Vegetation Resource Survey

Large Woody Debris

Large Woody Debris (LWD)
(Core Attribute)

Importance:

Large wood is important to the morphology of many streams. It influences channel width and meander patterns, provides for storage of sediment and bedload, and is often most important in pool formation in streams. Large wood is also an important component of instream cover for fish, as well as providing habitat for aquatic insects and amphibians. Large wood influences on stream ecology vary with size of the stream and size of the wood (small wood is easily transported in large systems).

Objective of This Measurement:

To characterize the woody debris in the sensitive reach that is influencing the stream channel. If the objective is to measure large woody debris (LWD) as a cover component, more extensive information should be collected although some inferences could be drawn from the tally in this protocol.

How Many Measurements to Take:

Conduct a count of all large woody debris and root wads within the sensitive reach that meet dimensions described below. Preliminary results from testing of these protocols confirmed the work of others demonstrating that LWD distribution is clumped, and that long reaches are necessary for an accurate description.

Where to Take the Measurement:

Count all pieces of wood lying within the sensitive reach that has any portion within the bankfull width of the channel. This includes logs suspended above the channel.

How to Take the Measurement:

Walk the sensitive reach counting wood > 10cm diameter and 2m in lenght. Wood must be downed with a portion lying within bankfull stage.

Single Pieces – Tally each piece that meets the criteria in the paragraph above. There is no need to record the length or diameter of each piece. Sum the number of pieces on the form. Use the comment section to note if any of the large wood counted is part of stream enhancement structure.

Aggregates - Aggregates are defined as four or more pieces of woody debris in contact where each piece meets the minimum length requirement and has some portion occurring within bankfull width. Tally all the pieces in the aggregate meeting the minimum size criteria that can be feasibly and safely identified (some aggregates may be large enough to obscure individual pieces from view or safe access). Record the number of pieces in each aggregate on the aggregate line, and sum the total number of pieces.

Tally root wads as single pieces whether they occur alone or are within an LWD aggregate. A root wad is defined as the root mass of a tree whose trunk length is approximately equal to or

shorter than the diameter of the root wad. Root masses with longer tree boles should be tallied as LWD.

Beaver dams should not be tallied with the LWD count. They should be noted as comments on the data form.

References:

Knopp 1993
Platts et al. 1987
Sedell et al. 1988

LARGE WOODY DEBRIS TALLY

Stream Name:_________________________________ **Date:**______________ **Page** ___ **of** ___

Crewmembers:

LWD ID #	Diameter Class (Meters)					Length Class (Meters)							Aggregate ID # (Enter No if not an aggregate)
	0.1 - 0.2	0.2 - 0.4	0.4 - 0.8	0.8 - 1.6	>1.6	<2	1 – 2	2 – 4	4 – 8	8 – 16	16 - 32	>32	
UTM	North					Comments:							
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LARGE WOODY DEBRIS TALLY

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LARGE WOODY DEBRIS TALLY

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LARGE WOODY DEBRIS TALLY

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