EBMUD - American River Diversion Analysis

Summary of Water Quality Monitoring Program (mid-1997 to present)

SUMMARY	FLOW MGD	PH pH units	TEMP-ERATURE deg C	TURBIDITY NTU	TOTAL DISSOLVED SOLIDS mg/L	ALKALINITY: TOTAL AS CACO3 mg/L	HARDNESS: TOTAL mg/L	CHLORIDE mg/L	LIGHT TRANSMIT.: SECCHI DISK DEPTH inches	COLOR color unit	CALCIUM ug/L	MAGNESIUM ug/L
Nimbus Dam												
Average	**2959**	**7.7**	**15.1**	**2.9**	**44**	**21**	**19**	**1.6**	**92**	**9**	**5102**	**1825**
Median	**2476.04**	**7.7**	**15.4**	**1.1**	**41**	**21**	**19**	**1.6**	**84**	**7**	**5150**	**1745**
10th Percentile	1315.9	7.1	9.6	0.5	27.8	18	15	1.1	30	5	3930	1300
90th Percentile	5937	8.6	21.0	7.3	56	24	23	2.0	156	15.7	5995	2490
Minimum	646	6.2	1.1	0.3	15	14	12	1.0	12	3	3630	1210
Maximum	22620	9.7	25.8	25	200	28	27	3	228	29	6750	3150
# of Samples	280	281	281	202	109	276	109	106	277	104	106	106
Fairbairn WTP												
Average		**7.7**	**14.3**	**1.9**	**42**	**21**	**19**	**1.6**	**98**	**8**	**5106**	**1852**
Median		**7.6**	**14.4**	**1.0**	**41**	**21**	**19**	**1.6**	**96**	**7**	**5170**	**1770**
10th Percentile		7.1	9.0	0.4	30	17.9	15	1.1	36	5	3958	1342
90th Percentile		8.5	20.2	4.9	55	24	24	2.0	145.2	15	6166	2516
Minimum		6.3	-0.6	0.1	6	14	14	1.0	12	2	3680	1230
Maximum		9.7	24.7	15	72	28	29	2.7	204	34	6530	3110
# of Samples		270	269	190	103	270	103	102	270	102	103	103
Hwy 160												
Average		**7.7**	**14.0**	**2.3**	**40**	**22**	**20**	**1.5**	**116**	**7**	**5129**	**2007**
Median		**7.8**	**14.3**	**0.9**	**40.5**	**22**	**21.5**	**1.5**	**132**	**6**	**5280**	**2070**
10th Percentile		7.4	10.1	0.5	27	18	16	1.2	36	5	4426	1463
90th Percentile		8.1	17.6	6.8	56	24	22	1.6	168	10	5655	2538
Minimum		6.2	8.8	0.5	15	16	15	1.2	36	4	3900	1240
Maximum		8.5	21.5	9.5	67	28	28	1.9	192	14	5830	2590
# of Samples		62	61	44	26	58	26	24	59	23	24	24
I-5 Bridge												
Average		**7.7**	**14.8**	**2.0**	**41**	**21**	**19**	**1.8**	**87**	**9**	**5159**	**1864**
Median		**7.5**	**14.3**	**1.2**	**40**	**21**	**19**	**1.85**	**84**	**7**	**5205**	**1630**
10th Percentile		7.1	9.0	0.5	30	17	15	1.1	36	5	3900	1381
90th Percentile		8.9	22.2	4.6	52	25	24	2.2	132	16	6091	2593
Minimum		5.9	1.1	0.2	6	14	14	1.0	12	3	3780	1270
Maximum		9.7	27.7	14	80	28	30	3	192	32	6600	3460
# of Samples		213	213	142	78	201	78	78	213	90	78	78
FOL SO GRANT LINE												
Average		**8.1**	**17.7**	**0.8**	**39**	**21**	**19**	**1.7**	**129**	**8**	**5484**	**1690**
Median		**8.2**	**17.1**	**0.5**	**38**	**20**	**19**	**1.7**	**132**	**7**	**5405**	**1550**
10th Percentile		7.4	10.6	0.4	30	18	15	1.3	73	5	4252	1278
90th Percentile		8.7	26.0	1.5	51	25	23	2.0	168	12	6272	2137
Minimum		6.7	7.0	0.2	27	13	15	1.0	72	3	3940	1180
Maximum		9.3	28.5	2.6	67	31	26	2.0	180	16	8900	3400
# of Samples		33	33	30	25	26	25	22	32	20	22	22
FOL SO SMUD												
Average		**8.3**	**18.6**	**0.7**	**48**	**28**	**24**	**1.7**	**137**	**9**	**7715**	**1754**
Median		**8.4**	**17.9**	**0.52**	**45**	**28**	**25**	**1.75**	**144**	**7**	**8080**	**1780**
10th Percentile		7.2	11.1	0.4	32	21	18	1.1	88.2	5	5542	1480
90th Percentile		9.1	27.0	1.32	62	35	31	2.0	180	15	9378	1912
Minimum		6.5	7.4	0.3	25	20	16	1.0	72	3	4670	1270
Maximum		10.0	35.6	2.2	73	42	32	2.0	204	17	10100	2440
# of Samples		30	30	27	23	24	23	20	28	19	20	20

