

# Technical Memorandum BCWA



**Date:** February 5, 2020  
**To:** Bear Creek Watershed Association  
**From:** Russell N. Clayshulte, Manager  
  
**Re:** BCWA TM 2019.13 Regulation 85 Summary

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Implementation of Regulation #85 monitoring is a requirement of permitted surface water dischargers and is not a specific monitoring requirement of the Association. However, the Association board has determined that integrating the monitoring requirements from Regulation #85 into the Association watershed monitoring plan Regulation #74 could serve to improve water quality management in the watershed and have a shared funding benefit. A combined monitoring effort can meet state requirements, but, as importantly, it is an opportunity for the Association to develop a more comprehensive and holistic nutrient management plan that will protect and improve water quality throughout the watershed. Involvement of wastewater treatment facilities in this joint monitoring effort is strictly voluntary. See *BCWA Information Sheet 18 Reg 85 Shared Service Program* for shared service program details.

The Association completed the certification process for all wastewater treatment facilities in the watershed and maintains a copy of the certification in the association data record. However, the Association will only do the reporting requirement for those treatment facilities participating in the shared service monitoring program. All other non-participating treatment plants are expected to do their own reporting to the WQCD in accordance with the Regulation #85 reporting requirements. The wastewater treatment plants that have volunteered for this sampling effort are shown in Table 1. The Association picks-up collected effluent samples in coordination with these treatment plants. The Association contract laboratory processes these samples. The BCWA manager will upload this information into the supplied WQCD Regulation 85 data base.

**Table 1**      **WWTFs in Shared Services Program**

Wastewater Treatment Works	Coordinated with BCWA	Not Participant or No Samples Necessary
<b>Bear Creek Drainage</b>		
JCS Outdoor Lab	x	
Brookforest Inn		x
Evergreen Metro District	x	
West Jefferson County Metro District	x	
Kittredge Sanitation and Water District	x	
Genesee Water and Sanitation District		x
Forest Hills Metro District	x	
Morrison	x	
<b>Turkey Creek Drainage</b>		
Aspen Park Metro District		x
Conifer Metro District		<b>No Sample</b>
Conifer Sanitation Association	x	
JCS Conifer High School	x	
Tiny Town		<b>No Sample</b>
Geneva Glen		<b>No Sample</b>

**Table 2 The 2019 Sampling Type**

		Time	Sample Type
Evergreen Metro District	CO-0031429	9:00	12-hr
West Jefferson County Metro District	CO-0020915	9:00	12-hr
Kittredge Water and Sanitation District	CO-0023841	9:00	12-hr
Forest Hills Metro District	CO-0037044	10:00	12-hr
Conifer Metro District	CO-047295		
Conifer Sanitation Association	COX-0047392	9:00	grab
JCS Conifer High School	CO-047988	9:00	12-hr
Morrison	CO-0041432	9:00	12-hr
Mt. Evans Lab Jeffco Schools	COG589138	9:00	grab

**Table 3 24-hr flows**

24-hr WW Flows MGD	Permit	1/4/19	3/6/19	5/8/19	7/10/19	9/4/19	11/7/19
Evergreen Metro District	CO-0031429	0.4762	0.5770	0.4740	0.4339	0.4264	0.4327
West Jefferson County Metro District	CO-0020915	0.4083	0.3992	0.4677	0.4834	0.4116	0.4838
Kittredge Water and Sanitation District	CO-0023841	0.0455	0.0514	0.0604	0.0416	0.0476	0.0383
Forest Hills Metro District	CO-0037044	0.0172	0.0193	0.0251	0.0193	0.0193	0.0201
Conifer Sanitation Association	COG-589060	0.0099	0.0071	0.0042	0.0032	0.0037	0.0025
JCS Conifer High School	CO-0047988	0.0072	.0097	.0064	0.00	.0061	.0079
Morrison	CO-0041432	0.0598	0.0514	0.0824	0.0810	0.0841	0.0903
Mt. Evans Lab Jeffco Schools	COG589138	.00059	.00249	.00376	.00494	.00189	.00236

