

BCWA Field Method

Accepted: December 17, 2014

To: BCWA

From: Russell N. Clayshulte, Manager

Re: Method and Field Form for Stream Pebble Count Using Gravelometer



Wolman Pebble Count Procedure Using Gravelometer

This technique requires the observer to measure sizes of random particles using a Gravelometer. Particles smaller than 2 mm are placed in a sand category of <2mm. A step-toe procedure is used to randomly select particles for quantification.

1. Using the reach established for the BCWA Physical Stream Indices, measure sediment particle size distribution quantification. For stream characterization, sample pools and riffles at about the same proportion that occur in the stream reach.
2. Start transect at a randomly selected point (throw a pebble) along the edge of stream. Take one step into the water perpendicular to flow and, while averting your eyes, pick up the first pebble touching toe of your boot. Measure size with Gravelometer by determining which is minimum hole-size that the pebble can pass through; record count on form.
3. Take another step across the stream and repeat the previous steps until you reach the opposite side. Establish a new transect at zigzag angle and begin the process over again. In general, you will need to collect 100 measurements in order to accurately quantify pebble distributions.

Size Class	Size Range (mm)
Sand	<2
Very Fine Gravel	2-4
Fine Gravel	4-6
Fine Gravel	6-8
Medium Gravel	8-11
Medium Gravel	11-16
Coarse Gravel	16-22
Coarse Gravel	22-32
Very Coarse Gravel	32-45
Very Coarse Gravel	45-64
Small Cobble	64-90
Medium Cobble	90-128
Large Cobble	128-180
Very Large Cobble	180-256
Small Boulder	256-512
Medium Boulder	512-1024
Large Boulder	1024-2048
Very Large Boulder	2048-4096

BCWA Pebble Count Field Form

*Bear Creek Watershed Association
30-years of Watershed Management*

BCWA Site: _____

Date: _____ Collected By: _____

Size Class	Material Size Class	Counts	Total	Frequency %	Cumulative Frequency
>180	Boulder				100%
180	large Cobble				
128	Medium Cobble				
90	Small Cobble				
64	Very Coarse Gravel				
45	Very Coarse Gravel				
32	Coarse Gravel				
22.6	Coarse Gravel				
16	Medium Gravel				
11	Medium Gravel				
8	Medium Gravel				
5.6	Fine Gravel				
4	Fine Gravel				
2.8	Very Fine Gravel				
2	Sand				
<2	Sand/ clay				