	10	10
As (CTR) (ug/L)	340	340
Cd (SSO) (ug/L)	4.0	4.0
Cr (CTR) (ug/L)	Calc	Calc
Cu SSO (ug/L)	37.0	37.0
Pb SSO (ug/L)	28.0	28.0
Hg (ug/L)	NA	NA
Ni (CTR) (ug/L)	Calc	Calc
Se (CTR) (ug/L)	5	5
Ag (CTR) (ug/L)	Calc	Calc
Zn (CTR) (ug/L)	Calc	Calc
Total Coliform (Org/100mL)	NA	NA
Fecal Coliform (Org/100mL)	400	400
E.Coli (MPN/100mL)	126	126
pH	6.5-8.5	6.5-8.5
DO (mg/L)	5	5
Boron (mg/L)	30	30

Land Use Information:

- **Percent Approximate Land Use ~~-~~by Category:** Open – 79%, Agriculture – 1%, Commercial/Industrial – 6%, Residential – 14%.
- **Regional Imperviousness Approximate Percentage:** 20% impervious; 80% pervious
- **Imperviousness Percentage: ~~-~~**Project specific impervious is to be provided by the project civil engineer
- **Land Use:** Allowable land use criteria is provided as part of the planning process through zoning and jurisdictional General or Specific Plans.
- **Soils:** Watershed is located within an alluvial fan. Soil types are typically coarse-grained Sands upslope near the mountains, with fine grained Silts and silty Sands located downslope, closer to Prado Basin. See the geodatabase soil information.

Items of Note:

