Vermont Stream Geomorphic Assessment

Appendix I

Stream Classification Systems

Vermont Agency of Natural Resources
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Stream Classification Systems

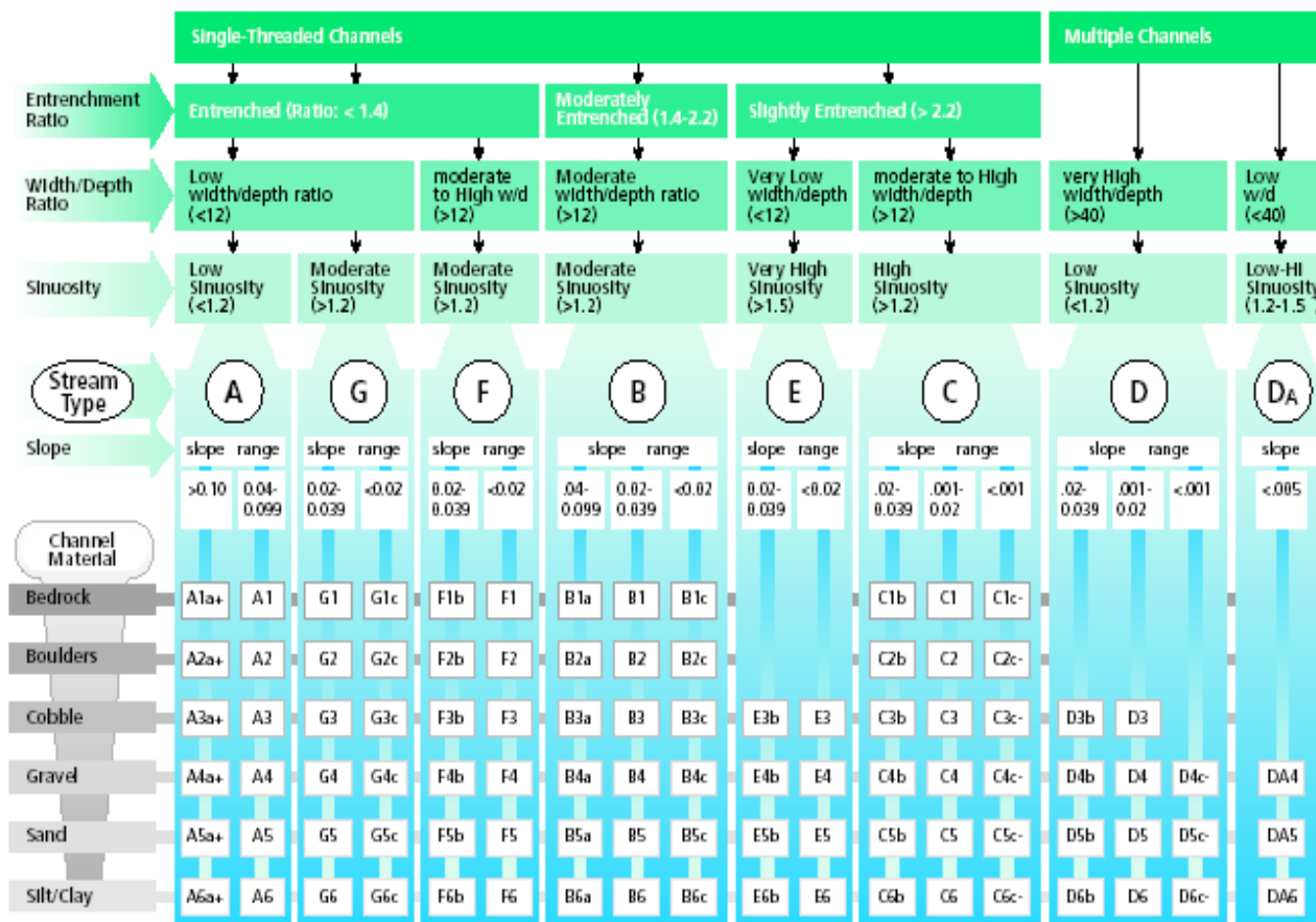## Rosgen Stream Channel Classification System

Figure 1 Rosgen Classification System, (Rosgen, Dave, 1996. Applied River Morphology) Copyright 1996 by Wildland Hydrology. All illustrations copyright 1996 by Hilton Lee Silvey. Excerpted from the Federal Interagency Stream Restoration Working Group. 1998. Stream Corridor Restoration Manual: Principles, Processes, and Practices. Reproduced here by written permission of Wildland Hydrolgy.

Montgomery – Buffington Stream Classification System

	Colluvial	Braided	Regime	Pool-Riffle	Plane-Bed	Step-Pool	Cascade	Bedrock

	Braided	Regime	Pool-Riffle	Plane-Bed	Step-Pool	Cascade	Bedrock	Colluvial
Typical Bed Material	Variable	Sand	Gravel	Gravel, cobble	Cobble, boulder	Boulder	N/A	Variable
Bedform Pattern	Laterally oscillary	Multi-layered	Laterally oscillary	None	Vertically oscillary	None	•	Variable
Reach Type	Response	Response	Response	Response	Transport	Transport	Transport	Source
Dominant Roughness Elements	Bedforms (bars, pools)	Sinuosity, bedforms (dunes, ripples, bars) banks	Bedforms (bars, pools), grains, LWD, sinuosity, banks	Grains, banks	Bedforms (steps, pools), grains, LWD, banks	Grains, banks	Boundaries (bed & banks)	Grains, LWD
Dominant Sediment Sources	Fluvial, bank failure, debris flow	Fluvial, bank failure, inactive channel	Fluvial, bank failure, inactive channel, debris flows	Fluvial, bank failure, debris flow	Fluvial, hillslope, debris flow	Fluvial, hillslope, debris flow	Fluvial, hillslope, debris flow	Hillslope, debris flow
Sediment Storage Elements	Overbank, bedforms	Overbank, bedforms, inactive channel	Overbank, bedforms, inactive channel	Overbank, inactive channel	Bedforms	Lee & stoss sides of flow obstructions	•	Bed
Typical Slope (m/m)	S < 0.03	S < 0.001	0.001 < S and S < 0.02	0.01 < S and S < 0.03	0.03 < S and S < 0.08	0.08 < S and S < 0.30	Variable	S > 0.20
Typical Confinement	Unconfined	Unconfined	Unconfined	Variable	Confined	Confined	Confined	Confined
Pool Spacing (Channel Widths)	Variable	5 to 7	5 to 7	none	1 to 4	< 1	Variable	Variable

Figure 2. Suggested stream classifications for Pacific Northwest. Source: Montgomery and Buffington 1993. Table excerpted from the Federal Interagency Stream Restoration Working Group. 1998. Stream Corridor Restoration Manual: Principles, Processes, and Practices.