

# **APPENDIX B WATERSHED MANAGEMENT AREA DATA SUMMARIES**

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This section presents the arithmetic mean and ranges of the data collected from monitoring sites within each of the WMAs. The data are divided between those collected during the dry season (Mid May through October, 2003) and wet season (November, 2003 through Mid May, 2004).

Table B-1 provides the sample identification and locations. Tables B-2 through B-105 provide data summaries for each of the WMAs.

**Table B-1**  
**Names and Locations of monitoring sites**

<b>Watershed Management Area</b>	<b>Station Number</b>	<b>Station Location</b>	<b>Latitude</b>	<b>Longitude</b>
Stockton Urban	L-CAL-1	Lower Calaveras @ Pershing Ave.	37.981	-121.324
Mormon Slough	L-MS-1	Mormon Slough	37.946	-121.285
Mormon Slough	L-MS-4	Mormon Slough below SEWD	37.960	-121.200
Mormon Slough	L-MS-5	Mormon Slough @ Copperopolis Rd.	37.972	-121.113
Mormon Slough	L-MS-6	Mormon Slough @ Milton Rd. weir	37.986	-121.089
Mormon Slough	L-MS-7	Mormon Slough @ Flood Rd.	38.021	-121.062
Old Calaveras Agricultural	L-OCAL-1	Old Calaveras River near Oakmoore Golf Course	37.996	-121.245
Old Calaveras Agricultural	L-OCAL-2	Old Calaveras River on Eastside Rd. farm	37.996	-121.275
Old Calaveras Agricultural	L-OCAL-3	Old Calaveras River @ Mizznizle Bridge	38.052	-121.095
Old Calaveras Agricultural	L-OCAL-4	Old Calaveras River below Fine Rd.	---	---
North Bench Agricultural	L-DC-1	Duck Creek	---	---
South Bench Agricultural	L-CAL-Shelton	Calaveras River @ Shelton Rd. Bridge	---	---
South Bench Agricultural	L-PC-1	Potter Creek	---	---
Stockton Diverting Canal	L-SDC-1	Stockton Diverting Canal	37.973	-121.268
Indian Creek	L-IC-1	Indian Creek @ Shelton Rd.	38.082	-120.936
Indian Creek	M-IC-1	Indian Creek @ HWY. 26 and Jenny Lind Rd.	38.122	-120.879
Indian Creek	M-IC-2	Indian Creek @ Baldwin & Hwy. 26	38.142	-120.866
Calaveras Main Stem Agricultural	L-CAL-5	Calaveras @ Bellota Intake	38.052	-121.011
Calaveras Main Stem Agricultural	L-CAL-6a	Calaveras River above Gravel Pit	38.066	-120.970
Calaveras Main Stem Agricultural	L-CAL-6b	Calaveras River @ Gravel Pit	38.065	-120.977
Calaveras Main Stem Agricultural	L-CAL-6c	Calaveras River below Gravel Pit	38.062	-120.991
Calaveras Main Stem Agricultural	M-CAL-1	Calaveras River @ Jenny Lind	38.092	-120.873
Calaveras Main Stem	M-CAL-2	Calaveras River @ Jenny Lind CCWD Intake	38.150	-120.832
Cosgrove Creek	M-CGR-1	Cosgrove Creek	38.156	-120.838
Cosgrove Creek	M-CGR-2	Cosgrove Creek @ Golf Course	38.166	-120.834
Cosgrove Creek	M-CGR-3	Cosgrove Creek @ Hwy. 28	38.178	-120.830
Cosgrove Creek	M-SVC-1	Spring Valley Creek @ bridge on Line Creek Rd.	38.192	-120.810
New Hogan Reservoir	M-NHR-1	New Hogan Reservoir @ boat ramp	38.162	-120.800
South Fork Calaveras	M-SCAL-1	South Fork Calaveras River blw. Confluence w/N. Fork	38.197	-120.719

**Table B-1 (continued)**  
**Names and Locations of monitoring sites**

<b>Watershed Management Area</b>	<b>Station Number</b>	<b>Station Location</b>	<b>Latitude</b>	<b>Longitude</b>
Lower North Fork Calaveras	M-CHG-1	Chili Gulch	---	---
Lower North Fork Calaveras	M-NCAL-1	North Fork Calaveras near RR Tressel	38.199	-120.719
Lower North Fork Calaveras	M-NCAL-2	North Fork Calaveras below Jesus Maria Creek	38.287	-120.661
Upper North Fork Calaveras	U-ESP-1	Esperanza Creek	38.295	-120.496
Upper North Fork Calaveras	U-NCAL-1	North Fork Calaveras River	38.324	-120.520
Jesus Maria Creek	U-JM-2	Jesus Maria Creek	38.203	-120.451
San Andreas Urban	M-SADR-1	San Andreas Creek @ Gold Oak	38.200	-120.688
South Fork Calaveras Ranches	M-CC-1	Calaveras River @ Cement Plant	38.163	-120.671
South Fork Calaveras Ranches	M-CC-2	Calaveras River below Cement Plant	38.160	-120.675
South Fork Calaveras Ranches	M-CHR-1	Cherokee Creek @ Pool Stn. Rd.	38.139	-120.663
South Fork Calaveras Ranches	M-CVTS-1	Calaveritas Creek @ Pool Stn. Rd.	38.163	-120.673
South Fork Calaveras Ranches	M-SA-1	San Antonio Creek @ Pool Stn. Rd.	38.143	-120.662
South Fork Calaveras Ranches	M-SD-1	San Domingo Creek @ Spence Rd.	---	---
South Fork Calaveras Ranches	U-SD-1	San Domingo Creek	38.160	-120.476
South Fork Calaveras Tributaries	M-CVTS-2	Calaveritas Creek in Calaveritas	38.157	-120.613
South Fork Calaveras Tributaries	U-BT-1	Upper Big Trees Creek along Hwy. 4	38.462	-120.528
South Fork Calaveras Tributaries	U-CHR-2	Cherokee Creek @ Hwy.4	---	---
South Fork Calaveras Tributaries	U-CVTS-1	Calaveritas Creek	38.221	-120.470
South Fork Calaveras Tributaries	U-SA-2	San Antonio Creek @ Dogtown Rd.	38.148	-120.574
South Fork Calaveras Tributaries	U-SA-3	San Antonio Creek @ Sheep Ranch Rd.	38.205	-120.453
South Fork Calaveras Tributaries	U-SA-5	San Antonio Creek below White Pines Lake	38.269	-120.347
South Fork Calaveras Tributaries	U-SA-6	San Antonio Creek above White Pines Lake	38.275	-120.338
South Fork Calaveras Tributaries	U-SD-2	San Domingo Creek	---	---
South Fork Calaveras Tributaries	U-WPL-1	White Pines Lake	38.267	-120.342
Arnold Urban	U-COW-1A	Cowell Creek @ 1 <sup>st</sup> . stream crossing	38.226	-120.383
Arnold Urban	U-COW-1B	Cowell Creek @ slick rock	38.220	-120.394
Arnold Urban	U-SA-4	San Antonio Creek @ CCWD intake	38.205	-120.453

## B.1 Stockton Urban WMA

**Table B-2**  
**Mean And Range Of General Water Quality Parameters**  
**Measured In The Stockton Urban WMA**

**Monitoring Station: (L-CAL-1)**

Parameter	Dry Season	Wet Season
Temperature (°C)	27.1 (26.7 – 27.5)	9.1
Conductivity (µS/cm)	355 (300 – 410)	156
Dissolved Oxygen (mg/l)	2.90 (2.56 – 3.23)	6.69
Dissolved Oxygen (%)	35.8 (32.5 – 39.0)	----
pH	7.96 (7.63 – 8.29)	8.15
Turbidity (NTU)	18.7	46

**Table B-3. Mean And Range Of Nutrient Parameters**  
**Measured In The Stockton Urban WMA**

**Monitoring Station: (L-CAL-1)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	0.05	1.5
Nitrite	<0.02	<0.05
Ammonia	<0.50	<0.50
Total Kjeldahl Nitrogen	<1.0	1.1 (<1.0 – 1.1)
Ortho Phosphate	<0.20	<0.20
Total Suspended Solids	8.0	75 (40 – 110)

**Table B-4**  
**Geometric Mean And Range Of Pathogenic Parameters**  
**Measured In The Stockton Urban WMA**

**Monitoring Station: (L-CAL-1)**

Parameter (CFU/100ml)	Dry Season	Wet Season
Total Coliform	2,400	>1,960 (1,600 - >2,400)
Fecal Coliform	300	57 (11 - 300)

**Table B-5**  
**Mean and Range of Gasoline, BTXE, and MTBE Parameters**  
**Measured in the Stockton Urban WMA**

**WMA Monitoring Station: (L-CAL-1)**

Parameter (µg/l)	Dry Season	Wet Season
PHC as Gasoline	<0.05	---
Benzene	0.2J	---
Ethylbenzene	1.4 (<0.5 – 1.4)	---
Toluene	0.3 (0.2J – 0.4J)	---
O-Xylene	0.7 (<0.5 – 0.7)	---
M,P-Xylene	1.4 (0.9J – 2.0)	---
MTBE	12 (9.0 – 15.0)	---

J = Value is an estimated value below the reporting limit.

**Table B-6**  
**Mean and Range of Organochlorine Pesticide Parameters**  
**Measured in the Stockton Urban WMA**

**Monitoring Station: (L-CAL-1)**

Parameter (µg/l)	Dry Season	Wet Season
4,4'-DDE	<0.05	<0.05
4,4'-DDT	<0.05	<0.05
4,4'-TDE/DDD	<0.05	<0.05
a-BHC	<0.05	<0.05
a-Chlordane	<0.05	<0.05
Alachlor	<0.05	<0.05
Aldrin	<0.05	<0.05
b-BHC	<0.05	<0.05
d-BHC	<0.05	<0.05
Dieldrin	<0.05	<0.05
Endosulfan I	<0.05	<0.05
Endosulfan II	<0.05	<0.05
Endosulfan Sulfate	<0.05	<0.05
Endrin	<0.05	<0.05
Endrin Aldehyde	<0.05	<0.05
Endrin Ketone	<0.05	<0.05
g-BHC (Lindane)	<0.05	<0.05
g-Chlordane	<0.05	<0.05
Heptachlor	<0.05	<0.05
Methoxychlor	<0.05	<0.05
Toxaphene	<1.0	<1.0

**Table B-7**  
**Mean and Range of Organochlorine Herbicides Parameters**  
**Measured in the Stockton Urban WMA**

**Monitoring Station: (L-CAL-1)**

Parameter (µg/l)	Dry Season	Wet Season
2,4,5-T	<0.1	---
2,4,5-TP	<0.1	---
2,4-D	<0.5	---
2,4-DB	<1.0	---
Dalapon	<1.0	---
Dicamba	<0.10	---
Dichloroprop (2,4-DP)	<0.50	---
Dinoseb (DNBP)	<0.25	---
MCPA	<100	---
MCPP	<100	---
PCP	<0.10	---

**Table B-8**  
**Mean and Range of Dissolved Metals**  
**Measured in the Stockton Urban WMA**

**Monitoring Station: (L-CAL-1)**

Parameter (µg/l)	Dry Season	Wet Season
Calcium (mg/l)	26.3	20.0
Magnesium (mg/l)	12.7	9.25 (8.80 – 9.70)
Aluminum	---	240 (230 – 250)
Arsenic	<5.0	1.3
Antimony	<5.0	<5.0
Barium	89.7	<0.10
Beryllium	---	<1.0
Cadmium	<2.0	<0.25J
Chromium	1.9J	<0.5J
Cobalt	---	<1.0
Copper	5.1J	1.95 (1.90 – 2.00)
Iron	40.0J	0.16 (0.16 – 0.17)
Lead	<5.0	<0.5J
Manganese	2.0	0.02 (<0.02 – 0.02)
Mercury	0.037J	---
Mercury (Ultra-clean method)	---	0.012 (0.0114 – 0.0128)
Molybdenum	3.5J	<1.0
Nickel	3.5	<25
Potassium	3,700	---
Selenium	<10	<1.0
Silver	<10	<1.0
Sodium (mg/l)	48.7	19.5 (19.0 – 20.0)
Zinc	5.2	2.7 (2.00 – 3.40)
Hardness (mg/l)	118	88.3 (80.2 – 89.9)

J = Value is an estimated value below the reporting limit.

**Table B-9**  
**Mean and Range of Volatile Organic Parameters**  
**Measured in the Stockton Urban WMA**

**Monitoring Station: (L-CAL-1)**

Parameter (µg/l)	Dry Season	Wet Season
Acetone	<50	---
Benzene	<5	---
Bromobenzene	<5	---
Bromochloromethane	<5	---
Bromodichloromethane	<5	---
Bromoform	<5	---
Bromomethane	<5	---
2-Butanone	3J	---
N-Butylbenzene	<5	---
Sec-Butylbenzene	<5	---
T-Butylbenzene	<5	---
Carbon Disulfide	<5	---
Carbon Tetrachloride	<5	---
Chlorobenzene	<5	---
Dibromochloromethane	<5	---
Chloroethane	<5	---
Chloroform	<5	---
Chloromethane	<5	---
2-Chlorotoluene	<5	---
4-Chlorotoluene	<5	---
2,3-Dibromo-3-Chloropropane	<5	---
1,2-Dibromoethane	<5	---
Dibromomethane	<5	---
1,2-Dichlorobenzene	<5	---
1,3-Dichlorobenzene	<5	---
1,4-Dichlorobenzene	<5	---
Dichlorodifluoromethane	<5	---
1,1-Dichloroethane	<5	---
1,2-Dichloroethane	<5	---
1,1-Dichloroethene	<5	---
Cis-1,2-Dichloroethene	<5	---
Trans-1,2-Dichloroethene	<5	---
1,2-Dichloropropane	<5	---
1,3-Dichloropropane	<5	---
2,2-Dichloropropane	<5	---
1,1-Dichloropropene	<5	---
Cis-1,3-Dichloropropene	<5	---
Trans-1,3-Dichloropropene	<5	---
Ethylbenzene	<5	---
Hexachlorobutadiene	<5	---

**Monitoring Station: (L-CAL-1). Cont'd.**

<b>Parameter (µg/l)</b>	<b>Dry Season</b>	<b>Wet Season</b>
Isopropylbenzene	<5	---
P-Cymene (P-Isopropyltoluene)	<5	---
Methylene Chloride	0.9J	---
4-Methyl-2-Pentanone	2J	---
Tert-Butyl-Methyl Ether	<10	---
Naphthalene	<5	---
N-Propylbenzene	<5	---
Styrene	<5	---
1,1,1,2-Tetrachloroethane	<5	---
1,1,2,2-Tetrachloroethane	<5	---
Tetrachloroethane (PCE)	<5	---
Toluene	<5	---
1,2,3-Trichlorobenzene	<5	---
1,2,4-Trichlorobenzene	<5	---
1,1,1-Trichloroethane	<5	---
1,1,2-Trichloroethane	<5	---
Trichloroethane (TCE)	<5	---
Trichlorofluoromethane	<5	---
1,2,3-Trichloropropane	<5	---
1,2,4-Trimethylbenzene	<5	---
Vinyl Chloride	<5	---
O-Xylene	<5	---
M,P-Xylene	<10	---

J = Value is an estimated value below the reporting limit.



**Table B-10**  
**Physical Habitat Assessment Results for the Stockton Urban WMA**

<b>Station number</b>	<b>L-CAL-1</b>
Epifaunal Substrate/ Available Cover	10.7
Embeddedness	14.0
Velocity/Depth Regime	9.0
Sediment Deposition	12.5
Channel Flow Status	17.7
Channel Alteration	10.7
Frequency of Riffles (or bends)	9.3
Bank Stability Left	6.0
Bank Stability Right	7.3
Vegetative Protection Left	5.7
Vegetative Protection Right	7.0
Riparian Vegetative Zone Left	5.0
Riparian Vegetative Zone Right	6.3
<b>Total</b>	<b>121.2</b>

## B.2 Mormon Slough WMA

**Table B-11**  
**Mean and Range of General Water Quality Parameters**  
**Measured in the Mormon Slough WMA**

### Monitoring Station: (L-MS-1)

Parameter	Dry Season	Wet Season
Temperature (°C)	Dry	25.33
Conductivity (µS/cm)	Dry	231
Dissolved Oxygen (mg/l)	Dry	4.57
Dissolved Oxygen (%)	Dry	55.7
pH	Dry	8.27
Turbidity (NTU)	Dry	3.4

### Monitoring Station: (L-MS-4)

Parameter	Dry Season	Wet Season
Temperature (°C)	25.11 (23.98 – 26.24)	18.84
Conductivity (µS/cm)	220 (207 – 233)	209
Dissolved Oxygen (mg/l)	2.1 (1.88 – 2.24)	4.32
Dissolved Oxygen (%)	27.7	46.6
pH	7.60 (7.50 – 7.79)	7.72
Turbidity (NTU)	5.2	5.1

### Monitoring Station: (L-MS-5)

Parameter	Dry Season	Wet Season
Temperature (°C)	26.13	5.01
Conductivity (µS/cm)	222	---
Dissolved Oxygen (mg/l)	5.57	>100
Dissolved Oxygen (%)	---	15.14
pH	8.05	8.00
Turbidity (NTU)	---	6.9

### Monitoring Station: (L-MS-6)

Parameter	Dry Season	Wet Season
Temperature (°C)	25.11	8.49
Conductivity (µS/cm)	236	---
Dissolved Oxygen (mg/l)	5.42	13.2
Dissolved Oxygen (%)	---	>100
pH	8.57	8.29
Turbidity (NTU)	---	6.8

### Monitoring Station: (L-MS-7)

Parameter	Dry Season	Wet Season
Temperature (°C)	23.05	11.16
Conductivity (µS/cm)	225	---
Dissolved Oxygen (mg/l)	5.42	9.47
Dissolved Oxygen (%)	---	100
pH	8.41	7.76
Turbidity (NTU)	---	2.5

**Table B-12**  
**Mean and Range of Nutrient Parameters**  
**Measured in the Mormon Slough WMA**

**Monitoring Station: (L-MS-1)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	Dry	---
Nitrite	Dry	---
Ammonia	Dry	<0.50
Total Kjeldahl Nitrogen	Dry	<1.0
Ortho Phosphate	Dry	---
Total Suspended Solids	Dry	5.2

**Monitoring Station: (L-MS-4)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	<0.05	<0.05
Nitrite	<0.02	<0.02
Ammonia	<0.5	<0.5
Total Kjeldahl Nitrogen	<1.0	<1.0
Ortho Phosphate	<0.2	<0.2
Total Suspended Solids	<5	<5 (<1 - <5)

**Monitoring Station: (L-MS-5)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	<0.05	0.69
Nitrite	<0.02	<0.05
Ammonia	<0.5	<0.5
Total Kjeldahl Nitrogen	<1.0	<1.0
Ortho Phosphate	<0.2	<0.2
Total Suspended Solids	<5	---

**Monitoring Station: (L-MS-6)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	<0.05	1.2
Nitrite	<0.02	<0.05
Ammonia	<0.5	<0.5
Total Kjeldahl Nitrogen	<1.0	<1.0
Ortho Phosphate	<0.2	<0.2
Total Suspended Solids	---	---

**Monitoring Station: (L-MS-7)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	<0.05	1.3
Nitrite	<0.02	<0.05
Ammonia	<0.5	<0.5
Total Kjeldahl Nitrogen	<1.0	<1.0
Ortho Phosphate	<0.2	<0.2
Total Suspended Solids	---	6.2

