APPENDIX E—STAFF REVIEW OF SAN LUIS CANAL COMPANY WATER BODY CATEGORIZATION REPORT

Regional Water Board Staff Evaluation of Water District

District/Agency Name: San Luis Canal Company

A. Review of submitted natural, modified, and constructed water body category designations (Table 1 in district report)

1) Provide the total numbers of water district submitted and regional board staff-surveyed water bodies for each water body category (staff will conduct a site survey of all B1/B2/M1/M2 water bodies and approximately 10% of C1/C2 water bodies)

Water Body Category	Total # of submitted water bodies	Total # of staff surveyed water bodies
B1 (Natural Ag Drain/Combo)	0	0
B2 (Natural Ag Supply)	0	0
M1 (Modified Ag Drain/Combo)	2	2
M2 (Modified Ag Supply)	0	0
C1 (Constructed Ag Drain/Combo)	230	21
C2 (Constructed Ag Supply)	0	0

2) all water bodies surveyed by staff. Attachment A contains site survey photographs.

M1
Poso Slough
Salt Slough*

C1
Belmont Drain
Devon Drain
Boundary Drain No.1
Boundary Drain No.5
Boundary Drain No.5-2
Boundary Drain No.7
Hooper Drain
Boundary Drain
Belmont Drain Cutoff
Poso Drain
San Juan Drain No.3
West Santa Rita Drain
Santa Rita Orchard Ditch
San Juan Drain
Salt Slough Drain
West San Juan Drain

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Belmont Drain Extension
Circle Island Drain
Pedro Drain
Panama Canal
Alberti Ditch

Photo documentation of the listed water bodies are provided in Attachment A.

*NOTE: Salt Slough is listed in the Sacramento and San Joaquin River Basin Plan with **no** MUN beneficial use designation. Therefore, no further beneficial use evaluation will be conducted for Salt Slough using this process.

3) Were the district's water bodies listed in a 1992 Inland Surface Water Plan (ISWP) district report? If so, how do the current listings compare to the 1992 listing? Discuss any discrepancy in current water body category designations with the 1992 Inland Surface Water Plan (ISWP).

   San Luis Canal Company submitted a report in 1992 and listed approximately 158 district water bodies. Their current listing includes 232 water bodies and many, but not all, of the original 158 water bodies. These differences are most likely due to name changes and more advanced mapping technology. Of the water bodies that match-up between both reports, there was only one under current consideration that was categorized differently – Hooper Drain was categorized in 1992 as a C1 water body (constructed Ag Supply Channel), but is now categorized as a C2 water body (constructed Ag Drain). Staff surveyed Hooper Drain and confirmed that it does currently convey agricultural drainage, and may have been categorized incorrectly in 1992, especially given its name.

4) A comparison to the National Hydrography Dataset (NHD) should be conducted on an applicant's list of water bodies as part of the Flowchart 1 process. Discuss any findings from staff's review of this comparison. Were there any significant NHD water body feature types that differed from the district's category selection (e.g., NHD layer categorizes a water body as a "Stream/River" but the district categorizes it as a constructed water body)? If so, what supporting evidence is there for the district's selection?

   A comparison was conducted between the GIS shape files submitted by San Luis Canal Company and the NHD flowline layer. Less than 30% of San Luis Canal Company's 232 water bodies could be directly compared to the NHD layer. Of these water bodies, staff confirmed a small number that were categorized as C1 (constructed Ag Drain) by the district, but assigned with a "Stream/River" water body type in the NHD layer for part or all of their extent. These water bodies were prioritized by staff when the field survey list was developed (see list of C1 water bodies provided in Question 2 above). Survey findings conducted by staff support the district categorizations.

5) Discuss other pertinent findings that support or do not support district water body category designations. Attach supporting evidence for water body category designations such as site surveys, interviews, and/or photo documentation.

   All surveyed water bodies (see Question 2) were found by staff to be constructed or modified for the purpose of conveying or holding agricultural drainage water and support

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district categorizations. In addition, district representatives showed staff historical records (some dating back to 1930s) depicting construction records for a number of these water bodies in support of their categorizations. Attachment A contains photos of the water bodies surveyed.

