

SECTION C – SOIL AND HYDROLOGY

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-5	7.5YR 4/2					unreal	gravelly
5+						Rock	fine rocks

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

Hydric soil indicators:

Soil drainage (circle) W | MW | P | VP

Organic layers:

Organic soil material
 Litter
 Fibric
 Mesic
 Humic
 Peaty topsoil
 Peaty subsoil

Concretions:

Iron concretions
 Manganese concretions
 Nodular

Consistence:

Plastic
 Sticky
 Fluid

Colours: profile form either:

Gley profile OR
 Mottled profile

Horizon:

Reductomorphic
 Redox mottled
 Redox segregations
 Perch-gley features

Cause of wetness (circle appropriate):

Location: Depression Flat Valley Gully Slope
 Water table: Depth (cm) _____
 High GW Perched Seepage Tidal Lithic
 Pans: Depth (cm) _____
 Pan Humus Fe-pan Densi- Duri- Fragi Ortstein
 Restricting layers: Depth (cm) 5
 Slow perm argillic
 Pugged

Hydric soils present? YES NO UNCERTAIN NZSC subgroup _____

Primary hydrology indicators: minimum of 1 required; check all boxes that apply Soil °C _____

Surface water (1A) Algal mat/crust (2D) Aquatic invertebrates (2J)
 Groundwater <30 cm (1B) Iron deposits (2E) Hydrogen sulphide odour (3A)
 Soil saturation <30 cm (1C) Surface soil cracks (2F) Oxidised rhizosphere on roots (3B)
 Water marks (2A) Inundation on aerial imagery (2G) Reduced iron (3C)
 Sediment deposits (2B) Sparsely vegetated concave surface (2H) Reduced iron in tilled soil (3D)
 Drift deposits (2C) Salt crust (2I) High water table stunted/stressed plants (4A)

Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

Water-stained leaves (2K) Geomorphic position (4B)
 Drainage patterns (2L) Shallow aquitard (4C)
 Dry-season water table (3E) FAC-neutral test (4D)
 Saturation in aerial imagery (3F) Frost-heave hummocks (4E)

FAC-neutral test (4D); refer to Section B: Vegetation

1. No. OBL & FACW dominant species _____ (A)
 2. No. FACU & UPL dominant species _____ (B)
 3. Total _____ (A+B)
 4. FAC-neutral (>50%) _____ (A/A+B)*100

Wetland hydrology present? YES NO



Remarks: site 22
photo = NM 5404

NEW ZEALAND WETLAND DELINEATION DATA FORM: PASTURE TEST

SECTION A – SITE INFORMATION

Site: Remark Region: Remarks (otago) Sampling point/ID: site 24
 Owner/address: DOC Date: 1/04/25 Land use: conservation
 Landform: cushionfield above wetland Local relief: ~100m N→NE Land cover: cushionfield
 Is the land drained? YES NO UNKNOWN Investigator(s): LSW, NM Slope°: 10°
 GPS (NZTM): 3437 (screenshot) Altitude m: _____ Photo Nos: 3436

Are climatic/hydrologic conditions on the site typical for this time of year? YES NO (if NO explain in Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed? No Are 'Normal Circumstances' present? YES NO
 Are Vegetation Soil or Hydrology naturally problematic? No Explain answers in Remarks if needed

SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features etc.

Pasture exclusion? YES NO Hydrophytic vegetation present? YES NO
 Hydric soils present? YES NO Wetland hydrology present? YES NO
 Is the sampled area within a wetland? YES NO

SECTION B – VEGETATION

Use scientific names of plants.	Absolute % cover	Dominant Species?	Indicator Status	Pasture % cover
Tree Stratum (Plot size: _____)				
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
Total tree cover (TT) =	_____	50%	20%	_____
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____
Total sapling/shrub cover (TS) =	_____	50%	20%	_____
Herb Stratum (Plot size: _____)				
1. <u>Abrotanella inc</u>	<u>15</u>	<u>X</u>	<u>N/a</u>	_____
2. <u>Poa col</u>	<u>2</u>	<u>N</u>	<u>N/a</u>	_____
3. <u>chi mac</u>	<u>2</u>	<u>N</u>	<u>N/a (FACU)</u>	_____
4. <u>Carex proserpinaca</u>	<u>10</u>	<u>X</u>	<u>FAC</u>	_____
5. <u>Luz pum</u>	<u>1</u>	<u>N</u>	<u>UPL</u>	_____
6. <u>Act Kirk</u>	<u>1</u>	<u>N</u>	<u>N/a</u>	_____
7. <u>Kelleraia child</u>	<u>3</u>	<u>N</u>	<u>N/a</u>	_____
8. <u>gan nub</u>	<u>15</u>	<u>X</u>	<u>FAC</u>	_____
9. <u>phy col</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	_____
10. <u>cel haast</u>	<u>1</u>	<u>N</u>	<u>N/a</u>	_____
11. <u>cel sess</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	_____
12. <u>rao ara</u>	<u>5</u>	<u>N</u>	<u>N/a</u>	_____
13. <u>gop Anaphalita</u>	<u>15</u>	<u>X</u>	<u>N/a</u>	_____
14. <u>Dra mus</u>	<u>10</u>	<u>X</u>	<u>N/a</u>	_____
15. <u>Ep: pophorium</u>	<u>1</u>	<u>N</u>	<u>N/a</u>	_____
16. <u>rock</u>	<u>TS</u>	<u>/</u>	<u>N/a</u>	_____
17. <u>moss</u>	<u>10</u>	<u>X</u>	<u>N/a</u>	_____
18. <u>bare</u>	<u>10</u>	<u>/</u>	<u>N/a</u>	_____
Total herb cover (TH) =	<u>118</u>	50%	20%	_____
<u>103 not inc rock</u>				
Total (P) =	_____	_____	_____	_____
Total Vegetation Cover (TVC): TT+TS+TH = _____ 50% _____				

Pasture Exclusion Test:
 Pasture cover/Total vegetation cover (P/TVC) x100 = _____ %
 Rapid Pasture Test
 Pasture Exclusion Test is >50%

Dominance Test:
 No. Dominant Spp. OBL/FACW/FAC (A) n/a
 Tot. Dominant Spp. across strata (B) 5
 % OBL/FACW/FAC (A/B) N/a

Prevalence Index:
 Total % cover of: Multiply by:
 OBL 1 x 1 = 1
 FACW 1 x 2 = 2
 FAC 26 x 3 = 78
 FACU 3 x 4 = 12
 UPL 79 x 5 = 395
 Total 103 (A) 485 (B)
 Prevalence Index (B/A) = 4.708

Hydrophytic vegetation indicators:
 Rapid Test
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological adaptations¹ (supporting data in Remarks)
 Problematic hydrophytic vegetation¹
 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present?
 YES NO UNCERTAIN

Remarks:

SECTION C – SOIL AND HYDROLOGY

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-3	10R3/1		~			mineral	
3-10	2.5Y4/1	7.5YR4/4	25	5mm	ped face	mineral	Rocky
10+						Rock	

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

Hydric soil indicators:	Soil drainage (circle) <input checked="" type="checkbox"/> MW P VP	Cause of wetness (circle appropriate):
Organic layers:	Concretions:	Location: Depression Flat Valley Gully <u>Slope</u>
<input type="checkbox"/> Organic soil material	<input type="checkbox"/> Iron concretions	Water table: Depth (cm) _____
<input type="checkbox"/> Litter	<input type="checkbox"/> Manganese concretions	High GW Perched Seepage Tidal Lithic
<input type="checkbox"/> Fibric	<input type="checkbox"/> Nodular	Pans: Depth (cm) _____
<input type="checkbox"/> Mesic	Consistence:	Pan Humus Fe-pan Densi- Duri- Fragi Ortstein
<input type="checkbox"/> Humic	<input type="checkbox"/> Plastic	Restricting layers: Depth (cm) <u>10</u>
<input type="checkbox"/> Peaty topsoil	<input type="checkbox"/> Sticky	Slow perm argillic
<input type="checkbox"/> Peaty subsoil	<input type="checkbox"/> Fluid	<input type="checkbox"/> Pugged
	Colours: profile form either:	
	<input type="checkbox"/> Gley profile OR	
	<input type="checkbox"/> Mottled profile	
	Horizon:	
	<input type="checkbox"/> Reductimorphic	
	<input type="checkbox"/> Redox mottled	
	<input type="checkbox"/> Redox segregations	
	<input type="checkbox"/> Perch-gley features	

Hydric soils present? YES NO UNCERTAIN NZSC subgroup _____

Primary hydrology indicators: minimum of 1 required; check all boxes that apply Soil °C _____

<input type="checkbox"/> Surface water (1A)	<input type="checkbox"/> Algal mat/crust (2D)	<input type="checkbox"/> Aquatic invertebrates (2J)
<input type="checkbox"/> Groundwater <30 cm (1B)	<input type="checkbox"/> Iron deposits (2E)	<input type="checkbox"/> Hydrogen sulphide odour (3A)
<input type="checkbox"/> Soil saturation <30 cm (1C)	<input type="checkbox"/> Surface soil cracks (2F)	<input type="checkbox"/> Oxidised rhizosphere on roots (3B)
<input type="checkbox"/> Water marks (2A)	<input type="checkbox"/> Inundation on aerial imagery (2G)	<input type="checkbox"/> Reduced iron (3C)
<input type="checkbox"/> Sediment deposits (2B)	<input type="checkbox"/> Sparsely vegetated concave surface (2H)	<input type="checkbox"/> Reduced iron in tilled soil (3D)
<input type="checkbox"/> Drift deposits (2C)	<input type="checkbox"/> Salt crust (2I)	<input type="checkbox"/> High water table stunted/stressed plants (4A)

Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

<input type="checkbox"/> Water-stained leaves (2K)	<input type="checkbox"/> Geomorphic position (4B)	FAC-neutral test (4D); refer to Section B: Vegetation 1. No. OBL & FACW dominant species _____ (A) 2. No. FACU & UPL dominant species _____ (B) 3. Total _____ (A+B) 4. FAC-neutral (>50%) _____ (A/A+B)*100
<input type="checkbox"/> Drainage patterns (2L)	<input type="checkbox"/> Shallow aquitard (4C)	
<input type="checkbox"/> Dry-season water table (3E)	<input type="checkbox"/> FAC-neutral test (4D)	
<input type="checkbox"/> Saturation in aerial imagery (3F)	<input type="checkbox"/> Frost-heave hummocks (4E)	

Wetland hydrology present? YES NO



Remarks: site 24
photo 3NM5402

NEW ZEALAND WETLAND DELINEATION DATA FORM: PASTURE TEST

SECTION A – SITE INFORMATION

Site: Remarks Region: Remarks (otago) Sampling point/ID: site 25
 Owner/address: DOC Date: 1/02/25 Land use: conservation
 Landform: seepage Local relief: ~40m (S) Land cover: moss/grass
 Is the land drained? YES NO UNKNOWN Investigator(s): CSW, NM Slope°: 5°
 GPS (NZTM): 1246 (NM) Altitude m: _____ Photo Nos: 3372 CSW

Are climatic/hydrologic conditions on the site typical for this time of year? YES NO (if NO explain in Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed? Are 'Normal Circumstances' present? YES NO
 Are Vegetation Soil or Hydrology naturally problematic? Explain answers in Remarks if needed

SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features etc.

Pasture exclusion? YES NO Hydrophytic vegetation present? YES NO
 Hydric soils present? YES NO Is the sampled area within a wetland? YES NO
 Wetland hydrology present? YES NO

SECTION B – VEGETATION

Use scientific names of plants.	Absolute % cover	Dominant Species?	Indicator Status	Pasture % cover
Tree Stratum (Plot size: _____)				
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
Total tree cover (TT) =	_____	50%	20%	_____
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____
Total sapling/shrub cover (TS) =	_____	50%	20%	_____
Herb Stratum (Plot size: _____)				
1. <u>chi Mac</u>	<u>3</u>	<u>N</u>	<u>N/a (FACU)</u>	_____
2. <u>Carex edgariana</u>	<u>15</u>	<u>N</u>	<u>N/a</u>	_____
3. <u>Euchiton lat</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	_____
4. <u>Anaphaloides bell</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	_____
5. <u>Epi brun</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	_____
6. <u>isolepis auck</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	_____
7. <u>Koeleria chiese</u>	<u>4</u>	<u>N</u>	<u>N/a</u>	_____
8. <u>Ranunculus mac</u>	<u>2</u>	<u>N</u>	<u>OBL</u>	_____
9. <u>Moutia sess</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	_____
10. <u>moss</u>	<u>40</u>	<u>N</u>	<u>N/a</u>	_____
11. <u>rock</u>	<u>20</u>	<u>N</u>	<u>N/a</u>	_____
12. _____	_____	_____	_____	_____
13. _____	_____	_____	_____	_____
14. _____	_____	_____	_____	_____
15. _____	_____	_____	_____	_____
16. _____	_____	_____	_____	_____
17. _____	_____	_____	_____	_____
18. _____	_____	_____	_____	_____

Total herb cover (TH) = 131 50% 0 20% 2
 (ill not inc rock) Total (P) = _____

Pasture Exclusion Test:
 Pasture cover/Total vegetation cover (P/TVC) x100 = _____ %
 Rapid Pasture Test
 Pasture Exclusion Test is >50%

Dominance Test:
 No. Dominant Spp. OBL/FACW/FAC (A) 1
 Tot. Dominant Spp. across strata (B) 2
 % OBL/FACW/FAC (A/B) 50%

Prevalence Index:
 Total % cover of: Multiply by:
 OBL 22 x 1 = 22
 FACW 7 x 2 = 14
 FAC _____ x 3 = _____
 FACU 23 x 4 = 92
 UPL 19 x 5 = 95
 Total 71 (A) 228 (B)
 Prevalence Index (B/A) = 3.1467

Hydrophytic vegetation indicators:
 Rapid Test
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological adaptations¹ (supporting data in Remarks)
 Problematic hydrophytic vegetation¹
 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present?
 YES NO UNCERTAIN

Remarks:

Total Vegetation Cover (TVC): TT+TS+TH = _____ 50% _____

SECTION C – SOIL AND HYDROLOGY

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-8	5YR3/2					Peat	mass on surface
8-11	2.5Y3/2	2.5YR4/4	20	5mm	within matrix	humic	fine roots
11-15	5Y3/1					mineral	

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

Hydric soil indicators: Organic layers: <input type="checkbox"/> Organic soil material <input type="checkbox"/> Litter <input type="checkbox"/> Fibric <input type="checkbox"/> Mesic <input checked="" type="checkbox"/> Humic <input checked="" type="checkbox"/> Peaty topsoil <input type="checkbox"/> Peaty subsoil	Soil drainage (circle) W MW I P (VP) Concretions: <input type="checkbox"/> Iron concretions <input type="checkbox"/> Manganese concretions <input type="checkbox"/> Nodular Consistence: <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Sticky <input type="checkbox"/> Fluid	Colours: profile form either: <input type="checkbox"/> Gley profile OR <input checked="" type="checkbox"/> Mottled profile Horizon: <input type="checkbox"/> Reductimorphic <input type="checkbox"/> Redox mottled <input type="checkbox"/> Redox segregations <input type="checkbox"/> Perch-gley features	Cause of wetness (circle appropriate): Location: Depression Flat Valley Gully <u>Slope</u> Water table: Depth (cm) <u>0</u> High GW Perched <u>Seepage</u> Tidal Lithic Pans: Depth (cm) _____ Pan Humus Fe-pan Densi- Duri- Fragi Ortstein Restricting layers: Depth (cm) _____ Slow perm argillic <input type="checkbox"/> Pugged
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Hydric soils present? YES NO UNCERTAIN NZSC subgroup _____

Primary hydrology indicators: minimum of 1 required; check all boxes that apply Soil °C _____

<input checked="" type="checkbox"/> Surface water (1A)	<input type="checkbox"/> Algal mat/crust (2D)	<input type="checkbox"/> Aquatic invertebrates (2J)
<input type="checkbox"/> Groundwater <30 cm (1B)	<input type="checkbox"/> Iron deposits (2E)	<input type="checkbox"/> Hydrogen sulphide odour (3A)
<input checked="" type="checkbox"/> Soil saturation <30 cm (1C)	<input type="checkbox"/> Surface soil cracks (2F)	<input type="checkbox"/> Oxidised rhizosphere on roots (3B)
<input type="checkbox"/> Water marks (2A)	<input type="checkbox"/> Inundation on aerial imagery (2G)	<input type="checkbox"/> Reduced iron (3C)
<input type="checkbox"/> Sediment deposits (2B)	<input type="checkbox"/> Sparsely vegetated concave surface (2H)	<input type="checkbox"/> Reduced iron in tilled soil (3D)
<input type="checkbox"/> Drift deposits (2C)	<input type="checkbox"/> Salt crust (2I)	<input checked="" type="checkbox"/> High water table stunted/stressed plants (4A)

Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

<input type="checkbox"/> Water-stained leaves (2K)	<input checked="" type="checkbox"/> Geomorphic position (4B)	FAC-neutral test (4D); refer to Section B: Vegetation 1. No. OBL & FACW dominant species _____ (A) 2. No. FACU & UPL dominant species _____ (B) 3. Total _____ (A+B) 4. FAC-neutral (>50%) _____ (A/A+B)*100
<input type="checkbox"/> Drainage patterns (2L)	<input checked="" type="checkbox"/> Shallow aquitard (4C)	
<input type="checkbox"/> Dry-season water table (3E)	<input type="checkbox"/> FAC-neutral test (4D)	
<input type="checkbox"/> Saturation in aerial imagery (3F)	<input type="checkbox"/> Frost-heave hummocks (4E)	

Wetland hydrology present? YES NO



Remarks: site 25
photo # 5377 NM

NEW ZEALAND WETLAND DELINEATION DATA FORM: PASTURE TEST

SECTION A – SITE INFORMATION

Site: Remarks Region: Remarks (otago) Sampling point/ID: site 26
 Owner/address: DOC Date: 1/04/25 Land use: Conservation
 Landform: Slight depression Local relief: 20-30m Land cover: herb/tussack
 Is the land drained? YES NO UNKNOWN Investigator(s): LSW, NM Slope: <2°
 GPS (NZTM): 1271 NM Altitude m: _____ Photo Nos: 3375

Are climatic/hydrologic conditions on the site typical for this time of year? YES NO (if NO explain in Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed? No Are 'Normal Circumstances' present? YES NO
 Are Vegetation Soil or Hydrology naturally problematic? No Explain answers in Remarks if needed

SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features etc.

