



Bear Creek Watershed Association

Information Sheet 18

Regulation #85 Shared Service Program

The Association has established a shared service program to assist members in meeting the intent of Regulation #85. Monitoring requirements established by State Control Regulation #85 are designed to evaluate the effectiveness of and to determine the sources and load of nutrients at selected locations, and eventual implementation of appropriate and necessary source controls. The Bear Creek Association watershed monitoring plan includes monitoring elements for wastewater treatment facilities in the watershed, which allows these facilities to meet monitoring requirements in Regulation #85.

All wastewater treatment plants in the watershed are categorized as minor facilities (Table 1). As such, upstream and downstream monitoring is exempt for the treatment works that surface discharge. All surface discharging wastewater treatment facilities must meet the effluent monitoring requirements of Regulation #85. Each facility has certification and reporting requirements defined in the regulation.

The monitoring data collected for Regulation #85 is not part of the permit DMR reporting.

Table 1 Minor WWTF Bear Creek Watershed

Wastewater Treatment Plants	Treatment Operator	Facility Type	Design Capacity MGD
Bear Creek Drainage			
JCS Outdoor Lab	JCS, Kim Brogan	Minor	0.008
Brookforest Inn	Treatment Tech	Minor	0.009
Evergreen Metro District	EDM	Minor	0.990
West Jefferson County Metro District	EDM	Minor	0.700
Kittredge Water and Sanitation District	EDM	Minor	0.125
Genesee Water and Sanitation District	Genesee	Minor	0.800
Forest Hills Metro District	Bryan McCarty/ Will Raatz	Minor	0.050
Morrison	Town of Morrison	Minor	0.350
Turkey Creek Drainage			
Aspen Park Metro District	Treatment Tech	Minor	0.025
Conifer Metro District	Bryan McCarty	Minor	0.043
Conifer Sanitation Association	Becky Hammer, Wayne Ramey	Minor	0.019 (Liftstation)
JCS Conifer High School	JCS, Kim Brogan	Minor	0.052
Tiny Town	Treatment Tech	Minor	0.005
Geneva Glen	Crystal Clear Water Treatment/ Russ Brown	Minor	0.011
The Fort	Treatment Tech	Minor	0.012

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. Sample collection timing and costs make it difficult to coordinate sampling at selected treatment plants with the stream monitoring program.

The preference of the Association is to coordinate sample collection of wastewater treatment plant effluent nutrients with the watershed stream sampling program; however this is not a requirement under State Regulation #85. The Association provides sample pick-up, distribution to the Association contract laboratory, data management and reporting to the WQCD as a shared membership service benefit; whereas each participating treatment works is required to cover the cost of laboratory analyses. Involvement of wastewater treatment facilities in this joint monitoring effort is strictly voluntary.

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 to coordinate effluent sampling with the stream sampling effort are shown in Table 2. The Association will pick-up collected effluent samples in coordination with these treatment plants. The Association contract laboratory will process these samples. The seven participating treatment plants in the 2015 monitoring program will compensation the Association for the actual laboratory costs.

Table 2 Wastewater Treatment Plants Involved in a Coordinated Monitoring Plan

Wastewater Treatment Works	Coordinated with Monthly Stream Samples	Not Coordinated
Bear Creek Drainage		
JCS Outdoor Lab		No Sample
Brookforest Inn		x
Evergreen Metro District	x	
West Jefferson County Metro District	x	
Kittredge Water and Sanitation District	x	
Genesee Water and Sanitation District	x	
Forest Hills Metro District	x	
Morrison	x	
Turkey Creek Drainage		
Aspen Park Metro District		x
Conifer Metro District		No Sample
Conifer Sanitation Association	x	
JCS Conifer High School	x	
Tiny Town		No Sample
Geneva Glen		No Sample
The Fort		No Sample

Wastewater Treatment Facility Regulation #85 Monitoring

The expectation of regulation #85 at the state level is to begin filling in the gaps and providing a big picture view of nutrients at a state level. In the Bear Creek watershed, it is recognized that the existing Association monitoring program is ahead of Regulation #85 expectations; as such the Association is working toward refinements within our watershed context. So working toward getting a watershed mass-balance of nutrients is the desired direction that the Association will take. The state is willing to be flexible, as long as the Association is providing data that can be used to mass-balance nutrients, identify contributions separate between point and nonpoint sources, and ultimately identify hot spots.

All wastewater treatment plants in the watershed are classified as minor. All surface discharging treatment plants in the watershed are expected to participate in the Regulation #85 monitoring program. Discharges to groundwater are exempt. Because the BCWA Regulation #74 requires total phosphorus from all treatment plants, then it would be “logical” to have an associated TN and TIN number for each plant. However, the Association will only ask for voluntary monitoring from the exempt treatment plants.