**Table B-13**  
**Geometric Mean and Range of Pathogenic Parameters**  
**Measured in the Mormon Slough WMA**

**Monitoring Station: (L-MS-1)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	Dry	240
Fecal Coliform	Dry	2

**Monitoring Station: (L-MS-4)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	Dry	130
Fecal Coliform	Dry	17

**Monitoring Station: (L-MS-5)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	Dry	30
Fecal Coliform	Dry	8

**Monitoring Station: (L-MS-6)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	Dry	130
Fecal Coliform	Dry	2

**Monitoring Station: (L-MS-7)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	Dry	22
Fecal Coliform	Dry	7

**Table B-14**  
**Mean and Range of Organochlorine Pesticide Parameters**  
**Measured in the Mormon Slough WMA**

**Monitoring Station: (L-MS-4)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
4,4'-DDE	<0.05	<0.05
4,4'-DDT	<0.05	<0.05
4,4'-TDE/DDD	<0.05	<0.05
a-BHC	<0.05	<0.05
a-Chlordane	<0.05	<0.05
Alachlor	<0.05	<0.05
Aldrin	<0.05	<0.05
b-BHC	<0.05	<0.05
d-BHC	<0.05	<0.05
Dieldrin	<0.05	<0.05
Endosulfan I	<0.05	<0.05
Endosulfan II	<0.05	<0.05
Endosulfan Sulfate	<0.05	<0.05
Endrin	<0.05	<0.05
Endrin Aldehyde	<0.05	<0.05
Endrin Ketone	<0.05	<0.05
g-BHC (Lindane)	<0.05	<0.05
g-Chlordane	<0.05	<0.05
Heptachlor	<0.05	<0.05
Methoxychlor	<0.05	<0.05
Toxaphene	<1.0	<1.0

**Monitoring Station: (L-MS-5)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
4,4'-DDE	<0.05	<0.05
4,4'-DDT	<0.05	<0.05
4,4'-TDE/DDD	<0.05	<0.05
a-BHC	<0.05	<0.05
a-Chlordane	<0.05	<0.05
Alachlor	<0.05	<0.05
Aldrin	<0.05	<0.05
b-BHC	<0.05	<0.05
d-BHC	<0.05	<0.05
Dieldrin	<0.05	<0.05
Endosulfan I	<0.05	<0.05
Endosulfan II	<0.05	<0.05
Endosulfan Sulfate	<0.05	<0.05
Endrin	<0.05	<0.05
Endrin Aldehyde	<0.05	<0.05
Endrin Ketone	<0.05	<0.05
g-BHC (Lindane)	<0.05	<0.05
g-Chlordane	<0.05	<0.05
Heptachlor	<0.05	<0.05
Methoxychlor	<0.05	<0.05
Toxaphene	<1.0	<1.0

**Monitoring Station: (L-MS-6)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
4,4'-DDE	<0.05	<0.05
4,4'-DDT	<0.05	<0.05
4,4'-TDE/DDD	<0.05	<0.05
a-BHC	<0.05	<0.05
a-Chlordane	<0.05	<0.05
Alachlor	<0.05	<0.05
Aldrin	<0.05	<0.05
b-BHC	<0.05	<0.05
d-BHC	<0.05	<0.05
Dieldrin	<0.05	<0.05
Endosulfan I	<0.05	<0.05
Endosulfan II	<0.05	<0.05
Endosulfan Sulfate	<0.05	<0.05
Endrin	<0.05	<0.05
Endrin Aldehyde	<0.05	<0.05
Endrin Ketone	<0.05	<0.05
g-BHC (Lindane)	<0.05	<0.05
g-Chlordane	<0.05	<0.05
Heptachlor	<0.05	<0.05
Methoxychlor	<0.05	<0.05
Toxaphene	<1.0	<1.0

**Monitoring Station: (L-MS-7)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
4,4'-DDE	<0.05	<0.05
4,4'-DDT	<0.05	<0.05
4,4'-TDE/DDD	<0.05	<0.05
a-BHC	<0.05	<0.05
a-Chlordane	<0.05	<0.05
Alachlor	<0.05	<0.05
Aldrin	<0.05	<0.05
b-BHC	<0.05	<0.05
d-BHC	<0.05	<0.05
Dieldrin	<0.05	<0.05
Endosulfan I	<0.05	<0.05
Endosulfan II	<0.05	<0.05
Endosulfan Sulfate	<0.05	<0.05
Endrin	<0.05	<0.05
Endrin Aldehyde	<0.05	<0.05
Endrin Ketone	<0.05	<0.05
g-BHC (Lindane)	<0.05	<0.05
g-Chlordane	<0.05	<0.05
Heptachlor	<0.05	<0.05
Methoxychlor	<0.05	<0.05
Toxaphene	<1.0	<1.0

**Table B-15**  
**Mean and Range of Organochlorine Herbicides Parameters**  
**Measured in the Mormon Slough WMA**

**Monitoring Station: (L-MS-4)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
2,4,5-T	<0.1	---
2,4,5-TP	<0.1	---
2,4-D	1.3	---
2,4-DB	<1.0	---
Dalapon	<1.0	---
Dicamba	<0.10	---
Dichloroprop (2,4-DP)	<0.50	---
Dinoseb (DNBP)	<0.25	---
MCPA	<100	---
MCPP	<100	---
PCP	<0.10	---

**Table B-16**  
**Mean and Range of Dissolved Metals**  
**Measured in the Mormon Slough WMA**

**Monitoring Station: (L-MS-1)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
Calcium (mg/l)	Dry	20
Magnesium (mg/l)	Dry	8.5
Aluminum	Dry	---
Arsenic	Dry	<1.0
Antimony	Dry	<5.0
Barium	Dry	<0.10
Beryllium	Dry	<1.0
Cadmium	Dry	<0.25
Chromium	Dry	<0.5
Cobalt	Dry	2.3
Copper	Dry	6.6
Iron	Dry	0.33
Lead	Dry	<0.5
Manganese	Dry	---
Mercury	Dry	<0.5
Mercury (Ultra-clean method)	Dry	---
Molybdenum	Dry	<1.0
Nickel	Dry	<3.0
Potassium	Dry	1.56
Selenium	Dry	<1.0
Silver	Dry	<1.0
Sodium (mg/l)	Dry	7.2
Zinc	Dry	1.6
Hardness (mg/l)	Dry	84.9

**Table B-17**  
**Physical Habitat Assessment Results for the Mormon Slough WMA**

<b>Station number</b>	<b>L-MS-4</b>	<b>L-MS-5</b>	<b>L-MS-6</b>	<b>L-MS-7</b>
Epifaunal Substrate/ Available Cover	9.0	10.5	6.5	7.5
Embeddedness	9.0	14.5	9.0	10.5
Velocity/Depth Regime	6.7	10.5	6.0	7.5
Sediment Deposition	10.7	14.5	8.5	8.0
Channel Flow Status	9.7	13.0	7.5	8.0
Channel Alteration	4.0	6.0	6.0	3.5
Frequency of Riffles (or bends)	4.7	12.0	3.0	3.5
Bank Stability Left	7.0	7.0	3.5	7.0
Bank Stability Right	7.0	7.0	3.5	4.0
Vegetative Protection Left	2.7	5.5	2.0	2.5
Vegetative Protection Right	2.7	5.5	2.0	3.5
Riparian Vegetative Zone Left	1.3	1.5	1.0	0.5
Riparian Vegetative Zone Right	1.3	1.5	1.0	0.5
<b>Total</b>	<b>75.7</b>	<b>109.0</b>	<b>59.5</b>	<b>66.5</b>



### B.3 Old Calaveras Agriculture WMA

**Table B-18**  
**Mean and Range of General Water Quality Parameters**  
**Measured in the Old Calaveras Agriculture WMA**

**Monitoring Station: (L-OCAL-1)**

Parameter	Dry Season	Wet Season
Temperature (°C)	26.36 (24.35 – 28.37)	9.41
Conductivity (µS/cm)	208 (202 – 213)	184
Dissolved Oxygen (mg/l)	4.5 (2.02 – 6.93)	6.31
Dissolved Oxygen (%)	53 (26 – 80)	55.5
pH	7.94 (7.88 – 8.00)	7.85
Turbidity (NTU)	3.10	15.5

**Monitoring Station: (L-OCAL-2)**

Parameter	Dry Season	Wet Season
Temperature (°C)	22.44	Dry
Conductivity (µS/cm)	202	Dry
Dissolved Oxygen (mg/l)	6.15	Dry
Dissolved Oxygen (%)	67	Dry
pH	7.89	Dry
Turbidity (NTU)	<1.0	Dry

**Monitoring Station: (L-OCAL-3)**

Parameter	Dry Season	Wet Season
Temperature (°C)	21.40	Dry
Conductivity (µS/cm)	198	Dry
Dissolved Oxygen (mg/l)	7.45	Dry
Dissolved Oxygen (%)	82	Dry
pH	8.26	Dry
Turbidity (NTU)	<1.0	Dry

**Monitoring Station: (L-OCAL-4)**

Parameter	Dry Season	Wet Season
Temperature (°C)	19.02	Dry
Conductivity (µS/cm)	203	Dry
Dissolved Oxygen (mg/l)	3.34	Dry
Dissolved Oxygen (%)	33.7	Dry
pH	8.28	Dry
Turbidity (NTU)	5.3	Dry

**Table B-19**  
**Mean and Range of Nutrient Parameters**  
**Measured in the Old Calaveras Agriculture WMA**

**Monitoring Station: (L-OCAL-1)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	0.05 (<0.05 – 0.05)	2.2 (<0.5 – 2.2)
Nitrite	<0.02	0.22 (0.22 - <0.5)
Ammonia	<0.50	<0.50
Total Kjeldahl Nitrogen	<1.0	<1.0
Ortho Phosphate	<0.20	<0.20
Total Suspended Solids	29 (<5 – 29)	5.4 (1.0 – 9.9)

**Monitoring Station: (L-OCAL-2)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	<0.05	---
Nitrite	<0.02	---
Ammonia	<0.5	---
Total Kjeldahl Nitrogen	<1.0	---
Ortho Phosphate	<0.2	---
Total Suspended Solids	---	---

**Monitoring Station: (L-OCAL-3)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	<0.05	---
Nitrite	<0.02	---
Ammonia	<0.5	---
Total Kjeldahl Nitrogen	<1.0	---
Ortho Phosphate	<0.2	---
Total Suspended Solids	---	---

**Table B-20**  
**Geometric Mean and Range of Pathogenic Parameters**  
**Measured in the Old Calaveras Agriculture WMA**

**Monitoring Station: (L-OCAL-1)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	1,470 (900 - >2,400)	2,400
Fecal Coliform	77 (21 - 280)	240

**Monitoring Station: (L-OCAL-4)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	---	900
Fecal Coliform	---	50

**Monitoring Station: (SJC513 – Calaveras River @ HWY 88)\***

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	1,529 (914 - >2,419)	>773 (189 - >2,419)
Fecal Coliform	94 (7.3 - 308)	>48 (19 - >2,419)

\* Data from CCWD (Jan – Dec 2002)

**Table B-21**  
**Mean and Range of Organochlorine Pesticide Parameters**  
**Measured in the Old Calaveras Agriculture WMA**

**Monitoring Station: (L-OCAL-1)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
4,4'-DDE	<0.05	---
4,4'-DDT	<0.05	---
4,4'-TDE/DDD	<0.05	---
a-BHC	<0.05	---
a-Chlordane	<0.05	---
Alachlor	<0.05	---
Aldrin	<0.05	---
b-BHC	<0.05	---
d-BHC	<0.05	---
Dieldrin	<0.05	---
Endosulfan I	<0.05	---
Endosulfan II	<0.05	---
Endosulfan Sulfate	<0.05	---
Endrin	<0.05	---
Endrin Aldehyde	<0.05	---
Endrin Ketone	<0.05	---
g-BHC (Lindane)	<0.05	---
g-Chlordane	<0.05	---
Heptachlor	<0.05	---
Methoxychlor	<0.05	---
Toxaphene	<1.0	---

**Monitoring Station: (L-OCAL-2)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
4,4'-DDE	<0.05	---
4,4'-DDT	<0.05	---
4,4'-TDE/DDD	<0.05	---
a-BHC	<0.05	---
a-Chlordane	<0.05	---
Alachlor	<0.05	---
Aldrin	<0.05	---
b-BHC	<0.05	---
d-BHC	<0.05	---
Dieldrin	<0.05	---
Endosulfan I	<0.05	---
Endosulfan II	<0.05	---
Endosulfan Sulfate	<0.05	---
Endrin	<0.05	---
Endrin Aldehyde	<0.05	---
Endrin Ketone	<0.05	---
g-BHC (Lindane)	<0.05	---
g-Chlordane	<0.05	---
Heptachlor	<0.05	---
Methoxychlor	<0.05	---
Toxaphene	<1.0	---

**Monitoring Station: (L-OCAL-3)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
4,4'-DDE	<0.05	---
4,4'-DDT	<0.05	---
4,4'-TDE/DDD	<0.05	---
a-BHC	<0.05	---
a-Chlordane	<0.05	---
Alachlor	<0.05	---
Aldrin	<0.05	---
b-BHC	<0.05	---
d-BHC	<0.05	---
Dieldrin	<0.05	---
Endosulfan I	<0.05	---
Endosulfan II	<0.05	---
Endosulfan Sulfate	<0.05	---
Endrin	<0.05	---
Endrin Aldehyde	<0.05	---
Endrin Ketone	<0.05	---
g-BHC (Lindane)	<0.05	---
g-Chlordane	<0.05	---
Heptachlor	<0.05	---
Methoxychlor	<0.05	---
Toxaphene	<1.0	---

**Table B-22**  
**Mean and Range of Organochlorine Herbicides Parameters Measured in the Old Calaveras**  
**Agriculture WMA**

**Monitoring Station: (L-OCAL-1)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
2,4,5-T	<0.1	---
2,4,5-TP	<0.1	---
2,4-D	<0.5	---
2,4-DB	<1.0	---
Dalapon	<1.0	---
Dicamba	<0.10	---
Dichloroprop (2,4-DP)	<0.50	---
Dinoseb (DNBP)	<0.25	---
MCPA	<100	---
MCPP	<100	---
PCP	<0.10	---

**Table B-23**  
**Physical Habitat Assessment Results for the Old Calaveras Agricultural WMA**

<b>Station number</b>	<b>L-OCAL-1</b>	<b>L-OCAL-2</b>	<b>L-OCAL-3</b>
Epifaunal Substrate/ Available Cover	7.0	13.0	13.0
Embeddedness	9.8	13.0	13.0
Velocity/Depth Regime	6.8	8.0	14.0
Sediment Deposition	8.3	8.0	8.0
Channel Flow Status	7.8	18.0	14.0
Channel Alteration	4.8	8.0	10.0
Frequency of Riffles (or bends)	3.3	8.0	13.0
Bank Stability Left	5.3	8.0	5.0
Bank Stability Right	3.8	8.0	5.0
Vegetative Protection Left	2.3	9.0	3.0
Vegetative Protection Right	2.8	7.0	3.0
Riparian Vegetative Zone Left	0.8	5.0	6.0
Riparian Vegetative Zone Right	0.8	2.0	2.0
<b>Total</b>	<b>63.0</b>	<b>115.0</b>	<b>109.0</b>

#### **B.4 North Bench Agriculture WMA**

The only site for this WMA was Duck Creek (DC-1), which was dry during each monitoring event.

#### **B.5 South Bench Agricultural**

The only sites for this WMA were L-SG-1, which was on private land and not accessible and L-PC-1, which was dry during each monitoring event.

#### **B.6 Stockton Diverting Canal**

The only site for this WMA was SDC-1, which was dry during each monitoring event.

## B.7 Indian Creek WMA

**Table B-24**  
**Mean and Range of General Water Quality Parameters**  
**Measured in the Indian Creek WMA**

**Monitoring Station: (L-IC-1)**

Parameter	Dry Season	Wet Season
Temperature (°C)	16.49	---
Conductivity (µS/cm)	243	---
Dissolved Oxygen (mg/l)	0.66	---
Dissolved Oxygen (%)	6.80	---
PH	7.00	---
Turbidity (NTU)	2.4	---

**Monitoring Station: (M-IC-1)**

Parameter	Dry Season	Wet Season
Temperature (°C)	25.32	---
Conductivity (µS/cm)	315	---
Dissolved Oxygen (mg/l)	11.10	---
Dissolved Oxygen (%)	>100	---
PH	8.05	---
Turbidity (NTU)	11.60	---

**Table B-25**  
**Mean and Range of Nutrient Parameters**  
**Measured in the Indian Creek WMA**

**Monitoring Station: (L-IC-1)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	<0.05	---
Nitrite	<0.02	---
Ammonia	<0.50	---
Total Kjeldahl Nitrogen	<1.0	---
Ortho Phosphate	<0.20	---
Total Suspended Solids	<5.0	---

**Monitoring Station: (M-IC-1)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	<0.05	---
Nitrite	<0.02	---
Ammonia	<0.5	---
Total Kjeldahl Nitrogen	2.50	---
Ortho Phosphate	<0.2	---
Total Suspended Solids	23.0	---

**Table B-26**  
**Geometric Mean and Range of Pathogenic Parameters**  
**Measured in the Indian Creek WMA**

**Monitoring Station: (L-IC-1)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	>2,400	---
Fecal Coliform	>2,400	---

**Monitoring Station: (M-IC-1)**

Parameter	Dry Season	Wet Season
<i>Giardia</i> (Cysts/l)	0.50	---
<i>Cryptosporidium</i> (Cysts/l)	<0.5	---
Total Coliform (CFU/100 ml)	>2,400	---
Fecal Coliform (CFU/100 ml)	>2,400	---

**Table B-27**  
**Mean and Range of Organochlorine Pesticide Parameters**  
**Measured in the Indian Creek WMA**

**Monitoring Station: (L-IC-1)**

Parameter (µg/l)	Dry Season	Wet Season
4,4'-DDE	<0.03	---
4,4'-DDT	<0.03	---
4,4'-TDE/DDD	<0.03	---
a-BHC	<0.03	---
a-Chlordane	<0.03	---
Alachlor	<0.05	---
Aldrin	<0.03	---
b-BHC	<0.03	---
d-BHC	<0.03	---
Dieldrin	<0.03	---
Endosulfan I	<0.03	---
Endosulfan II	<0.03	---
Endosulfan Sulfate	<0.03	---
Endrin	<0.03	---
Endrin Aldehyde	<0.03	---
Endrin Ketone	<0.03	---
g-BHC (Lindane)	<0.03	---
g-Chlordane	<0.03	---
Heptachlor	<0.03	---
Methoxychlor	<0.03	---
Toxaphene	<0.5	---

**Monitoring Station: (M-IC-1)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
4,4'-DDE	<0.03	---
4,4'-DDT	<0.03	---
4,4'-TDE/DDD	<0.03	---
a-BHC	<0.03	---
a-Chlordane	<0.03	---
Alachlor	<0.05	---
Aldrin	<0.03	---
b-BHC	<0.03	---
d-BHC	<0.03	---
Dieldrin	<0.03	---
Endosulfan I	<0.03	---
Endosulfan II	<0.03	---
Endosulfan Sulfate	<0.03	---
Endrin	<0.03	---
Endrin Aldehyde	<0.03	---
Endrin Ketone	<0.03	---
g-BHC (Lindane)	<0.03	---
g-Chlordane	<0.03	---
Heptachlor	<0.03	---
Methoxychlor	<0.03	---
Toxaphene	<0.5	---

**Table B-28**  
**Mean and Range of Organochlorine Herbicides Parameters**  
**Measured in the Indian Creek WMA**

**Monitoring Station: (L-IC-1)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
2,4,5-T	<0.1	---
2,4,5-TP	<0.1	---
2,4-D	<0.5	---
2,4-DB	<1.0	---
Dalapon	<1.0	---
Dicamba	<0.10	---
Dichloroprop (2,4-DP)	<0.50	---
Dinoseb (DNBP)	<0.25	---
MCPA	<100	---
MCPP	<100	---
PCP	<0.10	---

**Monitoring Station: (M-IC-1)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
2,4,5-T	<0.1	---
2,4,5-TP	<0.1	---
2,4-D	<0.5	---
2,4-DB	<1.0	---
Dalapon	<1.0	---
Dicamba	<0.10	---
Dichloroprop (2,4-DP)	<0.50	---
Dinoseb (DNBP)	<0.25	---
MCPA	<100	---
MCPP	<100	---
PCP	<0.10	---



**Table B-29**  
**Mean and Range of Disinfectant By-Product Parameters**  
**Measured in the Indian Creek WMA**

**Monitoring Station: (L-IC-1)**

<b>Parameter (µg/l)</b>	<b>Dry Season</b>	<b>Wet Season</b>
Total Trihalomethanes	<0.5	---
Bromodichloromethane	<0.5	---
Bromoform	<0.5	---
Chloroform	<0.5	---
Dibromochloromethane	<0.5	---
HAA5	<5.0	---
Monochloroacetic Acid	<2.0	---
Dichloroacetic Acid	<1.0	---
Trichloroacetic Acid	<1.0	---
Monobromoacetic Acid	<1.0	---
Dibromoacetic Acid	<1.0	---

**Monitoring Station: (M-IC-1)**

<b>Parameter (µg/l)</b>	<b>Dry Season</b>	<b>Wet Season</b>
Total Trihalomethanes	<0.5	---
Bromodichloromethane	<0.5	---
Bromoform	<0.5	---
Chloroform	<0.5	---
Dibromochloromethane	<0.5	---
HAA5	<5.0	---
Monochloroacetic Acid	3.80	---
Dichloroacetic Acid	<1.0	---
Trichloroacetic Acid	<1.0	---
Monobromoacetic Acid	<1.0	---
Dibromoacetic Acid	<1.0	---

**Table B-30**  
**Mean and Range of Dissolved Metals**  
**Measured in the Indian Creek WMA**

**Monitoring Station: (L-IC-1)**

Parameter (µg/l)	Dry Season	Wet Season
Calcium (mg/l)	20.9	---
Magnesium (mg/l)	9.64	---
Aluminum	---	---
Arsenic	4.00	---
Antimony	---	---
Barium	145	---
Beryllium	---	---
Cadmium	<2.0	---
Chromium	2.80	---
Cobalt	---	---
Copper	3.30	---
Iron	932	---
Lead	<5.0	---
Manganese	627	---
Mercury	0.074J	---
Mercury (Ultra-clean method)	---	---
Molybdenum	0.64	---
Nickel	2.40	---
Potassium	3,390	---
Selenium	<10	---
Silver	<10	---
Sodium (mg/l)	14.4	---
Zinc	25.0	---
Hardness (mg/l)	91.9	---

J = Value is an estimated value below the reporting limit.