Pasture exclusion? YES NO Hydrophytic vegetation present? YES NO
 Hydric soils present? YES NO Is the sampled area within a wetland? YES NO
 Wetland hydrology present? YES NO

SECTION B – VEGETATION

Use scientific names of plants.	Absolute % cover	Dominant Species?	Indicator Status	Pasture % cover
Tree Stratum (Plot size: _____)				
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
Total tree cover (TT) = _____		50% _____	20% _____	
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. <u>Cop anthropogeraea</u>	<u>1</u>	<u>IN</u>	<u>N/A</u>	_____
4. _____	_____	_____	_____	_____
5. <u>Carex edura</u>	<u>7</u>	<u>N</u>	<u>FAC</u>	_____
Total sapling/shrub cover (TS) = _____		50% _____	20% _____	
Herb Stratum (Plot size: _____)				
1. <u>chi mac</u>	<u>20</u>	<u>Y</u>	<u>N/A</u>	<u>(FACU)</u>
2. <u>Poa col</u>	<u>15</u>	<u>N</u>	<u>N/A</u>	_____
3. <u>Int pun</u>	<u>3</u>	<u>N</u>	<u>UPL</u>	_____
4. <u>raoulia grand</u>	<u>2</u>	<u>N</u>	<u>N/A</u>	_____
5. <u>colobanthus buch</u>	<u>1</u>	<u>N</u>	<u>N/A</u>	_____
6. <u>lept pect</u>	<u>15</u>	<u>N</u>	<u>N/A</u>	_____
7. <u>viola cun</u>	<u>1</u>	<u>N</u>	<u>N/A</u>	_____
8. <u>moss</u>	<u>40</u>	<u>Y</u>	<u>N/A</u>	_____
9. <u>epi alsii</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	_____
10. <u>Kelleria childii</u>	<u>2</u>	<u>N</u>	<u>N/A</u>	_____
11. <u>Abro inconspicua</u>	<u>1</u>	<u>N</u>	<u>N/A</u>	_____
12. <u>phyllachne cal</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	_____
13. <u>Raoulia Hect</u>	<u>1</u>	<u>N</u>	<u>N/A</u>	_____
14. <u>brachycome Mon</u>	<u>1</u>	<u>N</u>	<u>N/A</u>	_____
15. <u>Plantago lanigera</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	_____
16. <u>pirosella ott</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	_____
17. <u>agrostis mackayii</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	_____
18. <u>myosotis lyallii</u>	<u>1</u>	<u>N</u>	<u>N/A</u>	_____
Total herb cover (TH) = <u>116</u>		50% <u>0</u>	20% <u>2</u>	
Total Vegetation Cover (TVC): TT+TS+TH = _____		50% _____		

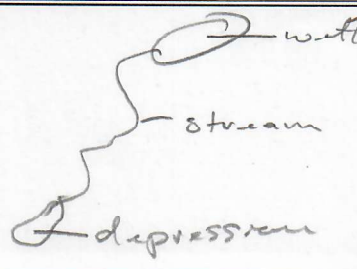
Pasture Exclusion Test:
 Pasture cover/Total vegetation cover (P/TVC) x100 = _____ %
 Rapid Pasture Test
 Pasture Exclusion Test is >50%

Dominance Test:
 No. Dominant Spp. OBL/FACW/FAC (A) 0
 Tot. Dominant Spp. across strata (B) 2
 % OBL/FACW/FAC (A/B) 0%

Prevalence Index:
 Total % cover of: Multiply by:
 OBL x 1 =
 FACW x 2 =
 FAC 9 x 3 = 27
 FACU 23 x 4 = 92
 UPL 84 x 5 = 420
 Total 116 (A) 539 (B)
 Prevalence Index (B/A) = 4.64

Hydrophytic vegetation indicators:
 Rapid Test
 Dominance Test is >50%
 Prevalence Index is $\leq 3.0^1$
 Morphological adaptations¹ (supporting data in Remarks)
 Problematic hydrophytic vegetation¹
 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present?
 YES NO UNCERTAIN

Remarks: 

SECTION C – SOIL AND HYDROLOGY

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-3						mineral	
3-25	2.5B/1	7.5YR 4/4	15	5	ped face	mineral	

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

Hydric soil indicators:	Soil drainage (circle) W MW <input checked="" type="radio"/> P VP	Cause of wetness (circle appropriate):
Organic layers: <input type="checkbox"/> Organic soil material <input type="checkbox"/> Litter <input type="checkbox"/> Fibric <input type="checkbox"/> Mesic <input type="checkbox"/> Humic <input type="checkbox"/> Peaty topsoil <input type="checkbox"/> Peaty subsoil	Concretions: <input type="checkbox"/> Iron concretions <input type="checkbox"/> Manganese concretions <input type="checkbox"/> Nodular Consistence: <input type="checkbox"/> Plastic <input type="checkbox"/> Sticky <input type="checkbox"/> Fluid	Colours: profile form either: <input type="checkbox"/> Gley profile OR <input type="checkbox"/> Mottled profile Horizon: <input type="checkbox"/> Reductimorphic <input type="checkbox"/> Redox mottled <input type="checkbox"/> Redox segregations <input type="checkbox"/> Perch-gley features
Location: Depression Flat Valley <input checked="" type="radio"/> Gully Slope Water table: Depth (cm) _____ High GW Perched Seepage Tidal Lithic Pans: Depth (cm) _____ Pan Humus Fe-pan Densi- Duri- Fragi Ortstein Restricting layers: Depth (cm) _____ Slow perm argillic <input type="checkbox"/> Pugged		

Hydric soils present? YES NO UNCERTAIN NZSC subgroup _____

Primary hydrology indicators: minimum of 1 required; check all boxes that apply Soil °C _____

<input type="checkbox"/> Surface water (1A)	<input type="checkbox"/> Algal mat/crust (2D)	<input type="checkbox"/> Aquatic invertebrates (2J)
<input type="checkbox"/> Groundwater <30 cm (1B)	<input type="checkbox"/> Iron deposits (2E)	<input type="checkbox"/> Hydrogen sulphide odour (3A)
<input type="checkbox"/> Soil saturation <30 cm (1C)	<input type="checkbox"/> Surface soil cracks (2F)	<input type="checkbox"/> Oxidised rhizosphere on roots (3B)
<input type="checkbox"/> Water marks (2A)	<input type="checkbox"/> Inundation on aerial imagery (2G)	<input type="checkbox"/> Reduced iron (3C)
<input type="checkbox"/> Sediment deposits (2B)	<input type="checkbox"/> Sparsely vegetated concave surface (2H)	<input type="checkbox"/> Reduced iron in tilled soil (3D)
<input type="checkbox"/> Drift deposits (2C)	<input type="checkbox"/> Salt crust (2I)	<input type="checkbox"/> High water table stunted/stressed plants (4A)

Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

<input type="checkbox"/> Water-stained leaves (2K)	<input checked="" type="checkbox"/> Geomorphic position (4B)	FAC-neutral test (4D); refer to Section B: Vegetation 1. No. OBL & FACW dominant species _____ (A) 2. No. FACU & UPL dominant species _____ (B) 3. Total _____ (A+B) 4. FAC-neutral (>50%) _____ (A/A+B)*100
<input type="checkbox"/> Drainage patterns (2L)	<input type="checkbox"/> Shallow aquitard (4C)	
<input type="checkbox"/> Dry-season water table (3E)	<input type="checkbox"/> FAC-neutral test (4D)	
<input checked="" type="checkbox"/> Saturation in aerial imagery (3F)	<input type="checkbox"/> Frost-heave hummocks (4E)	

Wetland hydrology present? YES NO



Remarks: site 26
photo #NM 5378

NEW ZEALAND WETLAND DELINEATION DATA FORM: PASTURE TEST

SECTION A – SITE INFORMATION

Site: Remarks Region: remarks (otago) Sampling point/ID: site 27
 Owner/address: DOC Date: 1/04/25 Land use: conservation.
 Landform: hillslope below wetland Local relief: 30m (S) (contour) Land cover: herbs
 Is the land drained? YES NO UNKNOWN Investigator(s): LSW, NM Slope°: 10°
 GPS (NZTM): 1272 Altitude m: _____ Photo Nos: # 3381

Are climatic/hydrologic conditions on the site typical for this time of year? YES NO (if NO explain in Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed? No Are 'Normal Circumstances' present? YES NO
 Are Vegetation Soil or Hydrology naturally problematic? No Explain answers in Remarks if needed

SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features etc.

Pasture exclusion? YES NO Hydrophytic vegetation present? YES NO
 Hydric soils present? YES NO Wetland hydrology present? YES NO
 Is the sampled area within a wetland? YES NO

SECTION B – VEGETATION

Use scientific names of plants.	Absolute % cover	Dominant Species?	Indicator Status	Pasture % cover	Pasture Exclusion Test:
Tree Stratum (Plot size: _____)					Pasture cover/Total vegetation cover (P/TVC) x100 = _____%
1. _____	_____	_____	_____	_____	<input type="checkbox"/> Rapid Pasture Test
2. _____	_____	_____	_____	_____	<input type="checkbox"/> Pasture Exclusion Test is >50%
3. _____	_____	_____	_____	_____	
4. _____	_____	_____	_____	_____	
Total tree cover (TT) = _____ 50% _____ 20% _____					
Sapling/Shrub Stratum (Plot size: _____)					Dominance Test:
1. _____	_____	_____	_____	_____	No. Dominant Spp. OBL/FACW/FAC (A) <u>n/a</u>
2. _____	_____	_____	_____	_____	Tot. Dominant Spp. across strata (B) <u>3</u>
3. <u>Aciphylla kirk</u>	<u>1</u>	<u>-</u>	<u>N/a</u>	_____	% OBL/FACW/FAC (A/B) <u>n/a 33%</u>
4. <u>Isolopis Aucklandica</u>	<u>5</u>	<u>-</u>	<u>OBL</u>	_____	
5. <u>Plantago NZ</u>	<u>1</u>	<u>-</u>	<u>FAC</u>	_____	
Total sapling/shrub cover (TS) = _____ 50% _____ 20% _____					Prevalence Index:
Herb Stratum (Plot size: _____)					Total % cover of: Multiply by:
1. <u>Chi mac</u>	<u>3</u>	<u>-</u>	<u>N/a</u>	_____	OBL <u>5</u> x 1 = <u>5</u>
2. <u>Poa cal</u>	<u>2</u>	<u>-</u>	<u>N/a</u>	_____	FACW <u>11</u> x 2 = <u>22</u>
3. <u>Enchiron latif</u>	<u>10</u>	<u>-</u>	<u>FACW</u>	_____	FAC <u>51</u> x 3 = <u>153</u>
4. <u>Plantago lanigera</u>	<u>10</u>	<u>-</u>	<u>FAC</u>	_____	FACU <u>8</u> x 4 = <u>32</u>
5. <u>cel haast</u>	<u>2</u>	<u>-</u>	<u>N/a</u>	_____	UPL <u>48</u> x 5 = <u>240</u>
6. <u>lept ped</u>	<u>15</u>	<u>Y</u>	<u>N/a</u>	_____	Total <u>123</u> (A) <u>452</u> (B)
7. <u>Carex pycnantha</u>	<u>2</u>	<u>-</u>	<u>FAC</u>	_____	Prevalence Index (B/A) = <u>3.67</u>
8. <u>Cop pup</u>	<u>35</u>	<u>Y</u>	<u>FAC</u>	_____	
9. <u>Epi als</u>	<u>1</u>	<u>-</u>	<u>FACU</u>	_____	Hydrophytic vegetation indicators:
10. <u>tanaxicum (all?)</u>	<u>1</u>	<u>-</u>	<u>FACU</u>	_____	<input type="checkbox"/> Rapid Test
11. <u>browntop</u>	<u>1</u>	<u>-</u>	<u>FACU</u>	_____	<input type="checkbox"/> Dominance Test is >50%
12. <u>Kellera childii</u>	<u>1</u>	<u>-</u>	<u>N/a</u>	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
13. <u>Acaena saec</u>	<u>2</u>	<u>-</u>	<u>FACU</u>	_____	<input type="checkbox"/> Morphological adaptations ¹ (supporting data in Remarks)
14. <u>Carex edura</u>	<u>3</u>	<u>-</u>	<u>FAC</u>	_____	<input type="checkbox"/> Problematic hydrophytic vegetation ¹
15. <u>moss</u>	<u>25</u>	<u>Y</u>	<u>N/a</u>	_____	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
16. <u>gentianella corum</u>	<u>1</u>	<u>-</u>	<u>N/a</u>	_____	
17. <u>Schloenus pac</u>	<u>1</u>	<u>-</u>	<u>FACW</u>	_____	Hydrophytic vegetation present?
18. <u>Carex edgariae</u>	<u>1</u>	<u>-</u>	<u>N/a</u>	_____	YES <input type="checkbox"/> NO <input type="checkbox"/> UNCERTAIN <input checked="" type="checkbox"/>
Total herb cover (TH) = <u>123</u> 50% _____ 20% _____					Remarks:
Total (P) = _____					
Total Vegetation Cover (TVC): TT+TS+TH = _____ 50% _____					

SECTION C – SOIL AND HYDROLOGY

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-5	2.5YR 2.5/2					humic	mostly raprosma root mass
5-10	2.5Y 3/1					mineral	silt & gravel

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

Hydric soil indicators:		Soil drainage (circle) W <u>MW</u> I P VP	Cause of wetness (circle appropriate):	
Organic layers: <input type="checkbox"/> Organic soil material <input type="checkbox"/> Litter <input type="checkbox"/> Fibric <input type="checkbox"/> Mesic <input checked="" type="checkbox"/> Humic <input type="checkbox"/> Peaty topsoil <input type="checkbox"/> Peaty subsoil	Concretions: <input type="checkbox"/> Iron concretions <input type="checkbox"/> Manganese concretions <input type="checkbox"/> Nodular Consistence: <input type="checkbox"/> Plastic <input type="checkbox"/> Sticky <input type="checkbox"/> Fluid	Colours: profile form either: <input type="checkbox"/> Gley profile OR <input type="checkbox"/> Mottled profile Horizon: <input type="checkbox"/> Reductimorphic <input type="checkbox"/> Redox mottled <input type="checkbox"/> Redox segregations <input type="checkbox"/> Perch-gley features	Location: Depression Flat Valley Gully <u>Slope</u> Water table: Depth (cm) _____ High GW Perched Seepage Tidal Lithic Pans: Depth (cm) _____ Pan Humus Fe-pan Densi- Duri- Fragi Ortstein Restricting layers: Depth (cm) <u>10</u> Slow perm argillic <input type="checkbox"/> Pugged	

Hydric soils present? YES NO UNCERTAIN NZSC subgroup _____

Primary hydrology indicators: minimum of 1 required; check all boxes that apply Soil °C _____

<input type="checkbox"/> Surface water (1A)	<input type="checkbox"/> Algal mat/crust (2D)	<input type="checkbox"/> Aquatic invertebrates (2J)
<input type="checkbox"/> Groundwater <30 cm (1B)	<input type="checkbox"/> Iron deposits (2E)	<input type="checkbox"/> Hydrogen sulphide odour (3A)
<input type="checkbox"/> Soil saturation <30 cm (1C)	<input type="checkbox"/> Surface soil cracks (2F)	<input type="checkbox"/> Oxidised rhizosphere on roots (3B)
<input type="checkbox"/> Water marks (2A)	<input type="checkbox"/> Inundation on aerial imagery (2G)	<input type="checkbox"/> Reduced iron (3C)
<input type="checkbox"/> Sediment deposits (2B)	<input type="checkbox"/> Sparsely vegetated concave surface (2H)	<input type="checkbox"/> Reduced iron in tilled soil (3D)
<input type="checkbox"/> Drift deposits (2C)	<input type="checkbox"/> Salt crust (2I)	<input type="checkbox"/> High water table stunted/stressed plants (4A)

Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

<input type="checkbox"/> Water-stained leaves (2K)	<input type="checkbox"/> Geomorphic position (4B)	FAC-neutral test (4D); refer to Section B: Vegetation 1. No. OBL & FACW dominant species _____(A) 2. No. FACU & UPL dominant species _____(B) 3. Total _____(A+B) 4. FAC-neutral (>50%) _____(A/A+B)*100
<input type="checkbox"/> Drainage patterns (2L)	<input type="checkbox"/> Shallow aquitard (4C)	
<input type="checkbox"/> Dry-season water table (3E)	<input type="checkbox"/> FAC-neutral test (4D)	
<input type="checkbox"/> Saturation in aerial imagery (3F)	<input type="checkbox"/> Frost-heave hummocks (4E)	

Wetland hydrology present? YES NO

Sketch of site/vegetation types/sampling points:
see drawing site 25

Remarks: site 27
photo - NM 5379

NEW ZEALAND WETLAND DELINEATION DATA FORM: PASTURE TEST

SECTION A – SITE INFORMATION

Site: Remarks Region: Remarks (otago) Sampling point/ID: Site 29
 Owner/address: DOC Date: 1/04/25 Land use: conservation
 Landform: hillsides Local relief: 10+ (S) Land cover: herb
 Is the land drained? YES NO UNKNOWN Investigator(s): CSW, NM Slope°: 10°
 GPS (NZTM): 1276 nm Altitude m: _____ Photo Nos: #3383

Are climatic/hydrologic conditions on the site typical for this time of year? YES NO (if NO explain in Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed? No Are 'Normal Circumstances' present? YES NO
 Are Vegetation Soil or Hydrology naturally problematic? No Explain answers in Remarks if needed

SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features etc.