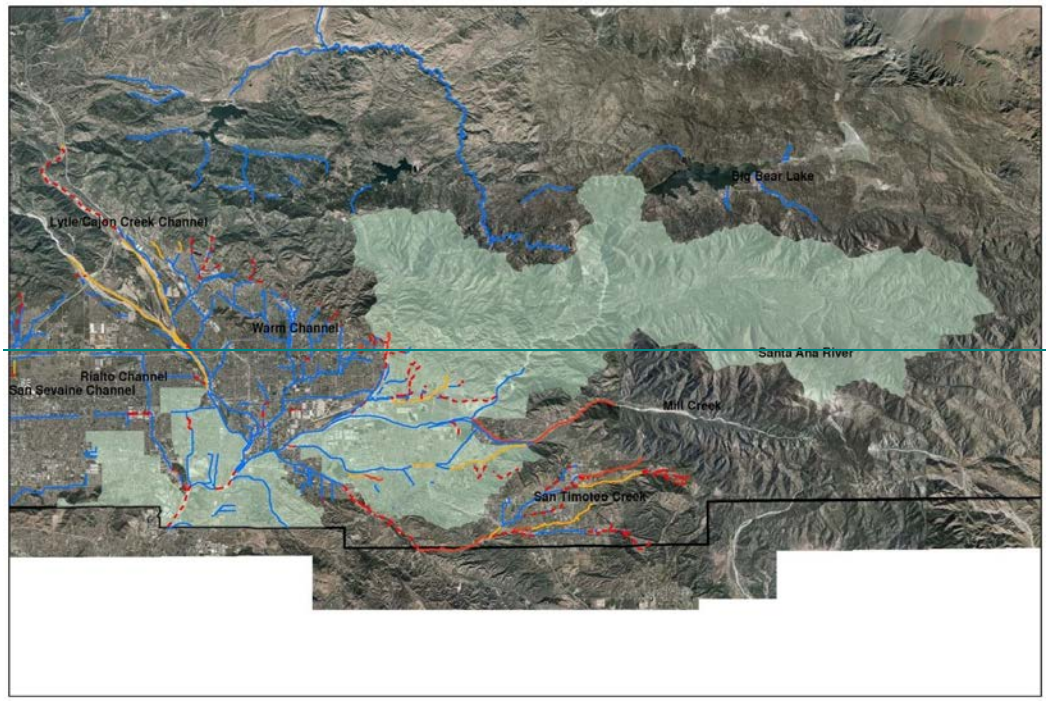
None

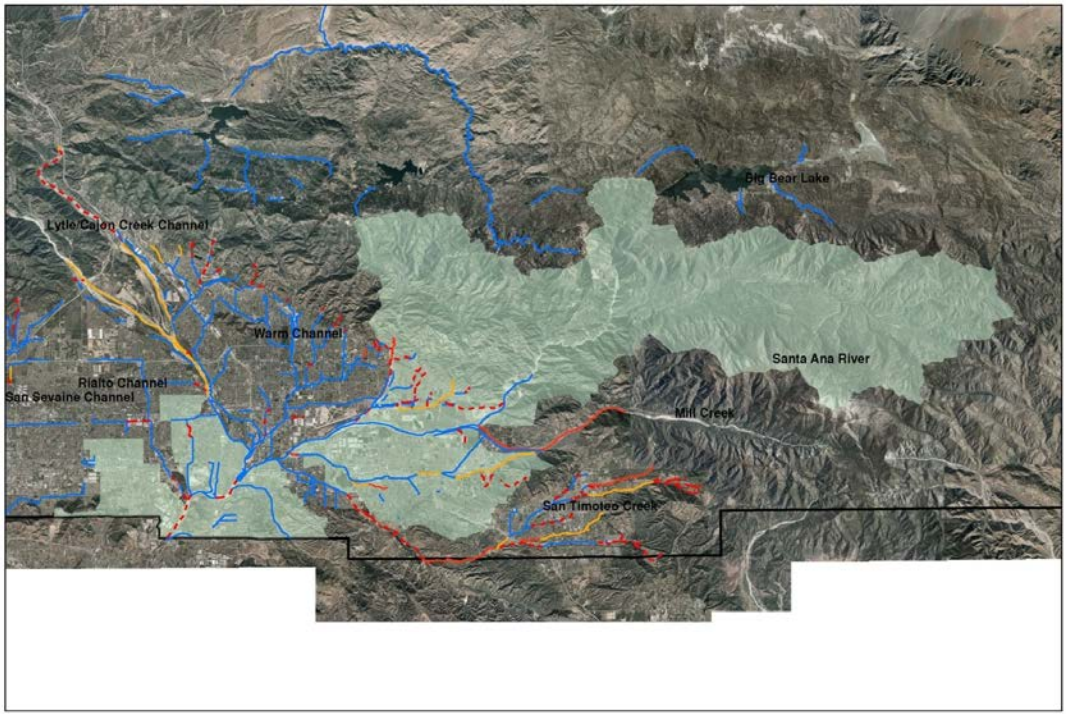
- ~~**Soils:** Watershed is located within an alluvial fan. Soil types are typically coarse-grained Sands upslope near the mountains, with fine grained Silts and silty Sands located downslope, closer to Prado Basin. See the geodatabase soil information.~~

~~**Items of Note:**~~

~~None~~

Santa Ana River (East) Watershed




Big Bear Lake
Lytle/Cajon Creek Channel
Warm Channel
Santa Ana River
Rialto Channel
San Sevaine Channel
Mill Creek
San Timoteo Creek

Santa Ana (West) Watershed Fact Sheet

Santa Ana River (West) Watershed

The Santa Ana River Sub-Watershed is located within the western edge of San Bernardino County and includes a portion of Riverside and Orange Counties, and City of Chino Hills. Chino Hills State Park is the primary watershed use.

The following data summary provides general watershed information. Site specific information can also be researched on the Stormwater Facility Mapping Tool (Watershed Geodatabase) found at:
http://sbcounty.permitrack.com/WAP/

Waterbodies	**Primary Tributaries**	
Santa Ana Reach 3 (Prado Basin)	Aliso Canyon	Bane Canyon
	Water Canyon	Slaughter Canyon
	Abacherly Canyon	

Source Waters:
~~**Source Waters:**~~

- Headwater locations should be checked for spring sources
- There are no effluent dominated sources

