
Appendix A:

DATA SUMMARIES

Table 1: List of surface water constituents at each location, number of non-detects (ND), total sample size, and temporal extent of data in the FOM database.

Location ID	Constituent	Units	Number ND	Sample Size	First Sample Date	Last Sample Date
1	E. Coli	colonies/100ml	21	64	7/16/1997	8/17/2005
1	Nitrate as N	mg/L	46	64	7/16/1997	8/17/2005
1	Ortho phosphorus	mg/L	0	56	9/16/1997	8/17/2005
1	Total phosphorus	mg/L	0	17	8/16/1997	9/16/1999
2	E. Coli	colonies/100ml	18	27	12/16/2002	8/17/2005
2	Nitrate as N	mg/L	23	27	12/16/2002	8/17/2005
2	Ortho phosphorus	mg/L	0	22	12/16/2002	6/15/2005
3	Dissolved Oxygen	mg/L	0	32	6/22/2011	10/16/2013
3	E. Coli	colonies/100ml	27	88	5/16/1996	7/15/2009
3	E. Coli	MPN/100 mL	0	42	8/19/2009	10/17/2013
3	Nitrate as N	mg/L	56	128	5/16/1996	10/18/2013
3	Ortho phosphate as P	mg/L	26	40	8/19/2009	10/18/2013
3	Ortho phosphorus	mg/L	0	56	10/16/1996	10/18/2006
3	pH	pH Units	0	32	6/23/2011	10/16/2013
3	Total phosphorus	mg/L	0	54	5/16/1996	10/29/2013
4	Dissolved Oxygen	mg/L	0	32	6/22/2011	10/16/2013
4	E. Coli	colonies/100ml	25	80	7/16/1997	7/15/2009
4	E. Coli	MPN/100 mL	9	40	8/19/2009	10/17/2013

4	Nitrate as N	mg/L	42	120	7/16/1997	10/18/2013
4	Ortho phosphate as P	mg/L	21	40	8/19/2009	10/18/2013
4	Ortho phosphorus	mg/L	0	66	7/16/1997	6/17/2009
4	pH	pH Units	0	32	6/23/2011	10/16/2013
4	Total phosphorus	mg/L	0	54	8/16/1997	10/29/2013
5	E. Coli	colonies/100ml	16	44	1/1/2000	7/15/2009
5	Nitrate as N	mg/L	30	44	1/1/2000	7/15/2009
5	Ortho phosphorus	mg/L	0	20	3/17/2004	10/18/2006
5	Total phosphorus	mg/L	0	1	3/17/2004	3/17/2004
6	Dissolved Oxygen	mg/L	0	16	6/22/2011	10/16/2013
6	E. Coli	colonies/100ml	51	70	5/16/1996	8/17/2005
6	E. Coli	MPN/100 mL	0	17	6/23/2011	10/17/2013
6	Nitrate as N	mg/L	13	86	5/16/1996	10/18/2013
6	Ortho phosphate as P	mg/L	8	16	6/24/2011	10/18/2013
6	Ortho phosphorus	mg/L	0	66	10/16/1996	8/17/2005
6	pH	pH Units	0	16	6/23/2011	10/16/2013
6	Total phosphorus	mg/L	0	49	5/16/1996	10/22/2013
7	Dissolved Oxygen	mg/L	0	32	6/22/2011	10/16/2013
7	E. Coli	colonies/100ml	19	89	5/16/1996	7/15/2009
7	E. Coli	MPN/100 mL	0	44	8/19/2009	10/17/2013

