

Plan	Unit (w/in or nearest)	Site name	index (point identity check)	current condition	treatment	CSDS	Volume at Risk	Non-Treat	Points (Multi-Point check)
1-13-031	N	G9	158	Draining onto large slide (5000+ cy) near CII watercourse	Drain away from slide / 100 foot buffer reinstall after operations	No	Unknown	No	1
1-13-031	O			Earth ford with dip		No	Unknown	No	1
1-07-036	BM	G6	152	Stable slopes at 65-75%	construct full bench road	No	Unknown	No	1
1-07-036	BS			No data		No	Unknown	No	1
1-07-036	BS			Possible Accipiter Nest		No	Unknown	No	1
1-07-036	BI	61 (Outside but near SOW)	1	30 foot cutbank failure from upper road/ upper road narrowed	widen upper road into bank and bald lower road	No	Unknown	No	1
1-01-206	I		1	Active Erosion Site	Install ditch relief waterbar, dip, or culvert	N/A	Unknown	N/A	1
1-01-206	I		2	Active Erosion Site	Maintain Inside Ditch	N/A	Unknown	N/A	1
1-01-206	I		3	Active Erosion Site	Leave 100 foot through cut above turn	N/A	Unknown	N/A	1
1-01-206	I		4	Active Erosion Site	Leave 75 foot through cut	N/A	Unknown	N/A	1
1-01-206	I		5	Active Erosion Site	Leave 100 foot through cut	N/A	Unknown	N/A	1
1-01-206	H		6	Active Erosion Site	Install rocked ford at existing temporary class III crossing	N/A	Unknown	N/A	1
1-01-206	H		7	Active Erosion Site	Install rocked ford at existing temporary class III crossing after skidding	N/A	Unknown	N/A	1
1-01-206	G		8	Active Erosion Site	Install rocked ford at existing temporary class III crossing	N/A	Unknown	N/A	1
1-01-206	G		9	Active Erosion Site	Maintain existing inside ditches 100 feet north and 100 feet south of existing Class II crossing	N/A	Unknown	N/A	1
1-97-017				No Point data found					
1-96-274				No Point data found					
1-92-189	NorthEast		1	Small cut and fill failure on existing road	move road into bank, drain water away	N/A	Unknown	N/A	1
1-92-189	NorthEast		2	cut bank failure, redwood stump broke loose and fallen onto road	drift excess material away from temporary road crossing	N/A	Unknown	N/A	1
1-92-189	NorthEast and SouthWest		3	Road locations greater than 25%	None	N/A	Unknown	N/A	3
1-91-143				No Point data found					
1-91-110				No Point data found					
1-90-180	East	Geo Point 1 (Outside but near SOW)	1	Perched fill on edge of road	pull back fill and remove organic material	N/A	Unknown	N/A	1

Assumptions:  
Data is collected as either numeric or Boolean;  
we could collect narrative data, I didn't develop such a approach because it seemed time prohibitive and less consistent.

Prototype Restoration trend calculation

$$\text{Quantified Environmental Impact} = \frac{\text{Potential discharge} * \text{Watercourse Class Factor}}{\text{Distance from higher order watercourse}} - \text{Discharge associated with feasible treatment}$$

NOTE:

I am quantifying environmental impact because it is easier to extract quantified data in a consistent manner from a THP, it is possible to extract subjective/narrative data with which we would examine and interpret the data with a thought process similar to the above equation.

If nothing else these equations give an insight into how we might examine and interpret this data, even if a subjective approach is favored in the end.

This only addresses conditions at 1 point under which fits a narrow set of criteria

This does not account for the present state of a plan or an area, only whether or not it has improved as a result of treatments in a THP

This is only applicable where there is volume estimates for potential discharge

Potential discharge is sometimes given as a value range (e.g. 10-20 cy) or a single value estimation (e.g. 15 cy)

Although some plans overlapping with the SOW area did have CSDS sites with volume estimations, there were no CSDS or non treat sites disclosed within the SOW area.

SUGGESTIONS:

Avoid pseudoprecision by measuring distance from higher order watercourse in tens or hundreds of feet

If potential discharge is in Class I make distance from higher order watercourse value 1

Consider eliminating quality 'distance from higher order watercourse' to make evaluation more streamlined

Watercourse Class Factor could include a factor assessing WLPZ canopy cover or the general stability of the soils; This may also lead to considerations of impacts to temperature via shade.

Point Value density/Heat map concept

$$\text{Quantified Environmental Trend} = -\frac{Q_{ft} * \text{Watercourse Class Factor}}{\text{Predicted WLPZ Density Factor with treatment}} + \frac{Q_{pt} * \text{Watercourse Class Factor}}{D * \text{WLPZ Density Factor without treatment}}$$

$Q_{ft}$  = Discharge associated with feasible treatment

$Q_{pt}$  = Potential discharge without treatment

$D$  = Distance from higher order watercourse

This equation does not actually reveal total Quantified Environmental Trends; more precisely this equation describes trends in sediment and temperature loads associated with THPs. This equation is an idea I am proposing as a sort skeleton to build a synthesize information relating to restoration.