Pasture exclusion? YES <input type="checkbox"/>	Hydrophytic vegetation present? YES <input type="checkbox"/>	Is the sampled area within a wetland? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
NO <input checked="" type="checkbox"/>	Hydric soils present? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
	Wetland hydrology present? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	

SECTION B – VEGETATION

Use scientific names of plants.	Absolute % cover	Dominant Species?	Indicator Status	Pasture % cover	Pasture Exclusion Test:
Tree Stratum (Plot size: _____)					Pasture cover/Total vegetation cover (P/TVC) x100 = _____%
1. _____	_____	_____	_____	_____	<input type="checkbox"/> Rapid Pasture Test
2. _____	_____	_____	_____	_____	<input type="checkbox"/> Pasture Exclusion Test is >50%
3. _____	_____	_____	_____	_____	
4. _____	_____	_____	_____	_____	
Total tree cover (TT) =	_____	50% _____	20% _____		
Sapling/Shrub Stratum (Plot size: _____)					Dominance Test:
1. _____	_____	_____	_____	_____	No. Dominant Spp. OBL/FACW/FAC (A) <u>0</u>
2. _____	_____	_____	_____	_____	Tot. Dominant Spp. across strata (B) <u>2</u>
3. _____	_____	_____	_____	_____	% OBL/FACW/FAC (A/B) <u>0%</u>
4. _____	_____	_____	_____	_____	
5. _____	_____	_____	_____	_____	
Total sapling/shrub cover (TS) =	_____	50% _____	20% _____		
Herb Stratum (Plot size: _____)					Prevalence Index:
1. <u>chi mac</u>	<u>50%</u>	<u>Y</u>	<u>N/A</u>	<u>FACU</u>	Total % cover of: Multiply by:
2. <u>Aci kirk</u>	<u>1</u>	<u>/</u>	<u>N/A</u>	_____	OBL <input type="checkbox"/> x 1 = <input type="checkbox"/>
3. <u>Carax penalpinus</u>	<u>2</u>	<u>/</u>	<u>N/A</u>	_____	FACW <u>1</u> x 2 = <u>2</u>
4. <u>Cop carp</u>	<u>5</u>	<u>/</u>	<u>FAC</u>	_____	FAC <u>20</u> x 3 = <u>60</u>
5. <u>Enchiten tal</u>	<u>1</u>	<u>/</u>	<u>FACW</u>	_____	FACU <u>51</u> x 4 = <u>204</u>
6. <u>Dra mus</u>	<u>2</u>	<u>/</u>	<u>N/A</u>	_____	UPL <u>40</u> x 5 = <u>200</u>
7. <u>Phyllachne col</u>	<u>15</u>	<u>/</u>	<u>FAC</u>	_____	Total <u>112</u> (A) <u>466</u> (B)
8. <u>Poa col</u>	<u>25</u>	<u>Y</u>	<u>N/A</u>	_____	Prevalence Index (B/A) = <u>4.16</u>
9. <u>Rao grand</u>	<u>1</u>	<u>/</u>	<u>N/A</u>	_____	
10. <u>Noss J</u>	<u>5</u>	<u>/</u>	<u>N/A</u>	_____	
11. <u>Viola cunning</u>	<u>1</u>	<u>/</u>	<u>N/A</u>	_____	
12. <u>pilosella all</u>	<u>1</u>	<u>/</u>	<u>FACU</u>	_____	
13. <u>rutidosperma pum</u>	<u>2</u>	<u>/</u>	<u>N/A</u>	_____	
14. <u>cul praest</u>	<u>1</u>	<u>/</u>	<u>N/A</u>	_____	
15. <u>rock/bare ground</u>	<u>(20)</u>	<u>N/A</u>	<u>N/A</u>	_____	
16. _____	_____	_____	_____	_____	
17. _____	_____	_____	_____	_____	
18. _____	_____	_____	_____	_____	
Total herb cover (TH) =	<u>132</u>	50% _____	20% _____		
	<u>112 not inc rock</u>				
Total (P) =	_____				
Total Vegetation Cover (TVC): TT+TS+TH =	_____	50% _____			

Hydrophytic vegetation indicators:
 Rapid Test
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological adaptations¹ (supporting data in Remarks)
 Problematic hydrophytic vegetation¹
 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present?
 YES NO UNCERTAIN

Remarks:

SECTION C – SOIL AND HYDROLOGY

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-5	10YR 3/2					mineral	Fine roots
5+							Gravel

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

Hydric soil indicators:	Soil drainage (circle) W <input checked="" type="checkbox"/> MW <input type="checkbox"/> P <input type="checkbox"/> VP <input type="checkbox"/>	Cause of wetness (circle appropriate):
Organic layers: <input type="checkbox"/> Organic soil material <input type="checkbox"/> Litter <input type="checkbox"/> Fibric <input type="checkbox"/> Mesic <input type="checkbox"/> Humic <input type="checkbox"/> Peaty topsoil <input type="checkbox"/> Peaty subsoil	Concretions: <input type="checkbox"/> Iron concretions <input type="checkbox"/> Manganese concretions <input type="checkbox"/> Nodular Consistence: <input type="checkbox"/> Plastic <input type="checkbox"/> Sticky <input type="checkbox"/> Fluid	Colours: profile form either: <input type="checkbox"/> Gley profile OR <input type="checkbox"/> Mottled profile Horizon: <input type="checkbox"/> Reductimorphic <input type="checkbox"/> Redox mottled <input type="checkbox"/> Redox segregations <input type="checkbox"/> Perch-gley features
		Location: Depression Flat Valley Gully <input checked="" type="checkbox"/> Slope Water table: Depth (cm) _____ High GW Perched Seepage Tidal Lithic Pans: Depth (cm) _____ Pan Humus Fe-pan Densi- Duri- Fragi Ortstein Restricting layers: Depth (cm) <u>5-10cm</u> Slow perm argillic <input type="checkbox"/> Pugged

Hydric soils present? YES NO UNCERTAIN NZSC subgroup _____

Primary hydrology indicators: minimum of 1 required; check all boxes that apply Soil °C _____

<input type="checkbox"/> Surface water (1A)	<input type="checkbox"/> Algal mat/crust (2D)	<input type="checkbox"/> Aquatic invertebrates (2J)
<input type="checkbox"/> Groundwater <30 cm (1B)	<input type="checkbox"/> Iron deposits (2E)	<input type="checkbox"/> Hydrogen sulphide odour (3A)
<input type="checkbox"/> Soil saturation <30 cm (1C)	<input type="checkbox"/> Surface soil cracks (2F)	<input type="checkbox"/> Oxidised rhizosphere on roots (3B)
<input type="checkbox"/> Water marks (2A)	<input type="checkbox"/> Inundation on aerial imagery (2G)	<input type="checkbox"/> Reduced iron (3C)
<input type="checkbox"/> Sediment deposits (2B)	<input type="checkbox"/> Sparsely vegetated concave surface (2H)	<input type="checkbox"/> Reduced iron in tilled soil (3D)
<input type="checkbox"/> Drift deposits (2C)	<input type="checkbox"/> Salt crust (2I)	<input type="checkbox"/> High water table stunted/stressed plants (4A)

Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

<input type="checkbox"/> Water-stained leaves (2K)	<input type="checkbox"/> Geomorphic position (4B)	FAC-neutral test (4D); refer to Section B: Vegetation 1. No. OBL & FACW dominant species _____ (A) 2. No. FACU & UPL dominant species _____ (B) 3. Total _____ (A+B) 4. FAC-neutral (>50%) _____ (A/A+B)*100
<input type="checkbox"/> Drainage patterns (2L)	<input type="checkbox"/> Shallow aquitard (4C)	
<input type="checkbox"/> Dry-season water table (3E)	<input type="checkbox"/> FAC-neutral test (4D)	
<input type="checkbox"/> Saturation in aerial imagery (3F)	<input type="checkbox"/> Frost-heave hummocks (4E)	

Wetland hydrology present? YES NO

Sketch of site/vegetation types/sampling points:

Remarks: site 29
photo: UM 5381

NEW ZEALAND WETLAND DELINEATION DATA FORM: PASTURE TEST

SECTION A – SITE INFORMATION

Site: Remarks Region: Remarks (otago) Sampling point/ID: site 31
 Owner/address: DOC Date: 1/04/25 Land use: conservation
 Landform: S-facing slope Local relief: 20-3m (N) Land cover: herb/fussock
 Is the land drained? YES NO UNKNOWN Investigator(s): CSW/NM Slope°: 5°
 GPS (NZTM): 1329 (NM) Altitude m: _____ Photo Nos: 3390

Are climatic/hydrologic conditions on the site typical for this time of year? YES NO (if NO explain in Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed? No Are 'Normal Circumstances' present? YES NO
 Are Vegetation Soil or Hydrology naturally problematic? No Explain answers in Remarks if needed

SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features etc.

Pasture exclusion? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	Hydrophytic vegetation present? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Is the sampled area within a wetland? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Hydric soils present? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	Wetland hydrology present? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	

SECTION B – VEGETATION

Use scientific names of plants.	Absolute % cover	Dominant Species?	Indicator Status	Pasture % cover	Pasture Exclusion Test:
Tree Stratum (Plot size: _____)					Pasture cover/Total vegetation cover (P/TVC) x100 = _____%
1. _____	_____	_____	_____	_____	<input type="checkbox"/> Rapid Pasture Test
2. _____	_____	_____	_____	_____	<input type="checkbox"/> Pasture Exclusion Test is >50%
3. _____	_____	_____	_____	_____	
4. _____	_____	_____	_____	_____	
Total tree cover (TT) =		50%	20%		
Sapling/Shrub Stratum (Plot size: _____)					Dominance Test:
1. _____	_____	_____	_____	_____	No. Dominant Spp. OBL/FACW/FAC (A) <u>n/a</u>
2. _____	_____	_____	_____	_____	Tot. Dominant Spp. across strata (B) <u>4</u>
3. _____	_____	_____	_____	_____	% OBL/FACW/FAC (A/B) <u>n/a%</u>
4. _____	_____	_____	_____	_____	
5. _____	_____	_____	_____	_____	
Total sapling/shrub cover (TS) =		50%	20%		
Herb Stratum (Plot size: _____)					Prevalence Index:
1. <u>chi mac</u>	<u>30</u>	<u>Y</u>	<u>n/a</u>	<u>FACU</u>	Total % cover of:
2. <u>Poa col</u>	<u>2</u>	<u>/</u>	<u>N/a</u>		OBL <u>1</u> x 1 = <u>1</u>
3. <u>abro incan</u>	<u>20</u>	<u>Y</u>	<u>N/a</u>		FACW <u>1</u> x 2 = <u>2</u>
4. <u>dva mus</u>	<u>5</u>	<u>/</u>	<u>N/a</u>		FAC <u>22</u> x 3 = <u>66</u>
5. <u>gan nub</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>		FACU <u>30</u> x 4 = <u>120</u>
6. <u>vaouita ground</u>	<u>30</u>	<u>Y</u>	<u>N/a</u>		UPL <u>64</u> x 5 = <u>320</u>
7. <u>luz pum</u>	<u>1</u>	<u>/</u>	<u>UPL</u>		Total <u>116</u> (A) <u>506</u> (B)
8. <u>Kelheria childii</u>	<u>1</u>	<u>/</u>	<u>N/a</u>		Prevalence Index (B/A) = <u>4.362</u>
9. <u>rytido pum</u>	<u>2</u>	<u>/</u>	<u>N/a</u>		
10. <u>cel haast</u>	<u>1</u>	<u>/</u>	<u>N/a</u>		
11. <u>Carex pygmaea</u>	<u>1</u>	<u>/</u>	<u>FAC</u>		
12. <u>viola cunn</u>	<u>1</u>	<u>/</u>	<u>N/a</u>		
13. <u>Aci Kirk</u>	<u>1</u>	<u>/</u>	<u>N/a</u>		
14. <u>phyllachne col</u>	<u>1</u>	<u>/</u>	<u>FAC</u>		
15. <u>rock</u>	<u>(10)</u>	<u>-</u>	<u>N/a</u>		
16. _____	_____	_____	_____	_____	
17. _____	_____	_____	_____	_____	
18. _____	_____	_____	_____	_____	
Total herb cover (TH) =	<u>126</u>	50% <u>0</u>	20% <u>4</u>		
	<u>116 not inc rock</u>				
Total (P) =					
Total Vegetation Cover (TVC): TT+TS+TH =		50%			

Hydrophytic vegetation indicators:
 Rapid Test
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological adaptations¹ (supporting data in Remarks)
 Problematic hydrophytic vegetation¹
 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present?
 YES NO UNCERTAIN

Remarks:

SECTION C – SOIL AND HYDROLOGY

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-2	5XR 3/3					mineral	lots of fine roots
2-8	2.5Y 4/2			5-12mm roots		mineral	
8+							Gravelly

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

Hydric soil indicators:		Soil drainage (circle) W <input checked="" type="checkbox"/> MW <input type="checkbox"/> P <input type="checkbox"/> VP <input type="checkbox"/>	Cause of wetness (circle appropriate):
Organic layers:	Concretions:	Colours: profile form either:	Location: Depression Flat Valley Gully <u>Slope</u>
<input type="checkbox"/> Organic soil material	<input type="checkbox"/> Iron concretions	<input type="checkbox"/> Gley profile OR	Water table: Depth (cm) _____
<input type="checkbox"/> Litter	<input type="checkbox"/> Manganese concretions	<input type="checkbox"/> Mottled profile	High GW Perched Seepage Tidal Lithic
<input type="checkbox"/> Fibric	<input type="checkbox"/> Nodular	Horizon:	Pans: Depth (cm) _____
<input type="checkbox"/> Mesic	Consistence:	<input type="checkbox"/> Reductimorphic	Pan Humus Fe-pan Densi- Duri- Fragi Ortstein
<input type="checkbox"/> Humic	<input type="checkbox"/> Plastic	<input type="checkbox"/> Redox mottled	Restricting layers: Depth (cm) <u>10</u>
<input type="checkbox"/> Peaty topsoil	<input type="checkbox"/> Sticky	<input type="checkbox"/> Redox segregations	Slow perm argillic
<input type="checkbox"/> Peaty subsoil	<input type="checkbox"/> Fluid	<input type="checkbox"/> Perch-gley features	<input type="checkbox"/> Pugged