**Table B-31**  
**Physical Habitat Assessment Results for the Indian Creek WMA**

Station number	L-IC-1	M-IC-1	M-IC-2
Epifaunal Substrate/ Available Cover	4.0	3.0	10.0
Embeddedness	4.0	11.0	11.0
Velocity/Depth Regime	3.0	3.0	5.0
Sediment Deposition	4.0	10.0	13.0
Channel Flow Status	1.0	3.0	3.0
Channel Alteration	10.0	13.0	14.0
Frequency of Riffles (or bends)	5.0	9.0	11.0
Bank Stability Left	5.0	1.0	7.0
Bank Stability Right	5.0	1.0	N/D
Vegetative Protection Left	5.0	1.0	9.0
Vegetative Protection Right	5.0	1.0	9.0
Riparian Vegetative Zone Left	5.0	1.0	3.0
Riparian Vegetative Zone Right	5.0	1.0	3.0
<b>Total</b>	<b>61.0</b>	<b>58.0</b>	<b>98.0</b>

## B.8 Calaveras Main Stem Agricultural

**Table B-32**  
**Mean and Range of General Water Quality Parameters**  
**Measured in the Calaveras Main Stem Agricultural WMA**

### Monitoring Station: (L-CAL-5)

Parameter	Dry Season	Wet Season
Temperature (°C)	20.57 (20.14 – 21.00)	12.6 (7.57 – 17.65)
Conductivity (µS/cm)	195 (193 – 197)	161 (129 – 193)
Dissolved Oxygen (mg/l)	4.95 (2.30 – 7.60)	7.96 (3.83 – 12.1)
Dissolved Oxygen (%)	42.0 (25.5 – 78.6)	40.2 - >100
pH	8.30 (8.19 – 8.40)	8.10 (7.70 – 8.49)
Turbidity (NTU)	2.2 (<1 – 2.2)	3.0 (2.5 – 3.5)

### Monitoring Station: (L-CAL-6A)

Parameter	Dry Season	Wet Season
Temperature (°C)	19.25	---
Conductivity (µS/cm)	187	---
Dissolved Oxygen (mg/l)	10.47	---
Dissolved Oxygen (%)	>100	---
pH	8.79	---
Turbidity (NTU)	<1	---

### Monitoring Station: (L-CAL-6B)

Parameter	Dry Season	Wet Season
Temperature (°C)	20.17	---
Conductivity (µS/cm)	194	---
Dissolved Oxygen (mg/l)	6.75	---
Dissolved Oxygen (%)	73	---
pH	7.91	---
Turbidity (NTU)	<1	---

### Monitoring Station: (L-CAL-6C)

Parameter	Dry Season	Wet Season
Temperature (°C)	20.09	---
Conductivity (µS/cm)	193	---
Dissolved Oxygen (mg/l)	7.60	---
Dissolved Oxygen (%)	82	---
pH	8.25	---
Turbidity (NTU)	<1	---

### Monitoring Station: (L-CAL-Shelton Rd.)

Parameter	Dry Season	Wet Season
Temperature (°C)	18.36	---
Conductivity (µS/cm)	179	---
Dissolved Oxygen (mg/l)	4.55	---
Dissolved Oxygen (%)	46	---
pH	8.53	---
Turbidity (NTU)	1.0	---

**Table B-33**  
**Mean and Range of Nutrient Parameters**  
**Measured in the Calaveras Main Stem Agricultural WMA**

**Monitoring Station: (L-CAL-5)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	<0.05	0.37
Nitrite	<0.02	<0.05
Ammonia	<0.50	<0.50
Total Kjeldahl Nitrogen	<1.0	<1.0
Ortho Phosphate	<0.20 (<0.13 - <0.20)	<0.20
Total Suspended Solids	<5.0	1.60

**Monitoring Station: (L-CAL-6A)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	---	---
Nitrite	---	---
Ammonia	<0.50	---
Total Kjeldahl Nitrogen	<1.0	---
Ortho Phosphate	<0.13	---
Total Suspended Solids	---	---

**Monitoring Station: (L-CAL-6B)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	---	---
Nitrite	---	---
Ammonia	<0.50	---
Total Kjeldahl Nitrogen	<1.0	---
Ortho Phosphate	<0.13	---
Total Suspended Solids	---	---

**Monitoring Station: (L-CAL-6C)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	---	---
Nitrite	---	---
Ammonia	<0.50	---
Total Kjeldahl Nitrogen	<1.0	---
Ortho Phosphate	<0.13	---
Total Suspended Solids	---	---

**Monitoring Station: (L-CAL-Shelton Rd.)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	0.13	---
Nitrite	<0.05	---
Ammonia	<0.50	---
Total Kjeldahl Nitrogen	<1.0	---
Ortho Phosphate	<0.20	---
Total Suspended Solids	<1.0	---

**Table B-34**  
**Geometric Mean and Range of Pathogenic Parameters**  
**Measured in the Calaveras Main Stem Agricultural WMA**

**Monitoring Station: (L-CAL-5)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	---	30.0
Fecal Coliform	---	13.0

**Monitoring Station: (L-CAL-Shelton Rd.)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	130	---
Fecal Coliform	30	---

**Table B-35**  
**Mean and Range of Organochlorine Pesticide Parameters**  
**Measured in the Calaveras Main Stem Agricultural WMA**

**Monitoring Station: (L-CAL-5)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
4,4'-DDE	<0.05	---
4,4'-DDT	<0.05	---
4,4'-TDE/DDD	<0.05	---
a-BHC	<0.05	---
a-Chlordane	<0.05	---
Alachlor	<0.05	---
Aldrin	<0.05	---
b-BHC	<0.05	---
d-BHC	<0.05	---
Dieldrin	<0.05	---
Endosulfan I	<0.05	---
Endosulfan II	<0.05	---
Endosulfan Sulfate	<0.05	---
Endrin	<0.05	---
Endrin Aldehyde	<0.05	---
Endrin Ketone	<0.05	---
g-BHC (Lindane)	<0.05	---
g-Chlordane	<0.05	---
Heptachlor	<0.05	---
Methoxychlor	<0.05	---
Toxaphene	<1.0	---

**Table B-36**  
**Mean and Range of Organochlorine Herbicides Parameters**  
**Measured in the Calaveras Main Stem Agricultural WMA**

**Monitoring Station: (L-CAL-5)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
2,4,5-T	<0.1	---
2,4,5-TP	<0.1	---
2,4-D	<0.5	---
2,4-DB	<1.0	---
Dalapon	<1.0	---
Dicamba	<0.10	---
Dichloroprop (2,4-DP)	<0.50	---
Dinoseb (DNBP)	<0.25	---
MCPA	<100	---
MCPP	<100	---
PCP	<0.10	---

**Table B-37**  
**Mean and Range of Dissolved Metals**  
**Measured in the Calaveras Main Stem Agricultural WMA**

**Monitoring Station: (L-CAL-5)**

Parameter (µg/l)	Dry Season	Wet Season
Calcium (mg/l)	19.0	---
Magnesium (mg/l)	8.66	---
Aluminum	---	---
Arsenic	<0.5	---
Antimony	---	---
Barium	25.40	---
Beryllium	---	---
Cadmium	<2	---
Chromium	1.3J	---
Cobalt	---	---
Copper	3.0J	---
Iron	7.77	---
Lead	1.2J	---
Manganese	6.90	---
Mercury	0.065J	---
Mercury (Ultra-clean method)	---	0.033
Molybdenum	<5	---
Nickel	4.0J	---
Potassium	1,220	---
Selenium	<10	---
Silver	<10	---
Sodium (mg/l)	8.91	---
Zinc	6.7J	---
Hardness (mg/l)	83.1	---

J = Value is an estimated value below the reporting limit.

**Monitoring Station: (L-CAL-6A)**

Parameter (µg/l)	Dry Season	Wet Season
Calcium (mg/l)	19.3 (19.10 – 19.50)	---
Magnesium (mg/l)	8.70 (8.69 – 8.72)	---
Aluminum	---	---
Arsenic	1.6J (<0.5 – 1.6J)	---
Antimony	---	---
Barium	23.2 (22.80 – 23.60)	---
Beryllium	---	---
Cadmium	<2	---
Chromium	1.2J (1.2J – 1.3J)	---
Cobalt	---	---
Copper	2.7J (2.7J - <10)	---
Iron	64.2 (59.0 – 69.3)	---
Lead	<5	---
Manganese	7.6 (7.5 – 7.8)	---
Mercury	0.061J	---
Mercury (Ultra-clean method)	---	---
Molybdenum	<5	---
Nickel	3.7J (3.6J – 3.8J)	---
Potassium	1,235 (1,220 – 1,250)	---
Selenium	<10	---
Silver	<10	---
Sodium (mg/l)	9.6 (9.5 – 9.7)	---
Zinc	7.6J (6.5J – 8.7J)	---
Hardness (mg/l)	84.0 (83.48 – 84.60)	---

J = Value is an estimated value below the reporting limit.

**Monitoring Station: (L-CAL-6B)**

<b>Parameter (µg/l)</b>	<b>Dry Season</b>	<b>Wet Season</b>
Calcium (mg/l)	19.1	---
Magnesium (mg/l)	8.67	---
Aluminum	---	---
Arsenic	2.6J	---
Antimony	---	---
Barium	24.0	---
Beryllium	---	---
Cadmium	<2	---
Chromium	1.8J	---
Cobalt	---	---
Copper	<10	---
Iron	64.5	---
Lead	<5	---
Manganese	5.80	---
Mercury	0.094J	---
Mercury (Ultra-clean method)	---	---
Molybdenum	<5	---
Nickel	3.3J	---
Potassium	1,280	---
Selenium	<10	---
Silver	<10	---
Sodium (mg/l)	9.09	---
Zinc	6.8J	---
Hardness (mg/l)	83.4	---

J = Value is an estimated value below the reporting limit.



**Monitoring Station: (L-CAL-6C)**

Parameter (µg/l)	Dry Season	Wet Season
Calcium (mg/l)	19.9	---
Magnesium (mg/l)	9.08	---
Aluminum	---	---
Arsenic	<5	---
Antimony	---	---
Barium	24.8	---
Beryllium	---	---
Cadmium	<2	---
Chromium	1.2J	---
Cobalt	---	---
Copper	<10	---
Iron	51.3	---
Lead	<5	---
Manganese	5.30	---
Mercury	0.70J	---
Mercury (Ultra-clean method)	---	---
Molybdenum	<5	---
Nickel	3.0J	---
Potassium	1,320	---
Selenium	<10	---
Silver	<10	---
Sodium (mg/l)	7.44	---
Zinc	6.0J	---
Hardness (mg/l)	87.1	---

J = Value is an estimated value below the reporting limit.

**Monitoring Station: (L-CAL-Shelton Rd.)**

Parameter (µg/l)	Dry Season	Wet Season
Calcium (mg/l)	19	---
Magnesium (mg/l)	7.9	---
Aluminum	---	---
Arsenic	<1.0	---
Antimony	<5.0	---
Barium	<0.10	---
Beryllium	<1.0	---
Cadmium	<0.25	---
Chromium	<0.5	---
Cobalt	<1.0	---
Copper	2.7	---
Iron	0.38	---
Lead	<0.5	---
Manganese	---	---
Mercury	<0.5	---
Mercury (Ultra-clean method)	---	---
Molybdenum	<1.0	---
Nickel	<3	---
Potassium	1.48	---
Selenium	<1.0	---
Silver	<1.0	---
Sodium (mg/l)	6.7	---
Zinc	1.6	---
Hardness (mg/l)	80	---

**Table B-38**  
**Physical Habitat Assessment Results for the Calaveras Main Stem Agricultural WMA**

<b>Station number</b>	<b>L-CAL-5</b>	<b>L-CAL-6</b>	<b>M-CAL-1</b>
Epifaunal Substrate/ Available Cover	7.3	17.3	15.3
Embeddedness	7.0	17.3	14.7
Velocity/Depth Regime	9.0	17.7	16.0
Sediment Deposition	8.0	16.0	14.7
Channel Flow Status	14.0	17.7	17.3
Channel Alteration	6.3	12.5	16.3
Frequency of Riffles (or bends)	5.3	11.5	14.7
Bank Stability Left	7.0	7.0	8.3
Bank Stability Right	7.0	6.7	8.3
Vegetative Protection Left	6.3	7.3	8.7
Vegetative Protection Right	4.3	8.0	8.7
Riparian Vegetative Zone Left	6.0	6.0	8.7
Riparian Vegetative Zone Right	4.0	6.3	8.7
<b>Total</b>	<b>91.7</b>	<b>151.3</b>	<b>160.3</b>

## B.9 Calaveras Main Stem

**Table B-39**  
**Mean and Range of General Water Quality Parameters**  
**Measured in the Calaveras Main Stem WMA**

**Monitoring Station: (M-CAL-1)**

Parameter	Dry Season	Wet Season
Temperature (°C)	15.4 (14.7 – 16.1)	10.96
Conductivity (µS/cm)	189 (185 – 193)	157
Dissolved Oxygen (mg/l)	9.79 (9.48 – 10.10)	19.13
Dissolved Oxygen (%)	97 (92 – 102)	<100
pH	8.34 (8.23 – 8.46)	7.9
Turbidity (NTU)	<1	0.3

**Monitoring Station: (M-CAL-2)**

Parameter	Dry Season	Wet Season
Temperature (°C)	14.8 (14.76 – 14.8)	9.76 (9.35 – 10.17)
Conductivity (µS/cm)	166 (143 – 190)	136 (119 – 153)
Dissolved Oxygen (mg/l)	8.00 (1.57* – 8.00)	13.9 (12.21 – 15.59)
Dissolved Oxygen (%)	85	>100
pH	7.72 (7.50 – 7.95)	7.72 (7.62 – 7.82)
Turbidity (NTU)	1.8 (0.85 – 2.7)	2.4 (0.8 – 4.0)

\* Data point discarded because of torn membrane on DO probe

**Table B-40**  
**Mean and Range of Nutrient Parameters**  
**Measured in the Calaveras Main Stem WMA**

**Monitoring Station: (M-CAL-1)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	0.09 (0.07 – 0.11)	0.29 (0.25 – 0.33)
Nitrite	<0.02	<0.05
Ammonia	<0.50	<0.50
Total Kjeldahl Nitrogen	<1.0	<1.0
Ortho Phosphate	<0.20	<0.20
Total Suspended Solids	<5.0	<1.0

**Monitoring Station: (M-CAL-2)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	---	0.32
Nitrite	---	<0.05
Ammonia	<0.50	<0.50
Total Kjeldahl Nitrogen	<1.0	<1.0
Ortho Phosphate	0.14	<0.20
Total Suspended Solids	<5.0	1.6

**Table B-41**  
**Geometric Mean and Range of Pathogenic Parameters**  
**Measured in the Calaveras Main Stem WMA**

**Monitoring Station: (M-CAL-1)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	280	32 (30 – 34)
Fecal Coliform	34	16 (11 – 23)

**Monitoring Station: (M-CAL-2)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	21.0	15 (8 – 30)
Fecal Coliform	4.0	8.0

**Monitoring Station: (CAL-008 – Calaveras River at Monte Vista Trailhead)\***

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	88 (20 – 549)	>293 (36 - >2,419)
Fecal Coliform	9 (1 – 61)	<16 (<1 – 32)

\* Data provided by CCWD (Jan – Dec 2002)

**Table B-42**  
**Mean and Range of Organochlorine Pesticide Parameters**  
**Measured in the Calaveras Main Stem WMA**

**Monitoring Station: (M-CAL-1)**

Parameter (µg/l)	Dry Season	Wet Season
4,4'-DDE	<0.05	---
4,4'-DDT	<0.05	---
4,4'-TDE/DDD	<0.05	---
a-BHC	<0.05	---
a-Chlordane	<0.05	---
Alachlor	<0.05	---
Aldrin	<0.05	---
b-BHC	<0.05	---
d-BHC	<0.05	---
Dieldrin	<0.05	---
Endosulfan I	<0.05	---
Endosulfan II	<0.05	---
Endosulfan Sulfate	<0.05	---
Endrin	<0.05	---
Endrin Aldehyde	<0.05	---
Endrin Ketone	<0.05	---
g-BHC (Lindane)	<0.05	---
g-Chlordane	<0.05	---
Heptachlor	<0.05	---
Methoxychlor	<0.05	---
Toxaphene	<1.0	---

**Monitoring Station: (M-CAL-2)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
4,4'-DDE	<0.05	---
4,4'-DDT	<0.05	---
4,4'-TDE/DDD	<0.05	---
a-BHC	<0.05	---
a-Chlordane	<0.05	---
Alachlor	<0.05	---
Aldrin	<0.05	---
b-BHC	<0.05	---
d-BHC	<0.05	---
Dieldrin	<0.05	---
Endosulfan I	<0.05	---
Endosulfan II	<0.05	---
Endosulfan Sulfate	<0.05	---
Endrin	<0.05	---
Endrin Aldehyde	<0.05	---
Endrin Ketone	<0.05	---
g-BHC (Lindane)	<0.05	---
g-Chlordane	<0.05	---
Heptachlor	<0.05	---
Methoxychlor	<0.05	---
Toxaphene	<1.0	---

**Table B-43**  
**Mean and Range of Organochlorine Herbicides Parameters**  
**Measured in the Calaveras Main Stem WMA**

**Monitoring Station: (M-CAL-1)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
2,4,5-T	<0.1	---
2,4,5-TP	<0.1	---
2,4-D	<0.5	---
2,4-DB	<1.0	---
Dalapon	<1.0	---
Dicamba	<0.10	---
Dichloroprop (2,4-DP)	<0.50	---
Dinoseb (DNBP)	<0.25	---
MCPA	<100	---
MCPP	<100	---
PCP	<0.10	---

**Monitoring Station: (M-CAL-2)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
2,4,5-T	<0.1	---
2,4,5-TP	<0.1	---
2,4-D	<0.5	---
2,4-DB	<1.0	---
Dalapon	<1.0	---
Dicamba	<0.10	---
Dichloroprop (2,4-DP)	<0.50	---
Dinoseb (DNBP)	<0.25	---
MCPA	<100	---
MCPP	<100	---
PCP	<0.10	---

**Table B-44**  
**Mean and Range of Dissolved Metals**  
**Measured in the Calaveras Main Stem WMA**

**Monitoring Station: (M-CAL-2)**

<b>Parameter (µg/l)</b>	<b>Dry Season</b>	<b>Wet Season</b>
Calcium (mg/l)	20.7 (20.2 – 21.2)	21.0 (21.0 – 22.0)
Magnesium (mg/l)	8.9 (8.9 – 9.0)	5.6
Aluminum	---	---
Arsenic	<5 (<1.5 - <5)	---
Antimony	---	---
Barium	25.9 (23.2 – 28.6)	---
Beryllium	---	---
Cadmium	<0.2	---
Chromium	1.7J (1.5J – 1.9J)	---
Cobalt	---	---
Copper	3.6J (2.9J – 4.3J)	---
Iron	50.4 (37J – 63.9)	---
Lead	<5 (<0.88 - <5)	---
Manganese	9.4 (2.1J – 16.8)	---
Mercury	0.099 (0.38J – 0.16J)	---
Mercury (Ultra-clean method)	---	0.003
Molybdenum	0.93J (<0.84 – 0.93J)	---
Nickel	3.9J (3.4J – 4.4J)	---
Potassium	1,325 (1,280 – 1,370)	---
Selenium	<10 (<1.5 - <10)	---
Silver	<10 (<0.30 - <10)	---
Sodium (mg/l)	7.98 (6.63 – 9.34)	---
Zinc	6.8J (4.8J – 8.7J)	---
Hardness (mg/l)	88.5 (87.5 – 89.6)	78.0

J = Value is an estimated value below the reporting limit.