6) Staff Recommendation for Water Body Categorization Designations

__X__ Accept as proposed by district

_____ Reject all proposed by district

_____ Change water body category designations as follows:

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B. Evaluation of the MUN beneficial use

1) Are there any surface water MUN diversions in the district? If so, indicate the location.

   No, there are no surface water MUN diversions in the district.

2) Where is the first downstream surface water MUN diversion from the district?

   The first downstream surface water MUN diversion from the district is located at the City of Stockton on the San Joaquin River.

3) Are there any active Water Rights permits or filings for potential future surface water MUN diversions within or downstream of the district and prior to the first MUN diversion? If so, provide the location and any additional information.

   There are no active Water Rights permits or filings for future surface water MUN diversions in SLCC or upstream of the City of Stockton's MUN intake. Additional MUN intakes within the Lower San Joaquin River are unlikely to occur in the future, due to the over-allocation of available flow.

4) Are there any district water bodies that should *not* be considered in this process due to existing MUN diversion? If so, explain.

   No. SLCC's water body categorization report and the staff survey information provide evidence that the water bodies were appropriately categorized as C1 or M1 water bodies and have no current MUN diversions. Therefore, the removal of the MUN beneficial use as indicated in Table 1 (using Exception 2b of the Sources of Drinking Water Policy) is appropriate.

C. Evaluation of water quality and monitoring

1) Monitoring Evaluation:

   a. Which monitoring programs conduct water quality monitoring within and/or downstream (to the first MUN intake) of the district?

      San Luis Canal Company is the only entity monitoring within the district. A summary table of downstream monitoring programs is provided in Attachment B.

   b. Are there any findings of water quality concerns in or downstream of the district?

      In the most recent Westside San Joaquin River Watershed Coalition ILRP semi-annual report, field and general chemistry constituents such as electrical conductivity (EC), TDS, *E. coli*, dissolved oxygen, and boron were found exceeding the recommended water quality objectives in Salt Slough. Salt Slough also had exceedances in pesticides such as chlorpyrifos, DDE, DDT, dimethoate, and diuron.

      The California 2010 303(d) Integrated report lists portions of the Lower San Joaquin River for boron, chlorpyrifos, DDE, DDT, diazinon, diuron, EC, group A

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pesticides, mercury, selenium, temperature, toxaphene, unknown toxicity, and alpha-BHC/alpha-HCH. Many of these constituents are already being addressed with a TMDL control program.

A one-day synoptic evaluation of drinking water constituents of concern in the Lower San Joaquin River basin, conducted by Central Valley Water Board staff in June 2014, found fifteen constituents with elevated concentrations at one or more sites: pH, specific conductance (SC), turbidity, *E. coli*, boron, chloride, perchlorate, sodium, sulfate, total dissolved solids (TDS), total aluminum, total iron, total manganese, trihalomethanes, and bis (2-ethylhexyl) phthalate.

The 2013/2014 San Joaquin River Watershed report that is a part of the California State Water Project Watershed Sanitary Survey found one or more exceedances of water quality objectives in EC, TDS, total nitrogen, turbidity, *E. coli*, and arsenic during a 2008-2013 sampling period. Concentrations of constituents generally decreased from upstream to downstream on the San Joaquin River with highest concentrations found in tributary water bodies containing agricultural drainage. No further actions were recommended due to current extensive monitoring efforts by Municipal Water Quality Investigations (MWQI).

c. Provide a summary of constituents of concern and monitoring activities (Best Management Practices or control programs, regulatory monitoring programs, and non- regulatory monitoring programs) addressing those constituents.

A summary of constituents of concern and monitoring activities addressing those constituents is provided in Attachment C.

d. What are the potential data gaps with existing monitoring programs?