Wetlands/Riparian Areas:
~~**Wetlands/Riparian Areas:**~~

- There are no Riparian/Wetland areas are identified within this Watershed.
- During the CEQA process, the jurisdictional delineations for riparian and wetland areas are delineated and included into the CEQA analysis per USACOE (Section 404), Calif. Dept. of Fish and Wildlife (Section 1600) and Calif. Water Resources Control Board (Section 401) permitting requirements.
- ~~During the CEQA process, the jurisdictional delineations for riparian and wetland areas are delineated and included into the CEQA analysis per USACOE (Section 404), Calif. Dept. of Fish and Wildlife (Section 1600) and Calif. Water Resources Control Board (Section 401) permitting requirements.~~
- **Biological Sensitive Areas:** Santa Ana River (West) Watershed contains known mapped plant and animal sensitive areas. It is typically required to analyze sites with respect to biological criteria.
  - Expected Habitat:
    - California Gnatcatcher – southwest border of subwatershed
    - Least Bell Vireo – southeast border of subwatershed
  - Potential Habitat:
    - Coastal Sage Scrub – throughout subwatershed
    - Riparian/Wetland – eastern border of subwatershed
  - No Fish, Bird, Rodents, Expected Plants, Frogs, Snakes, Insects or Tortoise

Groundwater Basins:

- Depth to Groundwater is presented on the following CBWM map http://www.cbwm.org/docs/engdocs/maps
- Per the obligations codified in the 2004 Basin Plan amendment it is regionally required to eliminate groundwater outflow to the Santa Ana River. This is the Hydraulic Control Monitoring Program and is managed through the Chino Basin Desalter Authority, the Chino Basin Watermaster and Inland Empire Utilities Agency. Areas south of the 60 Freeway must review this information.

Flood Control Measures/ Plans:

- Watershed is located within San Bernardino County Flood Control District Zone 1 (SBCFCD) and must be in compliance with current operating procedures and requirements. Please contact SBCFCD for site specific information (909-387-8104).

Drainage channels:

- There are no Engineered Hardened Maintained (EHM) Channels within this watershed.

Hydrologic Conditions of Concern (HCOC):

- All development within the watershed must meet the HCOC criteria in the WQMP Manual.

Recharge information:

The watershed is highly managed with strict recharge criteria. Recharge management information is found at the following websites. *Recharge activities within this adjudicated watershed must meet existing hydrogeologic modeling criteria and groundwater management plans.*

Contact information and watershed specific information is found at:

http://www.ieua.org/sustain/gw/recharge.html
http://www.cbwm.org/rep_engineering.htm
http://www.cbwcd.org/129/Percolation-Basins

Beneficial Uses:

Dischargers must not impair these beneficial uses:

- **Santa Ana River Reach 3:** AGR, GWR, REC 1, REC2, WARM, WILD, RARE

303(d) Impairments:

~~**303(d) Impairments:**~~

- **Santa Ana River Reach 3:** Lead

Approved TMDLs:

~~**Approved TMDLs:**~~

- **Santa Ana River Reach 3: Copper** (wet season only), Pathogen

Water Quality Objectives ~~(mg/L):~~:

Discharges **must not cause exceedance** of the following Basin Plan Water Quality Objectives as presented in:
http://www.waterboards.ca.gov/rwqcb8/water_issues/programs/basin_plan/index.shtml

	Santa Ana River West
	Santa Ana Reach 3 (Prado Dam to Mission Blvd, Riverside (base flow))
BASIN PLAN	
Tributary Rule Waterbody	
Notes	Exempt from MUN
WAP Subwatershed	
Impairment, 303(d) listing	
Hardness	350
Sodium (mg/L)	110
Chloride (mg/L)	140
Sulfate (mg/L)	150
Nitrate, as N (mg/L)	NA
Floride (mg/L)	NA
TDS	700
COD	30
MBAS	NA
Total Inorganic Nitrogen	10

As (CTR) (ug/L)	340
Cd (SSO) (ug/L)	4.0

	Santa Ana River West
	Santa Ana Reach 3 (Prado Dam to Mission Blvd, Riverside (base flow))
Cr (CTR) (ug/L)	Calc
Cu SSO (ug/L)	37.0
Pb SSO (ug/L)	28.0
Hg (ug/L)	NA
Ni (CTR) (ug/L)	Calc
Se (CTR) (ug/L)	5
Ag (CTR) (ug/L)	Calc
Zn (CTR) (ug/L)	Calc
Total Coliform (Org/100mL)	NA
Fecal Coliform (Org/100mL)	400
E.Coli (MPN/100mL)	126
pH	6.5-8.5
DO (mg/L)	5
Boron (mg/L)	30