Hydric soils present? YES NO UNCERTAIN NZSC subgroup _____

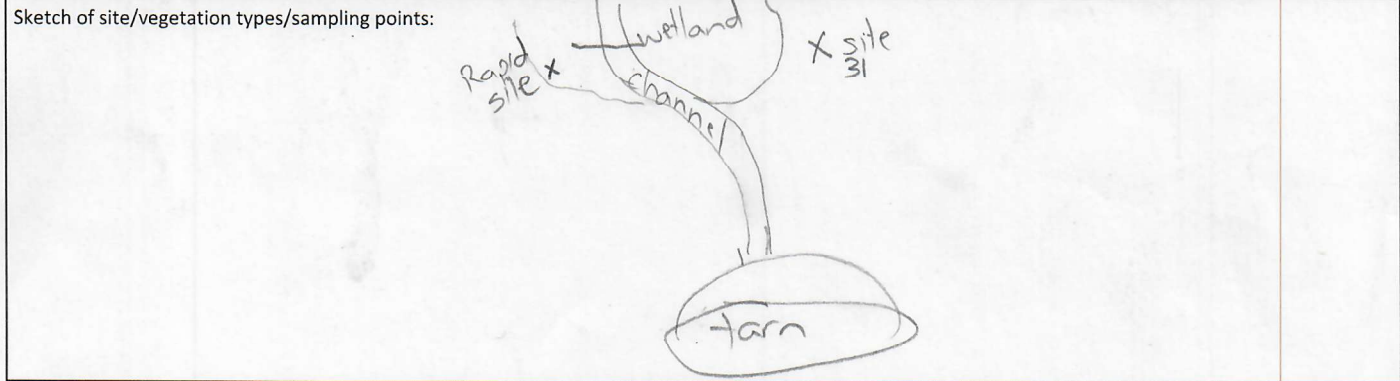
Primary hydrology indicators: minimum of 1 required; check all boxes that apply Soil °C _____

<input type="checkbox"/> Surface water (1A)	<input type="checkbox"/> Algal mat/crust (2D)	<input type="checkbox"/> Aquatic invertebrates (2J)
<input type="checkbox"/> Groundwater <30 cm (1B)	<input type="checkbox"/> Iron deposits (2E)	<input type="checkbox"/> Hydrogen sulphide odour (3A)
<input type="checkbox"/> Soil saturation <30 cm (1C)	<input type="checkbox"/> Surface soil cracks (2F)	<input type="checkbox"/> Oxidised rhizosphere on roots (3B)
<input type="checkbox"/> Water marks (2A)	<input type="checkbox"/> Inundation on aerial imagery (2G)	<input type="checkbox"/> Reduced iron (3C)
<input type="checkbox"/> Sediment deposits (2B)	<input type="checkbox"/> Sparsely vegetated concave surface (2H)	<input type="checkbox"/> Reduced iron in tilled soil (3D)
<input type="checkbox"/> Drift deposits (2C)	<input type="checkbox"/> Salt crust (2I)	<input type="checkbox"/> High water table stunted/stressed plants (4A)

Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

<input type="checkbox"/> Water-stained leaves (2K)	<input type="checkbox"/> Geomorphic position (4B)	FAC-neutral test (4D); refer to Section B: Vegetation 1. No. OBL & FACW dominant species _____(A) 2. No. FACU & UPL dominant species _____(B) 3. Total _____(A+B) 4. FAC-neutral (>50%) _____(A/A+B)*100
<input type="checkbox"/> Drainage patterns (2L)	<input type="checkbox"/> Shallow aquitard (4C)	
<input type="checkbox"/> Dry-season water table (3E)	<input type="checkbox"/> FAC-neutral test (4D)	
<input type="checkbox"/> Saturation in aerial imagery (3F)	<input type="checkbox"/> Frost-heave hummocks (4E)	

Wetland hydrology present? YES NO



Remarks: site 31
photo: NM 5383

NEW ZEALAND WETLAND DELINEATION DATA FORM: PASTURE TEST

SECTION A – SITE INFORMATION

Site: Remarks Region: Remarks (otago) Sampling point/ID: site 34
 Owner/address: DOC Date: 1/04/25 Land use: conservation
 Landform: seepage Local relief: 100+ m Land cover: sedge/herbs
 Is the land drained? YES NO UNKNOWN Investigator(s): CSW, NM Slope°: 5-10°
 GPS (NZTM): 1444 NM Altitude m: _____ Photo Nos: # 3401 CSW

Are climatic/hydrologic conditions on the site typical for this time of year? YES NO (if NO explain in Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed? No Are 'Normal Circumstances' present? YES NO
 Are Vegetation Soil or Hydrology naturally problematic? No Explain answers in Remarks if needed

SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features etc.

Pasture exclusion? YES NO Hydrophytic vegetation present? YES NO
 Hydric soils present? YES NO Is the sampled area within a wetland? YES NO
 Wetland hydrology present? YES NO

SECTION B – VEGETATION

Use scientific names of plants.	Absolute % cover	Dominant Species?	Indicator Status	Pasture % cover	Pasture Exclusion Test:
Tree Stratum (Plot size: _____)					Pasture cover/Total vegetation cover (P/TVC) x100 = _____%
1. _____	_____	_____	_____	_____	<input type="checkbox"/> Rapid Pasture Test
2. _____	_____	_____	_____	_____	<input type="checkbox"/> Pasture Exclusion Test is >50%
3. _____	_____	_____	_____	_____	
4. _____	_____	_____	_____	_____	
Total tree cover (TT) =	_____	50%	20%		
Sapling/Shrub Stratum (Plot size: _____)					Dominance Test:
1. _____	_____	_____	_____	_____	No. Dominant Spp. OBL/FACW/FAC (A) <u>2</u>
2. _____	_____	_____	_____	_____	Tot. Dominant Spp. across strata (B) <u>2</u>
3. _____	_____	_____	_____	_____	% OBL/FACW/FAC (A/B) <u>100%</u>
4. _____	_____	_____	_____	_____	
5. _____	_____	_____	_____	_____	
Total sapling/shrub cover (TS) =	_____	50%	20%		
Herb Stratum (Plot size: _____)					Prevalence Index:
1. <u>Isoplepis anch</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	_____	Total % cover of: Multiply by:
2. <u>Carex edwya</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	_____	OBL <u>33</u> x 1 = <u>33</u>
3. <u>lept pect</u>	<u>1</u>	<u>1</u>	<u>N/a</u>	_____	FACW <u>5</u> x 2 = <u>10</u>
4. <u>Ranunculus mac</u>	<u>1</u>	<u>1</u>	<u>OBL</u>	_____	FAC <u>50</u> x 3 = <u>150</u>
5. <u>plantago unibra</u>	<u>2</u>	<u>1</u>	<u>OBL</u>	_____	FACU <u>1</u> x 4 = <u>4</u>
6. <u>Koeleria cheese</u>	<u>1</u>	<u>1</u>	<u>N/a</u>	_____	UPL <u>17</u> x 5 = <u>85</u>
7. <u>Echiton. lat</u>	<u>2</u>	<u>1</u>	<u>FACW</u>	_____	Total <u>106</u> (A) <u>197282</u> (B)
8. <u>Epi prun</u>	<u>1</u>	<u>1</u>	<u>FACW</u>	_____	Prevalence Index (B/A) = <u>2.660</u>
9. <u>acaena Saec</u>	<u>1</u>	<u>1</u>	<u>FACU</u>	_____	
10. <u>shoennus pac</u>	<u>2</u>	<u>1</u>	<u>FACW</u>	_____	
11. <u>moss</u>	<u>15</u>	<u>1</u>	<u>1</u>	_____	
12. <u>rock</u>	<u>5</u>	<u>1</u>	<u>1</u>	_____	
13. _____	_____	_____	_____	_____	
14. _____	_____	_____	_____	_____	
15. _____	_____	_____	_____	_____	
16. _____	_____	_____	_____	_____	
17. _____	_____	_____	_____	_____	
18. _____	_____	_____	_____	_____	
Total herb cover (TH) =	<u>106</u>	50%	1	20%	1
<u>106 not inc rock</u>					
Total (P) =	_____				
Total Vegetation Cover (TVC): TT+TS+TH =	_____	50%			

Hydrophytic vegetation indicators:

Rapid Test

Dominance Test is >50%

Prevalence Index is ≤3.0¹

Morphological adaptations¹ (supporting data in Remarks)

Problematic hydrophytic vegetation¹

Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present?

YES NO UNCERTAIN

Remarks:

SECTION C – SOIL AND HYDROLOGY

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-4	5YR2.5/1					humic	line - v fine roots
4-8	5Y3/1					mineral	gravelly sand
8+						Rocky	

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

Hydric soil indicators:		Soil drainage (circle) W MW I P VP	Cause of wetness (circle appropriate):
Organic layers:	Concretions:	Colours: profile form either:	Location: Depression Flat Valley Gully Slope
<input type="checkbox"/> Organic soil material	<input type="checkbox"/> Iron concretions	<input type="checkbox"/> Gley profile OR	Water table: Depth (cm) _____
<input type="checkbox"/> Litter	<input type="checkbox"/> Manganese concretions	<input type="checkbox"/> Mottled profile	High GW Perched Seepage Tidal Lithic
<input type="checkbox"/> Fibric	<input type="checkbox"/> Nodular	Horizon:	Pans: Depth (cm) _____
<input type="checkbox"/> Mesic	Consistence:	<input type="checkbox"/> Reductimorphic	Pan Humus Fe-pan Densi- Duri- Fragi Ortstein
<input checked="" type="checkbox"/> Humic	<input checked="" type="checkbox"/> Plastic	<input type="checkbox"/> Redox mottled	Restricting layers: Depth (cm) <u>8</u>
<input type="checkbox"/> Peaty topsoil	<input type="checkbox"/> Sticky	<input type="checkbox"/> Redox segregations	Slow perm argillic
<input type="checkbox"/> Peaty subsoil	<input type="checkbox"/> Fluid	<input type="checkbox"/> Perch-gley features	<input type="checkbox"/> Pugged

Hydric soils present? YES NO UNCERTAIN NZSC subgroup _____

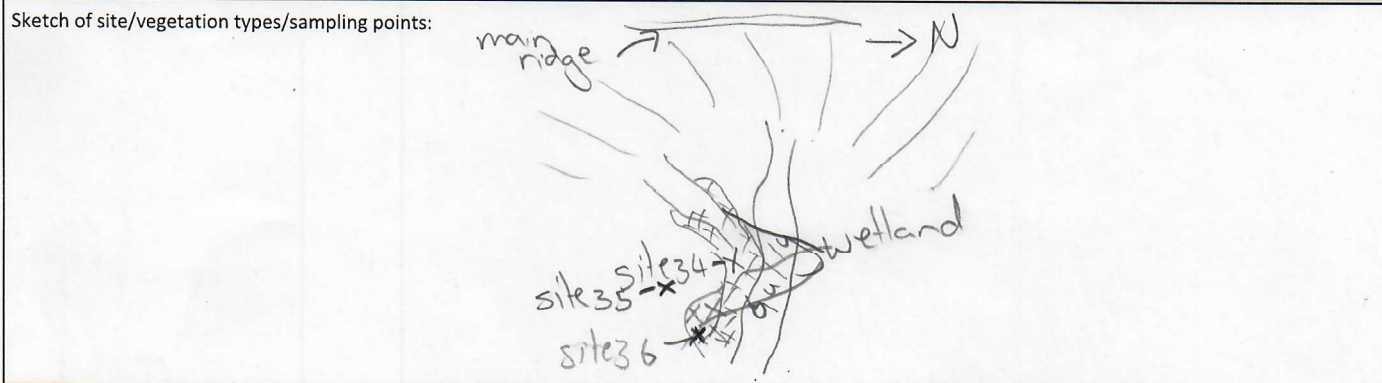
Primary hydrology indicators: minimum of 1 required; check all boxes that apply Soil °C _____

<input type="checkbox"/> Surface water (1A)	<input type="checkbox"/> Algal mat/crust (2D)	<input type="checkbox"/> Aquatic invertebrates (2J)
<input type="checkbox"/> Groundwater <30 cm (1B)	<input type="checkbox"/> Iron deposits (2E)	<input type="checkbox"/> Hydrogen sulphide odour (3A)
<input checked="" type="checkbox"/> Soil saturation <30 cm (1C)	<input type="checkbox"/> Surface soil cracks (2F)	<input type="checkbox"/> Oxidised rhizosphere on roots (3B)
<input type="checkbox"/> Water marks (2A)	<input type="checkbox"/> Inundation on aerial imagery (2G)	<input type="checkbox"/> Reduced iron (3C)
<input type="checkbox"/> Sediment deposits (2B)	<input type="checkbox"/> Sparsely vegetated concave surface (2H)	<input type="checkbox"/> Reduced iron in tilled soil (3D)
<input type="checkbox"/> Drift deposits (2C)	<input type="checkbox"/> Salt crust (2I)	<input type="checkbox"/> High water table stunted/stressed plants (4A)

Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

<input type="checkbox"/> Water-stained leaves (2K)	<input checked="" type="checkbox"/> Geomorphic position (4B)	FAC-neutral test (4D); refer to Section B: Vegetation 1. No. OBL & FACW dominant species _____ (A) 2. No. FACU & UPL dominant species _____ (B) 3. Total _____ (A+B) 4. FAC-neutral (>50%) _____ (A/A+B)*100
<input type="checkbox"/> Drainage patterns (2L)	<input checked="" type="checkbox"/> Shallow aquitard (4C)	
<input type="checkbox"/> Dry-season water table (3E)	<input type="checkbox"/> FAC-neutral test (4D)	
<input type="checkbox"/> Saturation in aerial imagery (3F)	<input type="checkbox"/> Frost-heave hummocks (4E)	

Wetland hydrology present? YES NO



Remarks: Site 34
photo: NM 5386

NEW ZEALAND WETLAND DELINEATION DATA FORM: PASTURE TEST

SECTION A – SITE INFORMATION

Site: Remarks Region: Remarks (otago) Sampling point/ID: Site 3S
 Owner/address: DOC Date: 1/04/25 Land use: Conservation
 Landform: slope between wetlands Local relief: 100 + m (W) Land cover: Cushionfield
 Is the land drained? YES NO UNKNOWN Investigator(s): LSW, NM Slope°: 15°
 GPS (NZTM): 1445 (NM) Altitude m: _____ Photo Nos: #3402 (LSW)

Are climatic/hydrologic conditions on the site typical for this time of year? YES NO (if NO explain in Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed? No Are 'Normal Circumstances' present? YES NO
 Are Vegetation Soil or Hydrology naturally problematic? No Explain answers in Remarks if needed

SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features etc.

Pasture exclusion? YES <input type="checkbox"/>	Hydrophytic vegetation present? YES <input type="checkbox"/>	NO <input type="checkbox"/>	Is the sampled area within a wetland? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
NO <input checked="" type="checkbox"/>	Hydric soils present? YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	
	Wetland hydrology present? YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	

SECTION B – VEGETATION

Use scientific names of plants.	Absolute % cover	Dominant Species?	Indicator Status	Pasture % cover
Tree Stratum (Plot size: _____)				
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
Total tree cover (TT) =	_____	50% _____	20% _____	
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____
Total sapling/shrub cover (TS) =	_____	50% _____	20% _____	
Herb Stratum (Plot size: _____)				
1. <u>gau nub</u>	<u>50%</u>	<u>Y</u>	<u>FAC</u>	_____
2. <u>ourtsia glau</u>	<u>2%</u>	<u>/</u>	<u>N/a</u>	_____
3. <u>phyllachne col</u>	<u>20%</u>	<u>Y</u>	<u>FAC</u>	_____
4. <u>luc gum</u>	<u>2%</u>	<u>/</u>	<u>UPL</u>	_____
5. <u>dra mus</u>	<u>7%</u>	<u>/</u>	<u>N/a</u>	_____
6. <u>Poa col</u>	<u>3%</u>	<u>/</u>	<u>N/a</u>	_____
7. <u>abroto inon</u>	<u>15%</u>	<u>/</u>	<u>N/a</u>	_____
8. <u>raoulia grand</u>	<u>15%</u>	<u>/</u>	<u>N/a</u>	_____
9. <u>Kelleria childii</u>	<u>3%</u>	<u>/</u>	<u>N/a</u>	_____
10. <u>cel haast</u>	<u>1</u>	<u>/</u>	<u>N/a</u>	_____
11. <u>chi mac</u>	<u>1</u>	<u>/</u>	<u>N/a (FACU)</u>	_____
12. <u>ani imb</u>	<u>1</u>	<u>/</u>	<u>N/a</u>	_____
13. <u>plantago lanigera</u>	<u>1</u>	<u>/</u>	<u>FAC</u>	_____
14. <u>moss</u>	<u>5</u>	<u>/</u>	<u>/</u>	_____
15. <u>rock</u>	<u>5</u>	<u>/</u>	<u>/</u>	_____
16. _____	_____	_____	_____	_____
17. _____	_____	_____	_____	_____
18. _____	_____	_____	_____	_____
Total herb cover (TH) =	<u>131</u>	50% <u>1</u>	20% <u>1</u>	
<u>126 not inc rock</u>				
Total (P) = _____				
Total Vegetation Cover (TVC): TT+TS+TH = _____ 50% _____				

Pasture Exclusion Test:
 Pasture cover/Total vegetation cover (P/TVC) x100 = _____ %
 Rapid Pasture Test
 Pasture Exclusion Test is >50%

Dominance Test:
 No. Dominant Spp. OBL/FACW/FAC (A) 2
 Tot. Dominant Spp. across strata (B) 2
 % OBL/FACW/FAC (A/B) 100