**Table B-45**  
**Physical Habitat Assessment Results for the Calaveras Main Stem WMA**

<b>Station number</b>	<b>M-CAL-2</b>
Epifaunal Substrate/ Available Cover	15.7
Embeddedness	16.3
Velocity/Depth Regime	19.0
Sediment Deposition	18.0
Channel Flow Status	17.3
Channel Alteration	13.0
Frequency of Riffles (or bends)	14.0
Bank Stability Left	9.0
Bank Stability Right	8.3
Vegetative Protection Left	9.0
Vegetative Protection Right	9.0
Riparian Vegetative Zone Left	9.3
Riparian Vegetative Zone Right	8.7
<b>Total</b>	<b>166.7</b>

## B.10 Cosgrove Creek WMA

**Table B-46**  
**Mean and Range of General Water Quality Parameters**  
**Measured in the Cosgrove Creek WMA**

### Monitoring Station: (M-CGR-1)

Parameter	Dry Season	Wet Season
Temperature (°C)	23.54	20.16
Conductivity (µS/cm)	632	685
Dissolved Oxygen (mg/l)	14.78	16.06
Dissolved Oxygen (%)	>100	>100
pH	7.57	8.49
Turbidity (NTU)	1.0	0.2

### Monitoring Station: (M-CGR-2)

Parameter	Dry Season	Wet Season
Temperature (°C)	19.8 (18.92 – 20.75)	19.10
Conductivity (µS/cm)	712 (661 – 765)	692
Dissolved Oxygen (mg/l)	1.96 (1.32 – 2.59)	5.73
Dissolved Oxygen (%)	21 (13 – 28)	---
pH	7.50 (7.35 – 7.66)	7.59
Turbidity (NTU)	51 (7.9 – 94)	0.9

### Monitoring Station: (M-CGR-3)

Parameter	Dry Season	Wet Season
Temperature (°C)	18.41	---
Conductivity (µS/cm)	626	---
Dissolved Oxygen (mg/l)	3.78	---
Dissolved Oxygen (%)	40.5	---
pH	7.31	---
Turbidity (NTU)	2.10	---

### Monitoring Station: (M-SVC-1)

Parameter	Dry Season	Wet Season
Temperature (°C)	19.42	19.92
Conductivity (µS/cm)	597	597
Dissolved Oxygen (mg/l)	5.33	13.3
Dissolved Oxygen (%)	57.9	>100
pH	8.13	7.89
Turbidity (NTU)	1.9	0.2

**Table B-47**  
**Mean and Range of Nutrient Parameters**  
**Measured in the Cosgrove Creek WMA**

### Monitoring Station: (M-CGR-1)

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	<0.05	<0.05
Nitrite	<0.02	<0.05
Ammonia	<0.50	<0.50
Total Kjeldahl Nitrogen	<1.0	<1.0
Ortho Phosphate	<0.20	<0.20
Total Suspended Solids	<5.0	1.6

**Monitoring Station: (M-CGR-2)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	0.34 (<0.05 – 0.34)	0.18
Nitrite	<0.02	<0.05
Ammonia	<0.5	<0.50
Total Kjeldahl Nitrogen	6.5 (<1.0 – 6.5)	1.1
Ortho Phosphate	<0.2	<0.20
Total Suspended Solids	36.1 (5.2 – 67.0)	2.2

**Monitoring Station: (M-CGR-3)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	<0.05	---
Nitrite	<0.02	---
Ammonia	<0.5	---
Total Kjeldahl Nitrogen	<1.0	---
Ortho Phosphate	<0.2	---
Total Suspended Solids	<5.0	---

**Monitoring Station: (M-SVC-1)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	<0.05	<0.05
Nitrite	<0.02	<0.05
Ammonia	<0.5	<0.5
Total Kjeldahl Nitrogen	<1.0	<1.0
Ortho Phosphate	<0.2	<0.2
Total Suspended Solids	<5.0	<1.0

**Table B-48**  
**Geometric Mean and Range of Pathogenic Parameters**  
**Measured in the Cosgrove Creek WMA**

**Monitoring Station: (M-CGR-1)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	>2,400	1,600
Fecal Coliform	300	30

**Monitoring Station: (M-CGR-2)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	>2,400	>2,400
Fecal Coliform	>21,213 (900 - >500,000)	500

**Monitoring Station: (M-CGR-3)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	>2,400	---
Fecal Coliform	>1,095 (500 - >2,400)	---

**Monitoring Station: (M-SVC-1)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	240	>2,400
Fecal Coliform	240	>2,400



**Table B-49**  
**Mean and Range of Organochlorine Pesticide Parameters Measured in the Cosgrove Creek WMA**  
**Monitoring Station: (M-CGR-1)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
4,4'-DDE	<0.03	---
4,4'-DDT	<0.03	---
4,4'-TDE/DDD	<0.03	---
a-BHC	<0.03	---
a-Chlordane	<0.03	---
Alachlor	<0.05	---
Aldrin	<0.03	---
b-BHC	<0.03	---
d-BHC	<0.03	---
Dieldrin	<0.03	---
Endosulfan I	<0.03	---
Endosulfan II	<0.03	---
Endosulfan Sulfate	<0.03	---
Endrin	<0.03	---
Endrin Aldehyde	<0.03	---
Endrin Ketone	<0.03	---
g-BHC (Lindane)	<0.03	---
g-Chlordane	<0.03	---
Heptachlor	<0.03	---
Methoxychlor	<0.03	---
Toxaphene	<0.5	---

**Monitoring Station: (M-CGR-2)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
4,4'-DDE	<0.03	---
4,4'-DDT	<0.03	---
4,4'-TDE/DDD	<0.03	---
a-BHC	<0.03	---
a-Chlordane	<0.03	---
Alachlor	<0.05	---
Aldrin	<0.03	---
b-BHC	<0.03	---
d-BHC	<0.03	---
Dieldrin	<0.03	---
Endosulfan I	<0.03	---
Endosulfan II	<0.03	---
Endosulfan Sulfate	<0.03	---
Endrin	<0.03	---
Endrin Aldehyde	<0.03	---
Endrin Ketone	<0.03	---
g-BHC (Lindane)	<0.03	---
g-Chlordane	<0.03	---
Heptachlor	<0.03	---
Methoxychlor	<0.03	---
Toxaphene	<0.5	---

**Monitoring Station: (M-CGR-3)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
4,4'-DDE	<0.03	---
4,4'-DDT	<0.03	---
4,4'-TDE/DDD	<0.03	---
a-BHC	<0.03	---
a-Chlordane	<0.03	---
Alachlor	<0.05	---
Aldrin	<0.03	---
b-BHC	<0.03	---
d-BHC	<0.03	---
Dieldrin	<0.03	---
Endosulfan I	<0.03	---
Endosulfan II	<0.03	---
Endosulfan Sulfate	<0.03	---
Endrin	<0.03	---
Endrin Aldehyde	<0.03	---
Endrin Ketone	<0.03	---
g-BHC (Lindane)	<0.03	---
g-Chlordane	<0.03	---
Heptachlor	<0.03	---
Methoxychlor	<0.03	---
Toxaphene	<0.5	---

**Monitoring Station: (M-SVC-1)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
4,4'-DDE	<0.03	---
4,4'-DDT	<0.03	---
4,4'-TDE/DDD	<0.03	---
a-BHC	<0.03	---
a-Chlordane	<0.03	---
Alachlor	<0.05	---
Aldrin	<0.03	---
b-BHC	<0.03	---
d-BHC	<0.03	---
Dieldrin	<0.03	---
Endosulfan I	<0.03	---
Endosulfan II	<0.03	---
Endosulfan Sulfate	<0.03	---
Endrin	<0.03	---
Endrin Aldehyde	<0.03	---
Endrin Ketone	<0.03	---
g-BHC (Lindane)	<0.03	---
g-Chlordane	<0.03	---
Heptachlor	<0.03	---
Methoxychlor	<0.03	---
Toxaphene	<0.5	---

**Table B-50**  
**Mean and Range of Organochlorine Herbicide Parameters**  
**Measured in the Cosgrove Creek WMA**

**Monitoring Station: (M-CGR-1)**

Parameter (µg/l)	Dry Season	Wet Season
2,4,5-T	<0.1	---
2,4,5-TP	<0.1	---
2,4-D	0.51 (0.50 – 0.51)	---
2,4-DB	<1.0	---
Dalapon	<1.0	---
Dicamba	<0.10	---
Dichloroprop (2,4-DP)	<0.50	---
Dinoseb (DNBP)	<0.25	---
MCPA	<100	---
MCPP	<100	---
PCP	<0.10	---

**Monitoring Station: (M-CGR-2)**

Parameter (µg/l)	Dry Season	Wet Season
2,4,5-T	<0.1	---
2,4,5-TP	<0.1	---
2,4-D	1.10	---
2,4-DB	<1.0	---
Dalapon	<1.0	---
Dicamba	<0.10	---
Dichloroprop (2,4-DP)	<0.50	---
Dinoseb (DNBP)	<0.25	---
MCPA	<100	---
MCPP	<100	---
PCP	<0.10	---

**Monitoring Station: (M-CGR-3)**

Parameter (µg/l)	Dry Season	Wet Season
2,4,5-T	<0.1	---
2,4,5-TP	<0.1	---
2,4-D	<0.50	---
2,4-DB	<1.0	---
Dalapon	<1.0	---
Dicamba	<0.10	---
Dichloroprop (2,4-DP)	<0.50	---
Dinoseb (DNBP)	<0.25	---
MCPA	<100	---
MCPP	<100	---
PCP	<0.10	---

**Monitoring Station: (M-SVC-1)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
2,4,5-T	<0.1	---
2,4,5-TP	<0.1	---
2,4-D	<0.50	---
2,4-DB	<1.0	---
Dalapon	<1.0	---
Dicamba	<0.10	---
Dichloroprop (2,4-DP)	<0.50	---
Dinoseb (DNBP)	<0.25	---
MCPA	<100	---
MCPP	<100	---
PCP	<0.10	---

**Table B-51**  
**Mean and Range of Disinfectant By-Product Parameters**  
**Measured in the Cosgrove Creek WMA**

**Monitoring Station: (M-CGR-1)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
Total Trihalomethanes	<0.5	---
Bromodichloromethane	<0.5	---
Bromoform	<0.5	---
Chloroform	<0.5	---
Dibromochloromethane	<0.5	---
HAA5	5.2 (<5.0 – 5.2)	---
Monochloroacetic Acid	4.80	---
Dichloroacetic Acid	<1.0	---
Trichloroacetic Acid	<1.0	---
Monobromoacetic Acid	<1.0	---
Dibromoacetic Acid	<1.0	---

**Table B-52**  
**Mean and Range of Dissolved Metals**  
**Measured in the Cosgrove Creek WMA**

**Monitoring Station: (M-CGR-1)**

Parameter (µg/l)	Dry Season	Wet Season
Calcium (mg/l)	42.4 (42.3 – 42.6)	47
Magnesium (mg/l)	47.5 (47.3 – 47.7)	48
Aluminum	---	---
Arsenic	<5	1.8
Antimony	---	<5.0
Barium	88.8 (88.5 – 89.2)	0.11
Beryllium	---	<1.0
Cadmium	<2.0	<0.25
Chromium	2.1J (2.0J – 2.2J)	<0.25
Cobalt	---	<1.0
Copper	4.0J (3.7J – 4.2J)	3.4
Iron	33.2J (32.6J – 33.9J)	0.08
Lead	<5.0	<0.5
Manganese	7.2 (5.7 – 8.6)	---
Mercury	0.07J (0.05J – 0.098J)	<0.5
Mercury (Ultra-clean method)	---	---
Molybdenum	1.0J (0.8J – 1.2J)	<1.0
Nickel	9.4 (8.5 – 10.3)	5.7
Potassium	1,130	0.63
Selenium	<10	<1.0
Silver	<10	<1.0
Sodium (mg/l)	42.2 (42.1 – 42.2)	47
Zinc	9.0 (5.7J – 12.4)	3.4
Hardness (mg/l)	302 (301 – 302)	315

J = Value is an estimated value below the reporting limit.

**Table B-53**  
**Physical Habitat Assessment Results for the Cosgrove Creek WMA**

<b>Station number</b>	<b>M-CGR-1</b>	<b>M-CGR-2</b>	<b>M-CGR-3</b>	<b>M-SVC-1</b>
Epifaunal Substrate/ Available Cover	15.0	6.5	12.0	8.0
Embeddedness	16.0	8.0	10.0	9.0
Velocity/Depth Regime	10.0	5.0	7.0	5.0
Sediment Deposition	15.0	6.5	10.0	8.5
Channel Flow Status	8.0	9.0	11.0	5.0
Channel Alteration	13.0	8.5	12.0	4.5
Frequency of Riffles (or bends)	10.0	6.0	14.0	5.0
Bank Stability Left	8.0	8.0	7.0	4.0
Bank Stability Right	8.0	8.0	7.0	4.0
Vegetative Protection Left	9.0	6.5	7.0	4.5
Vegetative Protection Right	9.0	6.5	7.0	4.5
Riparian Vegetative Zone Left	6.0	5.0	4.0	3.0
Riparian Vegetative Zone Right	6.0	5.0	4.0	3.0
<b>Total</b>	<b>133.0</b>	<b>88.5</b>	<b>112.0</b>	<b>68.0</b>

## B.11 New Hogan Reservoir WMA

**Table B-54**  
**Mean and Range of General Water Quality Parameters**  
**Measured in the New Hogan Reservoir WMA**

**Monitoring Station: (M-NHR-1)**

Parameter	Dry Season	Wet Season
Temperature (°C)	26.04	22.38
Conductivity (µS/cm)	192	208
Dissolved Oxygen (mg/l)	6.75	14.23
Dissolved Oxygen (%)	80	>100
pH	8.78	8.6
Turbidity (NTU)	29.3	0.7

**Table B-55**  
**Mean and Range of Nutrient Parameters Measured in the New Hogan Reservoir WMA**

**Monitoring Station: (M-NHR-1)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	---	0.16 (0.15 – 0.17)
Nitrite	---	<0.05
Ammonia	<0.50	<0.50
Total Kjeldahl Nitrogen	<1.0	1.1 (<1.0 – 1.1)
Ortho Phosphate	---	<0.20 (<0.02 - <0.2)
Total Suspended Solids	<5.0	2.1 (1.2 – 3.6)

**Table B-56**  
**Geometric Mean and Range of Pathogenic Parameters Measured in the New Hogan Reservoir WMA**

**Monitoring Station: (M-NHR-1)**

Parameter	Dry Season	Wet Season
<i>Giardia</i> (Cysts/l)	<0.5	---
<i>Cryptosporidium</i> (Cysts/l)	<0.5	---
Total Coliform (CFU/100 ml)	4.0	4.0 (2.0 – 8.0)
Fecal Coliform (CFU/100 ml)	<2	<4.0 (<2.0 – 8.0)

**Monitoring Station: (CAL-006 – New Hogan Reservoir @ Acorn East Campground)\***

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	>723 (87 - >2,419)	239 (31 - 1,733)
Fecal Coliform	<3.2 (<1.0 – 16)	4.8 (<1.0 – 30)

\* Data provided by CCWD (Jan – Dec 2002)

**Monitoring Station: (CAL-007 – New Hogan Reservoir @ Wrinkle Cove)\***

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	>867 (119 - >2,419)	>374 (43 - >2,419)
Fecal Coliform	<3.6 (<1.0 – 48)	<2.8 (<1.0 – 15)

\* Data provided by CCWD (Jan – Dec 2002)

**Table B-57**  
**Mean and Range of Gasoline, BTXE, and MTBE Parameters**  
**Measured in the New Hogan Reservoir**

**WMA Monitoring Station: (L-CAL-1)**

Parameter (µg/l)	Dry Season	Wet Season
PHC as Gasoline	0.03J	---
Benzene	0.4J	---
Ethylbenzene	<0.5	---
Toluene	0.5	---
O-Xylene	0.3J	---
M,P-Xylene	1.0	---
MTBE	26.0	---

J = Value is an estimated value below the reporting limit.

**Table B-58**  
**Mean and Range of Dissolved Metals Measured in the New Hogan Reservoir WMA**

**Monitoring Station: (M-NHR-1)**

Parameter (µg/l)	Dry Season	Wet Season
Calcium (mg/l)	20.0	20.3 (20.0 – 21.0)
Magnesium (mg/l)	9.3	7.4
Aluminum	---	---
Arsenic	<1.5	<1.0
Antimony	---	---
Barium	25.5	<0.10
Beryllium	---	<1.0
Cadmium	0.21J	<0.25
Chromium	8.0	<0.25
Cobalt	---	<1.0
Copper	4J	5.7
Iron	60.1	0.14
Lead	1.7J	<0.5
Manganese	1.6J	---
Mercury	0.12J	<0.5
Mercury (Ultra-clean method)	---	0.002 (0.00163 – 0.00261)
Molybdenum	<0.84	<1.0
Nickel	3.1J	<3.0
Potassium	1,300	1,593 (1,540 – 1,610)
Selenium	4.3J	<1.0
Silver	<0.3	<1.0
Sodium (mg/l)	9.04	7.0 (6.8 – 7.2)
Zinc	7.2J	28.0
Hardness (mg/l)	88.4	82.9

J = Value is an estimated value below the reporting limit.