~~Discharges must not cause exceedance of the following Basin Plan Water Quality Objectives as presented in: http://www.waterboards.ca.gov/rwqcb8/water_issues/programs/basin_plan/index.shtml~~

	~~Water Quality Objective (mg/L)~~						
~~Waterbody~~	~~TDS~~	~~Hardness~~	~~Sodium~~	~~Chloride~~	~~Total Inorganic Nitrogen~~	~~Sulfate~~	~~Chemical Oxygen Demand~~
~~Santa Ana River Reach 3~~	~~700~~	~~350~~	~~110~~	~~140~~	~~10~~	~~150~~	~~30~~

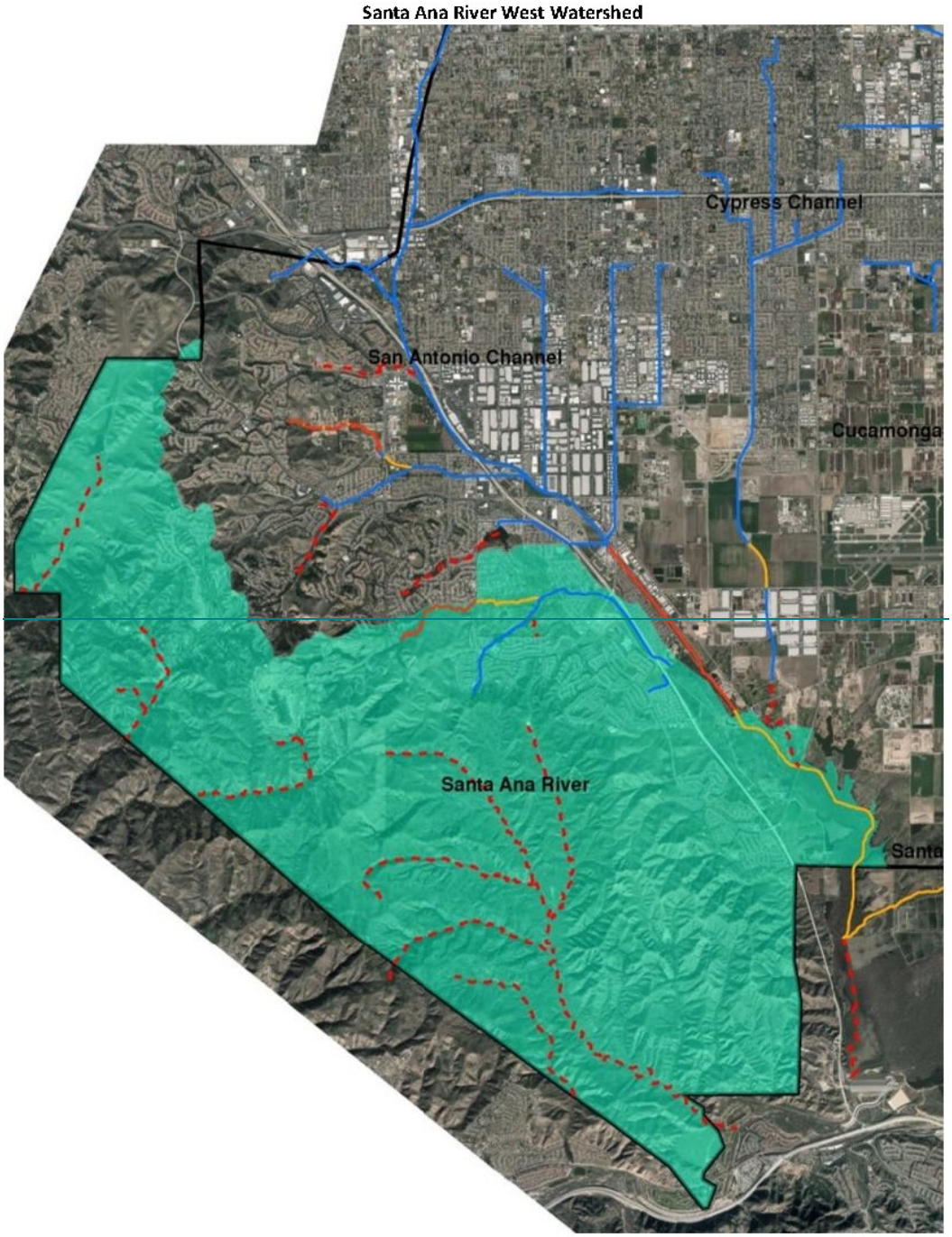
Land Use Information:

- **Percent Approximate Land Use ~~-~~by Category:** Open – 82%, Agriculture – 1%, Commercial/Industrial – 0%, Residential – 17%.
- **Regional Imperviousness Approximate Percentage:** 17% impervious; 83% pervious
- **Project- Specific Imperviousness Percentage:** Project specific impervious is to be provided by the project civil engineer
- **Land Use:** Allowable land use criteria is provided as part of the planning process through zoning and jurisdictional General or Specific Plans.
- **Soils:** Watershed is located within a hilly region. Soil types are typically fine-grained Silts and silty Clays. See the geodatabase soil information

Items of Note:

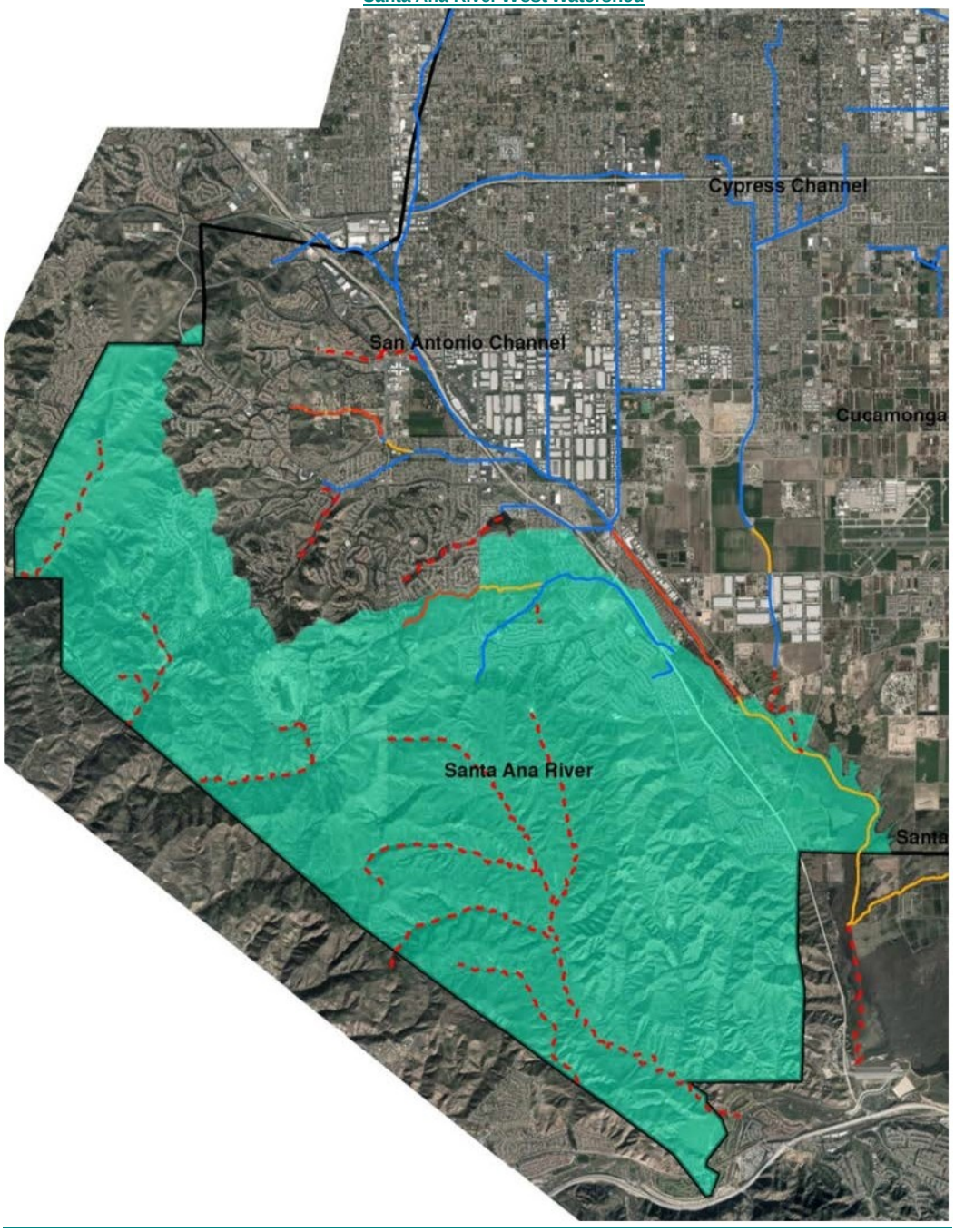
- ~~**CBRP compliance:** This watershed is within the CBRP compliance area. Stormwater runoff and urban discharges to the waterbodies are being investigated as part of the County of San Bernardino Areawide Stormwater CBRP program (http://www.sawpa.org/collaboration/projects/tmdl-taskforce/)~~
- ~~**Infeasibility**~~