Staff has determined that there are no potential data gaps and current monitoring is sufficient. As indicated in Attachment C, there are a number of existing monitoring programs in the San Joaquin River Basin to evaluate water quality trends and ensure that the San Joaquin River's beneficial uses are protected.

2) Staff Recommendation for a Monitoring and Surveillance Program

Note - monitoring and surveillance options may include requirements for a change in existing regulatory monitoring requirements or support of a regional coordinated water quality monitoring program to track constituents of concern. Other options may include additional ambient surface water monitoring by Central Valley Water Board's SWAMP program, or fate and transport data modeling of specific constituents.

Staff recommends that water quality monitoring and surveillance continued to be conducted through existing monitoring programs. Existing Water Board monitoring programs as well as monitoring conducted by outside agencies and water purveyors are sufficient to assure that discharges meet relevant water quality objectives as required by the Regional Boards. Even though staff acknowledges that any one of these programs may change, it is worth noting that many of these programs have been in place for many

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years, sometimes decades, and there is no indication that any monitoring efforts will be significantly discontinued in the foreseeable future.

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D. References

Central Valley Regional Water Quality Control Board (Central Valley Water Board). 2014. Technical Memorandum: Synoptic Evaluation of Drinking Water Constituents of Concern in the Sacramento and San Joaquin River Basins: June 2014.

Department of Water Resources (DWR). 2015. State Water Project Sanitary Survey, Volume 1 of 5: The San Joaquin River Watershed.
Available at:
http://www.water.ca.gov/waterquality/drinkingwater/docs/sjr_wss_final06152015.pdf

State Water Resources Control Board (State Water Board). 2010. California 2010 Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report).

Westside San Joaquin River Watershed Coalition. 2014. Semi-Annual Monitoring Report, 2014 Irrigation Season Report, Covering the period: March through August 2014.
Available at:
http://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/monitoring_plans_reports_reviews/monitoring_report_reviews/coalitions/westside_sjr_watershed/2014_1130_wsjr_samr.pdf

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ATTACHMENT A – STAFF FIELD SURVEY PHOTOGRAPHS OF LISTED WATER BODIES

Poso Slough and Salt Slough

Upstream

Downstream

Belmont Drain

Upstream

Downstream

Devon Drain

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Upstream

Downstream

Boundary Drain No. 1

Upstream

Downstream

Boundary Drain No. 5

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Upstream	**Downstream**

Boundary Drain No. 5-2

Upstream	**Downstream**

Boundary Drain No. 7

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 Upstream	 **Downstream**

Hooper Drain

 Upstream	 **Downstream**

Boundary Drain

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Upstream-Pipe from Central California Irrigation District