**Table B-59**  
**Mean and Range of Volatile Organic Parameters**  
**Measured in the New Hogan Reservoir WMA**

**Monitoring Station: (M-NHR-1)**

Parameter (µg/l)	Dry Season	Wet Season
Acetone	<50	---
Benzene	<5	---
Bromobenzene	<5	---
Bromochloromethane	<5	---
Bromodichloromethane	<5	---
Bromoform	<5	---
Bromomethane	<5	---
2-Butanone	<100	---
N-Butylbenzene	<5	---
Sec-Butylbenzene	<5	---
T-Butylbenzene	<5	---
Carbon Disulfide	<5	---
Carbon Tetrachloride	<5	---
Chlorobenzene	<5	---
Dibromochloromethane	<5	---
Chloroethane	<5	---
Chloroform	<5	---
Chloromethane	<5	---
2-Chlorotoluene	<5	---
4-Chlorotoluene	<5	---
2,3-Dibromo-3-Chloropropane	<5	---
1,2-Dibromoethane	<5	---
Dibromomethane	<5	---
1,2-Dichlorobenzene	<5	---
1,3-Dichlorobenzene	<5	---
1,4-Dichlorobenzene	<5	---
Dichlorodifluoromethane	<5	---
1,1-Dichloroethane	<5	---
1,2-Dichloroethane	<5	---
1,1-Dichloroethene	<5	---
Cis-1,2-Dichloroethene	<5	---
Trans-1,2-Dichloroethene	<5	---
1,2-Dichloropropane	<5	---
1,3-Dichloropropane	<5	---
2,2-Dichloropropane	<5	---
1,1-Dichloropropene	<5	---
Cis-1,3-Dichloropropene	<5	---
Trans-1,3-Dichloropropene	<5	---
Ethylbenzene	<5	---
Hexachlorobutadiene	<5	---
Isopropylbenzene	<5	---

**Monitoring Station: (M-NHR-1) Cont'd.**

<b>Parameter (µg/l)</b>	<b>Dry Season</b>	<b>Wet Season</b>
P-Cymene (P-Isopropyltoluene)	<5	---
Methylene Chloride	<5	---
4-Methyl-2-Pentanone	<50	---
Tert-Butyl-Methyl Ether	2.0	---
Naphthalene	<5	---
N-Propylbenzene	<5	---
Styrene	<5	---
1,1,1,2-Tetrachloroethane	<5	---
1,1,2,2-Tetrachloroethane	<5	---
Tetrachloroethane (PCE)	<5	---
Toluene	<5	---
1,2,3-Trichlorobenzene	<5	---
1,2,4-Trichlorobenzene	<5	---
1,1,1-Trichloroethane	<5	---
1,1,2-Trichloroethane	<5	---
Trichloroethane (TCE)	<5	---
Trichlorofluoromethane	<5	---
1,2,3-Trichloropropane	<5	---
1,2,4-Trimethylbenzene	<5	---
Vinyl Chloride	<5	---
O-Xylene	<5	---
M,P-Xylene	<10	---

J = Value is an estimated value below the reporting limit.

## B.12 South Fork Calaveras WMA

**Table B-60**  
**Mean and Range of General Water Quality Parameters**  
**Measured in the South Fork Calaveras WMA**

**Monitoring Station: (M-SCAL-1)**

Parameter	Dry Season	Wet Season
Temperature (°C)	25.00	21.97
Conductivity (µS/cm)	190	228
Dissolved Oxygen (mg/l)	5.00	15.92
Dissolved Oxygen (%)	60.0	>100
pH	8.30	8.24
Turbidity (NTU)	0.90	0.1

**Table B-61**  
**Mean and Range of Nutrient Parameters**  
**Measured in the South Fork Calaveras WMA**

**Monitoring Station: (M-SCAL-1)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	<0.05	<0.05
Nitrite	<0.02	<0.05
Ammonia	<0.50	<0.50
Total Kjeldahl Nitrogen	<1.0	<1.0
Ortho Phosphate	<0.20	<0.20
Total Suspended Solids	8.10	<1.0

**Table B-62**  
**Geometric Mean and Range of Pathogenic Parameters Measured in the South Fork Calaveras WMA**

**Monitoring Station: (M-SCAL-1)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	---	110
Fecal Coliform	---	17

**Monitoring Station: (CAL-002 – Calaveritas Creek @ HWY 49)\***

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	655 (250 – 1,011)	>611 (71 - >2,419)
Fecal Coliform	74 (47 – 122)	85 (38 – 261)

\* Data provided by CCWD (Jan – Dec 2002)

**Table B-63**  
**Mean and Range of Organochlorine Pesticide Parameters**  
**Measured in the South Fork Calaveras WMA**

**Monitoring Station: (M-SCAL-1)**

Parameter (µg/l)	Dry Season	Wet Season
4,4'-DDE	<0.05	---
4,4'-DDT	<0.05	---
4,4'-TDE/DDD	<0.05	---
a-BHC	<0.05	---
a-Chlordane	<0.05	---
Alachlor	<0.05	---
Aldrin	<0.05	---
b-BHC	<0.05	---
d-BHC	<0.05	---
Dieldrin	<0.05	---
Endosulfan I	<0.05	---
Endosulfan II	<0.05	---
Endosulfan Sulfate	<0.05	---
Endrin	<0.05	---
Endrin Aldehyde	<0.05	---
Endrin Ketone	<0.05	---
g-BHC (Lindane)	<0.05	---
g-Chlordane	<0.05	---
Heptachlor	<0.05	---
Methoxychlor	<0.05	---
Toxaphene	<1.0	---

**Table B-64**  
**Mean and Range of Dissolved Metals Measured in the South Fork Calaveras WMA**

**Monitoring Station: (M-SCAL-1)**

Parameter (µg/l)	Dry Season	Wet Season
Calcium (mg/l)	---	24.0
Magnesium (mg/l)	---	7.6
Aluminum	---	---
Arsenic	---	<1.0
Antimony	---	<5.0
Barium	---	<1.0
Beryllium	---	<1.0
Cadmium	---	<0.25
Chromium	---	<0.5
Cobalt	---	<1.0
Copper	---	2.60
Iron	---	0.09
Lead	---	<0.5
Manganese	---	---
Mercury	---	<0.5
Mercury (Ultra-clean method)	---	0.00504
Molybdenum	---	<1.0
Nickel	---	<3.0
Potassium	---	1.67
Selenium	---	<1.0
Silver	---	<1.0
Sodium (mg/l)	---	7.60
Zinc	---	1.20
Hardness (mg/l)	---	91.2

**Table B-65**  
**Physical Habitat Assessment Results for the South Fork Calaveras WMA**

<b>Station number</b>	<b>M-SCAL-1</b>
Epifaunal Substrate/ Available Cover	2.5
Embeddedness	10.5
Velocity/Depth Regime	7.0
Sediment Deposition	13.0
Channel Flow Status	5.5
Channel Alteration	18.0
Frequency of Riffles (or bends)	0.5
Bank Stability Left	5.5
Bank Stability Right	8.5
Vegetative Protection Left	9.5
Vegetative Protection Right	4.5
Riparian Vegetative Zone Left	8.5
Riparian Vegetative Zone Right	1.5
<b>Total</b>	<b>95.0</b>

## B.13 Lower North Fork Calaveras WMA

**Table B-66**  
**Mean and Range of General Water Quality Parameters**  
**Measured in the Lower North Fork Calaveras WMA**

**Monitoring Station: (M-NCAL-1)**

Parameter	Dry Season	Wet Season
Temperature (°C)	21.86	14.8 (7.80 – 21.87)
Conductivity (µS/cm)	250	231 (153 – 309)
Dissolved Oxygen (mg/l)	6.08	15.65 (11.44 – 19.89)
Dissolved Oxygen (%)	69.6	>100
pH	8.10	7.99 (7.56 – 8.42)
Turbidity (NTU)	2.40	0.4 (0.1 – 0.6)

**Monitoring Station: (M-NCAL-2)**

Parameter	Dry Season	Wet Season
Temperature (°C)	23.70	19.52
Conductivity (µS/cm)	352.5	276
Dissolved Oxygen (mg/l)	4.80	13.83
Dissolved Oxygen (%)	55.0	>100
pH	7.60	7.75
Turbidity (NTU)	1.65	0.2

**Table B-67**  
**Mean and Range of Nutrient Parameters**  
**Measured in the Lower North Fork Calaveras WMA**

**Monitoring Station: (M-NCAL-1)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	<0.05	0.71 (<0.05 – 0.71)
Nitrite	<0.02	<0.05
Ammonia	<0.50	<0.50
Total Kjeldahl Nitrogen	<1.0	<1.0
Ortho Phosphate	<0.20	<0.20 (<0.02 - <0.20)
Total Suspended Solids	---	<1.0

**Monitoring Station: (M-NCAL-2)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	<0.05	0.07
Nitrite	<0.02	<0.02
Ammonia	<0.50	<0.50
Total Kjeldahl Nitrogen	<1.0	<1.0
Ortho Phosphate	<0.20	<0.20
Total Suspended Solids	<5.0	<1.0

**Table B-68**  
**Geometric Mean and Range of Pathogenic Parameters**  
**Measured in the Lower North Fork Calaveras WMA**

**Monitoring Station: (M-NCAL-1)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	---	>710 (210 - >2,400)
Fecal Coliform	---	>600 (150 - >2,400)

**Monitoring Station: (M-NCAL-2)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	---	50
Fecal Coliform	---	30

**Monitoring Station: (CAL-003 - North Fork Calaveras River at Gold Strike Road)\***

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	585 (407 – 870)	304 (96 – 1,300)
Fecal Coliform	57 (30 – 145)	51 (33 – 115)

\* data provided by CCWD (Jan – Dec 2002)

**Table B-69**  
**Mean and Range of Disinfectant By-Product Parameters**  
**Measured in the Lower North Fork Calaveras WMA**

**Monitoring Station: (M-NCAL-1)**

Parameter (µg/l)	Dry Season	Wet Season
Total Trihalomethanes	<0.5	---
Bromodichloromethane	<0.5	---
Bromoform	<0.5	---
Chloroform	<0.5	---
Dibromochloromethane	<0.5	---
HAA5	<5.0	---
Monochloroacetic Acid	<2.0	---
Dichloroacetic Acid	<1.0	---
Trichloroacetic Acid	<1.0	---
Monobromoacetic Acid	<1.0	---
Dibromoacetic Acid	<1.0	---

**Table B- 70**  
**Physical Habitat Assessment Results for the Lower North Fork Calaveras WMA**

<b>Station number</b>	<b>M-CHG-1</b>	<b>M-NCAL-1</b>	<b>M-NCAL-2</b>
Epifaunal Substrate/ Available Cover	14.0	8.0	8.0
Embeddedness	15.0	12.0	16.0
Velocity/Depth Regime	15.0	10.0	3.5
Sediment Deposition	14.0	14.0	13.0
Channel Flow Status	6.0	17.0	3.0
Channel Alteration	12.0	15.0	14.0
Frequency of Riffles (or bends)	15.0	9.0	3.0
Bank Stability Left	7.0	8.5	7.0
Bank Stability Right	7.0	8.5	5.0
Vegetative Protection Left	8.0	9.0	9.0
Vegetative Protection Right	8.0	6.0	5.0
Riparian Vegetative Zone Left	7.0	7.5	5.0
Riparian Vegetative Zone Right	7.0	1.0	9.0
<b>Total</b>	<b>135.0</b>	<b>125.5</b>	<b>100.5</b>



## B.14 Upper North Fork Calaveras WMA

**Table B-71**  
**Mean and Range of General Water Quality Parameters**  
**Measured in the Upper North Fork Calaveras WMA**

**Monitoring Station: (U-NCAL-1)**

Parameter	Dry Season	Wet Season
Temperature (°C)	---	12.67
Conductivity (µS/cm)	---	118
Dissolved Oxygen (mg/l)	---	12.23
Dissolved Oxygen (%)	---	>100
pH	---	7.36
Turbidity (NTU)	---	4.7

**Monitoring Station: (U-ESP-1)**

Parameter	Dry Season	Wet Season
Temperature (°C)	---	15.10
Conductivity (µS/cm)	---	73
Dissolved Oxygen (mg/l)	---	6.31
Dissolved Oxygen (%)	---	62.5
pH	---	6.48
Turbidity (NTU)	---	0.7

**Table B-72**  
**Mean and Range of Nutrient Parameters**  
**Measured in the Upper North Fork Calaveras WMA**

**Monitoring Station: (U-NCAL-1)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	---	0.56
Nitrite	---	<0.05
Ammonia	---	<0.50
Total Kjeldahl Nitrogen	---	<1.0
Ortho Phosphate	---	<0.20
Total Suspended Solids	---	39

**Monitoring Station: (U-ESP-1)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	---	<0.05
Nitrite	---	<0.05
Ammonia	---	<0.05
Total Kjeldahl Nitrogen	---	<1.0
Ortho Phosphate	---	<0.20
Total Suspended Solids	---	<1.0

**Table B-73**  
**Geometric Mean and Range of Pathogenic Parameters**  
**Measured in the Upper North Fork Calaveras WMA**

**Monitoring Station: (U-NCAL-1)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	---	900
Fecal Coliform	---	220

**Monitoring Station: (U-ESP-1)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	---	90
Fecal Coliform	---	4

**B.15 Jesus Maria Creek WMA**

**Table B-74**  
**Mean and Range of General Water Quality Parameters**  
**Measured in the Jesus Maria Creek WMA**

**Monitoring Station: (U-JM-1)**

Parameter	Dry Season	Wet Season
Temperature (°C)	---	14.7
Conductivity (µS/cm)	---	148
Dissolved Oxygen (mg/l)	---	11.43
Dissolved Oxygen (%)	---	>100
PH	---	7.08
Turbidity (NTU)	---	1.1

**Table B-75**  
**Mean and Range of Nutrient Parameters**  
**Measured in the Jesus Maria Creek WMA**

**Monitoring Station: (U-JM-1)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	---	<0.05
Nitrite	---	<0.05
Ammonia	---	<0.05
Total Kjeldahl Nitrogen	---	<1.0
Ortho Phosphate	---	<0.20
Total Suspended Solids	---	(<1.0 – 1.4)

**Table B-76**  
**Geometric Mean and Range of Pathogenic Parameters**  
**Measured in the Jesus Maria Creek WMA**

**Monitoring Station: (U-JM-1)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	---	520 (300 – 900)
Fecal Coliform	---	387 (300 – 500)

## B.16 San Andreas Urban WMA

**Table B-77**  
**Mean and Range of General Water Quality Parameters**  
**Measured in the San Andreas Urban WMA**

**Monitoring Station: (M-SADR-1)**

Parameter	Dry Season	Wet Season
Temperature (°C)	21.58	19.0
Conductivity (µS/cm)	426	439
Dissolved Oxygen (mg/l)	1.99	11.86
Dissolved Oxygen (%)	22.6	>100
pH	7.80	7.44
Turbidity (NTU)	2.5	0.9

**Table B-78**  
**Mean and Range of Nutrient Parameters**  
**Measured in the San Andreas Urban WMA**

**Monitoring Station: (M-SADR-1)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	0.4	0.48
Nitrite	<0.020	<0.05
Ammonia	<0.50	<0.50
Total Kjeldahl Nitrogen	1.6	<1.0
Ortho Phosphate	<0.20	<0.20
Total Suspended Solids	---	38

**Table B-79**  
**Geometric Mean and Range of Pathogenic Parameters**  
**Measured in the San Andreas Urban WMA**

**Monitoring Station: (M-SADR-1)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	---	900
Fecal Coliform	---	8

**Table B-80**  
**Mean and Range of Organochlorine Pesticide Parameters**  
**Measured in the San Andreas Urban WMA**

**Monitoring Station: (M-SADR-1)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
4,4'-DDE	<0.05	---
4,4'-DDT	<0.05	---
4,4'-TDE/DDD	<0.05	---
a-BHC	<0.05	---
a-Chlordane	<0.05	---
Alachlor	<0.05	---
Aldrin	<0.05	---
b-BHC	<0.05	---
d-BHC	<0.05	---
Dieldrin	<0.05	---
Endosulfan I	<0.05	---
Endosulfan II	<0.05	---
Endosulfan Sulfate	<0.05	---
Endrin	<0.05	---
Endrin Aldehyde	<0.05	---
Endrin Ketone	<0.05	---
g-BHC (Lindane)	<0.05	---
g-Chlordane	<0.05	---
Heptachlor	<0.05	---
Methoxychlor	<0.05	---
Toxaphene	<1.0	---

**Table B-81**  
**Mean and Range of Gasoline, BTXE, and MTBE Parameters**  
**Measured in the San Andreas Urban WMA**

**Monitoring Station: (M-SADR-1)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
PHC as gasoline	0.03 J	---
Benzene	0.4 J	---
Ethylbenzene	<0.5	---
Toluene	0.3 J	---
O-Xylene	<0.5	---
M,P-Xylene	<1	---
MTBE	28	---

J = Value is an estimated value below the reporting limit.

**Table B-82**  
**Mean and Range of Volatile Organics Parameters**  
**Measured in the San Andreas Urban WMA**

**Monitoring Station: (U-COW-1A)**

Parameter (µg/l)	Dry Season	Wet Season
Acetone	<50	---
Benzene	<5	---
Bromobenzene	<5	---
Bromochloromethane	<5	---
Bromodichloromethane	<5	---
Bromoform	<5	---
Bromomethane	<5	---
2-Butanone	<0.8 J	---
N-Butylbenzene	<5	---
Sec-Butylbenzene	<5	---
T-Butylbenzene	<5	---
Carbon Disulfide	<5	---
Carbon Tetrachloride	<5	---
Chlorobenzene	<5	---
Dibromochloromethane	<5	---
Chloroethane	<5	---
Chloroform	<5	---
Chloromethane	<5	---
2-Chlorotoluene	<5	---
4-Chlorotoluene	<5	---
2,3-Dibromo-3-Chloropropane	<5	---
1,2-Dibromoethane	<5	---
Dibromomethane	<5	---
1,2-Dichlorobenzene	<5	---
1,3-Dichlorobenzene	<5	---
1,4-Dichlorobenzene	<5	---
Dichlorodifluoromethane	<5	---
1,1-Dichloroethane	<5	---
1,2-Dichloroethane	<5	---
1,1-Dichloroethene	<5	---
Cis-1,2-Dichloroethene	<5	---
Trans-1,2-Dichloroethene	<5	---
1,2-Dichloropropane	<5	---
1,3-Dichloropropane	<5	---
2,2-Dichloropropane	<5	---
1,1-Dichloropropene	<5	---
Cis-1,3-Dichloropropene	<5	---
Trans-1,3-Dichloropropene	<5	---
Ethylbenzene	<5	---
Hexachlorobutadiene	<5	---
Isopropylbenzene (Cumene)	<5	---
P-Cymene (P-Isopropyltoluene)	<5	---
Methylene Chloride	0.8 J	---

**Monitoring Station: (U-COW-1A). Cont'd.**

Parameter (µg/l)	Dry Season	Wet Season
4-Methyl-2-Pentanone	2 J	---
Tert-Butyl Methyl Ether	2	---
Naphthalene	<5	---
N-Propylbenzene	<5	---
Styrene	<5	---
1,1,1,2-Tetrachloroethane	<5	---
1,1,2,2-Tetrachloroethane	<5	---
Tetrachloroethene (PCE)	<5	---
Toluene	<5	---
1,2,3-Trichlorobenzene	<5	---
1,2,4-Trichlorobenzene	<5	---
1,1,1-Trichloroethane	<5	---
1,1,2-Trichloroethane	<5	---
Trichloroethane (TCE)	<5	---
Trichlorofluoromethane	<5	---
1,2,3-Trichloropropane	<5	---
1,2,4-Trimethylbenzene	<5	---
1,3,5-Trimethylbenzene	<5	---
Vinyl Chloride	<5	---
O-Xylene	<5	---
M,P-Xylene	<10	--

J = Value is an estimated value below the reporting limit.

**Table B-83. Mean and Range of Dissolved Metals Parameters  
Measured in the San Andreas Urban WMA**

**Monitoring Station: (M-SADR-1)**

Parameter (µg/l)	Dry Season	Wet Season
Calcium (mg/l)	56.6	54.0
Magnesium (mg/l)	20.4	18
Aluminum	---	---
Arsenic	3.6 J	1.4
Antimony	---	<5.0
Barium	95.7	<0.10
Beryllium	---	<1.0
Cadmium	<2	<0.25
Chromium	3.4 J	<0.25
Cobalt	---	<1.0
Copper	6.6 J	4.2
Iron	47.3 J	2.36
Lead	3.8 J	<0.5
Manganese	23.7	---
Mercury	0.085 J	<0.5
Mercury (Ultra-clean method)	---	---
Molybdenum	4.8 J	<1.0
Nickel	4.7 J	<3.0
Potassium	951	0.95
Selenium	3.9 J	<1.0
Silver	1.4 J	<1.0
Sodium (mg/l)	16.8	15.9
Zinc	11.8	5.8
Hardness (mg/l)	225	209

J = Value is an estimated value below the reporting limit.