Prevalence Index:
 Total % cover of: Multiply by:
 OBL 1 x 1 = 1
 FACW 1 x 2 = 2
 FAC 71 x 3 = 213
 FACU 1 x 4 = 4
 UPL 54 x 5 = 270
 Total 126 (A) 488 (B)
 Prevalence Index (B/A) = 3.87

n/a taken as UPL to show whether it is wetland regardless

Hydrophytic vegetation indicators:
 Rapid Test
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological adaptations¹ (supporting data in Remarks)
 Problematic hydrophytic vegetation¹
 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present?
 YES NO UNCERTAIN

Remarks:

SECTION C – SOIL AND HYDROLOGY

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-2	25YR 2.5/3					mineral	high OM
2-8	10YR 3/1	5YR 3/3	30	1mm	Roots	mineral	slt, sand lots fine roots

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

Hydric soil indicators:		Soil drainage (circle) W (MW) I P VP	Cause of wetness (circle appropriate):	
Organic layers: <input type="checkbox"/> Organic soil material <input type="checkbox"/> Litter <input type="checkbox"/> Fibric <input type="checkbox"/> Mesic <input type="checkbox"/> Humic <input type="checkbox"/> Peaty topsoil <input type="checkbox"/> Peaty subsoil	Concretions: <input type="checkbox"/> Iron concretions <input type="checkbox"/> Manganese concretions <input type="checkbox"/> Nodular Consistence: <input type="checkbox"/> Plastic <input type="checkbox"/> Sticky <input type="checkbox"/> Fluid	Colours: profile form either: <input type="checkbox"/> Gley profile OR <input checked="" type="checkbox"/> Mottled profile Horizon: <input type="checkbox"/> Reductimorphic <input type="checkbox"/> Redox mottled <input type="checkbox"/> Redox segregations <input type="checkbox"/> Perch-gley features	Location: Depression Flat Valley Gully <u>Slope</u> Water table: Depth (cm) _____ High GW Perched Seepage Tidal Lithic Pans: Depth (cm) _____ Pan Humus Fe-pan Densi- Duri- Fragi Ortstein Restricting layers: Depth (cm) <u>3cm</u> Slow perm argillic <input type="checkbox"/> Pugged	

Hydric soils present? YES NO UNCERTAIN NZSC subgroup _____

Primary hydrology indicators: minimum of 1 required; check all boxes that apply Soil °C _____

<input type="checkbox"/> Surface water (1A)	<input type="checkbox"/> Algal mat/crust (2D)	<input type="checkbox"/> Aquatic invertebrates (2J)
<input type="checkbox"/> Groundwater <30 cm (1B)	<input type="checkbox"/> Iron deposits (2E)	<input type="checkbox"/> Hydrogen sulphide odour (3A)
<input type="checkbox"/> Soil saturation <30 cm (1C)	<input type="checkbox"/> Surface soil cracks (2F)	<input type="checkbox"/> Oxidised rhizosphere on roots (3B)
<input type="checkbox"/> Water marks (2A)	<input type="checkbox"/> Inundation on aerial imagery (2G)	<input type="checkbox"/> Reduced iron (3C)
<input type="checkbox"/> Sediment deposits (2B)	<input type="checkbox"/> Sparsely vegetated concave surface (2H)	<input type="checkbox"/> Reduced iron in tilled soil (3D)
<input type="checkbox"/> Drift deposits (2C)	<input type="checkbox"/> Salt crust (2I)	<input type="checkbox"/> High water table stunted/stressed plants (4A)

Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

<input type="checkbox"/> Water-stained leaves (2K)	<input type="checkbox"/> Geomorphic position (4B)	FAC-neutral test (4D); refer to Section B: Vegetation 1. No. OBL & FACW dominant species _____ (A) 2. No. FACU & UPL dominant species _____ (B) 3. Total _____ (A+B) 4. FAC-neutral (>50%) _____ (A/A+B)*100
<input type="checkbox"/> Drainage patterns (2L)	<input type="checkbox"/> Shallow aquitard (4C)	
<input type="checkbox"/> Dry-season water table (3E)	<input type="checkbox"/> FAC-neutral test (4D)	
<input type="checkbox"/> Saturation in aerial imagery (3F)	<input type="checkbox"/> Frost-heave hummocks (4E)	

Wetland hydrology present? YES NO

Sketch of site/vegetation types/sampling points:

Ref site 34

Remarks: Site 35 photo; NM 5387

NEW ZEALAND WETLAND DELINEATION DATA FORM: PASTURE TEST

SECTION A – SITE INFORMATION

Site: Remarks Region: Remarks Sampling point/ID: site 36
 Owner/address: DOC Date: 1/04/25 Land use: conservation.
 Landform: Seepage Local relief: 100+ m Land cover: rushes/sedges
 Is the land drained? YES NO UNKNOWN Investigator(s): LSW, NM Slope°: 5°
 GPS (NZTM): 1468 Altitude m: _____ Photo Nos: #3403

Are climatic/hydrologic conditions on the site typical for this time of year? YES ___ NO ___ (if NO explain in Remarks)
 Are Vegetation ___ Soil ___ or Hydrology ___ significantly disturbed? Are 'Normal Circumstances' present? YES ___ NO ___
 Are Vegetation ___ Soil ___ or Hydrology ___ naturally problematic? Explain answers in Remarks if needed

SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features etc.

Pasture exclusion? YES NO Hydrophytic vegetation present? YES NO
 Hydric soils present? YES NO Wetland hydrology present? YES NO
 Is the sampled area within a wetland? YES NO

SECTION B – VEGETATION

Use scientific names of plants.	Absolute % cover	Dominant Species?	Indicator Status	Pasture % cover
Tree Stratum (Plot size: _____)				
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
Total tree cover (TT) =	_____	50% _____	20% _____	
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____
Total sapling/shrub cover (TS) =	_____	50% _____	20% _____	
Herb Stratum (Plot size: _____)				
1. <u>Schoenus pal</u>	<u>15</u>	<u>-</u>	<u>FACW</u>	_____
2. <u>Carex edura</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	_____
3. <u>Euchloa lat</u>	<u>3</u>	<u>-</u>	<u>FACW</u>	_____
4. <u>Isolepis acic</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	_____
5. <u>Carex edgervica</u>	<u>15</u>	<u>-</u>	<u>N/a</u>	_____
6. <u>Caltha obt</u>	<u>3</u>	<u>-</u>	<u>OBL</u>	_____
7. <u>Acaena sac</u>	<u>1</u>	<u>-</u>	<u>FACU</u>	_____
8. <u>Plantago unibra</u>	<u>1</u>	<u>-</u>	<u>OBL</u>	_____
9. <u>Gnaphalium parv</u>	<u>1</u>	<u>-</u>	<u>FAC</u>	_____
10. <u>rock</u>	<u>15</u>	<u>-</u>	<u>-</u>	_____
11. <u>moss</u>	<u>5</u>	<u>-</u>	<u>-</u>	_____
12. <u>Epi bra</u>	<u>1</u>	<u>-</u>	<u>FACW</u>	_____
13. _____	_____	_____	_____	_____
14. _____	_____	_____	_____	_____
15. _____	_____	_____	_____	_____
16. _____	_____	_____	_____	_____
17. _____	_____	_____	_____	_____
18. _____	_____	_____	_____	_____
Total herb cover (TH) =	<u>110</u>	50% <u>0</u>	20% <u>2</u>	
<u>95 not inc rock</u>				
Total (P) =	_____	_____	_____	_____
Total Vegetation Cover (TVC): TT+TS+TH =	_____	50% _____		

Pasture Exclusion Test:
 Pasture cover/Total vegetation cover (P/TVC) x100 = _____ %
 Rapid Pasture Test
 Pasture Exclusion Test is >50%

Dominance Test:
 No. Dominant Spp. OBL/FACW/FAC (A) 2
 Tot. Dominant Spp. across strata (B) 2
 % OBL/FACW/FAC (A/B) 100

Prevalence Index:
 Total % cover of: Multiply by:
 OBL 29 x 1 = 29
 FACW 19 x 2 = 38
 FAC 25 x 3 = 75
 FACU 1 x 4 = 4
 UPL 20 x 5 = 100
 Total 95 (A) 249 (B)
 Prevalence Index (B/A) = 2.621

Hydrophytic vegetation indicators:
 Rapid Test
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological adaptations² (supporting data in Remarks)
 Problematic hydrophytic vegetation¹
 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present?
 YES NO UNCERTAIN

Remarks:

SECTION C – SOIL AND HYDROLOGY

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-2	5YR 2S/2					Peat	
2-8	2.5Y 4/2					mineral	with some humus
8+							Rock

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

Hydric soil indicators:		Soil drainage (circle) W MW <input checked="" type="checkbox"/> P <input type="checkbox"/> VP	Cause of wetness (circle appropriate):
Organic layers:	Concretions:	Colours: profile form either:	Location: Depression Flat Valley Gully <input checked="" type="checkbox"/> Slope <input type="checkbox"/> slight
<input type="checkbox"/> Organic soil material	<input type="checkbox"/> Iron concretions	<input type="checkbox"/> Gley profile OR	Water table: Depth (cm) _____
<input type="checkbox"/> Litter	<input type="checkbox"/> Manganese concretions	<input type="checkbox"/> Mottled profile	High GW Perched Seepage Tidal Lithic
<input type="checkbox"/> Fibric	<input type="checkbox"/> Nodular	Horizon:	Pans: Depth (cm) _____
<input type="checkbox"/> Mesic	Consistence:	<input type="checkbox"/> Reductimorphic	Pan Humus Fe-pan Densi- Duri- Fragi Ortstein
<input checked="" type="checkbox"/> Humic	<input type="checkbox"/> Plastic	<input type="checkbox"/> Redox mottled	Restricting layers: Depth (cm) <u>8cm</u>
<input checked="" type="checkbox"/> Peaty topsoil	<input type="checkbox"/> Sticky	<input type="checkbox"/> Redox segregations	Slow perm argillic
<input type="checkbox"/> Peaty subsoil	<input type="checkbox"/> Fluid	<input type="checkbox"/> Perch-gley features	<input type="checkbox"/> Pugged

Hydric soils present? YES NO UNCERTAIN NZSC subgroup _____

Primary hydrology indicators: minimum of 1 required; check all boxes that apply Soil °C _____

<input type="checkbox"/> Surface water (1A)	<input type="checkbox"/> Algal mat/crust (2D)	<input type="checkbox"/> Aquatic invertebrates (2J)
<input type="checkbox"/> Groundwater <30 cm (1B)	<input type="checkbox"/> Iron deposits (2E)	<input type="checkbox"/> Hydrogen sulphide odour (3A)
<input checked="" type="checkbox"/> Soil saturation <30 cm (1C)	<input type="checkbox"/> Surface soil cracks (2F)	<input type="checkbox"/> Oxidised rhizosphere on roots (3B)
<input type="checkbox"/> Water marks (2A)	<input type="checkbox"/> Inundation on aerial imagery (2G)	<input type="checkbox"/> Reduced iron (3C)
<input type="checkbox"/> Sediment deposits (2B)	<input type="checkbox"/> Sparsely vegetated concave surface (2H)	<input type="checkbox"/> Reduced iron in tilled soil (3D)
<input type="checkbox"/> Drift deposits (2C)	<input type="checkbox"/> Salt crust (2I)	<input type="checkbox"/> High water table stunted/stressed plants (4A)

Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

<input type="checkbox"/> Water-stained leaves (2K)	<input checked="" type="checkbox"/> Geomorphic position (4B)	FAC-neutral test (4D); refer to Section B: Vegetation 1. No. OBL & FACW dominant species _____(A) 2. No. FACU & UPL dominant species _____(B) 3. Total _____(A+B) 4. FAC-neutral (>50%) _____(A/A+B)*100
<input type="checkbox"/> Drainage patterns (2L)	<input checked="" type="checkbox"/> Shallow aquitard (4C)	
<input type="checkbox"/> Dry-season water table (3E)	<input type="checkbox"/> FAC-neutral test (4D)	
<input type="checkbox"/> Saturation in aerial imagery (3F)	<input type="checkbox"/> Frost-heave hummocks (4E)	

Wetland hydrology present? YES NO

Sketch of site/vegetation types/sampling points:
see site 34 diagram

Remarks:
site 36
photo NAM 5388

NEW ZEALAND WETLAND DELINEATION DATA FORM: PASTURE TEST

SECTION A – SITE INFORMATION

Site: Remarks Region: Remarks (otago) Sampling point/ID: Site 38
 Owner/address: DOC Date: 1/04/25 Land use: conservation
 Landform: hill slope Local relief: 100+ m Land cover: tussock/rock
 Is the land drained? YES NO UNKNOWN Investigator(s): LSW Slope°: 15°
 GPS (NZTM): 10 m SE of site 37 Altitude m: _____ Photo Nos: #3407

Are climatic/hydrologic conditions on the site typical for this time of year? YES NO (if NO explain in Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed? No Are 'Normal Circumstances' present? YES NO
 Are Vegetation Soil or Hydrology naturally problematic? No Explain answers in Remarks if needed

SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features etc.

Pasture exclusion? YES <input type="checkbox"/> NO <input type="checkbox"/>	Hydrophytic vegetation present? YES <input type="checkbox"/> NO <input type="checkbox"/>	Is the sampled area within a wetland? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Hydric soils present? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	Wetland hydrology present? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	

SECTION B – VEGETATION

Use scientific names of plants.	Absolute % cover	Dominant Species?	Indicator Status	Pasture % cover	Pasture Exclusion Test:
Tree Stratum (Plot size: _____)					Pasture cover/Total vegetation cover (P/TVC) x100 = _____%
1. _____	_____	_____	_____	_____	<input type="checkbox"/> Rapid Pasture Test
2. _____	_____	_____	_____	_____	<input type="checkbox"/> Pasture Exclusion Test is >50%
3. _____	_____	_____	_____	_____	
4. _____	_____	_____	_____	_____	
Total tree cover (TT) = _____	_____	50% _____	20% _____		
Sapling/Shrub Stratum (Plot size: _____)					Dominance Test:
1. _____	_____	_____	_____	_____	No. Dominant Spp. OBL/FACW/FAC (A) <u>2</u>
2. _____	_____	_____	_____	_____	Tot. Dominant Spp. across strata (B) <u>4</u>
3. _____	_____	_____	_____	_____	% OBL/FACW/FAC (A/B) <u>50%</u>
4. _____	_____	_____	_____	_____	
5. _____	_____	_____	_____	_____	
Total sapling/shrub cover (TS) = _____	_____	50% _____	20% _____		
Herb Stratum (Plot size: _____)					Prevalence Index:
1. <u>chi mac</u>	<u>10</u>	<u>Y</u>	<u>N/A</u> FACU	_____	Total % cover of:
2. <u>rao gra</u>	<u>5</u>	<u>Y</u>	<u>N/A</u>	_____	OBL <input type="checkbox"/> x 1 = <input type="checkbox"/>
3. <u>gaba nub</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	_____	FACW <input type="checkbox"/> x 2 = <input type="checkbox"/>
4. <u>blechnum P.M</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	_____	FAC <u>37</u> x 3 = <u>111</u>
5. <u>Viola cann</u>	<u>3</u>	<u>1</u>	<u>N/A</u>	_____	FACU <u>11</u> x 4 = <u>44</u>
6. <u>Dra mus</u>	<u>3</u>	<u>1</u>	<u>N/A</u>	_____	UPL <u>20</u> x 5 = <u>100</u>
7. <u>Poa cd</u>	<u>3</u>	<u>1</u>	<u>N/A</u>	_____	Total <u>68</u> (A) <u>265</u> (B)
8. <u>Kallenia childis</u>	<u>1</u>	<u>1</u>	<u>N/A</u>	_____	Prevalence Index (B/A) = <u>3.75</u>
9. <u>Carex edura</u>	<u>1</u>	<u>1</u>	<u>FAC</u>	_____	
10. <u>Rytido pum</u>	<u>3</u>	<u>1</u>	<u>N/A</u>	_____	Hydrophytic vegetation indicators:
11. <u>plantago lanigera</u>	<u>1</u>	<u>1</u>	<u>FAC</u>	_____	<input type="checkbox"/> Rapid Test
12. <u>Anisotome rub</u>	<u>1</u>	<u>1</u>	<u>N/A</u>	_____	<input type="checkbox"/> Dominance Test is >50%
13. <u>Epi purph</u>	<u>1</u>	<u>1</u>	<u>N/A</u>	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
14. <u>mel alp</u>	<u>1</u>	<u>1</u>	<u>FACU</u>	_____	<input type="checkbox"/> Morphological adaptations ¹ (supporting data in Remarks)
15. <u>reck</u>	<u>(60)</u>	<u>1</u>	<u>1</u>	_____	<input type="checkbox"/> Problematic hydrophytic vegetation ¹
16. _____	_____	_____	_____	_____	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
17. _____	_____	_____	_____	_____	Hydrophytic vegetation present?
18. _____	_____	_____	_____	_____	YES <input type="checkbox"/> NO <input type="checkbox"/> UNCERTAIN <input checked="" type="checkbox"/>
Total herb cover (TH) = <u>12%</u>	_____	50% <u>0</u>	20% <u>4</u>	_____	Remarks:
<u>68 not inc rock</u>	_____	_____	_____	_____	
Total Vegetation Cover (TVC): TT+TS+TH = _____	_____	50% _____	_____	_____	