  ~~Possible infiltration infeasibility constraints include:~~
  - ~~Soil type (per project specific geotechnical report)~~
  - ~~Locations within the Hydrologic Control Plan area~~
  - ~~Perched groundwater or artisan groundwater conditions~~


Santa Ana River West Watershed
Cypress Channel
San Antonio Channel
Cucamonga
Santa Ana River
Santa

- **CBRP compliance:** This watershed is within the CBRP compliance area. Stormwater runoff and urban discharges to the waterbodies are being investigated as part of the County of San Bernardino Areawide Stormwater CBRP program
  (http://www.sawpa.org/collaboration/projects/tmdl-taskforce/)
- **Infeasibility**
  Possible infiltration infeasibility constraints include:
  - Soil type (per project specific geotechnical report)
  - Locations within the Hydrologic Control Plan area
  - Perched groundwater or artisan groundwater conditions

Santa Ana River West Watershed



Warm Channel Watershed Fact Sheet

Warm Channel Watershed

Warm Channel Watershed is located within the eastern portion of the San Bernardino County valley and includes the county of San Bernardino and portions of the cities of Highland and San Bernardino. Federal jurisdictions include the Angeles Forest (USFS).

The following data summary provides general watershed information. Site specific information must be researched on the Stormwater Facility Mapping Tool (Watershed Geodatabase) found at:
http://sbcounty.permitrack.com/WAP/

~~Warm Channel Watershed Data Summary~~

Waterbodies: Devil Creek, Del Rosa Channel, Twin Creek, City Creek, Warm Creek, Santa Ana Reach 4

Source Waters: 1) Headwater locations should be checked for spring sources (i.e. mountain locations); 2) Effluent dominated sources include: San Bernardino Waste Water Treatment Plant and Colton Waste Water Treatment Plant

Wetlands/Riparian Areas:

- Riparian/Wetland areas are identified on the geodatabase
- During the CEQA process, the jurisdictional delineations for riparian and wetland areas are delineated and included into the CEQA analysis per USACOE (Section 404), Calif. Dept. of Fish and Wildlife (Section 1600) and Calif. Water Resources Control Board (Section 401) permitting requirements.
- **Biological Sensitive Areas:** Warm Channel Watershed contains isolated locations where known mapped plant and animal sensitive areas. It is typically required to analyze sites with respect to biological criteria.
  - Expected Habitat:
    - Merriam K Rat, Santa Ana Sucker – along the Santa Ana River area
    - Mountain Yellow Legged Frog – North end of City Creek
  - Potential Habitat:
    - Riparian/Wetlands - along the Santa Ana River area
    - Riversidean Alluvial Fan Sage Scrub – along Santa Ana River and north end of Warm Channel
  - No expected plants or birds

Groundwater Basins:

Depth to Groundwater is presented on the Geodatabase and is available from the following water purveyors:

http://www.sbvmwd.com/
http://www.cbwm.org/docs/engdocs/maps

Flood Control Measures/ Plans:

- Watershed is located within San Bernardino County Flood Control District Zone 2 (SBCFCD) and must be in compliance with current operating procedures and requirements. Please contact SBCFCD for site specific information (909-387-8104).