**Table B-84**  
**Physical Habitat Assessment Results for the San Andreas Urban WMA**

<b>Station number</b>	<b>M-SADR-1</b>
Epifaunal Substrate/ Available Cover	11.0
Embeddedness	13.0
Velocity/Depth Regime	2.0
Sediment Deposition	13.0
Channel Flow Status	8.0
Channel Alteration	10.0
Frequency of Riffles (or bends)	12.0
Bank Stability Left	8.0
Bank Stability Right	8.0
Vegetative Protection Left	8.0
Vegetative Protection Right	N/D
Riparian Vegetative Zone Left	4.0
Riparian Vegetative Zone Right	4.0
<b>Total</b>	<b>101.0</b>

## B.17 South Fork Calaveras Ranches WMA

**Table B-85**  
**Mean and Range of General Water Quality Parameters Measured in the South Fork Calaveras Ranches WMA**

### Monitoring Station: (M-CC-1)

Parameter	Dry Season	Wet Season
Temperature (°C)	24.56	---
Conductivity (µS/cm)	202	---
Dissolved Oxygen (mg/l)	3.59	---
Dissolved Oxygen (%)	44.5	---
pH	8.28	---
Turbidity (NTU)	1.0	---

### Monitoring Station: (M-CC-2)

Parameter	Dry Season	Wet Season
Temperature (°C)	24.74	---
Conductivity (µS/cm)	122	---
Dissolved Oxygen (mg/l)	3.68	---
Dissolved Oxygen (%)	44.3	---
pH	8.48	---
Turbidity (NTU)	1.8	---

### Monitoring Station: (M-CHR-1)

Parameter	Dry Season	Wet Season
Temperature (°C)	20.53	---
Conductivity (µS/cm)	322	---
Dissolved Oxygen (mg/l)	9.81	---
Dissolved Oxygen (%)	>100	---
pH	7.58	---
Turbidity (NTU)	<1.0	---

### Monitoring Station: (M-CHR-2)

Parameter	Dry Season	Wet Season
Temperature (°C)	19.10	---
Conductivity (µS/cm)	692	---
Dissolved Oxygen (mg/l)	5.73	---
Dissolved Oxygen (%)	---	---
pH	7.59	---
Turbidity (NTU)	0.9	---

### Monitoring Station: (M-CVTS-1)

Parameter	Dry Season	Wet Season
Temperature (°C)	25.435 (24.05 – 26.82)	21.57
Conductivity (µS/cm)	628.5 (243 – 1014)	388
Dissolved Oxygen (mg/l)	4.00 (2.79 – 5.2)	19.14
Dissolved Oxygen (%)	33.1	>100
pH	8.18 (8.5 – 7.86)	8.3
Turbidity (NTU)	3.15 (1.7 – 4.6)	0.9



**Monitoring Station: (M-SA-1)**

Parameter	Dry Season	Wet Season
Temperature (°C)	26.4	24.41
Conductivity (µS/cm)	169	134
Dissolved Oxygen (mg/l)	3.69	12.27
Dissolved Oxygen (%)	---	>100
pH	7.8	8.43
Turbidity (NTU)	0.85	1.3

**Monitoring Station: (M-SD-1)**

Parameter	Dry Season	Wet Season
Temperature (°C)	---	23.21
Conductivity (µS/cm)	---	275
Dissolved Oxygen (mg/l)	---	12.53
Dissolved Oxygen (%)	---	>100
pH	---	7.92
Turbidity (NTU)	---	1.1

**Table B-86**  
**Mean and Range of Nutrient Parameters**  
**Measured in the South Fork Calaveras Ranches WMA**

**Monitoring Station: (M-CC-1)**

Parameter (mg/l)	Dry Season	Wet Season
Total Suspended Solids	<5.0	---

**Monitoring Station: (M-CC-2)**

Parameter (mg/l)	Dry Season	Wet Season
Total Suspended Solids	<5.0	---

**Monitoring Station: (M-CHR-1)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	<0.05	---
Nitrite	<0.05	---
Ammonia	<0.50	---
Total Kjeldahl Nitrogen	<1.0	---
Ortho Phosphate	<0.20	---
Total Suspended Solids	<1.0	---

**Monitoring Station: (M-CHR-2)**

Parameter (mg/l)	Dry Season	Wet Season
Total Suspended Solids	1.0	---

**Monitoring Station: (M-CVTS-1)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	<0.05	<0.05
Nitrite	<0.02	<0.02
Ammonia	<0.50	<0.50
Total Kjeldahl Nitrogen	<1.0	<1.0
Ortho Phosphate	<0.20	<0.20
Total Suspended Solids	<5.0	1.2

**Monitoring Station: (M-SA-1)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	<0.05	<0.05
Nitrite	<0.02	<0.05
Ammonia	<0.05	<0.50
Total Kjeldahl Nitrogen	<1.0	<1.0
Ortho Phosphate	<0.20	<0.20
Total Suspended Solids	<5.0	22

**Monitoring Station: (M-SD-1)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	---	<0.05
Nitrite	---	<0.05
Ammonia	---	<0.50
Total Kjeldahl Nitrogen	---	<1.0
Ortho Phosphate	---	<0.20
Total Suspended Solids	---	22

**Table B-87**  
**Geometric Mean and Range of Pathogenic Parameters**  
**Measured in the South Fork Calaveras Ranches WMA**

**Monitoring Station: (M-CHR-1)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	---	50
Fecal Coliform	---	8

**Monitoring Station: (M-CHR-2)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	---	500
Fecal Coliform	---	130

**Monitoring Station: (M-CVTS-1)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	---	300
Fecal Coliform	---	80

**Monitoring Station: (M-SA-1)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	>2400	500
Fecal Coliform	>2400	300

**Monitoring Station: (M-SD-1)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	---	900
Fecal Coliform	---	170

**Table B-88**  
**Mean and Range of Organochlorine Pesticide Parameters**  
**Measured in the South Fork Calaveras Ranches WMA**

**Monitoring Station: (M-CVTS-1)**

Parameter (µg/l)	Dry Season	Wet Season
4,4'-DDE	<0.05	<0.05
4,4'-DDT	<0.05	<0.05
4,4'-TDE/DDD	<0.05	<0.05
a-BHC	<0.05	<0.05
a-Chlordane	<0.05	<0.05
Alachlor	<0.05	<0.05
Aldrin	<0.05	<0.05
b-BHC	<0.05	<0.05
d-BHC	<0.05	<0.05
Dieldrin	<0.05	<0.05
Endosulfan I	<0.05	<0.05
Endosulfan II	<0.05	<0.05
Endosulfan Sulfate	<0.05	<0.05
Endrin	<0.05	<0.05
Endrin Aldehyde	<0.05	<0.05
Endrin Ketone	<0.05	<0.05
g-BHC (Lindane)	<0.05	<0.05
g-Chlordane	<0.05	<0.05
Heptachlor	<0.05	<0.05
Methoxychlor	<0.05	<0.05
Toxaphene	<1.0	<1.0

**Monitoring Station: (M-SA-1)**

Parameter (µg/l)	Dry Season	Wet Season
4,4'-DDE	<0.05	<0.05
4,4'-DDT	<0.05	<0.05
4,4'-TDE/DDD	<0.05	<0.05
a-BHC	<0.05	<0.05
a-Chlordane	<0.05	<0.05
Alachlor	<0.05	<0.05
Aldrin	<0.05	<0.05
b-BHC	<0.05	<0.05
d-BHC	<0.05	<0.05
Dieldrin	<0.05	<0.05
Endosulfan I	<0.05	<0.05
Endosulfan II	<0.05	<0.05
Endosulfan Sulfate	<0.05	<0.05
Endrin	<0.05	<0.05
Endrin Aldehyde	<0.05	<0.05
Endrin Ketone	<0.05	<0.05
g-BHC (Lindane)	<0.05	<0.05
g-Chlordane	<0.05	<0.05
Heptachlor	<0.05	<0.05
Methoxychlor	<0.05	<0.05
Toxaphene	<1.0	<1.0

**Table B-89**  
**Mean and Range of Dissolved Metals Parameters**  
**Measured in the South Fork Calaveras Ranches WMA**

**Monitoring Station: (M-CC-1)**

Parameter (µg/l)	Dry Season	Wet Season
Calcium (mg/l)	31.4	---
Magnesium (mg/l)	8.42	---
Aluminum	---	---
Arsenic	<5	---
Antimony	---	---
Barium	41.8	---
Beryllium	---	---
Cadmium	<2	---
Chromium	4.6 J	---
Cobalt	---	---
Copper	2.6 J	---
Iron	61.5	---
Lead	<5	---
Manganese	9.4	---
Mercury	0.033 J	---
Mercury (Ultra-clean method)	---	---
Molybdenum	1.1 J	---
Nickel	4.2 J	---
Potassium	1,800	---
Selenium	<10	---
Silver	<10	---
Sodium (mg/l)	5.79	---
Zinc	4.8 J	---
Hardness (mg/l)	113	---

J = Value is an estimated value below the reporting limit.

**Monitoring Station: (M-CC-2)**

Parameter (µg/l)	Dry Season	Wet Season
Calcium (mg/l)	12.9	---
Magnesium (mg/l)	4.73	---
Aluminum	---	---
Arsenic	<5	---
Antimony	---	---
Barium	23.1	---
Beryllium	---	---
Cadmium	<2	---
Chromium	4.2 J	---
Cobalt	---	---
Copper	3.3 J	---
Iron	127	---
Lead	<5	---
Manganese	8.5	---
Mercury	0.042 J	---
Mercury (Ultra-clean method)	---	---
Molybdenum	0.64 J	---
Nickel	7.6	---
Potassium	981	---
Selenium	<10	---
Silver	<10	---
Sodium (mg/l)	4.8	---
Zinc	12.6	---
Hardness (mg/l)	51.7	---

J = Value is an estimated value below the reporting limit.

**Monitoring Station: (M-CHR-1)**

Parameter (µg/l)	Dry Season	Wet Season
Calcium (mg/l)	---	32.0
Magnesium (mg/l)	---	16
Aluminum	---	---
Arsenic	---	<1.0
Antimony	---	---
Barium	---	<0.10
Beryllium	---	<1.0
Cadmium	---	<0.25
Chromium	---	<0.25
Cobalt	---	1.7
Copper	---	7.2
Iron	---	0.24
Lead	---	<0.5
Manganese	---	---
Mercury	---	<0.5
Mercury (Ultra-clean method)	---	---
Molybdenum	---	<1.0
Nickel	---	<3.0
Potassium	---	1.33
Selenium	---	<1.0
Silver	---	<1.0
Sodium (mg/l)	---	11.1
Zinc	---	5.2
Hardness (mg/l)	---	144

**Monitoring Station: (M-CVTS-1)**

Parameter (µg/l)	Dry Season	Wet Season
Calcium (mg/l)	32.6 (32.9 – 32.4)	41.0
Magnesium (mg/l)	8.5 (8.47 – 8.57)	12
Aluminum	---	---
Arsenic	<5	1.6
Antimony	---	<5.0
Barium	41.65 (41.2 – 42.1)	<0.10
Beryllium	---	<1.0
Cadmium	<2	<0.25
Chromium	1.95 (1.9 J – 2.0 J)	<0.25
Cobalt	---	<1.0
Copper	2.85 (2.4 J – 3.3 J)	2.6
Iron	70.75 (47.9 J – 93.6)	0.11
Lead	<5	<0.50
Manganese	8.7 (7.9 – 9.5)	---
Mercury	0.053 (0.036 J – 0.070 J)	<0.5
Mercury (Ultra-clean method)	---	---
Molybdenum	1.15 (1.1 J – 1.2 J)	<1.0
Nickel	1.6 (1.5 J – 1.7 J)	<3.0
Potassium	2,730 (2,710 – 2,750)	7.1
Selenium	<10	<1.0
Silver	<10	<1.0
Sodium (mg/l)	6.5 (6.71 – 6.3)	10.4
Zinc	7.15 (4.3 J – 10 J)	2
Hardness (mg/l)	117 (116 – 117)	151

J = Value is an estimated value below the reporting limit.

**Monitoring Station: (M-SA-1)**

<b>Parameter (µg/l)</b>	<b>Dry Season</b>	<b>Wet Season</b>
Calcium (mg/l)	---	12.0
Magnesium (mg/l)	---	3.2
Aluminum	---	---
Arsenic	---	<1.0
Antimony	---	<5.0
Barium	---	<0.10
Beryllium	---	<1.0
Cadmium	---	<0.25
Chromium	---	<0.25
Cobalt	---	<1.0
Copper	---	2
Iron	---	0.22
Lead	---	<0.05
Manganese	---	---
Mercury	---	<0.5
Mercury (Ultra-clean method)	---	---
Molybdenum	---	<0.1
Nickel	---	<3.0
Potassium	---	1.06
Selenium	---	<1.0
Silver	---	<1.0
Sodium (mg/l)	---	4.7
Zinc	---	3
Hardness (mg/l)	---	43

**Monitoring Station: (M-SD-1)**

<b>Parameter (µg/l)</b>	<b>Dry Season</b>	<b>Wet Season</b>
Calcium (mg/l)	---	30
Magnesium (mg/l)	---	10
Aluminum	---	---
Arsenic	---	<1.0
Antimony	---	<5.0
Barium	---	<0.10
Beryllium	---	<1.0
Cadmium	---	<0.25
Chromium	---	<0.25
Cobalt	---	1.6
Copper	---	0.9
Iron	---	0.08
Lead	---	<0.5
Manganese	---	---
Mercury	---	<0.5
Mercury (Ultra-clean method)	---	---
Molybdenum	---	<1.0
Nickel	---	<3.0
Potassium	---	1.54
Selenium	---	<1.0
Silver	---	<1.0
Sodium (mg/l)	---	9.2
Zinc	---	1.4
Hardness (mg/l)	---	116

**Table B-90**  
**Physical Habitat Assessment Results for the South Fork Calaveras Ranches WMA**

<b>Station number</b>	<b>M-CHR-1</b>	<b>M-CVTS-1</b>	<b>M-SA-1</b>
Epifaunal Substrate/ Available Cover	13.0	6.5	6.0
Embeddedness	8.0	14.5	11.5
Velocity/Depth Regime	11.0	6.5	6.5
Sediment Deposition	10.0	8.0	11.5
Channel Flow Status	8.0	15.5	5.5
Channel Alteration	13.0	9.0	11.5
Frequency of Riffles (or bends)	13.0	8.0	7.8
Bank Stability Left	9.0	7.5	0.5
Bank Stability Right	9.0	9.0	4.0
Vegetative Protection Left	9.0	3.5	3.5
Vegetative Protection Right	9.0	5.0	0.5
Riparian Vegetative Zone Left	7.0	2.0	0.0
Riparian Vegetative Zone Right	6.0	3.0	0.0
<b>Total</b>	<b>125.0</b>	<b>98.0</b>	<b>68.8</b>

## B.18 South Fork Calaveras Tributaries WMA

**Table B-91**  
**Mean and Range of General Water Quality Parameters**  
**Measured in the South Fork Calaveras Tributaries WMA**

### Monitoring Station: (M-CVTS-2)

Parameter	Dry Season	Wet Season
Temperature (°C)	22.1	15.54
Conductivity (µS/cm)	468	253
Dissolved Oxygen (mg/l)	4.7	16.94
Dissolved Oxygen (%)	---	>100
pH	7	7.96
Turbidity (NTU)	1.6	<1

### Monitoring Station: (U-BT-1)

Parameter	Dry Season	Wet Season
Temperature (°C)	10.57	8.56
Conductivity (µS/cm)	26	51
Dissolved Oxygen (mg/l)	7.43	15.21
Dissolved Oxygen (%)	---	>100
pH	6.71	6.79
Turbidity (NTU)	0.35	---

### Monitoring Station: (U-CVTS-1)

Parameter	Dry Season	Wet Season
Temperature (°C)	---	19.56
Conductivity (µS/cm)	---	91
Dissolved Oxygen (mg/l)	---	9.9
Dissolved Oxygen (%)	---	>100
pH	---	7.39
Turbidity (NTU)	---	1

### Monitoring Station: (U-SA-2)

Parameter	Dry Season	Wet Season
Temperature (°C)	20.3	20.37
Conductivity (µS/cm)	99.5	99
Dissolved Oxygen (mg/l)	3.4	13.22
Dissolved Oxygen (%)	---	>100
pH	7.34	7.41
Turbidity (NTU)	0.75	0.3

### Monitoring Station: (U-SA-3)

Parameter	Dry Season	Wet Season
Temperature (°C)	21.2	---
Conductivity (µS/cm)	66	---
Dissolved Oxygen (mg/l)	7.33	---
Dissolved Oxygen (%)	---	---
pH	6.51	---
Turbidity (NTU)	1.2	---



**Monitoring Station: (U-SA-5)**

Parameter	Dry Season	Wet Season
Temperature (°C)	23.3	16.19
Conductivity (µS/cm)	41	62
Dissolved Oxygen (mg/l)	5.74	13.95
Dissolved Oxygen (%)	---	>100
pH	7.31	6.79
Turbidity (NTU)	0.68	<1

**Monitoring Station: (U-SA-6)**

Parameter	Dry Season	Wet Season
Temperature (°C)	15.33	8.7
Conductivity (µS/cm)	32	51
Dissolved Oxygen (mg/l)	6.29	16.9
Dissolved Oxygen (%)	---	>100
pH	7.55	7.24
Turbidity (NTU)	0.23	<1

**Monitoring Station: (U-SD-1)**

Parameter	Dry Season	Wet Season
Temperature (°C)	---	17.01
Conductivity (µS/cm)	---	129
Dissolved Oxygen (mg/l)	---	11.69
Dissolved Oxygen (%)	---	>100
pH	---	7.63
Turbidity (NTU)	---	0.1

**Monitoring Station: (U-SD-2)**

Parameter	Dry Season	Wet Season
Temperature (°C)	---	22.23
Conductivity (µS/cm)	---	279
Dissolved Oxygen (mg/l)	---	12.67
Dissolved Oxygen (%)	---	>100
pH	---	8.21
Turbidity (NTU)	---	2

**Monitoring Station: (U-WPL-1)**

Parameter	Dry Season	Wet Season
Temperature (°C)	24.05	16
Conductivity (µS/cm)	40	61
Dissolved Oxygen (mg/l)	7.01	14.89
Dissolved Oxygen (%)	---	>100
pH	7.71	7.48
Turbidity (NTU)	2.75	0.1

**Table B-92**  
**Mean and Range of Nutrient Parameters**  
**Measured in the South Fork Calaveras Tributaries WMA**

**Monitoring Station: (M-CVTS-2)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	<0.05	0.13
Nitrite	<0.02	<0.05
Ammonia	<0.50	<0.50
Total Kjeldahl Nitrogen	<1.0	<1.0
Ortho Phosphate	<0.20	<0.20
Total Suspended Solids	<5.0	<1.0

**Monitoring Station: (U-BT-1)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	---	---
Nitrite	---	---
Ammonia	---	---
Total Kjeldahl Nitrogen	---	---
Ortho Phosphate	<0.13	---
Total Suspended Solids	<5.0	5.8

**Monitoring Station: (U-CVTS-1)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	---	<0.05
Nitrite	---	<0.05
Ammonia	---	---
Total Kjeldahl Nitrogen	---	---
Ortho Phosphate	---	<0.20
Total Suspended Solids	---	<1.0

**Monitoring Station: (U-SA-2)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	<0.05	<0.05
Nitrite	<0.02	<0.05
Ammonia	<0.05	<0.50
Total Kjeldahl Nitrogen	<1.0	<1.0
Ortho Phosphate	<0.20	<0.20
Total Suspended Solids	<5.0	1.8

**Monitoring Station: (U-SA-3)**

Parameter (mg/l)	Dry Season	Wet Season
Total Suspended Solids	<5.0	---

**Monitoring Station: (U-SA-5)**

Parameter (mg/l)	Dry Season	Wet Season
Total Suspended Solids	<5.0	<1.0

**Monitoring Station: (U-SA-6)**

Parameter (mg/l)	Dry Season	Wet Season
Total Suspended Solids	11	<1.0

**Monitoring Station: (U-SD-1)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	0.06	---
Nitrite	<0.05	---
Ammonia	---	---
Total Kjeldahl Nitrogen	---	---
Ortho Phosphate	<0.02	---
Total Suspended Solids	1.2	2

**Monitoring Station: (U-WPL-1)**

Parameter (mg/l)	Dry Season	Wet Season
Total Suspended Solids	<5.0	<1.0

**Monitoring Station: (U-SD-2)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	0.09	---
Nitrite	<0.05	---
Ammonia	<0.50	---
Total Kjeldahl Nitrogen	<1.0	---
Ortho Phosphate	<0.20	---
Total Suspended Solids	2	---