Because part of the flow from the Conifer Metro District must go back to the Conifer Association discharge (surface), then the Conifer Metro District is expected to sample. Aspen Park is expected to provide data now that they could surface discharge, even if they are using the infiltration galleries. Jefferson County Public Schools (JCS) has no samples in the summer months when school is not in session.

The only three facilities they can opt out are JCS Outdoor Lab, Geneva Glen and The Fort. If the Association has “any reason to believe” that these plants are making a nutrient contribution, then the Association (not the state) can make a request to these plant operators to participate in the nutrient monitoring program. There would be some value to the Association in getting limited data for these three opted out plants because total phosphorus is already part of the their NPDES permits.

The Association will assess the wastewater treatment plant effluent data in context with the Association watershed data sets. The Association supports the concept of having all data meet the same watershed specific PQLs and MDLs. However, any discharger that chooses not to coordinate with the Association watershed monitoring program can meet the reporting limits established in Regulation #85 for use in their reporting as required under Regulation #85.

The Association wastewater treatment effluent parameters used to meet Regulation #85 requirements are shown in Table 3. The Association PQLs and MDLs are lower than those required in Regulation #85 and are shown in Table 4. These MDLs and PQLs are used for all Association nutrient data processed by the Associations contract laboratory.

Table 3 WWTF Parameters

Wastewater Treatment Facilities	
Field Data	Laboratory Analyses
Daily average effluent discharge	Total Nitrogen
Temperature (Selected plants continuous data loggers, Effluent)	Nitrate+Nitrite-Nitrogen
	Ammonia-Nitrogen
	Total Inorganic Nitrogen (Calculation = NO ₂ +NO ₃ +NH ₄)
	Total Phosphorus

Table 4 MDLs and PQLs used for Association Sample Parameters

Analyte	Old GEI Method	GEI Method	MDL (ug/l)	PQL (ug/l)
NH3	QC 10-107-06-3-D	QC 10-107-06-2-A	5	35
NOx	QC 10-107-04-1-B	QC 10-107-04-1-B	2	14
NO2	QC 10-107-04-1-B	QC 10-107-04-1-B	2	14
TN/TDN	SM 4500-N B (mod)	QC 10-107-04-4-B	6	42
OP	QC 10-115-01-1-T	QC 10-115-01-1-T	2	14
TP/TDP	QC 10-115-01-4-U	QC 10-115-01-4-B	2	14

The monitoring frequency is to have 6-monthly samples for treatment plants per year. The State is interested in winter numbers and evenly spaced effluent data. The sample months for Regulation #85 sampling are January, March, May, July, September, November. Generally, data collection will occur on the second Thursday of the every other month beginning in January 2015.

The watershed growing season is between July-September as defined by Bear Creek Regulation #74 and not #85; as such, the Association needs July-September watershed sampling. The monitoring schedule for the plants and watershed is not to sample plants in June (still do watershed). If there is no effluent to sample, then the data record notes no discharge. Watershed and WWTF samples should be done within a five-day time block so data can best match for those WWTF coordinating with the stream monitoring program. The Association does recognize that complete coordination may not always be possible, and the program is flexible to meet operator needs.

The Association stream flow monitoring program and analysis plan is more than sufficient to meet the intent of Regulation #85 and allow the Association to mass-balance nutrients in the watershed. Small treatment plant effluent samples can be grab samples, if defined as such in permit. If a larger plant is required by permit to do composites, then the sample used for Regulation #85 should be a composite that matches permit requirements. Sampling for nutrients is required in the effluent before it is discharged into the receiving water body at the location where monitoring is performed to satisfy other CDPS permit requirements (as per regulation). Total phosphorus data collected under Regulation #85 for small treatment plants may be used to meet Regulation #74 requirements. The nutrient data collected under Regulation #85 are not required to be reported by the permittee in their respective NPDES DMR reporting system; however the collected data can be submitted as part of the DMRs. Each plant is responsible for getting the daily average effluent discharge and reporting this information to the Association on a monthly basis.

A certification letter is available for each treatment plant. The Association bundled the available certifications, noting the facility is covered by a watershed monitoring program. The Association maintains a copy of the plant certifications to link with the monitoring plan.

The Association will provide the necessary sample bottles to the treatment plants for sample collection that are participating in the cost share program. The treatment plant operators must collect necessary effluent samples. The Association can not take the samples at the plants.

Treatment Tech, who operates 3 of the smaller treatment works, is opting out of the Association shared monitoring program. The effluent data should be supplied to the Association on a monthly basis from Treatment Tech. The Association will not be responsible for the annual submittal and data transfer to the state for those treatment facilities not participating in a joint monitoring program.