BCWA Field Method

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ME10 – Tributary Assessment Procedure

Tributary Screening

The Bear Creek Association systematically addresses potential nutrient loading on tributaries within the watershed. Low macroinvertebrate MMI scores help identify potential stream reaches requiring screenings. This special assessment procedure is designed as a screening process. Field and laboratory data can locate potential nonpoint source nutrient (total phosphorus and nitrogen) loading areas that may cause water quality degradation on the mainstem streams (Bear Creek or Turkey Creek) or within lakes or reservoirs.

The monitoring program documents primary nutrient loading source on a tributary within selected drainage systems under higher flow spring conditions (or rain events) and low flow fall conditions. Field surveys identify potential "hot" spots and map these locations. Potential tributaries are identified by evaluating the nutrient data from the existing BCWA seasonal monitoring program as outlined in the 2017 BCWA *PGO29 Bear Creek 2017 Sample Plan Version 2017.01*.

The monitoring program is kept simple and inexpensive. The screening survey process includes:

1. Based existing data record, identify potential loading tributaries.

2. Using satellite maps, select appropriate stream screening monitoring locations (generally two to three sites) per tributary.

3. Conduct a two-time period monitoring effort (generally spring and fall) during the normal seasonal monitoring period May to October.

4. Using the BCWA multiprobe measure water for specific conductance, dissolved oxygen, pH and temperature.

5. Obtain a stream flow measurement to determine loading using established flow measurement protocols using the BCWA flow meter.

6. Collect total phosphorus and total nitrogen sample (one-liter) for laboratory analyses at the BCWA contract laboratory (GEI Consultants Inc.).

7. The BCWA Association *F01 BCWA Habitat Indices Form* and *F02 BCWA Physical Stream Indices Form* are completed for the sample sites which also include site photographs. Other field surveys may be warranted depending on observed conditions (ME01 Embeddedness Field Estimation Method, ME02 Gravelometer Pebble Count Method, ME05 Periphyton Field Estimation Method, ME06 Water Clarity Estimation Method).

8. Produce a water quality data report (WQSD Series) of the results and provide an evaluation of potential for nutrient loading or the need for further seasonal monitoring if the nutrient loads exceed expectations.