BCWA Field Method

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To: BCWA

From: **Russell N. Clayshulte, Manager**

Re: **Embeddedness Field Estimation Method**

Embeddedness Estimation

This technique requires the observer to visually estimate 3-5 spots across transect within a stream reach used in the Physical Stream Indices Survey. Using *BCWA Fact Sheet 45 Embeddedness Estimator* estimate percent embeddedness, which is generally how much fine sand to silt/clay surrounds hard substrate. The more the gravel to cobble to boulder material is embedded into the stream bottom, the less habitat is available and the poorer the conditions.

1. Using the reach established for the BCWA Physical Stream Indices, measure sediment embeddedness. For stream characterization, sample pools and riffles at about the same proportion that occurs 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 step forward 1-2 paces. Using a white 2-gallon bucket with the bottom cut out, and fitted with a line grid that divides the viewing area into 4 quadrants estimate the percentage embeddedness in viewing area. Record Number.

3. Step forward 2-3 paces and repeat estimation procedure. Record number. Move across stream with last estimation done about 2-3 paces from far stream bank. Average the estimates from transect.

About 15% Very Good Conditions

About 40% Good Conditions

About 70% Fair Conditions