

Appendix 1 Field form for gully assessment

Section 1. Gully system identification		
Watershed - <i>str A</i>	Cutblock No. <i>SK1537</i>	Date (y/m/d) <i>16/03/09</i>
Gully No. <i>1</i>	Road No. <i>.</i>	Recorded by <i>AL</i>
Reach No.	Dist. (start/end) (m) <i>85m</i>	Roll/photo No.

Fan assessments: complete Sections 2, 3, 4, 5 (and 7 if post-harvest).

Transport zone and headwall assessments: complete Sections 2, 3, 4, 6 (and 7 if post-harvest).

Enter the results in Management Strategies, Tables 2-5.

Section 2. Downstream impact potential	L	M	H
Connection to a community watershed intake	<i>None</i>	Indirect	Direct
Dwellings, major installations, safety	<i>No</i>		Yes
Connection to fish streams or lakes or sensitive marine zones	None	<i>Indirect</i>	Direct

Section 3. Upslope debris flow potential	L	M	H
Terrain stability class upslope (from terrain mapping)	<i>I-III, or S</i>	IV or P	V or U
Slope gradient upslope (if no terrain mapping)	<i><50%</i>	50 – 60%	>60%
Evidence of landslides or debris flows in gully systems	<i>N</i>	not clear	Y

Section 4. Water transport potential (WTP)	L	M	H
Channel width (m)	<i>≤2</i>	>2 – ≤3.5	>3.5
Size of water-transported woody debris	<i>SWD</i>	LWD	Logs or no WD
Largest sediment in storage wedges (mm)	<i>≤100</i>	>100 – ≤200	>200

Section 5. Fan destabilization potential (FDP) - <i>N/A</i>			
Channel incision (CI) _____ (m)	Number of channels (CN) (If the fan has no channels, the FDP is L, low)		
	1	2-3	>3
<0.5	H	H	H
0.5 – <1	M	H	H
1 – <2	L	M	H
≥2	L	L	M

Table A1. Headwall failure potential (HWFP)

Headwall slope angle <u>30</u> (%)	Headwall surficial material				
	R	C	M, F	W, L	FS
>70	L	H	H	H	H
>60 – 70	L	M	H	H	H
>50 – 60	L	L	M	H	H
≤50	L	L	<u>L</u>	M	H

Enter the results in Table C

Table A2. Sidewall failure potential (SWFP)

Sidewall slope angle <u>60</u> (%)	Sidewall surficial material				
	R	C	M, F	W, L	FS
>70	L	H	H	H	H
>60 – 70	L	L	M	H	H
>50 – 60	L	L	<u>L</u>	H	H
≤50	L	L	L	M	H

Enter the results in Table C

Table B. Gully geometry potential for debris flow initiation

Sidewall slope distance <u>5</u> (m)	Channel gradient _____ (%)		
	≤30	>30 – ≤40	>40
>15	L	M	H
7 – <15	L	L	M
0 – <7	L	<u>L</u>	L
All headwalls	M	H	H

Enter the results in Table C

Table C. Debris flow initiation hazard

HWFP or SWFP (Table A1 or A2)	Gully geometry potential for debris flow initiation (Table B)		
	L	M	H
H	L	M	H
M	L	M	M
L	L	<u>L</u>	L

Enter the results in Section 6

Section 6. Debris flow initiation potential (DFIP)	L	M	H
Debris flow initiation hazard (Table C)	L	M	H
Past debris flow initiation in this reach	no	not clear	yes

Section 7. Post-harvest conditions				
Years since harvesting	<1	2 – 5	6 – 10	>10
Logging debris in channel	sparse	moderate	heavy	very heavy
Sediment stored behind logging debris	sparse	moderate	heavy	very heavy