

Table 3. D10, D50, D90 Grain Size Distribution on the Grande Ronde River.

Main Stem - Grande Ronde River (GRR)					
Site Name	Grande Ronde River Mile	D10* (mm)	D50* (mm)	D90* (mm)	
Upper Grande Ronde River	172.8	3	30	75	
GRR upstream Grande Ronde/Wallowa Confluence	81.6	50	140	210	
GRR downstream Grande Ronde/Wallowa Confluence	81.4	16	52	110	
GGR narrow canyon above Grossman Creek	64	18	95	170	
GRR upstream Grande Ronde/Grossman Confluence	63	10	40	150	
GRR downstream Grande Ronde/Grossman Confluence	62.8	65	95	170	
GRR upstream Grande Ronde/Wildcat Confluence	53.4	28	80	160	
GRR downstream Grande Ronde/Wildcat Confluence	53.2	23	55	90	
Grande Ronde River Below Boggans	24	55	85	150	
Grande Ronde River narrow canyon below Boggans	22	11	90	180	
Grande Ronde River floodplain @ campsite	11.5	22	100	210	
GRR upstream Grande Ronde/Joseph Confluence	4.4	4096	4096	4096	
GRR downstream Grande Ronde/Joseph Confluence	4.2	6	60	4096	

Tributaries

Spring Creek	173.4	20	65	135
River Mile 8.5 on the Wallowa River	81.5	20	45	85
River Mile 4 on the Wenaha River	45.5	45	75	120

Confluences

Wallowa River	81.5	17	70	140
Grossman Creek 75 meters upstream	62.9	30	140	600
Wildcat Creek	53.3	35	70	360
Joseph Creek	4.3	36	68	120

At sample sites not influenced by tributary inputs, there is a consistent sediment size of small cobble. The small cobble sediment size is attributed to a high stream power from narrow confining basalt canyon walls which results in a high sediment transport capacity of the Grande Ronde River; i.e., the finer sediment in the basalt canyons is transported away, leaving mostly small cobble. The sediment source for the Grande Ronde River in this region is the basalt canyon walls, indicated by the large piles of basalt at the river's edge that has fallen from the canyon walls above. The high weather resistance of the basalt is an additional reason for the cobble sediment size found in the Grande Ronde River.

* Note: The sediment size, D50, is defined as the grain diameter at which 50% of the sediment sample is finer than. Sediment sizes D10 and D90 are associated with 10% and 90% finer than.