Sc ... EBMUD Lab.
Note: non-detects calculated as eq... ...ection limit.

EBMUD - American River Diversion Analysis

Summary of Water Quality Monitoring Program (mid-1997 to present)

SUMMARY	POTASSIUM ug/L	SODIUM ug/L	BROMIDE mg/L	SULFATE mg/L	NITRATE AS N mg/L	NITRITE AS N mg/L	AMMONIA AS N mg/L	ORTHO-PHOSPHATE AS P mg/L	TOTAL PHOSPHATE AS P mg/L	CHLORO-PHYLL A ug/L	TOTAL ORGANIC CARBON mg/L	TOC (0.45U FILTERED) mg/L
Nimbus Dam												
Average	**1306**	**2107**	**0.010**	**2.0**	**0.06**	**0.010**	**0.013**	**0.021**	**0.028**	**2.9**	**1.5**	**1.3**
Median	**672.5**	**2105**	**0.010**	**1.9**	**0.031**	**0.004**	**0.01**	**0.006**	**0.016**	**2.0**	**1.4**	**1.2**
10th Percentile	552	1755	0.010	1.3	0.003	0.004	0.005	0.005	0.008	0.94	1.2	1.1
90th Percentile	3000	2485	0.010	2.8	0.22	0.05	0.0217	0.10	0.040	6.16	1.95	1.5
Minimum	503	1670	0.010	1.2	0.003	0.004	0.005	0.005	0.005	0.41	0.97	0.8
Maximum	6240	2740	0.016	3.4	0.23	0.05	0.13	0.20	0.52	25	5.2	1.8
# of Samples	106	106	114	105	113	103	114	113	114	108	196	196
Fairbairn WTP												
Average	**1309**	**2064**	**0.010**	**2.0**	**0.13**	**0.010**	**0.012**	**0.025**	**0.017**	**2.2**	**1.5**	**1.2**
Median	**658**	**2040**	**0.010**	**1.95**	**0.049**	**0.004**	**0.009**	**0.007**	**0.014**	**1.65**	**1.4**	**1.2**
10th Percentile	560	1772	0.010	1.4	0.003	0.004	0.005	0.006	0.008	0.964	1.2	1.0
90th Percentile	2080	2398	0.010	2.8	0.221	0.05	0.023	0.10	0.032	3.2	1.91	1.4
Minimum	508	1630	0.010	1.2	0.003	0.004	0.005	0.005	0.005	0.1	0.92	0.9
Maximum	6240	2570	0.016	3.4	5.0	0.05	0.11	0.30	0.078	28	7.2	3.1
# of Samples	103	103	102	102	100	101	103	102	103	102	190	190
Hwy 160												
Average	**613**	**2123**	**0.010**	**2.1**	**0.06**	**0.004**	**0.027**	**0.012**	**0.025**	**1.6**	**1.6**	**1.4**
Median	**591**	**2155**	**0.010**	**2.3**	**0.034**	**0.004**	**0.016**	**0.007**	**0.02**	**1.35**	**1.4**	**1.2**
10th Percentile	543.4	1909	0.010	1.5	0.004	0.004	0.0079	0.006	0.0127	0.85	1.2	1.1