SECTION C – SOIL AND HYDROLOGY

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-4	10YR3/2		•			mineral	
4+						Rock	

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

<p>Hydric soil indicators:</p> <p style="text-align: center;">Soil drainage (circle) W <u>MW</u> P VP</p> <table style="width: 100%;"> <tr> <td style="width: 33%;"> <p>Organic layers:</p> <input type="checkbox"/> Organic soil material <input type="checkbox"/> Litter <input type="checkbox"/> Fibric <input type="checkbox"/> Mesic <input type="checkbox"/> Humic <input type="checkbox"/> Peaty topsoil <input type="checkbox"/> Peaty subsoil </td> <td style="width: 33%;"> <p>Concretions:</p> <input type="checkbox"/> Iron concretions <input type="checkbox"/> Manganese concretions <input type="checkbox"/> Nodular <p>Consistence:</p> <input type="checkbox"/> Plastic <input type="checkbox"/> Sticky <input type="checkbox"/> Fluid </td> <td style="width: 33%;"> <p>Colours: profile form either:</p> <input type="checkbox"/> Gley profile OR <input type="checkbox"/> Mottled profile <p>Horizon:</p> <input type="checkbox"/> Reductimorphic <input type="checkbox"/> Redox mottled <input type="checkbox"/> Redox segregations <input type="checkbox"/> Perch-gley features </td> </tr> </table>	<p>Organic layers:</p> <input type="checkbox"/> Organic soil material <input type="checkbox"/> Litter <input type="checkbox"/> Fibric <input type="checkbox"/> Mesic <input type="checkbox"/> Humic <input type="checkbox"/> Peaty topsoil <input type="checkbox"/> Peaty subsoil	<p>Concretions:</p> <input type="checkbox"/> Iron concretions <input type="checkbox"/> Manganese concretions <input type="checkbox"/> Nodular <p>Consistence:</p> <input type="checkbox"/> Plastic <input type="checkbox"/> Sticky <input type="checkbox"/> Fluid	<p>Colours: profile form either:</p> <input type="checkbox"/> Gley profile OR <input type="checkbox"/> Mottled profile <p>Horizon:</p> <input type="checkbox"/> Reductimorphic <input type="checkbox"/> Redox mottled <input type="checkbox"/> Redox segregations <input type="checkbox"/> Perch-gley features	<p>Cause of wetness (circle appropriate):</p> <p>Location: Depression Flat Valley Gully <u>Slope</u></p> <p>Water table: Depth (cm) _____</p> <p>High GW Perched Seepage Tidal Lithic</p> <p>Pans: Depth (cm) _____</p> <p>Pan Humus Fe-pan Densi- Duri- Fragi Ortstein</p> <p>Restricting layers: Depth (cm) <u>4</u></p> <p>Slow perm argillic <input type="checkbox"/> Pugged</p>
<p>Organic layers:</p> <input type="checkbox"/> Organic soil material <input type="checkbox"/> Litter <input type="checkbox"/> Fibric <input type="checkbox"/> Mesic <input type="checkbox"/> Humic <input type="checkbox"/> Peaty topsoil <input type="checkbox"/> Peaty subsoil	<p>Concretions:</p> <input type="checkbox"/> Iron concretions <input type="checkbox"/> Manganese concretions <input type="checkbox"/> Nodular <p>Consistence:</p> <input type="checkbox"/> Plastic <input type="checkbox"/> Sticky <input type="checkbox"/> Fluid	<p>Colours: profile form either:</p> <input type="checkbox"/> Gley profile OR <input type="checkbox"/> Mottled profile <p>Horizon:</p> <input type="checkbox"/> Reductimorphic <input type="checkbox"/> Redox mottled <input type="checkbox"/> Redox segregations <input type="checkbox"/> Perch-gley features		

Hydric soils present? YES NO UNCERTAIN NZSC subgroup _____

Primary hydrology indicators: minimum of 1 required; check all boxes that apply Soil °C _____

<input type="checkbox"/> Surface water (1A)	<input type="checkbox"/> Algal mat/crust (2D)	<input type="checkbox"/> Aquatic invertebrates (2J)
<input type="checkbox"/> Groundwater <30 cm (1B)	<input type="checkbox"/> Iron deposits (2E)	<input type="checkbox"/> Hydrogen sulphide odour (3A)
<input type="checkbox"/> Soil saturation <30 cm (1C)	<input type="checkbox"/> Surface soil cracks (2F)	<input type="checkbox"/> Oxidised rhizosphere on roots (3B)
<input type="checkbox"/> Water marks (2A)	<input type="checkbox"/> Inundation on aerial imagery (2G)	<input type="checkbox"/> Reduced iron (3C)
<input type="checkbox"/> Sediment deposits (2B)	<input type="checkbox"/> Sparsely vegetated concave surface (2H)	<input type="checkbox"/> Reduced iron in tilled soil (3D)
<input type="checkbox"/> Drift deposits (2C)	<input type="checkbox"/> Salt crust (2I)	<input type="checkbox"/> High water table stunted/stressed plants (4A)

Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

<input type="checkbox"/> Water-stained leaves (2K)	<input type="checkbox"/> Geomorphic position (4B)	FAC-neutral test (4D); refer to Section B: Vegetation 1. No. OBL & FACW dominant species _____ (A) 2. No. FACU & UPL dominant species _____ (B) 3. Total _____ (A+B) 4. FAC-neutral (>50%) _____ (A/A+B)*100
<input type="checkbox"/> Drainage patterns (2L)	<input type="checkbox"/> Shallow aquitard (4C)	
<input type="checkbox"/> Dry-season water table (3E)	<input type="checkbox"/> FAC-neutral test (4D)	
<input type="checkbox"/> Saturation in aerial imagery (3F)	<input type="checkbox"/> Frost-heave hummocks (4E)	

Wetland hydrology present? YES NO

Sketch of site/vegetation types/sampling points:

1 Apr 2019 am NM watch waypoint.

Remarks: Site 38
photo : NM 5390

NEW ZEALAND WETLAND DELINEATION DATA FORM: PASTURE TEST

SECTION A – SITE INFORMATION

Site: Remarks Region: Remarks (otago) Sampling point/ID: site 4/
 Owner/address: DOC Date: 1/04/25 Land use: conservation
 Landform: hill slope Local relief: 20m W Land cover: tussock
 Is the land drained? YES NO UNKNOWN Investigator(s): CSW, NM Slope°: 15°
 GPS (NZTM): screenshot #3412 (CSW) Altitude m: _____ Photo Nos: #3413

Are climatic/hydrologic conditions on the site typical for this time of year? YES NO (if NO explain in Remarks)
 Are Vegetation ___ Soil ___ or Hydrology ___ significantly disturbed? No Are 'Normal Circumstances' present? YES NO
 Are Vegetation ___ Soil ___ or Hydrology ___ naturally problematic? No Explain answers in Remarks if needed

SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features etc.

Pasture exclusion? YES <input type="checkbox"/>	Hydrophytic vegetation present? YES <input type="checkbox"/>	NO <input type="checkbox"/>	Is the sampled area within a wetland? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
NO <input checked="" type="checkbox"/>	Hydric soils present? YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	
	Wetland hydrology present? YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	

SECTION B – VEGETATION

Use scientific names of plants.	Absolute % cover	Dominant Species?	Indicator Status	Pasture % cover	Pasture Exclusion Test:
Tree Stratum (Plot size: _____)					Pasture cover/Total vegetation cover (P/TVC) x100 = _____ %
1. _____	_____	_____	_____	_____	<input type="checkbox"/> Rapid Pasture Test
2. _____	_____	_____	_____	_____	<input type="checkbox"/> Pasture Exclusion Test is >50%
3. _____	_____	_____	_____	_____	
4. _____	_____	_____	_____	_____	
Total tree cover (TT) =	_____	50%	20%		
Sapling/Shrub Stratum (Plot size: _____)					Dominance Test:
1. _____	_____	_____	_____	_____	No. Dominant Spp. OBL/FACW/FAC (A) <u>6</u>
2. _____	_____	_____	_____	_____	Tot. Dominant Spp. across strata (B) <u>1</u>
3. _____	_____	_____	_____	_____	% OBL/FACW/FAC (A/B) <u>0%</u>
4. _____	_____	_____	_____	_____	
5. _____	_____	_____	_____	_____	
Total sapling/shrub cover (TS) =	_____	50%	20%		
Herb Stratum (Plot size: _____)					Prevalence Index:
1. <u>chi mac</u>	<u>100</u>	<u>Y</u>	<u>N/A</u>	<u>FACU</u>	Total % cover of: Multiply by:
2. <u>epi als</u>	<u>1</u>	<u>-</u>	<u>FACU</u>		OBL <input type="checkbox"/> x 1 = <input type="checkbox"/>
3. <u>plantago lanigera</u>	<u>1</u>	<u>-</u>	<u>FAC</u>		FACW <input type="checkbox"/> x 2 = <input type="checkbox"/>
4. <u>geum cockayi</u>	<u>3</u>	<u>-</u>	<u>N/A</u>		FAC <u>1</u> x 3 = <u>3</u>
5. _____	_____	_____	_____		FACU <u>100</u> x 4 = <u>400</u>
6. _____	_____	_____	_____		UPL <u>3</u> x 5 = <u>15</u>
7. _____	_____	_____	_____		Total <u>105</u> (A) 418 (B)
8. _____	_____	_____	_____		Prevalence Index (B/A) = <u>3.98</u>
9. _____	_____	_____	_____		Hydrophytic vegetation indicators:
10. _____	_____	_____	_____		<input type="checkbox"/> Rapid Test
11. _____	_____	_____	_____		<input checked="" type="checkbox"/> Dominance Test is >50%
12. _____	_____	_____	_____		<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
13. _____	_____	_____	_____		<input type="checkbox"/> Morphological adaptations ¹ (supporting data in Remarks)
14. _____	_____	_____	_____		<input type="checkbox"/> Problematic hydrophytic vegetation ¹
15. _____	_____	_____	_____		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
16. _____	_____	_____	_____		Hydrophytic vegetation present?
17. _____	_____	_____	_____		YES <input type="checkbox"/> NO <input type="checkbox"/> UNCERTAIN <input checked="" type="checkbox"/>
18. _____	_____	_____	_____		Remarks:
Total herb cover (TH) =	<u>105</u>	50%	<u>1</u>	20%	<u>0</u>
					Total (P) = _____
Total Vegetation Cover (TVC): TT+TS+TH = _____ 50%					

SECTION C – SOIL AND HYDROLOGY

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-15						mineral	
15+	257 5/11					Gravelly	

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

<p>Hydric soil indicators:</p> <p style="text-align: center;">Soil drainage (circle) <u>W MW</u> P VP</p> <table style="width: 100%;"> <tr> <td style="width: 33%;"> <p>Organic layers:</p> <input type="checkbox"/> Organic soil material <input type="checkbox"/> Litter <input type="checkbox"/> Fibric <input type="checkbox"/> Mesic <input type="checkbox"/> Humic <input type="checkbox"/> Peaty topsoil <input type="checkbox"/> Peaty subsoil </td> <td style="width: 33%;"> <p>Concretions:</p> <input type="checkbox"/> Iron concretions <input type="checkbox"/> Manganese concretions <input type="checkbox"/> Nodular <p>Consistence:</p> <input type="checkbox"/> Plastic <input type="checkbox"/> Sticky <input type="checkbox"/> Fluid </td> <td style="width: 33%;"> <p>Colours: profile form either:</p> <input type="checkbox"/> Gley profile OR <input type="checkbox"/> Mottled profile <p>Horizon:</p> <input type="checkbox"/> Reductimorphic <input type="checkbox"/> Redox mottled <input type="checkbox"/> Redox segregations <input type="checkbox"/> Perch-gley features </td> </tr> </table>	<p>Organic layers:</p> <input type="checkbox"/> Organic soil material <input type="checkbox"/> Litter <input type="checkbox"/> Fibric <input type="checkbox"/> Mesic <input type="checkbox"/> Humic <input type="checkbox"/> Peaty topsoil <input type="checkbox"/> Peaty subsoil	<p>Concretions:</p> <input type="checkbox"/> Iron concretions <input type="checkbox"/> Manganese concretions <input type="checkbox"/> Nodular <p>Consistence:</p> <input type="checkbox"/> Plastic <input type="checkbox"/> Sticky <input type="checkbox"/> Fluid	<p>Colours: profile form either:</p> <input type="checkbox"/> Gley profile OR <input type="checkbox"/> Mottled profile <p>Horizon:</p> <input type="checkbox"/> Reductimorphic <input type="checkbox"/> Redox mottled <input type="checkbox"/> Redox segregations <input type="checkbox"/> Perch-gley features	<p>Cause of wetness (circle appropriate):</p> <p>Location: Depression Flat Valley Gully <u>Slope</u></p> <p>Water table: Depth (cm) _____</p> <p>High GW Perched Seepage Tidal Lithic</p> <p>Pans: Depth (cm) _____</p> <p>Pan Humus Fe-pan Densi- Duri- Fragi Ortstein</p> <p>Restricting layers: Depth (cm) _____</p> <p>Slow perm argillic <input type="checkbox"/> Pugged</p>
<p>Organic layers:</p> <input type="checkbox"/> Organic soil material <input type="checkbox"/> Litter <input type="checkbox"/> Fibric <input type="checkbox"/> Mesic <input type="checkbox"/> Humic <input type="checkbox"/> Peaty topsoil <input type="checkbox"/> Peaty subsoil	<p>Concretions:</p> <input type="checkbox"/> Iron concretions <input type="checkbox"/> Manganese concretions <input type="checkbox"/> Nodular <p>Consistence:</p> <input type="checkbox"/> Plastic <input type="checkbox"/> Sticky <input type="checkbox"/> Fluid	<p>Colours: profile form either:</p> <input type="checkbox"/> Gley profile OR <input type="checkbox"/> Mottled profile <p>Horizon:</p> <input type="checkbox"/> Reductimorphic <input type="checkbox"/> Redox mottled <input type="checkbox"/> Redox segregations <input type="checkbox"/> Perch-gley features		

Hydric soils present? YES NO UNCERTAIN NZSC subgroup _____

Primary hydrology indicators: minimum of 1 required; check all boxes that apply Soil °C _____

<input type="checkbox"/> Surface water (1A)	<input type="checkbox"/> Algal mat/crust (2D)	<input type="checkbox"/> Aquatic invertebrates (2J)
<input type="checkbox"/> Groundwater <30 cm (1B)	<input type="checkbox"/> Iron deposits (2E)	<input type="checkbox"/> Hydrogen sulphide odour (3A)
<input type="checkbox"/> Soil saturation <30 cm (1C)	<input type="checkbox"/> Surface soil cracks (2F)	<input type="checkbox"/> Oxidised rhizosphere on roots (3B)
<input type="checkbox"/> Water marks (2A)	<input type="checkbox"/> Inundation on aerial imagery (2G)	<input type="checkbox"/> Reduced iron (3C)
<input type="checkbox"/> Sediment deposits (2B)	<input type="checkbox"/> Sparsely vegetated concave surface (2H)	<input type="checkbox"/> Reduced iron in tilled soil (3D)
<input type="checkbox"/> Drift deposits (2C)	<input type="checkbox"/> Salt crust (2I)	<input type="checkbox"/> High water table stunted/stressed plants (4A)

Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

<input type="checkbox"/> Water-stained leaves (2K)	<input type="checkbox"/> Geomorphic position (4B)	FAC-neutral test (4D); refer to Section B: Vegetation 1. No. OBL & FACW dominant species _____ (A) 2. No. FACU & UPL dominant species _____ (B) 3. Total _____ (A+B) 4. FAC-neutral (>50%) _____ (A/A+B)*100
<input type="checkbox"/> Drainage patterns (2L)	<input type="checkbox"/> Shallow aquitard (4C)	
<input type="checkbox"/> Dry-season water table (3E)	<input type="checkbox"/> FAC-neutral test (4D)	
<input type="checkbox"/> Saturation in aerial imagery (3F)	<input type="checkbox"/> Frost-heave hummocks (4E)	

Wetland hydrology present? YES NO

Sketch of site/vegetation types/sampling points:

Remarks: site 41 photo: 5393

NEW ZEALAND WETLAND DELINEATION DATA FORM: PASTURE TEST

SECTION A – SITE INFORMATION

Site: Remarks Region: Remarks (otago) Sampling point/ID: site 44
 Owner/address: DOC Date: 1 Land use: conservation
 Landform: hillslope Local relief: 30-40m Land cover: tusssock
 Is the land drained? YES NO UNKNOWN Investigator(s): LSW Slope°: 5°
 GPS (NZTM): #3425 (screenshot) Altitude m: _____ Photo Nos: #3424

Are climatic/hydrologic conditions on the site typical for this time of year? YES NO (if NO explain in Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed? No Are 'Normal Circumstances' present? YES NO
 Are Vegetation Soil or Hydrology naturally problematic? No Explain answers in Remarks if needed

SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features etc.