**Table B-93**  
**Geometric Mean and Range of Pathogenic Parameters**  
**Measured in the South Fork Calaveras Tributaries WMA**

**Monitoring Station: (M-CVTS-2)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	110	---
Fecal Coliform	30	---

**Monitoring Station: (U-BT-1)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	11	50
Fecal Coliform	2	23

**Monitoring Station: (U-CVTS-1)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	---	110
Fecal Coliform	---	4

**Monitoring Station: (U-SA-2)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	900	240
Fecal Coliform	220	30

**Monitoring Station: (U-SA-3)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	1600	---
Fecal Coliform	170	---

**Monitoring Station: (U-SA-5)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	90	47
Fecal Coliform	8	2

**Monitoring Station: (U-SA-6)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	50	22
Fecal Coliform	13	22

**Monitoring Station: (U-SD-1)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	---	>2400
Fecal Coliform	---	1600

**Monitoring Station: (U-SD-2)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	---	1600
Fecal Coliform	---	350

**Monitoring Station: (U-WPL-1)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	300	350
Fecal Coliform	80	<2

**Monitoring Station: (CAL-001 - San Antonio Creek at Sheep Ranch Road)\***

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	852 (106 – 2,419)	>295 (25 - >2,419)
Fecal Coliform	22 (7.2 – 46)	14( 3.1 – 238)

\* Data provided by CCWD (Jan – Dec 2002)

**Table B-94**  
**Mean and Range of Organochlorine Pesticide Parameters**  
**Measured in the Mormon Slough WMA**

**Monitoring Station: (M-CVTS-2)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
4,4'-DDE	<0.05	<0.05
4,4'-DDT	<0.05	<0.05
4,4'-TDE/DDD	<0.05	<0.05
a-BHC	<0.05	<0.05
a-Chlordane	<0.05	<0.05
Alachlor	<0.05	<0.05
Aldrin	<0.05	<0.05
b-BHC	<0.05	<0.05
d-BHC	<0.05	<0.05
Dieldrin	<0.05	<0.05
Endosulfan I	<0.05	<0.05
Endosulfan II	<0.05	<0.05
Endosulfan Sulfate	<0.05	<0.05
Endrin	<0.05	<0.05
Endrin Aldehyde	<0.05	<0.05
Endrin Ketone	<0.05	<0.05
g-BHC (Lindane)	<0.05	<0.05
g-Chlordane	<0.05	<0.05
Heptachlor	<0.05	<0.05
Methoxychlor	<0.05	<0.05
Toxaphene	<1.0	<1.0

**Monitoring Station: (U-SA-2)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
4,4'-DDE	<0.05	<0.05
4,4'-DDT	<0.05	<0.05
4,4'-TDE/DDD	<0.05	<0.05
a-BHC	<0.05	<0.05
a-Chlordane	<0.05	<0.05
Alachlor	<0.05	<0.05
Aldrin	<0.05	<0.05
b-BHC	<0.05	<0.05
d-BHC	<0.05	<0.05
Dieldrin	<0.05	<0.05
Endosulfan I	<0.05	<0.05
Endosulfan II	<0.05	<0.05
Endosulfan Sulfate	<0.05	<0.05
Endrin	<0.05	<0.05
Endrin Aldehyde	<0.05	<0.05
Endrin Ketone	<0.05	<0.05
g-BHC (Lindane)	<0.05	<0.05
g-Chlordane	<0.05	<0.05
Heptachlor	<0.05	<0.05
Methoxychlor	<0.05	<0.05
Toxaphene	<1.0	<1.0

**Monitoring Station: (U-SA-3)**

<b>Parameter (<math>\mu\text{g/l}</math>)</b>	<b>Dry Season</b>	<b>Wet Season</b>
4,4'-DDE	<0.05	<0.05
4,4'-DDT	<0.05	<0.05
4,4'-TDE/DDD	<0.05	<0.05
a-BHC	<0.05	<0.05
a-Chlordane	<0.05	<0.05
Alachlor	<0.05	<0.05
Aldrin	<0.05	<0.05
b-BHC	<0.05	<0.05
d-BHC	<0.05	<0.05
Dieldrin	<0.05	<0.05
Endosulfan I	<0.05	<0.05
Endosulfan II	<0.05	<0.05
Endosulfan Sulfate	<0.05	<0.05
Endrin	<0.05	<0.05
Endrin Aldehyde	<0.05	<0.05
Endrin Ketone	<0.05	<0.05
g-BHC (Lindane)	<0.05	<0.05
g-Chlordane	<0.05	<0.05
Heptachlor	<0.05	<0.05
Methoxychlor	<0.05	<0.05
Toxaphene	<1.0	<1.0

**Table B-95**  
**Mean and Range of Volatile Organics Parameters**  
**Measured in the South Fork Calaveras Tributaries WMA**

**Monitoring Station: (U-BT-1)**

Parameter (µg/l)	Dry Season	Wet Season
Acetone	<50	---
Benzene	<5	---
Bromobenzene	<5	---
Bromochloromethane	<5	---
Bromodichloromethane	<5	---
Bromoform	<5	---
Bromomethane	<5	---
2-Butanone	<100	---
N-Butylbenzene	<5	---
Sec-Butylbenzene	<5	---
T-Butylbenzene	<5	---
Carbon Disulfide	<5	---
Carbon Tetrachloride	<5	---
Chlorobenzene	<5	---
Dibromochloromethane	<5	---
Chloroethane	<5	---
Chloroform	<5	---
Chloromethane	<5	---
2-Chlorotoluene	<5	---
4-Chlorotoluene	<5	---
2,3-Dibromo-3-Chloropropane	<5	---
1,2-Dibromoethane	<5	---
Dibromomethane	<5	---
1,2-Dichlorobenzene	<5	---
1,3-Dichlorobenzene	<5	---
1,4-Dichlorobenzene	<5	---
Dichlorodifluoromethane	<5	---
1,1-Dichloroethane	<5	---
1,2-Dichloroethane	<5	---
1,1-Dichloroethene	<5	---
Cis-1,2-Dichloroethene	<5	---
Trans-1,2-Dichloroethene	<5	---
1,2-Dichloropropane	<5	---
1,3-Dichloropropane	<5	---
2,2-Dichloropropane	<5	---
1,1-Dichloropropene	<5	---
Cis-1,3-Dichloropropene	<5	---
Trans-1,3-Dichloropropene	<5	---
Ethylbenzene	<5	---
Hexachlorobutadiene	<5	---
Isopropylbenzene	<5	---

**Monitoring Station: (U-BT-1) Cont'd.**

<b>Parameter (<math>\mu\text{g/l}</math>)</b>	<b>Dry Season</b>	<b>Wet Season</b>
P-Cymene (P-Isopropyltoluene)	<5	---
Methylene Chloride	<5	---
4-Methyl-2-Pentanone	<5	---
Tert-Butyl-Methyl Ether	2.0	---
Naphthalene	<5	---
N-Propylbenzene	<5	---
Styrene	<5	---
1,1,1,2-Tetrachloroethane	<5	---
1,1,2,2-Tetrachloroethane	<5	---
Tetrachloroethane (PCE)	<5	---
Toluene	<5	---
1,2,3-Trichlorobenzene	<5	---
1,2,4-Trichlorobenzene	<5	---
1,1,1-Trichloroethane	<5	---
1,1,2-Trichloroethane	<5	---
Trichloroethane (TCE)	<5	---
Trichlorofluoromethane	<5	---
1,2,3-Trichloropropane	<5	---
1,2,4-Trimethylbenzene	<5	---
Vinyl Chloride	<5	---
O-Xylene	<5	---
M,P-Xylene	<10	---



**Monitoring Station: (U-SA-3)**

<b>Parameter (µg/l)</b>	<b>Dry Season</b>	<b>Wet Season</b>
Acetone	<50	---
Benzene	<5	---
Bromobenzene	<5	---
Bromochloromethane	<5	---
Bromodichloromethane	<5	---
Bromoform	<5	---
Bromomethane	<5	---
2-Butanone	<100	---
N-Butylbenzene	<5	---
Sec-Butylbenzene	<5	---
T-Butylbenzene	<5	---
Carbon Disulfide	<5	---
Carbon Tetrachloride	<5	---
Chlorobenzene	<5	---
Dibromochloromethane	<5	---
Chloroethane	<5	---
Chloroform	<5	---
Chloromethane	<5	---
2-Chlorotoluene	<5	---
4-Chlorotoluene	<5	---
2,3-Dibromo-3-Chloropropane	<5	---
1,2-Dibromoethane	<5	---
Dibromomethane	<5	---
1,2-Dichlorobenzene	<5	---
1,3-Dichlorobenzene	<5	---
1,4-Dichlorobenzene	<5	---
Dichlorodifluoromethane	<5	---
1,1-Dichloroethane	<5	---
1,2-Dichloroethane	<5	---
1,1-Dichloroethene	<5	---
Cis-1,2-Dichloroethene	<5	---
Trans-1,2-Dichloroethene	<5	---
1,2-Dichloropropane	<5	---
1,3-Dichloropropane	<5	---
2,2-Dichloropropane	<5	---
1,1-Dichloropropene	<5	---
Cis-1,3-Dichloropropene	<5	---
Trans-1,3-Dichloropropene	<5	---
Ethylbenzene	<5	---
Hexachlorobutadiene	<5	---
Isopropylbenzene	<5	---

**Monitoring Station: (U-SA-3) Cont'd.**

<b>Parameter (<math>\mu\text{g/l}</math>)</b>	<b>Dry Season</b>	<b>Wet Season</b>
P-Cymene (P-Isopropyltoluene)	<5	---
Methylene Chloride	<5	---
4-Methyl-2-Pentanone	<5	---
Tert-Butyl-Methyl Ether	2.0	---
Naphthalene	<5	---
N-Propylbenzene	<5	---
Styrene	<5	---
1,1,1,2-Tetrachloroethane	<5	---
1,1,2,2-Tetrachloroethane	<5	---
Tetrachloroethane (PCE)	<5	---
Toluene	<5	---
1,2,3-Trichlorobenzene	<5	---
1,2,4-Trichlorobenzene	<5	---
1,1,1-Trichloroethane	<5	---
1,1,2-Trichloroethane	<5	---
Trichloroethane (TCE)	<5	---
Trichlorofluoromethane	<5	---
1,2,3-Trichloropropane	<5	---
1,2,4-Trimethylbenzene	<5	---
Vinyl Chloride	<5	---
O-Xylene	<5	---
M,P-Xylene	<10	---

**Monitoring Station: (U-SA-5)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
Acetone	<50	---
Benzene	<5	---
Bromobenzene	<5	---
Bromochloromethane	<5	---
Bromodichloromethane	<5	---
Bromoform	<5	---
Bromomethane	<5	---
2-Butanone	<100	---
N-Butylbenzene	<5	---
Sec-Butylbenzene	<5	---
T-Butylbenzene	<5	---
Carbon Disulfide	<5	---
Carbon Tetrachloride	<5	---
Chlorobenzene	<5	---
Dibromochloromethane	<5	---
Chloroethane	<5	---
Chloroform	<5	---
Chloromethane	<5	---
2-Chlorotoluene	<5	---
4-Chlorotoluene	<5	---
2,3-Dibromo-3-Chloropropane	<5	---
1,2-Dibromoethane	<5	---
Dibromomethane	<5	---
1,2-Dichlorobenzene	<5	---
1,3-Dichlorobenzene	<5	---
1,4-Dichlorobenzene	<5	---
Dichlorodifluoromethane	<5	---
1,1-Dichloroethane	<5	---
1,2-Dichloroethane	<5	---
1,1-Dichloroethene	<5	---
Cis-1,2-Dichloroethene	<5	---
Trans-1,2-Dichloroethene	<5	---
1,2-Dichloropropane	<5	---
1,3-Dichloropropane	<5	---
2,2-Dichloropropane	<5	---
1,1-Dichloropropene	<5	---
Cis-1,3-Dichloropropene	<5	---
Trans-1,3-Dichloropropene	<5	---
Ethylbenzene	<5	---
Hexachlorobutadiene	<5	---
Isopropylbenzene	<5	---

**Monitoring Station: (U-SA-5). Cont'd.**

<b>Parameter (<math>\mu\text{g/l}</math>)</b>	<b>Dry Season</b>	<b>Wet Season</b>
P-Cymene (P-Isopropyltoluene)	<5	---
Methylene Chloride	<5	---
4-Methyl-2-Pentanone	<5	---
Tert-Butyl-Methyl Ether	2.0	---
Naphthalene	<5	---
N-Propylbenzene	<5	---
Styrene	<5	---
1,1,1,2-Tetrachloroethane	<5	---
1,1,2,2-Tetrachloroethane	<5	---
Tetrachloroethane (PCE)	<5	---
Toluene	<5	---
1,2,3-Trichlorobenzene	<5	---
1,2,4-Trichlorobenzene	<5	---
1,1,1-Trichloroethane	<5	---
1,1,2-Trichloroethane	<5	---
Trichloroethane (TCE)	<5	---
Trichlorofluoromethane	<5	---
1,2,3-Trichloropropane	<5	---
1,2,4-Trimethylbenzene	<5	---
Vinyl Chloride	<5	---
O-Xylene	<5	---
M,P-Xylene	<10	---

**Monitoring Station: (U-SA-6)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
Acetone	<50	---
Benzene	<5	---
Bromobenzene	<5	---
Bromochloromethane	<5	---
Bromodichloromethane	<5	---
Bromoform	<5	---
Bromomethane	<5	---
2-Butanone	<100	---
N-Butylbenzene	<5	---
Sec-Butylbenzene	<5	---
T-Butylbenzene	<5	---
Carbon Disulfide	<5	---
Carbon Tetrachloride	<5	---
Chlorobenzene	<5	---
Dibromochloromethane	<5	---
Chloroethane	<5	---
Chloroform	<5	---
Chloromethane	<5	---
2-Chlorotoluene	<5	---
4-Chlorotoluene	<5	---
2,3-Dibromo-3-Chloropropane	<5	---
1,2-Dibromoethane	<5	---
Dibromomethane	<5	---
1,2-Dichlorobenzene	<5	---
1,3-Dichlorobenzene	<5	---
1,4-Dichlorobenzene	<5	---
Dichlorodifluoromethane	<5	---
1,1-Dichloroethane	<5	---
1,2-Dichloroethane	<5	---
1,1-Dichloroethene	<5	---
Cis-1,2-Dichloroethene	<5	---
Trans-1,2-Dichloroethene	<5	---
1,2-Dichloropropane	<5	---
1,3-Dichloropropane	<5	---
2,2-Dichloropropane	<5	---
1,1-Dichloropropene	<5	---
Cis-1,3-Dichloropropene	<5	---
Trans-1,3-Dichloropropene	<5	---
Ethylbenzene	<5	---
Hexachlorobutadiene	<5	---
Isopropylbenzene	<5	---

**Monitoring Station: (U-SA-6). Cont'd.**

<b>Parameter (<math>\mu\text{g/l}</math>)</b>	<b>Dry Season</b>	<b>Wet Season</b>
P-Cymene (P-Isopropyltoluene)	<5	---
Methylene Chloride	<5	---
4-Methyl-2-Pentanone	<5	---
Tert-Butyl-Methyl Ether	2.0	---
Naphthalene	<5	---
N-Propylbenzene	<5	---
Styrene	<5	---
1,1,1,2-Tetrachloroethane	<5	---
1,1,2,2-Tetrachloroethane	<5	---
Tetrachloroethane (PCE)	<5	---
Toluene	<5	---
1,2,3-Trichlorobenzene	<5	---
1,2,4-Trichlorobenzene	<5	---
1,1,1-Trichloroethane	<5	---
1,1,2-Trichloroethane	<5	---
Trichloroethane (TCE)	<5	---
Trichlorofluoromethane	<5	---
1,2,3-Trichloropropane	<5	---
1,2,4-Trimethylbenzene	<5	---
Vinyl Chloride	<5	---
O-Xylene	<5	---
M,P-Xylene	<10	---

**Monitoring Station: (U-WPL-1)**

<b>Parameter (µg/l)</b>	<b>Dry Season</b>	<b>Wet Season</b>
Acetone	<50	---
Benzene	<5	---
Bromobenzene	<5	---
Bromochloromethane	<5	---
Bromodichloromethane	<5	---
Bromoform	<5	---
Bromomethane	<5	---
2-Butanone	<100	---
N-Butylbenzene	<5	---
Sec-Butylbenzene	<5	---
T-Butylbenzene	<5	---
Carbon Disulfide	<5	---
Carbon Tetrachloride	<5	---
Chlorobenzene	<5	---
Dibromochloromethane	<5	---
Chloroethane	<5	---
Chloroform	<5	---
Chloromethane	<5	---
2-Chlorotoluene	<5	---
4-Chlorotoluene	<5	---
2,3-Dibromo-3-Chloropropane	<5	---
1,2-Dibromoethane	<5	---
Dibromomethane	<5	---
1,2-Dichlorobenzene	<5	---
1,3-Dichlorobenzene	<5	---
1,4-Dichlorobenzene	<5	---
Dichlorodifluoromethane	<5	---
1,1-Dichloroethane	<5	---
1,2-Dichloroethane	<5	---
1,1-Dichloroethene	<5	---
Cis-1,2-Dichloroethene	<5	---
Trans-1,2-Dichloroethene	<5	---
1,2-Dichloropropane	<5	---
1,3-Dichloropropane	<5	---
2,2-Dichloropropane	<5	---
1,1-Dichloropropene	<5	---
Cis-1,3-Dichloropropene	<5	---
Trans-1,3-Dichloropropene	<5	---
Ethylbenzene	<5	---
Hexachlorobutadiene	<5	---
Isopropylbenzene	<5	---

**Monitoring Station: (U-WPL-1). Cont'd.**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
P-Cymene (P-Isopropyltoluene)	<5	---
Methylene Chloride	<5	---
4-Methyl-2-Pentanone	<5	---
Tert-Butyl-Methyl Ether	2.0	---
Naphthalene	<5	---
N-Propylbenzene	<5	---
Styrene	<5	---
1,1,1,2-Tetrachloroethane	<5	---
1,1,2,2-Tetrachloroethane	<5	---
Tetrachloroethane (PCE)	<5	---
Toluene	<5	---
1,2,3-Trichlorobenzene	<5	---
1,2,4-Trichlorobenzene	<5	---
1,1,1-Trichloroethane	<5	---
1,1,2-Trichloroethane	<5	---
Trichloroethane (TCE)	<5	---
Trichlorofluoromethane	<5	---
1,2,3-Trichloropropane	<5	---
1,2,4-Trimethylbenzene	<5	---
Vinyl Chloride	<5	---
O-Xylene	<5	---
M,P-Xylene	<10	---

**Table B-96**  
**Mean and Range of Gasoline, BTXE, and MTBE Parameters**  
**Measured in the South Fork Calaveras Tributaries WMA**

**Monitoring Station: (U-BT-1)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
PHC as Gasoline	0.03 J	---
Benzene	0.3 J	---
Ethylbenzene	1.4	---
Toluene	0.4 J	---
O-Xylene	0.7	---
M.P-Xylene	2	---
MTBE	17	---

J = Value is an estimated value below the reporting limit.

**Monitoring Station: (U-SA-3)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
PHC as Gasoline	<0.05	---
Benzene	<0.5	---
Ethylbenzene	<0.5	---
Toluene	0.2 J	---
O-Xylene	<0.5	---
M.P-Xylene	<1	---
MTBE	12	---

J = Value is an estimated value below the reporting limit.



**Monitoring Station: (U-SA-5)**

Parameter (µg/l)	Dry Season	Wet Season
PHC as Gasoline	<0.05	---
Benzene	0.2 J	---
Ethylbenzene	<0.5	---
Toluene	0.3 J	---
O-Xylene	<0.5	---
M.P-Xylene	0.8 J	---
MTBE	18	---

J = Value is an estimated value below the reporting limit.

**Monitoring Station: (U-SA-6)**

Parameter (µg/l)	Dry Season	Wet Season
PHC as Gasoline	<0.05	---
Benzene	<0.5	---
Ethylbenzene	<0.5	---
Toluene	0.3 J	---
O-Xylene	<0.5	---
M.P-Xylene	<1	---
MTBE	3 J	---

J = Value is an estimated value below the reporting limit.