90th Percentile	695.6	2327	0.010	2.6	0.143	0.004	0.0252	0.02	0.048	2.2	1.9	1.6
Minimum	525	1690	0.010	1.2	0.003	0.004	0.005	0.006	0.009	0.6	1.2	1.0
Maximum	793	2420	0.012	2.8	0.2	0.004	0.3	0.06	0.1	6.5	3.6	3
# of Samples	24	24	30	23	30	22	30	30	30	26	41	41
I-5 Bridge												
Average	**1456**	**2117**	**0.012**	**2.0**	**0.14**	**0.012**	**0.012**	**0.031**	**0.018**	**2.0**	**1.5**	**1.2**
Median	**1000**	**2140**	**0.010**	**1.9**	**0.05**	**0.004**	**0.008**	**0.008**	**0.014**	**1.5**	**1.4**	**1.2**
10th Percentile	581	1780	0.010	1.4	0.00	0.004	0.005	0.006	0.010	0.8	1.2	1.0
90th Percentile	3000	2450	0.010	3.0	0.23	0.05	0.024	0.10	0.029	2.8	1.8	1.4
Minimum	538	1580	0.010	1.3	0.003	0.004	0.005	0.005	0.006	0.2	0.97	0.28
Maximum	6240	2610	0.140	3.4	2.0	0.05	0.069	0.40	0.089	26	3.4	2.2
# of Samples	78	78	78	78	77	77	78	77	78	77	154	152
FOL SO GRANT												
Average	**1591**	**2085**	**0.010**	**1.9**	**0.06**	**0.01**	**0.013**	**0.016**	**0.016**	**2.7**	**1.8**	**1.6**
Median	**900.5**	**2020**	**0.010**	**1.8**	**0.003**	**0.004**	**0.011**	**0.006**	**0.015**	**2.5**	**1.7**	**1.5**
10th Percentile	560	1783	0.010	1.4	0.003	0.004	0.005	0.005	0.009	1.5	1.4	1.3
90th Percentile	2908	2480	0.010	2.5	0.130	0.05	0.022	0.03	0.025	4.6	2.3	2.1
Minimum	497	1680	0.010	1.1	0.003	0.004	0.005	0.005	0.005	1.1	1.3	1.0
Maximum	6240	2980	0.010	2.8	1.0	0.05	0.047	0.10	0.033	6.4	4.2	3.5
# of Samples	22	22	30	21	30	20	30	30	30	25	25	25
FOL SO SMUD												
Average	**1444**	**2819**	**0.010**	**1.7**	**0.04**	**0.009**	**0.022**	**0.014**	**0.020**	**5.9**	**3.5**	**3.1**
Median	**1045**	**3125**	**0.010**	**1.7**	**0.003**	**0.004**	**0.015**	**0.007**	**0.018**	**5.6**	**3.4**	**3**
10th Percentile	621.9	2084	0.010	1.46	0.003	0.004	0.005	0.005	0.013	1.9	2.0	1.7
90th Percentile	2080	3461	0.010	1.9	0.0878	0.0178	0.057	0.01	0.025	11.5	5.08	4.5
Minimum	537	1830	0.010	1.1	0.003	0.004	0.005	0.005	0.009	1.4	1.5	1.4
Maximum	6240	3500	0.010	2.7	0.23	0.05	0.074	0.10	0.062	12	6.0	5.3
# of Samples	20	20	27	19	27	18	27	27	27	23	23	23