7	Nitrate as N	mg/L	58	129	5/16/1996	10/18/2013
7	Ortho phosphate as P	mg/L	27	40	8/19/2009	10/18/2013
7	Ortho phosphorus	mg/L	0	72	10/16/1996	8/20/2008
7	pH	pH Units	0	32	6/23/2011	10/16/2013
7	Total phosphorus	mg/L	0	65	5/16/1996	10/22/2013
8	E. Coli	colonies/100ml	7	43	12/16/2002	7/15/2009
8	E. Coli	MPN/100 mL	0	8	8/19/2009	10/20/2010
8	Nitrate as N	mg/L	27	51	12/16/2002	10/20/2010
8	Ortho phosphate as P	mg/L	6	8	8/19/2009	10/20/2010
8	Ortho phosphorus	mg/L	0	29	12/16/2002	10/18/2006
8	Total phosphorus	mg/L	0	1	3/17/2004	3/17/2004
9	Dissolved Oxygen	mg/L	0	32	6/22/2011	10/16/2013
9	E. Coli	colonies/100ml	19	89	5/16/1996	7/15/2009
9	E. Coli	MPN/100 mL	2	42	8/19/2009	10/17/2013
9	Nitrate as N	mg/L	59	129	5/16/1996	10/18/2013
9	Ortho phosphate as P	mg/L	25	40	8/19/2009	10/18/2013
9	Ortho phosphorus	mg/L	0	70	10/16/1996	6/17/2009
9	pH	pH Units	0	32	6/23/2011	10/16/2013
9	Total phosphorus	mg/L	0	64	6/16/1996	10/22/2013
10	E. Coli	colonies/100ml	6	9	12/12/2002	9/17/2003

10	Nitrate as N	mg/L	9	9	12/12/2002	9/17/2003
10	Ortho phosphorus	mg/L	0	9	12/12/2002	9/17/2003
11	E. Coli	colonies/100ml	7	17	12/12/2002	8/17/2005
11	Nitrate as N	mg/L	15	17	12/12/2002	8/17/2005
11	Ortho phosphorus	mg/L	0	16	12/12/2002	8/17/2005
12	E. Coli	colonies/100ml	13	34	10/15/2003	7/15/2009
12	Nitrate as N	mg/L	19	34	10/15/2003	7/15/2009
12	Ortho phosphorus	mg/L	0	24	10/15/2003	6/17/2009
12	Total phosphorus	mg/L	0	1	3/17/2004	3/17/2004
13	Alkalinity - CaCO ₃	mg/L	0	8	5/24/2004	1/26/2009
13	Ammonia	mg/L	0	1	3/22/2004	3/22/2004
13	Ammonia - N	mg/L	0	6	7/28/2004	5/4/2008
13	Biochemical Oxygen Demand 5 Day Un-Diluted	mg/L	0	6	3/22/2004	9/13/2004
13	Biochemical Oxygen Demand Stream	mg/L	0	27	11/16/2004	5/11/2009
13	Chemical Oxygen Demand	mg/L	0	1	7/17/2006	7/17/2006
13	Chlorophyll a	µg/L	0	20	5/24/2004	5/11/2009
13	Conductivity	µmhos/cm @ 25° C	0	8	5/24/2004	1/26/2009
13	Dissolved Orthophosphate - P	mg/L	0	32	3/22/2004	5/11/2009
13	Dissolved Oxygen	mg/L	0	3	3/22/2004	5/24/2004
13	E. Coli	MPN/100 mL	0	15	7/28/2004	11/17/2008

13	Field Alkalinity - CaCO ₃	mg/L	0	35	3/22/2004	5/11/2009
13	Field Conductivity	µmhos/cm @ 25° C	0	35	3/22/2004	5/11/2009
13	Field Dissolved Oxygen	mg/L	0	32	7/28/2004	5/11/2009
13	Field pH	pH Units	0	35	3/22/2004	5/11/2009
13	Field Temperature	°C	0	35	3/22/2004	5/11/2009
13	Field Turbidity	NTU	0	21	3/22/2004	1/26/2009
13	Nitrate/Nitrite - N	mg/L	0	35	3/22/2004	5/11/2009
13	Percent Saturation Field Dissolved Oxygen	perSAT	0	35	3/22/2004	5/11/2009
13	pH	pH Units	0	10	5/24/2004	1/26/2009
13	Pheophytin a	µg/L	0	20	5/24/2004	5/11/2009
13	Total Organic Carbon	mg/L	0	1	9/4/2007	9/4/2007
13	Total phosphorus	mg/L	0	35	3/22/2004	5/11/2009
13	Total Solids	mg/L	0	35	3/22/2004	5/11/2009
13	Total Suspended Solids	mg/L	0	8	5/16/2005	5/11/2009
13	Turbidity	NTU	0	2	9/18/2006	9/4/2007
14	Dissolved Oxygen	mg/L	0	26	8/11/1995	8/24/2005
14	Dissolved Oxygen	perSAT	0	17	8/14/2001	8/24/2005
14	pH	pH Units	0	24	2/19/1998	8/24/2005
14	Turbidity	NTU	0	25	8/11/1995	8/24/2005
15	Dissolved Oxygen	mg/L	0	38	6/14/2002	11/25/2008

