



WASHINGTON STATE DEPARTMENT OF
Natural Resources

MEMORANDUM

November 19, 2003

To: Laura Vaugeois
Karl Wegman

From: Lorraine Powell

A handwritten signature in blue ink, appearing to be 'LP' or 'L. Powell', next to the name Lorraine Powell.

Subject: Powell Creek Watershed Level 1 Assessment

Summary: The Powell Creek Watershed analysis meets the standards required for use in Forest Practices by foresters. No additional work is necessary. A few minor additions to the existing mapping have been submitted with this report.

Methodology

The first two weeks in November 2003, I evaluated the Powell Watershed Analysis to determine if the Mass Wasting Module portion of the watershed analysis was adequate in identifying the majority of slope stability issues in the basin. 1999 color stereo photos were used with transparent overlays attached to the photos. All deep-seated and shallow landslides, inner gorges, debris flows, bedrock hollows, convergent headwalls and road failures identified were marked on the photo transparencies. Photo mapped information evaluated as definite or probably was transferred from the transparencies to the 1:12,000 scale DEM map. The Mass Wasting Assessment (Appendix A) for the Powell Watershed Analysis was evaluated. No prescriptions were available. The USGS geologic map was reviewed and compared to the landslide inventory. Field assessment was not conducted on this review.

Are the majority of landslides in the basin adequately identified?

Yes. Thirteen additional deep-seated landslides were identified during the Analysis review. All of them were captured in the Mashel MWMU#4 although they were not identified on the maps. The additions to the landslide inventory are attached to this report. This does not compromise the Watershed Analysis.

Q-2. Do the Mass Wasting Map Units reflect reasonable assumptions based upon your review of the geology and landslides in the basin?

Yes.

Q-3. Are the hazard ratings assigned to the Mass Wasting Map Units reinforced by the distribution of landslides as shown in the Landslide Inventory for the WAU?

Yes.

Q-4. Are there landforms that seem to have a large number of landslides, but no associated Mass Wasting Map Unit?

No. Only 4 small mass wasting features and 2 Large Persistent Deep-Seated Landslides were found not associated with the Mashel Fm.

Q-5. Does the text describing the Mass Wasting Map Units do an adequate job in presenting the landform / geology information that a forester using this map would need to identify the features on the ground?

Yes. The Mashel Formation is a recognizable mapped unit that a forester can identify on the ground.

Q-6. Are there additions to the mass wasting assessment products?

Yes. Additional mass wasting features were noted and mapped. The A-1 form and associated topographic maps identifying those features are attached to this report.

Q-7. Should Forest Practices Division send this Mass Wasting Assessment out for final external peer review?



Lorraine Powell

A handwritten signature in cursive script that reads "Lorraine Powell".

Lorraine Powell
Geologist III
Department of Natural Resources

Powell	16/03E-34R1	None	SSD/d	43-91-142	Y	0	20-50/CC	100/mtn cliffs	Tvc	1400	22713	1380	22714
Powell	16/03E-27J1	#4	SR/p	43-91-143	Y	5	20-50/CC	75/terrace face	Tmh	600	22715	650	22716
Powell	16/03E-26N1	#4	SSD/d	43-91-143	N	40	20-50/CC	75/terrace face	Tmh	650	22717		
Powell	16/03E-36R1	None	DT/p	42-92-196	Y	20	0-20/CC	75/inner Gorge	Tva	1550	22719		
Powell	16/04-31N1	None	SR/d	42-92-196	N	<10	0-20/CC	37.5/concave slope	Tva	1700	22729		
Powell	16/04E-31M1	None	DT/d	42-92-196	N	20	20-50/CC	50/Convex slope	Tva	1610	22720		
Powell	16/04E-31D1	None	SSD/p	42-93-168	Y	<10	20-50/CC	62.5/planer	Tvc	950	22721		
Powell	16/03E-25J1	#4	LPD/d	42-92-198	Y	0	20-50/CC	75/terrace face	Tmh	600	22718		
Powell	16/03E-25M2	#4	LPD/p	42-92-198	N	0	20-50/CC	75/terrace face	Tmh	750	22719		
Powell	16/04E-30P1	#4	LPD/p	42-92-198	Y	0	20-50/CC	70/terrace face	Tmh	675	22722		
Powell	16/04E-30Q1	#4	LPD/d	43-94-228	Y	10	20-50/CC	100/terrace face	Tmh	650	22723		
Powell	16/04E-30R2	#4	LPD/d	43-94-228	I	0	0-20/CC	75/terrace face	Tmh	675	unable to determine delivery	22724	22725
Powell	16/04E-30R3	#4	LPD/d	43-94-228	Y	0	20-50/CC	62.5/terrace face	Tmh	600	22724		
Powell	16/04E-29P1	#4	LPD/p	43-94-228	N	0	20-50/CC	25/tailed terrace	Tmh	675	22725		
Powell	16/04E-29P2	#4	LPD/p	43-94-228	Y	0	0-20/CC	50-63/terrace face	Tmh	780	22726		
Powell	16/04E-32G1	#4	LPD/d	43-94-228	Y	10	0-20	75/terrace face	Tmh	900	22727		

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Sub-basin
Landslide I.D. No.
MWMU
Landslide Processes and Certainty
1999 Photo ID SW-C-99
Sed. Del to nearest stream (y/n type)
Surface erosion of scar (percent)
Assoc. land use activity
Geomorphic charact (gradient) (slope form)
Bedrock or parent material
Initiation elevation
Comments

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