Note: non-detects calculated as e[illegible] EBMUD Lab. [illegible]etection limit.

EBMUD - American River Diversion Analysis

Summary of Water Quality Monitoring Program (mid-1997 to present)

SUMMARY	UV ABSORB-ANCE @254 abs	SUVA mg-cm/L	TOTAL COLIFORMS MPN/100 mL	E COLI MPN/100 mL	TRIHALO-METHANES (Form. Pot.) ug/L	CHLORO-FORM (Form. Pot.) ug/L	BROMO-DICHLORO-METHANE (Form. Pot.) ug/L	BROMO-FORM (Form. Pot.) ug/L	DIBROMO-CHLORO-METHANE (Form. Pot.) ug/L	2-METHYL-ISO-BORNEOL (MIB) ng/L	GEOSMIN ng/L	CRYPTO-SPORIDIUM #/10L	GIARDIA <1=ND cysts/10L
Nimbus Dam													
Average	**0.047**	**3.76**	**470**	**66**	**57**	**54**	**2.3**	**0.15**	**0.11**	**0.6**	**2.0**	**0.5**	
Median	**0.035**	**2.83**	**130**	**30**	**56.5**	**55**	**2.3**	**0.15**	**0.10**	**0.5**	**1.9**	**0.5**	**0.5**
10th Percentile	0.025	2.00	23	7	43	40	1.8	0.15	0.10	0.5	0.9	0.5	0.5
90th Percentile	0.080	6.24	1100	133	69	67	2.8	0.15	0.10	0.6	2.7	0.5	1.4
Minimum	0.014	1.15	2	2	42	40	1.5	0.15	0.10	0.5	0.5	0.5	0.5
Maximum	0.26	19.23	16000	1700	80.1	78	3.2	0.15	0.25	1.5	6.4	0.5	3
# of Samples	195	195	198	198	28	28	28	28	28	40	40	11	9
Fairbairn WTP													
Average	**0.041**	**3.32**	**1164**	**113**	**71**	**69**	**2**	**0**	**0**	**0.9**	**4.3**	**0.5**	**2.3**
Median	**0.035**	**3.17**	**240**	**23**	**86**	**83**	**2.7**	**0.15**	**0.1**	**0.9**	**4.1**	**0.5**	**1.8**
10th Percentile	0.025	2.08	50	8	47.6	46.2	1.5	0.15	0.1	0.5	1.9	0.5	0.5
90th Percentile	0.064	5.38	2050	130	87.6	85.4	2.94	0.15	0.1	1.5	6.9	0.5	4.4
Minimum	0.012	0.92	7	2	38	37	1.2	0.15	0.1	0.5	0.5	0.5	0.5
Maximum	0.18	8.57	16000	3000	88	86	3	0.15	0.1	2.3	10	0.5	5
# of Samples	187	187	186	186	3	3	3	3	3	19	19	6	4
Hwy 160													
Average	**0.039**	**2.85**	**1650**	**391**	**56**	**54**	**2**	**0**	**0**	**0.6**	**3.3**	**0.7**	**1.9**
Median	**0.031**	**2.67**	**500**	**30**	**50**	**48**	**2.4**	**0.15**	**0.1**	**0.5**	**2.9**	**0.5**	**1.0**
10th Percentile	0.026	2.00	116	12	42.4	39	1.64	0.15	0.1	0.5	1.1	0.5	0.8
90th Percentile	0.061	3.81	2820	205	78.4	75.4	3.2	0.15	0.49	0.8	4.8	0.8	4.0
Minimum	0.023	1.56	50	2	40	39	1.4	0.15	0.1	0.5	0.5	0.5	0.5
Maximum	0.096	6.86	16000	9000	88	85	3	0.15	0.65	1.5	10	2	4
# of Samples	41	41	44	44	9	9	9	9	9	13	13	9	7
I-5 Bridge													
Average	**0.043**	**3.60**	**1517**	**111**	**62**	**59**	**2.4**	**0.15**	**0.13**	**0.7**	**4.5**		
Median	**0.038**	**3.36**	**300**	**30**	**61.5**	**60**	**2.4**	**0.15**	**0.1**	**0.5**	**3.7**		
10th Percentile	0.026	2.25	92	13	46	44	1.7	0.15	0.10	0.5	1.8		
90th Percentile	0.068	5.73	3000	170	81	77	3.1	0.15	0.24	1.3	7.8		
Minimum	0.013	1.00	23	2	40	38	1.3	0.15	0.10	0.5	0.5		
Maximum	0.17	11.79	16000	3000	88	85	5.6	0.15	0.41	1.5	15		
# of Samples	153	151	152	152	32	32	32	32	32	42	42		
FOL SO GRANT													
Average	**0.035**	**2.28**	**32**	**15**	**59**	**56**	**2.5**	**0.15**	**0.26**	**1.2**	**4.2**		
Median	**0.033**	**2.18**	**23**	**5.5**	**58**	**56**	**2.5**	**0.15**	**0.1**	**0.5**	**3.1**		
10th Percentile	0.025	1.44	2	2	48	46	1.7	0.15	0.10	0.5	2.3		
90th Percentile	0.044	3.21	83	32	71	67	3.0	0.15	0.2	2.5	7.8		
Minimum	0.024	1.00	2	2	43	40	1.6	0.15	0.10	0.5	0.5		
Maximum	0.057	4.07	140	110	80	77	4.7	0.15	3.0	5.0	15		
# of Samples	25	25	30	30	23	23	23	23	22	25	25		
FOL SO SMUD													
Average	**0.038**	**1.36**	**53**	**17**	**78**	**75**	**2.8**	**0.15**	**0.12**	**5.8**	**3.4**		
Median	**0.039**	**1.29**	**17**	**4**	**75**	**72.5**	**2.75**	**0.15**	**0.10**	**2.4**	**3.0**		
10th Percentile	0.0286	0.93	2	2	53	50	2.2	0.15	0.10	0.5	1.2		
90th Percentile	0.047	1.74	130	38	118	118	3.6	0.15	0.18	16.0	5.6		
Minimum	0.024	0.67	2	2	41	38	2	0.15	0.10	0.5	1.1		
Maximum	0.058	2.53	500	130	150	140	4.8	0.15	0.22	33	7.5		
# of Samples	24	23	27	27	22	22	22	22	22	21	21		

Note: non-detects calculated as ec lection limit.