**Table 4 2019 Data**

WWTF	Parameter	Method	MDL	PQL	unit	1/4/19	3/6/19	5/8/19	7/10/19	9/4/19	11/7/19
Evergreen MD	Total Nitrogen	QC 10-107-04-4-B	0.006	0.042	mg/l	10.71	1.26	13.11	5.14	7.49	11.34
	Nitrate/Nitrite as N, dissolved	QC 10-107-04-1-C	0.002	0.008	mg/l	6.61	0.67	6.75	4.45	4.96	7.85
	Nitrogen, ammonia	QC 10-107-06-2-A	0.005	0.035	mg/l	2.65	0.13	4.86	0.30	1.84	0.05
	Phosphorus, total	QC 10-115-01-4-B	0.002	0.008	mg/l	0.26	0.01	0.17	0.32	0.21	0.31
	TIN Calculated				mg/l	9.26	0.80	11.60	4.75	6.80	7.91
West Jefferson MD	Total Nitrogen	QC 10-107-04-4-B	0.006	0.042	mg/l	5.97	1.26	3.64	2.05	4.77	3.69
	Nitrate/Nitrite as N, dissolved	QC 10-107-04-1-C	0.002	0.008	mg/l	3.17	0.67	2.56	0.42	0.32	0.84
	Nitrogen, ammonia	QC 10-107-06-2-A	0.005	0.035	mg/l	0.99	0.13	0.09	0.59	3.79	1.73
	Phosphorus, total	QC 10-115-01-4-B	0.002	0.008	mg/l	0.17	0.01	0.09	0.23	0.27	0.14
	TIN Calculated				mg/l	4.16	0.80	2.66	1.01	4.11	2.57
Kittredge SWD	Total Nitrogen	QC 10-107-04-4-B	0.006	0.042	mg/l	6.17	1.26	9.67	11.89	5.23	5.92
	Nitrate/Nitrite as N, dissolved	QC 10-107-04-1-C	0.002	0.008	mg/l	4.29	0.67	0.68	9.63	3.83	4.38
	Nitrogen, ammonia	QC 10-107-06-2-A	0.005	0.035	mg/l	0.52	0.13	9.53	0.23	0.27	0.22
	Phosphorus, total	QC 10-115-01-4-B	0.002	0.008	mg/l	0.10	0.01	0.59	0.58	0.48	0.20
	TIN Calculated				mg/l	4.81	0.80	10.21	9.85	4.10	4.61
Conifer Sanitation Association	Total Nitrogen	QC 10-107-04-4-B	0.006	0.042	mg/l	1.26	2.27	1.35	1.74	1.02	1.84
	Nitrate/Nitrite as N, dissolved	QC 10-107-04-1-C	0.002	0.008	mg/l	0.67	1.73	0.74	1.13	0.28	1.27
	Nitrogen, ammonia	QC 10-107-06-2-A	0.005	0.035	mg/l	0.13	0.13	0.12	0.10	0.10	0.07
	Phosphorus, total	QC 10-115-01-4-B	0.002	0.008	mg/l	0.01	0.06	0.01	0.01	0.01	0.05
	TIN Calculated				mg/l	0.80	1.86	0.86	1.23	0.38	1.34
	Total Nitrogen	QC 10-107-04-4-B	0.006	0.042	mg/l	64.73	91.15	80.09	0.00	37.71	30.00

WWTF	Parameter	Method	MDL	PQL	unit	1/4/19	3/6/19	5/8/19	7/10/19	9/4/19	11/7/19
JCS High School	Nitrate/Nitrite as N, dissolved	QC 10-107-04-1-C	0.002	0.008	mg/l	57.76	67.52	56.15	0.00	35.90	9.60
	Nitrogen, ammonia	QC 10-107-06-2-A	0.005	0.035	mg/l	0.12	0.11	0.09	0.00	0.29	21.00
	Phosphorus, total	QC 10-115-01-4-B	0.002	0.008	mg/l	0.06	0.07	0.05	0.00	0.27	0.10
	TIN Calculated				mg/l	57.88	67.63	56.24	0.00	36.18	30.60
Forest Hills MD	Total Nitrogen	QC 10-107-04-4-B	0.006	0.042	mg/l	24.39	26.33	23.74	26.99	10.25	23.50
	Nitrate/Nitrite as N, dissolved	QC 10-107-04-1-C	0.002	0.008	mg/l	20.23	21.98	18.47	23.95	9.70	20.65
	Nitrogen, ammonia	QC 10-107-06-2-A	0.005	0.035	mg/l	0.37	0.20	0.16	0.11	0.11	0.31
	Phosphorus, total	QC 10-115-01-4-B	0.002	0.008	mg/l	0.44	0.52	0.72	0.54	0.28	0.15
					mg/l	20.60	22.18	18.64	24.06	9.81	20.96
Morrison	Total Nitrogen	QC 10-107-04-4-B	0.006	0.042	mg/l	4.95	2.66	4.73	2.23	1.56	8.17
	Nitrate/Nitrite as N, dissolved	QC 10-107-04-1-C	0.002	0.008	mg/l	0.37	0.32	1.94	1.06	0.43	2.34
	Nitrogen, ammonia	QC 10-107-06-2-A	0.005	0.035	mg/l	2.83	1.09	1.65	0.28	0.23	4.35
	Phosphorus, total	QC 10-115-01-4-B	0.002	0.008	mg/l	0.24	0.15	0.29	0.21	0.16	0.21
	TIN Calculated				mg/l	3.20	1.40	3.58	1.33	0.66	6.68
Mt. Evans Lab Jeffco Schools	Total Nitrogen	QC 10-107-04-4-B	0.006	0.042	mg/l	30.37	36.14	38.37	30.93	41.62	38.76
	Nitrate/Nitrite as N, dissolved	QC 10-107-04-1-C	0.002	0.008	mg/l	30.12	27.24	28.07	9.79	38.40	36.92
	Nitrogen, ammonia	QC 10-107-06-2-A	0.005	0.035	mg/l	0.18	5.70	1.46	23.00	5.32	0.05
	Phosphorus, total	QC 10-115-01-4-B	0.002	0.008	mg/l	0.88	0.59	0.78	0.61	0.10	0.28
	TIN Calculated				mg/l	30.29	32.94	29.53	32.79	43.72	36.97