15	Dissolved Oxygen	perSAT	0	35	6/28/2002	11/25/2008
15	pH	pH Units	0	31	6/14/2002	12/3/2007
15	Turbidity	NTU	0	34	6/28/2002	11/25/2008
16	Dissolved Oxygen	mg/L	0	76	7/25/1995	11/25/2008
16	Dissolved Oxygen	perSAT	0	60	6/1/2001	11/25/2008
16	pH	pH Units	0	64	10/24/1996	12/3/2007
16	Turbidity	NTU	0	71	7/25/1995	11/25/2008
17	Dissolved Oxygen	mg/L	0	73	9/2/2000	11/25/2008
17	Dissolved Oxygen	perSAT	0	60	6/1/2001	11/25/2008
17	pH	pH Units	0	68	9/2/2000	11/25/2008
17	Turbidity	NTU	0	68	10/2/2000	11/25/2008
18	Dissolved Oxygen	mg/L	0	108	7/25/1995	10/16/2013
18	Dissolved Oxygen	perSAT	0	67	6/26/2001	11/25/2008
18	E. Coli	MPN/100 mL	10	42	8/19/2009	10/17/2013
18	Nitrate as N	mg/L	23	40	8/19/2009	10/18/2013
18	Ortho phosphate as P	mg/L	19	40	8/19/2009	10/18/2013
18	pH	pH Units	0	96	6/15/2001	10/16/2013
18	Total phosphorus	mg/L	0	32	7/11/2011	10/22/2013
18	Turbidity	NTU	0	72	7/25/1995	11/25/2008

Table 2: Additional data from the ODEQ LASAR database at location ID 13 Bridge 99.

Constituent	Units	Sample Size	First Sample Date	Last Sample Date
Alkalinity as Calcium Carbonate	mg/L	65	5/27/1969	11/5/2012
Total Solids	mg/L	157	5/27/1969	11/5/2012
Total Suspended Solids	mg/L	161	5/27/1969	11/5/2012
Orthophosphate as PO4	mg/L	26	5/27/1969	7/11/1978
Chloride	mg/L	24	5/27/1969	9/25/1986
Sulfate	mg/L	24	5/27/1969	9/25/1986
Calculated Dissolved Hardness as CaCO3	mg/L	38	5/27/1969	9/25/1986
Total Coliform	CFU/100 mL	25	5/27/1969	4/26/1984
Field Temperature	C	160	5/27/1969	11/5/2012
Conductivity	umhos/cm @ 25 C	52	5/27/1969	1/26/2009
Field Dissolved Oxygen	mg/L	177	5/27/1969	11/5/2012
Percent Saturation Field Dissolved Oxygen	%	159	5/27/1969	11/5/2012
Biochemical Oxygen Demand 5 Day Un-Diluted	mg/L	112	5/27/1969	9/13/2004
Fecal coliform	MPN/100 ml	70	5/27/1969	11/6/1995
Field pH	SU	180	5/27/1969	11/5/2012
Ammonia as N	mg/L	152	5/27/1969	11/5/2012
Calculated Un-ionized Ammonia as N	mg/L	122	5/27/1969	9/16/1996
Nitrate as N	mg/L	14	5/27/1969	9/10/1975
Dissolved Sodium	mg/L	23	12/1/1971	9/25/1986
Dissolved Potassium	mg/L	17	12/1/1971	9/25/1986
Color	CU	22	7/9/1973	9/25/1986
Field Conductivity	umhos/cm @ 25 C	151	4/10/1974	11/5/2012
Field Alkalinity as Calcium Carbonate	mg/L	135	11/15/1977	1/24/2011
Total Kjeldahl Nitrogen	mg/L	116	11/15/1977	7/17/2006
Total Phosphate as PO4	mg/L	6	11/15/1977	7/11/1978
Total Organic Carbon	mg/L	132	11/15/1977	11/5/2012
Turbidity	NTU	93	11/15/1977	1/26/2009
Chemical Oxygen Demand	mg/L	131	11/15/1977	3/22/2010
Nitrite as N	mg/L	6	11/15/1977	7/11/1978
Nitrate/nitrite as N	mg/L	165	11/15/1977	11/5/2012
Chlorophyll a	ug/L	80	6/20/1978	9/24/2012
Total Phosphorus	mg/L	130	9/30/1982	11/5/2012
Pheophytin a	ug/L	78	9/30/1982	9/24/2012