Drainage channels: Most of the drainages are Engineered Hardened Maintained (EHM) Channels however it, however portions has been designated as Non-EHM. Refer to the Watershed Geodatabase for site specific data.

Hydrologic Conditions of Concern (HCOC): Northeast portion of the watershed is Hydrologic Conditions of Concern (HCOC) Exempt. Remaining portions of watershed must meet the HCOC criteria in the WQMP Manual.

Recharge information: The watershed is highly managed with strict recharge criteria. Recharge management information is found at the following websites. *Recharge activities within this adjudicated watershed must meet existing hydrogeologic modeling criteria and groundwater management plans.* Recharge management information is found at the following websites and in the Stormwater Facility Mapping Tool**.**

http://www.sbvmwd.com//
http://www.ieua.org/sustain/gw/recharge.html
http://www.cbwm.org/rep_engineering.htm

Beneficial Uses:

- **Santa Ana River Reach 4:** MUN, GWR, REC 1, REC2, WARM, WILD

303(d) Impairments:

~~**303(d) Impairments:**~~

- **Santa Ana Reach 4:** Pathogens

Approved TMDLs

~~**Approved TMDLs**~~

- **None**

Water Quality Objectives ~~(mg/L):~~:

Discharges **must not cause exceedance** of the following Basin Plan Water Quality Objectives as presented in:
http://www.waterboards.ca.gov/rwqcb8/water_issues/programs/basin_plan/index.shtml

	Warm Channel					
	Warm Creek Channel	Del Rosa Channel	City Creek (Valley Reach)	City Creek (Mtn Reach)	Devil Canyon (Mt. reach)	Santa Ana Reach 4 (Mission Blvd to San Jacinto Fault)
BASIN PLAN						
Tributary Rule Waterbody	SAR Reach 5	SAR Reach 5	Bunker Hill - B			
Notes			use underlying GW Basin Objectives			Exempt from MUN
WAP Subwatershed	Warm Channel	Warm Channel	Warm Channel	Warm Channel	Warm Channel	
Impairment, 303(d) listing						
Hardness	190	190	NA	115	125	NA
Sodium (mg/L)	30	30	NA	30	35	NA
Chloride (mg/L)	20	20	NA	10	20	NA
Sulfate (mg/L)	60	60	NA	20	25	NA
Nitrate, as N (mg/L)	NA	NA	7.3	10	10	NA
Floride (mg/L)	NA	NA	0.8	0.8	0.8	NA
TDS	300	300	330	200	275	550
COD	25	25	NA	5.0	5.0	30

MBAS	NA	NA	0.05	0.05	0.05	NA
Total Inorganic Nitrogen	5.0	5.0	NA	1.0	1.0	10

	Warm Channel					
	Warm Creek Channel	Del Rosa Channel	City Creek (Valley Reach)	City Creek (Mtn Reach)	Devil Canyon (Mt. reach)	Santa Ana Reach 4 (Mission Blvd to San Jacinto Fault)
As (CTR) (ug/L)	340	340	340	340	340	340
Cd (SSO) (ug/L)	Calc	Calc	Calc	Calc	Calc	4.0
Cr (CTR) (ug/L)	Calc	Calc	Calc	Calc	Calc	Calc
Cu SSO (ug/L)	Calc	Calc	Calc	Calc	Calc	37.0
Pb SSO (ug/L)	Calc	Calc	Calc	Calc	Calc	28.0
Hg (ug/L)	NA	NA	NA	NA	NA	NA
Ni (CTR) (ug/L)	Calc	Calc	Calc	Calc	Calc	Calc
Se (CTR) (ug/L)	5	5	5	5	5	5
Ag (CTR) (ug/L)	Calc	Calc	Calc	Calc	Calc	Calc
Zn (CTR) (ug/L)	Calc	Calc	Calc	Calc	Calc	Calc
Total Coliform (Org/100mL)	100	100	100	100	100	NA
Fecal Coliform (Org/100mL)	400	400	400	400	400	400
E.Coli (MPN/100mL)	126	126	126	126	126	126
pH	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5
DO (mg/L)	5	5	5	6	6	5
Boron (mg/L)	30	30	30	30	30	30