Belmont Drain Cut-off

Upstream

Downstream

Poso Drain

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Upstream	**Downstream**

San Juan Drain No. 3

Upstream	**Downstream**

West Santa Rita Drain

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Upstream	**Downstream**

Santa Rita Orchard Ditch

Upstream	**Downstream**

San Juan Drain

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Upstream	**Downstream**

Salt Slough Drain

Upstream	**Downstream**

West San Juan Drain

DRAFT

 Upstream	 **Downstream**

Belmont Drain Extension

 Upstream	 **Downstream**

Circle Island Drain

DRAFT

 Upstream	 **Downstream**

Pedro Drain

 Upstream	 **Downstream**

Panama Canal

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Upstream	**Downstream**

Alberti Ditch

Upstream	**Downstream**

ATTACHMENT B: Summary of Monitoring Programs I the Lower San Joaquin River

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Program	Agency	Monitoring Plan	Project Term	Data in Ceden?	Field	General Chemistry	Organic Carbon	Bacteria/ Pathogen	Metals	Organics	Minerals	Nutrients	Pesticides/ Legacy Chemicals	Toxicity
ILRP (*regulatory*)	Westside SJR Watershed Coalition	WDR	Ongoing	Yes	X	X	X	X	X (TBD)		X	X	X (TBD)	X
			Historic (2006-Feb 2015)	Yes	X	X	X	X	X		X	X	X	X
	East SJ Water Quality Coalition	WDR	Ongoing	Yes									X	
	SJ County and Delta Coalition	WDR	Ongoing	Yes									X	
San Joaquin District Surface Water Monitoring	DWR	San Joaquin River Real-time Water Quality Management Program	Ongoing	No	X									
Interagency Ecological Program		EMP: Real Time Monitoring	Ongoing	No	X									
		EMP: Discrete Water Quality Sampling	Ongoing	No	X	X	X				X	X		
MWQI		MWQI	Ongoing	No	X	X	X		X		X	X		
Continuous Recording Station		Continuous Recording Station	Ongoing	No	X									
SWAMP	CV-Water Board	SJR Monitoring & Supplementary	Historic (1995-2011)	Yes	X	X	X	X	X		X	X		X
		Seasonal Trend Monitoring at Central Valley Integrator Sites	2017 (to be re-evaluated)	Yes	X		X	X						X
	State Water Board	Sediment Pollution Trends (SPoT)	Ongoing	Yes			X		X	X		X	X	X
GBP	DCRT	WDR/Various GBP Plans	Ongoing (some historic)	No	X	X			X			X		
Surface Water Monitoring	USGS	Surface Water Monitoring	Ongoing	No	X	X			X					

Program	Agency	Monitoring Plan	Project Term	Data in Ceden?	Field	General Chemistry	Organic Carbon	Bacteria/ Pathogen	Metals	Organics	Minerals	Nutrients	Pesticides/ Legacy Chemicals	Toxicity
NAWQA		NAWQA	Ongoing	No	X									
Delta Flows Network		Delta Flows Network	Ongoing	No	X									
Surface Water Monitoring	USBR	Surface Water Monitoring	Ongoing	No	X									
Continuous Recording Station		Continuous Recording Station	Ongoing	No	X									
NPDES (*regulatory*)	City of Turlock WWCF	NPDES SMP	Ongoing	No	X	X			X	X	X	X	X	
	City of Modesto WWCF		Ongoing	No	X	X		X	X	X	X	X	X	
	City of Manteca and Dutra Farms		Ongoing	No	X	X			X	X	X	X	X	
	City of Stockton Regional WWCF		Ongoing	No	X	X	X		X	X	X	X	X	
	Stockton Port District Facility		Ongoing	No	X	X		X	X			X	X	X
	Lincoln Center Environmental Remedial Trust		Ongoing	No	X	X			X	X	X	X	X	
	Ironhouse Sanitary District WRF		Ongoing	No	X	X	X		X		X	X	X	
DDW Regulated Monitoring (*regulatory*)	City of Stockton	Title 22 Source Water Monitoring	Ongoing	No	X	X			X		X	X		X
SFEI Regional Monitoring	SFEI	RMP for Water Quality in the SF Estuary	Ongoing	No	X	X	X		X		X	X	X	X

ATTACHMENT C: SUMMARY OF CONSTITUENTS OF CONCERN AND MONITORING ACTIVITIES

Constituent	Reference Source	Water Board		Other Monitoring Program	Monitoring Coverage									
		BMP/Control Program	Monitoring Program		SJR @ Sack Dam to Hills Ferry		SJR @ Hills Ferry to Laird Park		SJR @ Maze		SJR @ Vernalis to Rough and Ready		SJR @ Buckley Cove to City of Stockton intake	
					Frequency	Program	Frequency	Program	Frequency	Program	Frequency	Program	Frequency	Program
FIELD														
DO	ILRP annual report		ILRP, NPDES	DWR, SFEI, USGS	C	DWR	C	USGS/DWR	C	DWR	C	DWR	M	DWR
EC	303(d) Integrated Report, ILRP annual report, Central Valley Water Board One-day Synoptic, Sanitary Survey	TMDL (2019 expected completion)	DDW, ILRP, NPDES	DWR, GBP, SFEI, USBR, USGS	C	DWR	C	USGS/DWR	C	DWR	C	DWR	M	DWR
pH	Central Valley Water Board One-day Synoptic		DDW, ILRP, NPDES	DWR, GBP, USGS	C	DWR	C	USGS/DWR	C	DWR	C	DWR	M	DWR
Temperature	303(d) Integrated Report	TMDL (2021 expected completion)	ILRP, NPDES	DWR, GBP, SFEI, USBR, USGS	C	DWR	C	USGS/DWR	C	DWR	C	DWR	M	DWR
Turbidity	Central Valley Water Board One-day Synoptic, Sanitary Survey		DDW, ILRP, NPDES	DWR, USBR, USGS	C	DWR	C	USGS/DWR	C	DWR	C	DWR	M	DWR
GENERAL CHEM														
Boron	303(d) Integrated Report, ILRP annual report, Central Valley Water Board One-day Synoptic	TMDL (2019 expected completion)	ILRP, NPDES	GBP, USGS	D	GBP	W	USGS			M	NPDES		
Chloride	Central Valley Water Board One-day Synoptic		DDW, NPDES	DWR			M	NPDES			C	DWR	M	DWR