Pasture exclusion? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	Hydrophytic vegetation present? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	Is the sampled area within a wetland? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Hydric soils present? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	Wetland hydrology present? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	

SECTION B – VEGETATION

Use scientific names of plants.	Absolute % cover	Dominant Species?	Indicator Status	Pasture % cover
Tree Stratum (Plot size: _____)				
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
Total tree cover (TT) =	_____	50% _____	20% _____	
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____
Total sapling/shrub cover (TS) =	_____	50% _____	20% _____	
Herb Stratum (Plot size: _____)				
1. <u>chi Mac</u>	<u>55%</u>	<u>Y</u>	<u>N/a FACU</u>	
2. <u>Aci Kirk</u>	<u>2%</u>	<u>1</u>	<u>N/a</u>	
3. <u>cal haast</u>	<u>5%</u>	<u>1</u>	<u>N/a</u>	
4. <u>gau mb</u>	<u>2%</u>	<u>1</u>	<u>FAC</u>	
5. <u>lep pec</u>	<u>5%</u>	<u>1</u>	<u>N/a</u>	
6. <u>Poa cal</u>	<u>10%</u>	<u>1</u>	<u>N/a</u>	
7. <u>phyllachne cal</u>	<u>15%</u>	<u>1</u>	<u>FAC</u>	
8. <u>epi als</u>	<u>1%</u>	<u>1</u>	<u>FACU</u>	
9. <u>luz pum</u>	<u>1%</u>	<u>1</u>	<u>UPL</u>	
10. <u>vio can</u>	<u>1%</u>	<u>1</u>	<u>N/a</u>	
11. <u>Carex proserpicula</u>	<u>3%</u>	<u>1</u>	<u>FAC</u>	
12. <u>Dra mb</u>	<u>2%</u>	<u>1</u>	<u>N/a</u>	
13. <u>Gurisia gland</u>	<u>1%</u>	<u>1</u>	<u>N/a</u>	
14. <u>Hedovella Caes</u>	<u>2%</u>	<u>1</u>	<u>N/a</u>	
15. <u>Blechnum P.M</u>	<u>1%</u>	<u>1</u>	<u>FAC</u>	
16. <u>polystichum cystostegium</u>	<u>1</u>	<u>1</u>	<u>N/a</u>	
17. <u>rock</u>	<u>10%</u>	<u>-</u>	<u>1</u>	
18. _____	_____	_____	_____	
Total herb cover (TH) =	<u>119</u>	50% <u>1</u>	20% <u>0</u>	
<u>107 not inc rock</u>				
Total (P) =	_____			
Total Vegetation Cover (TVC): TT+TS+TH =	_____	50% _____		

Pasture Exclusion Test:
 Pasture cover/Total vegetation cover (P/TVC) x100 = _____ %
 Rapid Pasture Test
 Pasture Exclusion Test is >50%

Dominance Test:
 No. Dominant Spp. OBL/FACW/FAC (A) 0
 Tot. Dominant Spp. across strata (B) 1
 % OBL/FACW/FAC (A/B) 0%

Prevalence Index:
 Total % cover of: Multiply by:
 OBL 1 x 1 = 1
 FACW 1 x 2 = 2
 FAC 21 x 3 = 63
 FACU 56 x 4 = 224
 UPL 305 x 5 = 1525 150
 Total 109 (A) _____ (B) 440
 Prevalence Index (B/A) = 4.036

Hydrophytic vegetation indicators:
 Rapid Test
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological adaptations² (supporting data in Remarks)
 Problematic hydrophytic vegetation¹
 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present?
 YES NO UNCERTAIN

Remarks:

SECTION C – SOIL AND HYDROLOGY

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-8	5YR 2.5/1						Organic/mineral
8+		Very stony					Very rooty

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

Hydric soil indicators:		Soil drainage (circle) <input checked="" type="checkbox"/> W <input type="checkbox"/> M <input type="checkbox"/> P <input type="checkbox"/> VP	Cause of wetness (circle appropriate):	
Organic layers:	Concretions:	Colours: profile form either:		Location: Depression Flat Valley Gully <input checked="" type="checkbox"/> Slope
<input checked="" type="checkbox"/> Organic soil material	<input type="checkbox"/> Iron concretions	<input type="checkbox"/> Gley profile OR		Water table: Depth (cm) _____
<input type="checkbox"/> Litter	<input type="checkbox"/> Manganese concretions	<input type="checkbox"/> Mottled profile		High GW Perched Seepage Tidal Lithic
<input type="checkbox"/> Fibric	<input type="checkbox"/> Nodular	Horizon:		Pans: Depth (cm) _____
<input type="checkbox"/> Mesic	Consistence:	<input type="checkbox"/> Reductimorphic		Pan Humus Fe-pan Densi- Duri- Fragi Ortstein
<input type="checkbox"/> Humic	<input type="checkbox"/> Plastic	<input type="checkbox"/> Redox mottled		Restricting layers: Depth (cm) _____
<input type="checkbox"/> Peaty topsoil	<input type="checkbox"/> Sticky	<input type="checkbox"/> Redox segregations		Slow perm argillic
<input type="checkbox"/> Peaty subsoil	<input type="checkbox"/> Fluid	<input type="checkbox"/> Perch-gley features		<input type="checkbox"/> Pugged

Hydric soils present? YES NO UNCERTAIN NZSC subgroup _____

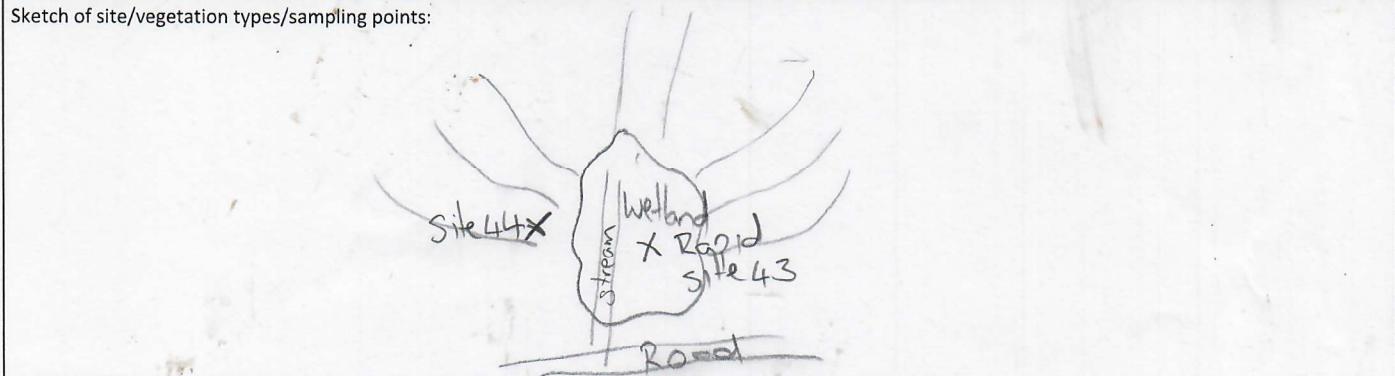
Primary hydrology indicators: minimum of 1 required; check all boxes that apply Soil °C _____

<input type="checkbox"/> Surface water (1A)	<input type="checkbox"/> Algal mat/crust (2D)	<input type="checkbox"/> Aquatic invertebrates (2J)
<input type="checkbox"/> Groundwater <30 cm (1B)	<input type="checkbox"/> Iron deposits (2E)	<input type="checkbox"/> Hydrogen sulphide odour (3A)
<input type="checkbox"/> Soil saturation <30 cm (1C)	<input type="checkbox"/> Surface soil cracks (2F)	<input type="checkbox"/> Oxidised rhizosphere on roots (3B)
<input type="checkbox"/> Water marks (2A)	<input type="checkbox"/> Inundation on aerial imagery (2G)	<input type="checkbox"/> Reduced iron (3C)
<input type="checkbox"/> Sediment deposits (2B)	<input type="checkbox"/> Sparsely vegetated concave surface (2H)	<input type="checkbox"/> Reduced iron in tilled soil (3D)
<input type="checkbox"/> Drift deposits (2C)	<input type="checkbox"/> Salt crust (2I)	<input type="checkbox"/> High water table stunted/stressed plants (4A)

Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

<input type="checkbox"/> Water-stained leaves (2K)	<input type="checkbox"/> Geomorphic position (4B)	FAC-neutral test (4D); refer to Section B: Vegetation 1. No. OBL & FACW dominant species _____ (A) 2. No. FACU & UPL dominant species _____ (B) 3. Total _____ (A+B) 4. FAC-neutral (>50%) _____ (A/A+B)*100
<input type="checkbox"/> Drainage patterns (2L)	<input type="checkbox"/> Shallow aquitard (4C)	
<input type="checkbox"/> Dry-season water table (3E)	<input type="checkbox"/> FAC-neutral test (4D)	
<input type="checkbox"/> Saturation in aerial imagery (3F)	<input type="checkbox"/> Frost-heave hummocks (4E)	

Wetland hydrology present? YES NO



Remarks: Site 44 photo NM

NEW ZEALAND WETLAND DELINEATION DATA FORM: PASTURE TEST

SECTION A – SITE INFORMATION

Site: Remarks Region: Remark (otago) Sampling point/ID: site 46
 Owner/address: DOC Date: 11/04/25 Land use: conservation
 Landform: hills/slope Local relief: 504 m Land cover: herb/tussock
 Is the land drained? YES NO UNKNOWN Investigator(s): S&C SW, NM Slope°: 3°
 GPS (NZTM): 3429 (screenshot) Altitude m: _____ Photo Nos: 3428

Are climatic/hydrologic conditions on the site typical for this time of year? YES NO (if NO explain in Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed? No Are 'Normal Circumstances' present? YES NO
 Are Vegetation Soil or Hydrology naturally problematic? No Explain answers in Remarks if needed

SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features etc.

Pasture exclusion? YES NO Hydrophytic vegetation present? YES NO
 Hydic soils present? YES NO Is the sampled area within a wetland? YES NO
 Wetland hydrology present? YES NO

SECTION B – VEGETATION

Use scientific names of plants.	Absolute % cover	Dominant Species?	Indicator Status	Pasture % cover
Tree Stratum (Plot size: _____)				
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
Total tree cover (TT) =	_____	50%	20%	_____
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____
Total sapling/shrub cover (TS) =	_____	50%	20%	_____
Herb Stratum (Plot size: _____)				
1. <u>chima</u>	<u>15</u>	<u>/</u>	<u>n/a</u>	<u>FACU</u>
2. <u>gautieria nubicola</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	_____
3. <u>Abronia inconspua</u>	<u>5</u>	<u>/</u>	<u>n/a</u>	_____
4. <u>Dianthus</u>	<u>20</u>	<u>Y</u>	<u>n/a</u>	_____
5. <u>Columisq haastii</u>	<u>1</u>	<u>/</u>	<u>n/a</u>	_____
6. <u>Kelleria childii</u>	<u>1</u>	<u>/</u>	<u>n/a</u>	_____
7. <u>phylladone col</u>	<u>1</u>	<u>/</u>	<u>FAC</u>	_____
8. <u>Hec caes</u>	<u>2</u>	<u>/</u>	<u>n/a</u>	_____
9. <u>Poa col</u>	<u>1</u>	<u>/</u>	<u>n/a</u>	_____
10. <u>cel sess</u>	<u>1</u>	<u>/</u>	<u>FACU</u>	_____
11. <u>bare ground</u>	<u>15</u>	<u>/</u>	<u>n/a</u>	_____
12. _____	_____	_____	_____	_____
13. _____	_____	_____	_____	_____
14. _____	_____	_____	_____	_____
15. _____	_____	_____	_____	_____
16. _____	_____	_____	_____	_____
17. _____	_____	_____	_____	_____
18. _____	_____	_____	_____	_____
Total herb cover (TH) =	<u>112</u>	50%	1	20% 1
<u>97 not inc bare ground</u>				
Total (P) =	_____	_____	_____	_____
Total Vegetation Cover (TVC): TT+TS+TH =	_____	50%	_____	_____

Pasture Exclusion Test:
 Pasture cover/Total vegetation cover (P/TVC) x100 = _____ %
 Rapid Pasture Test
 Pasture Exclusion Test is >50%

Dominance Test:
 No. Dominant Spp. OBL/FACW/FAC (A) 1
 Tot. Dominant Spp. across strata (B) 2
 % OBL/FACW/FAC (A/B) 50%

Prevalence Index:
 Total % cover of: Multiply by:
 OBL _____ x 1 = _____
 FACW _____ x 2 = _____
 FAC 51 x 3 = 153
 FACU 16 x 4 = 64
 UPL _____ x 5 = _____ 150
 Total 97 (A) 367 (B)
 Prevalence Index (B/A) = _____ 3.78

Hydrophytic vegetation indicators:
 Rapid Test
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological adaptations¹ (supporting data in Remarks)
 Problematic hydrophytic vegetation¹
 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present?
 YES NO UNCERTAIN

Remarks:

SECTION C – SOIL AND HYDROLOGY

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-10	2.5Y4/1	7.5YR 3/4	15	3-5mm	ped faces mineral		
10+						Rock	

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

Hydric soil indicators:

Organic layers: <input type="checkbox"/> Organic soil material <input type="checkbox"/> Litter <input type="checkbox"/> Fibric <input type="checkbox"/> Mesic <input type="checkbox"/> Humic <input type="checkbox"/> Peaty topsoil <input type="checkbox"/> Peaty subsoil	Soil drainage (circle) <u>W</u> MW I P VP Concretions: <input type="checkbox"/> Iron concretions <input type="checkbox"/> Manganese concretions <input type="checkbox"/> Nodular Consistence: <input type="checkbox"/> Plastic <input type="checkbox"/> Sticky <input type="checkbox"/> Fluid	Colours: profile form either: <input type="checkbox"/> Gley profile OR <input type="checkbox"/> Mottled profile Horizon: <input type="checkbox"/> Reductimorphic <input type="checkbox"/> Redox mottled <input type="checkbox"/> Redox segregations <input type="checkbox"/> Perch-gley features	Cause of wetness (circle appropriate): Location: Depression Flat Valley Gully <u>Slope</u> Water table: Depth (cm) _____ High GW Perched Seepage Tidal Lithic Pans: Depth (cm) _____ Pan Humus Fe-pan Densi- Duri- Fragi Ortstein Restricting layers: Depth (cm) <u>10</u> Slow perm argillic <input type="checkbox"/> Pugged
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Hydric soils present? YES NO UNCERTAIN NZSC subgroup _____

Primary hydrology indicators: minimum of 1 required; check all boxes that apply

Soil °C _____

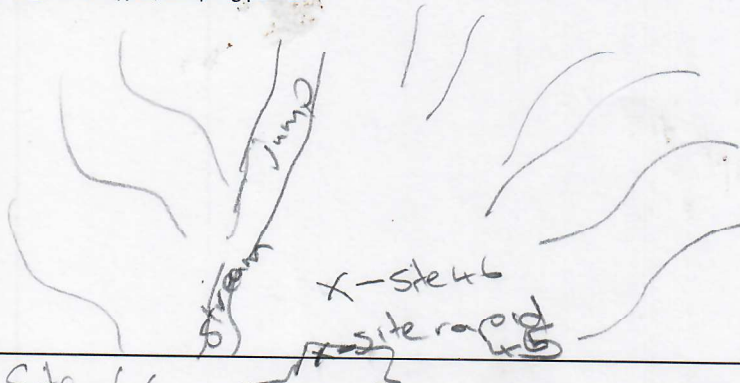
<input type="checkbox"/> Surface water (1A) <input type="checkbox"/> Groundwater <30 cm (1B) <input type="checkbox"/> Soil saturation <30 cm (1C) <input type="checkbox"/> Water marks (2A) <input type="checkbox"/> Sediment deposits (2B) <input type="checkbox"/> Drift deposits (2C)	<input type="checkbox"/> Algal mat/crust (2D) <input type="checkbox"/> Iron deposits (2E) <input type="checkbox"/> Surface soil cracks (2F) <input type="checkbox"/> Inundation on aerial imagery (2G) <input type="checkbox"/> Sparsely vegetated concave surface (2H) <input type="checkbox"/> Salt crust (2I)	<input type="checkbox"/> Aquatic invertebrates (2J) <input type="checkbox"/> Hydrogen sulphide odour (3A) <input type="checkbox"/> Oxidised rhizosphere on roots (3B) <input type="checkbox"/> Reduced iron (3C) <input type="checkbox"/> Reduced iron in tilled soil (3D) <input type="checkbox"/> High water table stunted/stressed plants (4A)
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Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

<input type="checkbox"/> Water-stained leaves (2K) <input type="checkbox"/> Drainage patterns (2L) <input type="checkbox"/> Dry-season water table (3E) <input type="checkbox"/> Saturation in aerial imagery (3F)	<input type="checkbox"/> Geomorphic position (4B) <input type="checkbox"/> Shallow aquitard (4C) <input type="checkbox"/> FAC-neutral test (4D) <input type="checkbox"/> Frost-heave hummocks (4E)	FAC-neutral test (4D); refer to Section B: Vegetation 1. No. OBL & FACW dominant species _____ (A) 2. No. FACU & UPL dominant species _____ (B) 3. Total _____ (A+B) 4. FAC-neutral (>50%) _____ (A/A+B)*100
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Wetland hydrology present? YES NO XX