Orthophosphate as P	mg/L	81	9/30/1982	11/5/2001
Total Calcium	mg/L	10	1/27/1983	9/25/1986
Dissolved Calcium	mg/L	10	1/27/1983	9/25/1986
Dissolved Magnesium	mg/L	10	1/27/1983	9/25/1986
Enterococcus	CFU/100 mL	47	11/19/1985	11/6/1995
Stream Field Stage Instantaneous	ft	1	4/29/1987	4/29/1987
E. Coli	CFU/100 mL	25	5/13/1996	5/28/2002
Fecal coliform	CFU/100 mL	22	5/13/1996	5/28/2002
Field Turbidity	NTU	85	3/24/1997	11/5/2012
Temperature	C	3525	5/8/2001	10/2/2001
Total Total Phosphorus	mg/L	1	9/10/2001	9/10/2001
Dissolved Oxygen	mg/L	13	3/27/2002	5/24/2004
Organic Total Carbon	mg/L	12	3/27/2002	3/22/2004
Dissolved Orthophosphate as P	mg/L	53	3/27/2002	11/5/2012
Ammonia	mg/L	11	3/27/2002	3/22/2004
E. Coli	MPN/100 ml	49	7/24/2002	11/5/2012
Biochemical Oxygen Demand Stream	mg/L	36	11/16/2004	9/24/2012
pH	SU	4	11/16/2004	11/14/2011
Total Recoverable Magnesium	mg/L	5	3/22/2010	11/1/2010
Total Recoverable Calcium	mg/L	5	3/22/2010	11/1/2010
Total Recoverable Hardness as CaCO ₃	mg/L	5	3/22/2010	11/1/2010
Total Recoverable Antimony	ug/L	5	3/22/2010	11/1/2010
Total Recoverable Arsenic	ug/L	5	3/22/2010	11/1/2010
Total Recoverable Barium	ug/L	5	3/22/2010	11/1/2010
Total Recoverable Beryllium	ug/L	5	3/22/2010	11/1/2010
Total Recoverable Cadmium	ug/L	5	3/22/2010	11/1/2010
Total Recoverable Chromium	ug/L	5	3/22/2010	11/1/2010
Total Recoverable Copper	ug/L	5	3/22/2010	11/1/2010
Total Recoverable Iron	ug/L	5	3/22/2010	11/1/2010
Total Recoverable Lead	ug/L	4	3/22/2010	9/20/2010
Total Recoverable Manganese	ug/L	4	3/22/2010	11/1/2010
Total Recoverable Nickel	ug/L	5	3/22/2010	11/1/2010
Total Recoverable Selenium	ug/L	5	3/22/2010	11/1/2010
Total Recoverable Silver	ug/L	5	3/22/2010	11/1/2010
Total Recoverable Zinc	ug/L	5	3/22/2010	11/1/2010
Total Recoverable Thallium	ug/L	5	3/22/2010	11/1/2010