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Constituent	Reference Source	Water Board		Other Monitoring Program	Monitoring Coverage									
		BMP/Control Program	Monitoring Program		SJR @ Sack Dam to Hills Ferry		SJR @ Hills Ferry to Laird Park		SJR @ Maze		SJR @ Vernalis to Rough and Ready		SJR @ Buckley Cove to City of Stockton intake	
					Frequency	Program	Frequency	Program	Frequency	Program	Frequency	Program	Frequency	Program
Sodium	Central Valley Water Board One-day Synoptic		DDW	DWR							BW	DWR	A	DDW
Sulfate	Central Valley Water Board One-day Synoptic		DDW, NPDES	DWR			M	NPDES			C	DWR	Q	NPDES
TDS	ILRP annual report, Central Valley Water Board One-day Synoptic, Sanitary Survey		DDW, NPDES	DWR			M	NPDES			BW	DWR	M	DWR
BACTERIA														
E. coli	ILRP annual report, Sanitary Survey	TMDL (2021 expected completion)	ILRP, NPDES		O[A]	ILRP	O	ILRP			O	NPDES		
METALS														
Aluminum (Total)	Central Valley Water Board One-day Synoptic		DDW, NPDES, SWAMP	SFEI	O	SWAMP	M	NPDES			M	NPDES	Q	NPDES
Arsenic	Sanitary Survey	TMDL (2021 expected completion)	DDW, ILRP, NPDES, SWAMP	SFEI	O/TBD	SWAMP/ILRP	M	NPDES			M	NPDES	Q	NPDES
Iron (Total)	Central Valley Water Board One-day Synoptic		DDW, NPDES	SFEI			M	NPDES			M	NPDES	Q	NPDES
Manganese (Total)	Central Valley Water Board One-day Synoptic		DDW, NPDES, SWAMP	SFEI	O	SWAMP	M	NPDES			M	NPDES	Q	NPDES
Mercury	303(d) Integrated Report	TMDL (2021 expected completion)	DDW, NPDES, SWAMP	SFEI	O	SWAMP	M	NPDES			M	NPDES	Q	NPDES

