



Bear Creek Watershed Association

BCWA Water Quality Data Summary 04 Nutrient Loading Mount Vernon Creek 2013- 2015

Study Design & Purpose - The BCWA is addressing measured water quality concerns on selected tributary drainages along Bear Creek. Total nitrogen and total phosphorus concentrations and loads at BCWA Site 34 Mt Vernon Creek, near Morrison, indicate a nutrient loading concern that is not attributable to the Forest Hills Metropolitan District (FHMD) discharge. There has been speculation that this nutrient loading could be associated with Red Rock activities (City and County of Denver) and other unspecified upstream nonpoint source loads. The BCWA has sampled Mount Vernon Creek from 2013-2015 at BCWA Site 34, as part of the watershed sampling program. In 2015 a special field survey was also done to identify potential upstream “hot” spots along this creek. BCWA Site 34 and the special survey nutrient results are included in this data summary.



				Concentration ug/l		Load Pounds/Month	
				Total Nitrogen	T Phosphorus	TN	TP
Mt Vernon Drainage, Morrison BCWA Site 34	3/28/2013	1.40	86	1134	5	266	1
	4/25/2013	1.93	119	1522	21	492	7
	5/21/2013	1.15	71	791	9	152	2
	6/18/2013	0.14	9	1117	76	26	2
	7/23/2013	0.20	12	820	38	28	1
	8/27/2013	0.10	6	786	10	13	0
	9/25/2013	2.12	130	1938	30	688	11
	10/23/2013	0.35	22	1077	5	63	0
	11/25/2013	1.23	76	1091	11	225	2
			530	Season Load		1,952	26

WQDS 04 Mt. Vernon

		Flow cfs	ac-ft/ mo	Concentration ug/l		Load Pounds/Mo	
				TN	TP	TN	TP
Mt Vernon Drainage, Morrison BCWA Site 34	5/15/2014	4.50	277	1,327	14	1,000	11
	6/12/2014	15.00	892	1,173	24	2,850	58
	7/17/2014	1.10	68	917	30	169	6
	8/14/2014	1.30	80	788	31	171	7
	9/16/2014	0.90	54	856	17	125	2
	10/14/2014	1.60	98	961	5	257	1
		1,468	Season Load			4572	85

		Flow cfs	ac-ft/ mo	Concentration ug/l		Load Pounds/Mo	
				TN	TP	TN	TP
Mt Vernon Drainage, Morrison BCWA Site 34	5/21/2015	26.5	1,576	2,381	69	10,221	296
	6/16/2015	7.6	452	1,889	70	2,326	86
	7/7/2015	6.2	369	1,908	85	1,916	85
	8/18/2015	2.3	137	1,755	92	654	34
	9/15/2015	0.4	24	1,107	13	72	1
	10/26/2015	3.2	190				
		2,748	Season Load			15,189	503

		Seasonal Load (Pounds)		
		2013	2014	2015
Mt Vernon Drainage, Morrison BCWA Site 34	Total Nitrogen	1,952	4,572	15,189
	Total Phosphorus	26	85	503
	Seasonal Flow			
	ac-ft/ Season	530	1,468	2,748

	Site	Concentration ug/l			
		TN	TP	Nitrate/Nitrite	NH3
8/25/2015					
Mount Vernon above FHMD	89	2,308	13	2,015	21
FHMD	34a	37,700	450	31,216	86
Shingle Creek	83	628	31	411	20
Mount Vernon Mathew Park	84	2,467	25	2,200	18
Mount Vernon RR#1	86	2,344	24	2,085	19
Mount Vernon RR#2	87	1,527	16	1,246	16
Mount Vernon	88	1,517	18	2,015	21



