

West Boise Hardness Calculations

West Boise	Calculation								
Hu =	Upstream	Hardness							
Qu =	Upstream	flow							
He =	Effluent	hardness							
Qe =	Effluent	flow							
Hmix =	Hardness of the blend of upstream water and effluent								
MF =	fraction of receiving water available for mixing								
This calculation is used when the state has designated a mixing zone. In this case, calculate hardness using the following equation:									
		Hmix =	$(MF * QuHu - QeHe) / (MF * Qu + Qe)$						
Use Hmix to calculate criteria									
Apply criteria at edge of mixing zone, back-calculate effluent limits considering dilution and background concentrations									
Entire Data Set									
<i>Hardness at the edge of the mixing zone</i>									
Summer	Apr - Sept								
		MF	Hu	Qu	He	Qe	Hmix		
1Q10		0.25	26	67.4	106	37.1	81		
7Q10		0.25	26	106	106	37.1	73		
Winter	Oct - Mar								
		MF	Hu	Qu	He	Qe	Hmix		
1Q10		0.25	36	69.3	108	37.1	85		
7Q10		0.25	36	75	108	37.1	84		
New Data Only									
<i>Hardness at the edge of the mixing zone</i>									
Summer	Apr - Sept								
		MF	Hu	Qu	He	Qe	Hmix	New Data Only	Entire data set
									Hmix
1Q10	109	0.25	33	67.4	108	37.1	85		81
7Q10	170	0.25	33	106	108	37.1	77		73
Winter	Oct - Mar								
		MF	Hu	Qu	He	Qe	Hmix	New Data only	Entire data set
									Hmix
1Q10		0.25	39	69.3	126	37.1	98		85
7Q10		0.25	39	75	126	37.1	97		84