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Constituent	Reference Source	Water Board		Other Monitoring Program	Monitoring Coverage									
		BMP/Control Program	Monitoring Program		SJR @ Sack Dam to Hills Ferry		SJR @ Hills Ferry to Laird Park		SJR @ Maze		SJR @ Vernalis to Rough and Ready		SJR @ Buckley Cove to City of Stockton intake	
					Frequency	Program	Frequency	Program	Frequency	Program	Frequency	Program	Frequency	Program
Selenium	303(d) Integrated Report	TMDL	DDW, ILRP, NPDES	GBP, USGS	D	GBP	M	NPDES			M	NPDES	Q	NPDES
ORGANICS														
alpha-BHC/alpha-HCH	303(d) Integrated Report	TMDL (2022 expected completion)	NPDES				M	NPDES			M	NPDES	Q	NPDES
Bis (2-ethylhexyl) phthalate	Central Valley Water Board One-day Synoptic		NPDES				M	NPDES			M	NPDES	Q	NPDES
NUTRIENTS														
Total Nitrogen	Sanitary Survey		NPDES	DWR, GBP, SFEI							M	DWR	M	DWR
PESTICIDES/LEGACY CHEMICALS														
Chlorpyrifos	303(d) Integrated Report, ILRP annual report	TMDL	ILRP, SWAMP		M	ILRP	M	NPDES	O	ILRP	M	NPDES	Q	NPDES
DDE	303(d) Integrated Report, ILRP annual report		ILRP, NPDES		O	SWAMP	M	NPDES			M	NPDES	Q	NPDES
DDT	303(d) Integrated Report, ILRP annual report	TMDL (2011 expected completion)	ILRP, NPDES		O	SWAMP	M	NPDES			M	NPDES	Q	NPDES
Diazinon	303(d) Integrated Report	TMDL	ILRP, NPDES		M	ILRP	M	NPDES	O	ILRP	M	NPDES	Q	NPDES
Dimethoate	ILRP annual report		ILRP		O	ILRP								
Diuron	303(d) Integrated Report, ILRP annual report	TMDL (2021 expected completion)	ILRP, NPDES										Q	NPDES

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Constituent	Reference Source	Water Board		Other Monitoring Program	Monitoring Coverage									
		BMP/Control Program	Monitoring Program		SJR @ Sack Dam to Hills Ferry		SJR @ Hills Ferry to Laird Park		SJR @ Maze		SJR @ Vernalis to Rough and Ready		SJR @ Buckley Cove to City of Stockton intake	
					Frequency	Program	Frequency	Program	Frequency	Program	Frequency	Program	Frequency	Program
Aldrin	303(d) Integrated Report	TMDL (2011 expected completion)	NPDES				M	NPDES			M	NPDES	Q	NPDES
Dieldrin	303(d) Integrated Report	TMDL (2011 expected completion)	NPDES		O	SWAMP	M	NPDES			M	NPDES	Q	NPDES
Chlordane	303(d) Integrated Report	TMDL (2011 expected completion)	NPDES		O	SWAMP	M	NPDES			M	NPDES	Q	NPDES
Endrin	303(d) Integrated Report	TMDL (2011 expected completion)	NPDES		O	SWAMP	M	NPDES			M	NPDES	Q	NPDES
Heptachlor	303(d) Integrated Report	TMDL (2011 expected completion)	NPDES				M	NPDES			M	NPDES	Q	NPDES
Heptachlor epoxide	303(d) Integrated Report	TMDL (2011 expected completion)	NPDES		O	SWAMP	M	NPDES			M	NPDES	Q	NPDES
Lindane	303(d) Integrated Report	TMDL (2011 expected completion)	NPDES				M	NPDES			M	NPDES	Q	NPDES
Endosulfan (Total)	303(d) Integrated Report	TMDL (2011 expected completion)	NPDES				M	NPDES			M	NPDES	Q	NPDES
Toxaphene	303(d) Integrated Report	TMDL (2021 expected completion)	NPDES				M	NPDES			M	NPDES	Q	NPDES
TOXICITY														
Unknown Toxicity	303(d) Integrated Report	TMDL (2019 expected completion)	ILRP		O	ILRP	O	SWAMP			O	NPDES	A	DDW

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Monitoring Frequency Key

	Indicates no monitoring
A	Annually
BW	Every other week
C	Continuous
D	Daily
M	Monthly
O	Other
Q	Quarterly
TBD	To be determined

Agency and Program Acronyms

DDW	Division of Drinking Water
DWR	Department of Water Resources
GBP	Grassland Bypass Project
ILRP	Irrigated Lands Regulatory Program
NPDES	National Pollutant Discharge Elimination System
SFEI	San Francisco Estuary Institute
SWAMP	Surface Water Ambient Monitoring Program
TMDL	Total Maximum Daily Load
USBR	U.S. Bureau of Reclamation
USGS	U.S. Geological Survey

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