**Monitoring Station: (U-WPL-1)**

Parameter (µg/l)	Dry Season	Wet Season
PHC as Gasoline	<0.05	---
Benzene	0.2 J	---
Ethylbenzene	<0.5	---
Toluene	0.2 J	---
O-Xylene	<0.5	---
M.P-Xylene	<1	---
MTBE	17	---

J = Value is an estimated value below the reporting limit.

**Table B-97**  
**Physical Habitat Assessment Results for the South Fork Calaveras Tributaries WMA**

<b>Station number</b>	<b>M-CVTS-2</b>	<b>U-BT-1</b>	<b>U-SA-2</b>	<b>U-SA-3</b>	<b>U-SA-5</b>	<b>U-SA-6</b>
Epifaunal Substrate/ Available Cover	10.0	---	11.0	11.0	15.0	12.0
Embeddedness	17.0	---	12.0	18/11	16.0	6.0
Velocity/Depth Regime	3.5	5.0	8.0	14.0	12.0	5.0
Sediment Deposition	17.0	5.0	10.0	17/12	13.0	5.0
Channel Flow Status	3.5	6.0	6.0	15.0	9.0	12.0
Channel Alteration	13.0	18.0	9.0	15.0	15.0	13.0
Frequency of Riffles (or bends)	6.0	---	5.0	18.0	17.0	10.0
Bank Stability Left	7.0	7.0	0.0	7.0	7.0	9.0
Bank Stability Right	7.0	3.0	0.0	7.0	9.0	9.0
Vegetative Protection Left	7.0	3.0	1.0	6.5	5.0	10.0
Vegetative Protection Right	7.0	4.0	1.0	6.5	5.0	10.0
Riparian Vegetative Zone Left	5.0	5.0	1.0	4.5	7.0	10.0
Riparian Vegetative Zone Right	5.0	2.0	1.0	4.5	7.0	10.0
<b>Total</b>	<b>108.0</b>	<b>58.0</b>	<b>65.0</b>	<b>109.0</b>	<b>137.0</b>	<b>121.0</b>

## B.19 Arnold Urban WMA

**Table B-98**  
**Mean and Range of General Water Quality Parameters**  
**Measured in the Arnold Urban WMA**

### Monitoring Station: (U-COW-1A)

Parameter	Dry Season	Wet Season
Temperature (°C)	16.00	10.82 (5.48 - 16.15)
Conductivity (µS/cm)	48	48 (35 - 61)
Dissolved Oxygen (mg/l)	7.9	11.7 (10.96 - 12.41)
Dissolved Oxygen (%)	---	>100
pH	6.7	7.38 (7.45 - 7.31)
Turbidity (NTU)	1.2	0.45 (0.1 - 0.8)

### Monitoring Station: (U-COW-1B)

Parameter	Dry Season	Wet Season
Temperature (°C)	16.2	9.01 (13.39 - 4.63)
Conductivity (µS/cm)	52	49.5 (38 - 61)
Dissolved Oxygen (mg/l)	6.65	11.98 (11.69 - 12.27)
Dissolved Oxygen (%)	---	>100
pH	5.95	7.32 (7.22 - 7.43)
Turbidity (NTU)	0.5	1.3 (0.0-1.3)

### Monitoring Station: (U-COW-2 Orange sediment)

Parameter	Dry Season	Wet Season
Temperature (°C)	13.8	10.64
Conductivity (µS/cm)	109	98
Dissolved Oxygen (mg/l)	2.73	11.35
Dissolved Oxygen (%)	---	102
pH	5.54	7.7
Turbidity (NTU)	3.2	0.7

### Monitoring Station: (U-COW-2 natural colored sediment)

Parameter	Dry Season	Wet Season
Temperature (°C)	---	18.03
Conductivity (µS/cm)	---	78
Dissolved Oxygen (mg/l)	---	11.68
Dissolved Oxygen (%)	---	124.3
pH	---	7.17
Turbidity (NTU)	---	0.0

### Monitoring Station: (U-COW-2 after confluence of orange and natural sediment creeks)

Parameter	Dry Season	Wet Season
Temperature (°C)	---	17.09
Conductivity (µS/cm)	---	81
Dissolved Oxygen (mg/l)	---	12.76
Dissolved Oxygen (%)	---	135.5
pH	---	6.99
Turbidity (NTU)	---	0.4

**Monitoring Station: (U-SA-4)**

Parameter	Dry Season	Wet Season
Temperature (°C)	23.1	15.2
Conductivity (µS/cm)	73	55
Dissolved Oxygen (mg/l)	4.81	12.39
Dissolved Oxygen (%)	---	>100
pH	6.34	7.68
Turbidity (NTU)	2.1	0.1

**Table B-99**  
**Mean and Range of Nutrient Parameters**  
**Measured in the Arnold Urban WMA**

**Monitoring Station: (U-COW-1A)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	---	0.09
Nitrite	---	0.05
Ammonia	---	0.20
Total Kjeldahl Nitrogen	---	---
Ortho Phosphate	---	---
Total Suspended Solids	5.6	<1.0

**Monitoring Station: (U-COW-1B)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	---	0.08
Nitrite	---	<0.05
Ammonia	---	---
Total Kjeldahl Nitrogen	---	---
Ortho Phosphate	---	<0.20
Total Suspended Solids	11	<1.0

**Monitoring Station: (U-COW-2)**

Parameter (mg/l)	Dry Season	Wet Season
Nitrate	<0.05	<0.05
Nitrite	<0.02	<0.05
Ammonia	<0.50	<0.05
Total Kjeldahl Nitrogen	<1.0	<1.0
Ortho Phosphate	<0.20	>0.20
Total Suspended Solids	16	7.6 (7 – 8.2)

**Table B-100**  
**geometric Mean and Range of Pathogenic Parameters**  
**Measured in the Arnold Urban WMA**

**Monitoring Station: (U-COW-1A)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	220	24 (2 – 300)
Fecal Coliform	50	<10 (<2 – 50)

**Monitoring Station: (U-COW-1B)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	<5.0	39 (7 – 220)
Fecal Coliform	80	3 (2 – 4)

**Monitoring Station: (U-COW-2)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	8	<2
Fecal Coliform	<2	<2

**Monitoring Station: (U-SA-4)**

Parameter (CFU/100 ml)	Dry Season	Wet Season
Total Coliform	500	220
Fecal Coliform	220	7

**Table B-101**  
**Mean and Range of Organochlorine Pesticide**  
**Parameters Measured in the Mormon Slough WMA**

**Monitoring Station: (U-COW-2)**

Parameter (µg/l)	Dry Season	Wet Season
4,4'-DDE	<0.05	<0.05
4,4'-DDT	<0.05	<0.05
4,4'-TDE/DDD	<0.05	<0.05
a-BHC	<0.05	<0.05
a-Chlordane	<0.05	<0.05
Alachlor	<0.05	<0.05
Aldrin	<0.05	<0.05
b-BHC	<0.05	<0.05
d-BHC	<0.05	<0.05
Dieldrin	<0.05	<0.05
Endosulfan I	<0.05	<0.05
Endosulfan II	<0.05	<0.05
Endosulfan Sulfate	<0.05	<0.05
Endrin	<0.05	<0.05
Endrin Aldehyde	<0.05	<0.05
Endrin Ketone	<0.05	<0.05
g-BHC (Lindane)	<0.05	<0.05
g-Chlordane	<0.05	<0.05
Heptachlor	<0.05	<0.05
Methoxychlor	<0.05	<0.05
Toxaphene	<1.0	<1.0

**Monitoring Station: (U-SA-4)**

<b>Parameter (µg/l)</b>	<b>Dry Season</b>	<b>Wet Season</b>
4,4'-DDE	<0.05	<0.05
4,4'-DDT	<0.05	<0.05
4,4'-TDE/DDD	<0.05	<0.05
a-BHC	<0.05	<0.05
a-Chlordane	<0.05	<0.05
Alachlor	<0.05	<0.05
Aldrin	<0.05	<0.05
b-BHC	<0.05	<0.05
d-BHC	<0.05	<0.05
Dieldrin	<0.05	<0.05
Endosulfan I	<0.05	<0.05
Endosulfan II	<0.05	<0.05
Endosulfan Sulfate	<0.05	<0.05
Endrin	<0.05	<0.05
Endrin Aldehyde	<0.05	<0.05
Endrin Ketone	<0.05	<0.05
g-BHC (Lindane)	<0.05	<0.05
g-Chlordane	<0.05	<0.05
Heptachlor	<0.05	<0.05
Methoxychlor	<0.05	<0.05
Toxaphene	<1.0	<1.0

**Table B-102**  
**Mean and Range of Volatile Organics Parameters**  
**Measured in the Arnold Urban WMA**

**Monitoring Station: (U-COW-1A)**

Parameter (µg/l)	Dry Season	Wet Season
Acetone	<50	---
Benzene	<5	---
Bromobenzene	<5	---
Bromochloromethane	<5	---
Bromodichloromethane	<5	---
Bromoform	<5	---
Bromomethane	<5	---
2-Butanone	<100	---
N-Butylbenzene	<5	---
Sec-Butylbenzene	<5	---
T-Butylbenzene	<5	---
Carbon Disulfide	<5	---
Carbon Tetrachloride	<5	---
Chlorobenzene	<5	---
Dibromochloromethane	<5	---
Chloroethane	<5	---
Chloroform	<5	---
Chloromethane	<5	---
2-Chlorotoluene	<5	---
4-Chlorotoluene	<5	---
2,3-Dibromo-3-Chloropropane	<5	---
1,2-Dibromoethane	<5	---
Dibromomethane	<5	---
1,2-Dichlorobenzene	<5	---
1,3-Dichlorobenzene	<5	---
1,4-Dichlorobenzene	<5	---
Dichlorodifluoromethane	<5	---
1,1-Dichloroethane	<5	---
1,2-Dichloroethane	<5	---
1,1-Dichloroethene	<5	---
Cis-1,2-Dichloroethene	<5	---
Trans-1,2-Dichloroethene	<5	---
1,2-Dichloropropane	<5	---
1,3-Dichloropropane	<5	---
2,2-Dichloropropane	<5	---
1,1-Dichloropropene	<5	---
Cis-1,3-Dichloropropene	<5	---
Trans-1,3-Dichloropropene	<5	---
Ethylbenzene	<5	---
Hexachlorobutadiene	<5	---
Isopropylbenzene	<5	---

**Monitoring Station: (U-COW-1A). Cont'd.**

<b>Parameter (µg/l)</b>	<b>Dry Season</b>	<b>Wet Season</b>
P-Cymene (P-Isopropyltoluene)	<5	---
Methylene Chloride	<5	---
4-Methyl-2-Pentanone	<5	---
Tert-Butyl-Methyl Ether	2.0	---
Naphthalene	<5	---
N-Propylbenzene	<5	---
Styrene	<5	---
1,1,1,2-Tetrachloroethane	<5	---
1,1,2,2-Tetrachloroethane	<5	---
Tetrachloroethane (PCE)	<5	---
Toluene	<5	---
1,2,3-Trichlorobenzene	<5	---
1,2,4-Trichlorobenzene	<5	---
1,1,1-Trichloroethane	<5	---
1,1,2-Trichloroethane	<5	---
Trichloroethane (TCE)	<5	---
Trichlorofluoromethane	<5	---
1,2,3-Trichloropropane	<5	---
1,2,4-Trimethylbenzene	<5	---
Vinyl Chloride	<5	---
O-Xylene	<5	---
M,P-Xylene	<10	---



**Monitoring Station: (U-COW-1B)**

<b>Parameter (µg/l)</b>	<b>Dry Season</b>	<b>Wet Season</b>
Acetone	<50	---
Benzene	<5	---
Bromobenzene	<5	---
Bromochloromethane	<5	---
Bromodichloromethane	<5	---
Bromoform	<5	---
Bromomethane	<5	---
2-Butanone	<100	---
N-Butylbenzene	<5	---
Sec-Butylbenzene	<5	---
T-Butylbenzene	<5	---
Carbon Disulfide	<5	---
Carbon Tetrachloride	<5	---
Chlorobenzene	<5	---
Dibromochloromethane	<5	---
Chloroethane	<5	---
Chloroform	<5	---
Chloromethane	<5	---
2-Chlorotoluene	<5	---
4-Chlorotoluene	<5	---
2,3-Dibromo-3-Chloropropane	<5	---
1,2-Dibromoethane	<5	---
Dibromomethane	<5	---
1,2-Dichlorobenzene	<5	---
1,3-Dichlorobenzene	<5	---
1,4-Dichlorobenzene	<5	---
Dichlorodifluoromethane	<5	---
1,1-Dichloroethane	<5	---
1,2-Dichloroethane	<5	---
1,1-Dichloroethene	<5	---
Cis-1,2-Dichloroethene	<5	---
Trans-1,2-Dichloroethene	<5	---
1,2-Dichloropropane	<5	---
1,3-Dichloropropane	<5	---
2,2-Dichloropropane	<5	---
1,1-Dichloropropene	<5	---
Cis-1,3-Dichloropropene	<5	---
Trans-1,3-Dichloropropene	<5	---
Ethylbenzene	<5	---
Hexachlorobutadiene	<5	---
Isopropylbenzene	<5	---

**Monitoring Station: (U-COW-1B). Cont'd.**

<b>Parameter (µg/l)</b>	<b>Dry Season</b>	<b>Wet Season</b>
P-Cymene (P-Isopropyltoluene)	<5	---
Methylene Chloride	<5	---
4-Methyl-2-Pentanone	<5	---
Tert-Butyl-Methyl Ether	2.0	---
Naphthalene	<5	---
N-Propylbenzene	<5	---
Styrene	<5	---
1,1,1,2-Tetrachloroethane	<5	---
1,1,2,2-Tetrachloroethane	<5	---
Tetrachloroethane (PCE)	<5	---
Toluene	<5	---
1,2,3-Trichlorobenzene	<5	---
1,2,4-Trichlorobenzene	<5	---
1,1,1-Trichloroethane	<5	---
1,1,2-Trichloroethane	<5	---
Trichloroethane (TCE)	<5	---
Trichlorofluoromethane	<5	---
1,2,3-Trichloropropane	<5	---
1,2,4-Trimethylbenzene	<5	---
Vinyl Chloride	<5	---
O-Xylene	<5	---
M,P-Xylene	<10	---

**Monitoring Station: (U-SA-4)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
Acetone	<50	---
Benzene	<5	---
Bromobenzene	<5	---
Bromochloromethane	<5	---
Bromodichloromethane	<5	---
Bromoform	<5	---
Bromomethane	<5	---
2-Butanone	<100	---
N-Butylbenzene	<5	---
Sec-Butylbenzene	<5	---
T-Butylbenzene	<5	---
Carbon Disulfide	<5	---
Carbon Tetrachloride	<5	---
Chlorobenzene	<5	---
Dibromochloromethane	<5	---
Chloroethane	<5	---
Chloroform	<5	---
Chloromethane	<5	---
2-Chlorotoluene	<5	---
4-Chlorotoluene	<5	---
2,3-Dibromo-3-Chloropropane	<5	---
1,2-Dibromoethane	<5	---
Dibromomethane	<5	---
1,2-Dichlorobenzene	<5	---
1,3-Dichlorobenzene	<5	---
1,4-Dichlorobenzene	<5	---
Dichlorodifluoromethane	<5	---
1,1-Dichloroethane	<5	---
1,2-Dichloroethane	<5	---
1,1-Dichloroethene	<5	---
Cis-1,2-Dichloroethene	<5	---
Trans-1,2-Dichloroethene	<5	---
1,2-Dichloropropane	<5	---
1,3-Dichloropropane	<5	---
2,2-Dichloropropane	<5	---
1,1-Dichloropropene	<5	---
Cis-1,3-Dichloropropene	<5	---
Trans-1,3-Dichloropropene	<5	---
Ethylbenzene	<5	---
Hexachlorobutadiene	<5	---
Isopropylbenzene	<5	---

**Monitoring Station: (U-SA-4). Cont'd.**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
P-Cymene (P-Isopropyltoluene)	<5	---
Methylene Chloride	<5	---
4-Methyl-2-Pentanone	<5	---
Tert-Butyl-Methyl Ether	2.0	---
Naphthalene	<5	---
N-Propylbenzene	<5	---
Styrene	<5	---
1,1,1,2-Tetrachloroethane	<5	---
1,1,2,2-Tetrachloroethane	<5	---
Tetrachloroethane (PCE)	<5	---
Toluene	<5	---
1,2,3-Trichlorobenzene	<5	---
1,2,4-Trichlorobenzene	<5	---
1,1,1-Trichloroethane	<5	---
1,1,2-Trichloroethane	<5	---
Trichloroethane (TCE)	<5	---
Trichlorofluoromethane	<5	---
1,2,3-Trichloropropane	<5	---
1,2,4-Trimethylbenzene	<5	---
Vinyl Chloride	<5	---
O-Xylene	<5	---
M,P-Xylene	<10	---

**Table B-103**  
**Mean and Range of Gasoline, BTXE, and MTBE Parameters**  
**Measured in the Arnold Urban WMA**

**Monitoring Station: (U-COW-1A)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
PHC as Gasoline	<0.05	---
Benzene	0.1 J	---
Ethylbenzene	<0.5	---
Toluene	0.2 J	---
O-Xylene	0.2 J	---
M.P-Xylene	0.8 J	---
MTBE	19	---

J = Value is an estimated value below the reporting limit.

**Monitoring Station: (U-COW-1B)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
PHC as Gasoline	0.03 J	---
Benzene	<0.5	---
Ethylbenzene	<0.5	---
Toluene	0.2 J	---
O-Xylene	<0.5	---
M.P-Xylene	<1	---
MTBE	2 J	---

J = Value is an estimated value below the reporting limit.

**Monitoring Station: (U-SA-4)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
PHC as Gasoline	<0.05	---
Benzene	<0.5	---
Ethylbenzene	<0.5	---
Toluene	0.1 J	---
O-Xylene	<0.5	---
M.P-Xylene	<1	---
MTBE	6	---

J = Value is an estimated value below the reporting limit.

**Table B-104**  
**Mean and Range of Dissolved Metals**  
**Measured in the Arnold Urban WMA**

**Monitoring Station: (U-COW-2 from outlet pipe)**

Parameter ( $\mu\text{g/l}$ )	Dry Season	Wet Season
Calcium (mg/l)	---	---
Magnesium (mg/l)	---	---
Aluminum	---	---
Arsenic	---	<1.0
Antimony	---	<5.0
Barium	---	<0.10
Beryllium	---	<1.0
Cadmium	---	<0.25
Chromium	---	0.25
Cobalt	---	8.9
Copper	---	0.5
Iron	---	---
Lead	---	<0.5
Manganese	---	---
Mercury	---	<0.5
Mercury (Ultra-clean method)	---	---
Molybdenum	---	<1.0
Nickel	---	<3.0
Potassium	---	---
Selenium	---	<1.0
Silver	---	<1.0
Sodium (mg/l)	---	---
Zinc	---	3.2
Hardness (mg/l)	---	---

**Table B-105**  
**Physical Habitat Assessment Results for the Arnold Urban WMA**

<b>Station number</b>	<b>U-COW-1A</b>	<b>U-COW-1B</b>	<b>U-COW-2</b>
Epifaunal Substrate/ Available Cover	10.0	---	0.0
Embeddedness	9.7	9.7	0.0
Velocity/Depth Regime	8.3	8.3	1.0
Sediment Deposition	8.7	8.7	0.0
Channel Flow Status	11.3	11.3	1.0
Channel Alteration	10.3	10.3	13.0
Frequency of Riffles (or bends)	12.0	12.0	0.0
Bank Stability Left	3.7	3.7	6.0
Bank Stability Right	3.7	3.7	6.0
Vegetative Protection Left	3.7	3.7	6.0
Vegetative Protection Right	3.7	3.7	6.0
Riparian Vegetative Zone Left	2.7	2.7	3.0
Riparian Vegetative Zone Right	2.7	2.7	3.0
<b>Total</b>	<b>90.3</b>	<b>90.3</b>	<b>45.0</b>