~~Discharges must not cause exceedance of the following Basin Plan Water Quality Objectives as presented in: http://www.waterboards.ca.gov/rwqcb8/water_issues/programs/basin_plan/index.shtml~~

	~~Water Quality Objective (mg/L)~~						
~~Waterbody~~	~~TDS~~	~~Hardness~~	~~Sodium~~	~~Chloride~~	~~Total Inorganic Nitrogen~~	~~Sulfate~~	~~Chemical Oxygen Demand~~
~~Santa Ana River Reach 4~~	~~550~~	~~—~~	~~—~~	~~—~~	~~10~~	~~—~~	~~30~~

Land Use Information:

- **Percent Approximate Land Use by Category:** Open – 43%, Agriculture – 0%, Commercial/Industrial – 24%, Residential – 33%.
- **Regional Imperviousness Approximate Percentage:** 57% impervious; 43% pervious
- **Project- Specific Imperviousness Percentage:** Project specific impervious is to be provided by the project civil engineer
- **Land Use:** Allowable land use criteria is provided as part of the planning process through zoning and jurisdictional General or Specific Plans.
- ~~**Soils:** Watershed is located within an alluvial fan. Soil types are typically coarse grained Sands upslope near the mountains, with fine grained Silts and silty Sands located downslope, closer to Prado Basin. See the geodatabase soil information.~~

~~**Items of Note:**~~

~~None~~

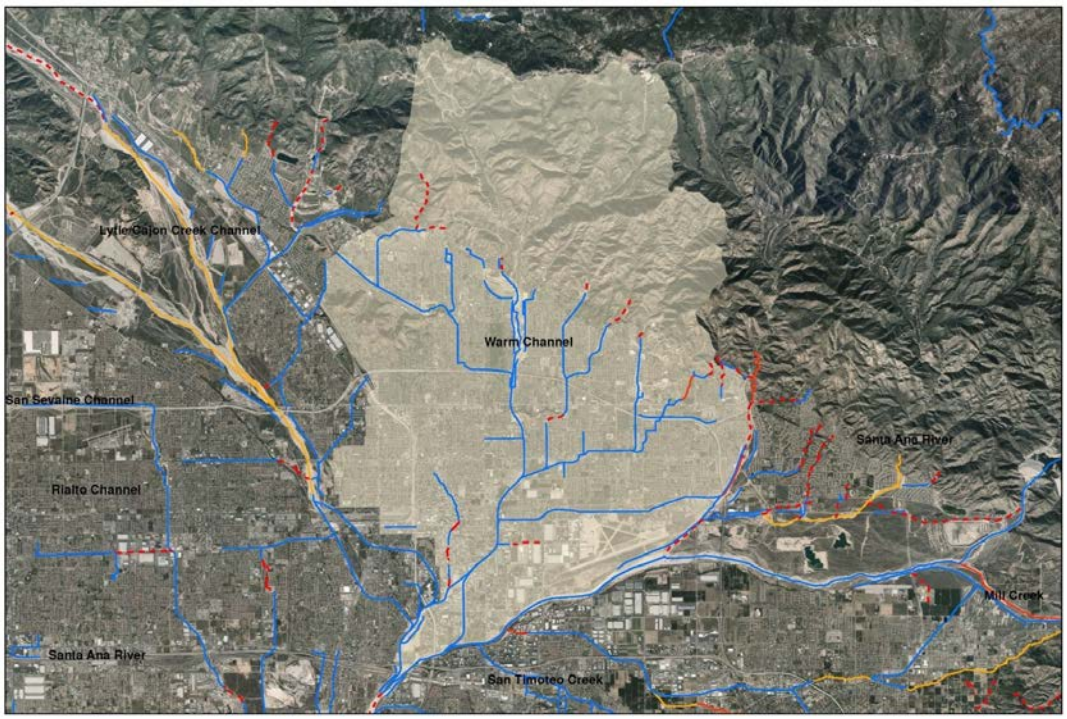
- **Soils:** Watershed is located within an alluvial fan. Soil types are typically coarse-grained Sands upslope near the mountains, with fine grained Silts and silty Sands located downslope, closer to Prado Basin. See the geodatabase soil information.

~~2~~

Items of Note:

None

Warm Channel Watershed



~~Warm Channel Watershed~~