Sketch of site/vegetation types/sampling points:



Remarks:

Site 46
 photo: NM 5379

WT1

SECTION C – SOIL AND HYDROLOGY

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-6	2.5YR 2.5/1					Mesic	Organic layer w/ nodules
6-20	10YR 8/1	5YR 4/6	20	2mm	within ped + along roots	Mineral	
20+						Red rock	

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

Hydric soil indicators:

<p>Organic layers:</p> <input type="checkbox"/> Organic soil material <input type="checkbox"/> Litter <input type="checkbox"/> Fibric <input checked="" type="checkbox"/> Mesic <input type="checkbox"/> Humic <input type="checkbox"/> Peaty topsoil <input type="checkbox"/> Peaty subsoil	<p>Concretions:</p> <input checked="" type="checkbox"/> Iron concretions <input type="checkbox"/> Manganese concretions <input type="checkbox"/> Nodular <p>Consistence:</p> <input type="checkbox"/> Plastic <input checked="" type="checkbox"/> Sticky <input type="checkbox"/> Fluid	<p>Soil drainage (circle) W MW <u>1</u> P VP</p> <p>Colours: profile form either:</p> <input type="checkbox"/> Gley profile OR <input checked="" type="checkbox"/> Mottled profile <p>Horizon:</p> <input type="checkbox"/> Reductimorphic <input checked="" type="checkbox"/> Redox mottled <input type="checkbox"/> Redox segregations <input type="checkbox"/> Perch-gley features	<p>Cause of wetness (circle appropriate):</p> <p>Location: Depression (Flat Valley Gully Slope)</p> <p>Water table: Depth (cm) <u>20cm</u></p> <p>High GW (Perched Seepage) Tidal Lithic</p> <p>Pans: Depth (cm) <u>20cm Redrock</u></p> <p>Pan Humus Fe-pan Densi- Duri- Fragi Ortstein</p> <p>Restricting layers: Depth (cm) _____</p> <p>Slow perm argillic</p> <input type="checkbox"/> Pugged
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Hydric soils present? YES NO UNCERTAIN NZSC subgroup _____

Primary hydrology indicators: minimum of 1 required; check all boxes that apply

<input type="checkbox"/> Surface water (1A) <input checked="" type="checkbox"/> Groundwater <30 cm (1B) <input checked="" type="checkbox"/> Soil saturation <30 cm (1C) <input type="checkbox"/> Water marks (2A) <input type="checkbox"/> Sediment deposits (2B) <input type="checkbox"/> Drift deposits (2C)	<input type="checkbox"/> Algal mat/crust (2D) <input checked="" type="checkbox"/> Iron deposits (2E) <input type="checkbox"/> Surface soil cracks (2F) <input type="checkbox"/> Inundation on aerial imagery (2G) <input type="checkbox"/> Sparsely vegetated concave surface (2H) <input type="checkbox"/> Salt crust (2I)	<input type="checkbox"/> Aquatic invertebrates (2J) <input type="checkbox"/> Hydrogen sulphide odour (3A) <input type="checkbox"/> Oxidised rhizosphere on roots (3B) <input type="checkbox"/> Reduced iron (3C) <input type="checkbox"/> Reduced iron in tilled soil (3D) <input type="checkbox"/> High water table stunted/stressed plants (4A)
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Soil °C _____

Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

<input type="checkbox"/> Water-stained leaves (2K) <input type="checkbox"/> Drainage patterns (2L) <input type="checkbox"/> Dry-season water table (3E) <input checked="" type="checkbox"/> Saturation in aerial imagery (3F)	<input checked="" type="checkbox"/> Geomorphic position (4B) <input type="checkbox"/> Shallow aquitard (4C) <input type="checkbox"/> FAC-neutral test (4D) <input type="checkbox"/> Frost-heave hummocks (4E)	<p>FAC-neutral test (4D); refer to Section B: Vegetation</p> <p>1. No. OBL & FACW dominant species _____ (A)</p> <p>2. No. FACU & UPL dominant species _____ (B)</p> <p>3. Total _____ (A+B)</p> <p>4. FAC-neutral (>50%) _____ (A/A+B)*100</p>
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Wetland hydrology present? YES NO



Remarks:

H 8582

NEW ZEALAND WETLAND DELINEATION DATA FORM: PASTURE TEST

SECTION A – SITE INFORMATION

Site: Doolans Region: Remarkables Sampling point/ID: WT2
 Owner/address: DOC Date: 13/01/25 Land use: Conservation
 Landform: slope Local relief: Slope (increased) Land cover: tussock
 Is the land drained? YES NO UNKNOWN Investigator(s): LSW, NM Slope: 2-5°
 GPS (NZTM): 289 Altitude m: 1627 Photo Nos: # 7042 (LSW)

Are climatic/hydrologic conditions on the site typical for this time of year? YES NO (if NO explain in Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed? NO Are 'Normal Circumstances' present? YES NO
 Are Vegetation Soil or Hydrology naturally problematic? NO Explain answers in Remarks if needed

SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features etc.

Pasture exclusion? YES NO Hydrophytic vegetation present? YES NO
 Hydric soils present? YES NO Wetland hydrology present? YES NO
 Is the sampled area within a wetland? YES NO

SECTION B – VEGETATION

Use scientific names of plants.	Absolute % cover	Dominant Species?	Indicator Status	Pasture % cover	Pasture Exclusion Test:
Tree Stratum (Plot size: _____)					Pasture cover/Total vegetation cover (P/TVC) x100 = _____ %
1. _____	_____	_____	_____	_____	<input type="checkbox"/> Rapid Pasture Test
2. _____	_____	_____	_____	_____	<input type="checkbox"/> Pasture Exclusion Test is >50%
3. _____	_____	_____	_____	_____	
4. _____	_____	_____	_____	_____	
Total tree cover (TT) = _____	_____	50%	20%	_____	
Sapling/Shrub Stratum (Plot size: _____)					Dominance Test:
1. _____	_____	_____	_____	_____	No. Dominant Spp. OBL/FACW/FAC (A) <u>0</u>
2. _____	_____	_____	_____	_____	Tot. Dominant Spp. across strata (B) <u>1</u>
3. _____	_____	_____	_____	_____	% OBL/FACW/FAC (A/B) <u>0</u>
4. _____	_____	_____	_____	_____	
5. _____	_____	_____	_____	_____	
Total sapling/shrub cover (TS) = _____	_____	50%	20%	_____	Prevalence Index:
Herb Stratum (Plot size: _____)					Total % cover of: Multiply by:
1. <u>Ch. mac</u>	<u>80%</u>	<u>y</u>	<u>n/a (FACU)</u>	_____	OBL _____ x 1 = _____
2. <u>Ch. rig</u>	<u>5%</u>	_____	<u>FACU</u>	_____	FACW _____ x 2 = _____
3. <u>(op per)</u>	<u>10%</u>	_____	<u>FAC</u>	_____	FAC _____ x 3 = _____
4. <u>Uc fast</u>	<u>1%</u>	_____	<u>FAC</u>	_____	FACU _____ x 4 = _____
5. <u>Pa lani</u>	<u><1%</u>	_____	<u>FAC</u>	_____	UPL _____ x 5 = _____
6. <u>Carex penalpinia</u>	<u>5%</u>	_____	<u>n/a</u>	_____	Total _____ (A) _____ (B)
7. <u>Poa col</u>	<u>5%</u>	_____	<u>n/a</u>	_____	Prevalence Index (B/A) = _____
8. <u>gan dip</u>	<u>1%</u>	_____	<u>n/a</u>	_____	Hydrophytic vegetation indicators:
9. <u>Ryt pum</u>	<u>1%</u>	_____	<u>n/a</u>	_____	<input type="checkbox"/> Rapid Test
10. <u>Vis kunn</u>	<u><1%</u>	_____	<u>n/a</u>	_____	<input checked="" type="checkbox"/> Dominance Test is >50%
11. _____	_____	_____	_____	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
12. _____	_____	_____	_____	_____	<input type="checkbox"/> Morphological adaptations ¹ (supporting data in Remarks)
13. _____	_____	_____	_____	_____	<input type="checkbox"/> Problematic hydrophytic vegetation ¹
14. _____	_____	_____	_____	_____	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
15. _____	_____	_____	_____	_____	Hydrophytic vegetation present?
16. _____	_____	_____	_____	_____	YES <input type="checkbox"/> NO <input type="checkbox"/> UNCERTAIN <input checked="" type="checkbox"/>
17. _____	_____	_____	_____	_____	Remarks:
18. _____	_____	_____	_____	_____	
Total herb cover (TH) = _____	_____	50%	20%	_____	
Total (P) = _____	_____	_____	_____	_____	
Total Vegetation Cover (TVC): TT+TS+TH = _____	_____	50%	_____	_____	

WT2

SECTION C – SOIL AND HYDROLOGY

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-4	7.5YR4/2					clay humus	some humus in top
4-25	10YR 5/1					clay silty clay	
25+							Bedrock

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

Hydric soil indicators:

Soil drainage (circle) W M P VP

Organic layers:

Organic soil material

Litter

Fibric

Mesic

Humic

Peaty topsoil

Peaty subsoil

Concretions:

Iron concretions

Manganese concretions

Nodular

Consistence:

Plastic

Sticky

Fluid

Colours: profile form either:

Gley profile form OR

Mottled profile form

Horizon:

Reductimorphic

Redox mottled

Redox segregations

Perch-gley features

Cause of wetness (circle appropriate):

Location: Depression Flat Valley Gully Slope

Water table: Depth (cm) _____

High GW Perched Seepage Tidal Lithic

Pans: Depth (cm) _____

Pan Humus Fe-pan Densi- Duri- Fragi Ortstein

Restricting layer: Depth (cm) _____

Slow perm argillic

Pugged

Hydric soils present? YES NO UNCERTAIN NZSC subgroup _____

Primary hydrology indicators: minimum of 1 required; check all boxes that apply

<input type="checkbox"/> Surface water (1A)	<input type="checkbox"/> Algal mat/crust (2D)	<input type="checkbox"/> Aquatic invertebrates (2J)
<input type="checkbox"/> Groundwater <30 cm (1B)	<input type="checkbox"/> Iron deposits (2E)	<input type="checkbox"/> Hydrogen sulphide odour (3A)
<input type="checkbox"/> Soil saturation <30 cm (1C)	<input type="checkbox"/> Surface soil cracks (2F)	<input type="checkbox"/> Oxidised rhizosphere on roots (3B)
<input type="checkbox"/> Water marks (2A)	<input type="checkbox"/> Inundation on aerial imagery (2G)	<input type="checkbox"/> Reduced iron (3C)
<input type="checkbox"/> Sediment deposits (2B)	<input type="checkbox"/> Sparsely vegetated concave surface (2H)	<input type="checkbox"/> Reduced iron in tilled soil (3D)
<input type="checkbox"/> Drift deposits (2C)	<input type="checkbox"/> Salt crust (2I)	<input type="checkbox"/> High water table stunted/stressed plants (4A)

Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

<input type="checkbox"/> Water-stained leaves (2K)	<input type="checkbox"/> Geomorphic position (4B)	<p>FAC-neutral test (4D); refer to Section B: Vegetation</p> <p>1. No. OBL & FACW dominant species _____ (A)</p> <p>2. No. FACU & UPL dominant species _____ (B)</p> <p>3. Total _____ (A+B)</p> <p>4. FAC-neutral (>50%) _____ (A/A+B)*100</p>
<input type="checkbox"/> Drainage patterns (2L)	<input type="checkbox"/> Shallow aquitard (4C)	
<input type="checkbox"/> Dry-season water table (3E)	<input type="checkbox"/> FAC-neutral test (4D)	
<input type="checkbox"/> Saturation in aerial imagery (3F)	<input type="checkbox"/> Frost-heave hummocks (4E)	

Wetland hydrology present? YES NO

Sketch of site/soil:

Remarks:

photo II 8583 NM

NEW ZEALAND WETLAND DELINEATION DATA FORM: PASTURE TEST

SECTION A – SITE INFORMATION

Site: Doolans Region: Remarkables Sampling point/ID: WT 3
 Owner/address: DOC Date: 13.01.26 Land use: Conservation
 Landform: riparian edge Local relief: stream edge Land cover: herbs
 Is the land drained? YES NO UNKNOWN Investigator(s): LSW NLM Slope: < 2°
 GPS (NZTM): 291 Altitude m: 1682 Photo Nos: #7045 (LSW)

Are climatic/hydrologic conditions on the site typical for this time of year? YES NO (if NO explain in Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed? Are 'Normal Circumstances' present? YES NO
 Are Vegetation Soil or Hydrology naturally problematic? Explain answers in Remarks if needed

SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features etc.

Pasture exclusion? YES NO
 Hydrophytic vegetation present? YES NO
 Hydric soils present? YES NO
 Wetland hydrology present? YES NO
 Is the sampled area within a wetland? YES NO

SECTION B – VEGETATION

Use scientific names of plants.	Absolute % cover	Dominant Species?	Indicator Status	Pasture % cover	Pasture Exclusion Test:
Tree Stratum (Plot size: _____)					Pasture cover/Total vegetation cover (P/TVC) x100 = _____ %
1. _____	_____	_____	_____	_____	<input type="checkbox"/> Rapid Pasture Test
2. _____	_____	_____	_____	_____	<input type="checkbox"/> Pasture Exclusion Test is >50%
3. _____	_____	_____	_____	_____	
4. _____	_____	_____	_____	_____	
Total tree cover (TT) =	_____	50%	20%	_____	
Sapling/Shrub Stratum (Plot size: _____)					Dominance Test:
1. _____	_____	_____	_____	_____	No. Dominant Spp. OBL/FACW/FAC (A) <u>2</u>
2. _____	_____	_____	_____	_____	Tot. Dominant Spp. across strata (B) <u>3</u>
3. _____	_____	_____	_____	_____	% OBL/FACW/FAC (A/B) <u>66.6</u>
4. _____	_____	_____	_____	_____	
5. _____	_____	_____	_____	_____	
Total sapling/shrub cover (TS) =	_____	50%	20%	_____	Prevalence Index:
Herb Stratum (Plot size: _____)					Total % cover of: Multiply by:
1. <u>Oreob pect</u>	<u>15%</u>	_____	<u>OBL</u>	_____	OBL <u>42</u> x 1 = <u>42</u>
2. <u>Ranunculus gra</u>	<u><1%</u>	_____	<u>n/a</u>	_____	FACW <u>26</u> x 2 = <u>52</u>
3. <u>Chi Mac</u>	<u>20%</u>	<u>y</u>	<u>n/a (FACU)</u>	_____	FAC <u>38</u> x 3 = <u>114</u>
4. <u>Cel haastii</u>	<u>2%</u>	_____	<u>n/a</u>	_____	FACU <u>20</u> x 4 = <u>80</u>
5. <u>Caltha obt</u>	<u>10%</u>	_____	<u>OBL</u>	_____	UPL _____ x 5 = _____
6. <u>Phyllachne col</u>	<u>5%</u>	_____	<u>FAC</u>	_____	Total <u>126</u> (A) <u>288</u> (B)
7. <u>Scleranthus pac</u>	<u>20%</u>	<u>y</u>	<u>FACW</u>	_____	Prevalence Index (B/A) = <u>2.28</u>
8. <u>Isotrientalis Auck</u>	<u>10%</u>	_____	<u>OBL</u>	_____	Hydrophytic vegetation indicators:
9. <u>Celmisia alpina</u>	<u>2%</u>	_____	<u>OBL</u>	_____	<input type="checkbox"/> Rapid Test
10. <u>Celmisia gland</u>	<u>1%</u>	_____	<u>FACW</u>	_____	<input checked="" type="checkbox"/> Dominance Test is >50%
11. <u>Gan parv</u>	<u>25%</u>	<u>y</u>	<u>FAC</u>	_____	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹
12. <u>Ouris gland</u>	<u>1%</u>	_____	<u>n/a</u>	_____	<input type="checkbox"/> Morphological adaptations ¹ (supporting data in Remarks)
13. <u>Cop perp</u>	<u>5%</u>	_____	<u>FAC</u>	_____	<input type="checkbox"/> Problematic hydrophytic vegetation ¹
14. <u>Carax hect</u>	<u>1%</u>	_____	<u>FAC</u>	_____	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
15. <u>Abro Caus</u>	<u>3%</u>	_____	<u>FACW</u>	_____	Hydrophytic vegetation present?
16. <u>Plantago NZ</u>	<u>1%</u>	_____	<u>FAC</u>	_____	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> UNCERTAIN <input type="checkbox"/>
17. <u>Corax gandichardi</u>	<u>5%</u>	_____	<u>OBL</u>	_____	Remarks: <u>n/m riparian width</u>
18. <u>Plantago lan</u>	<u>1%</u>	_____	<u>FAC</u>	_____	<u>Ran. pachytrichus also nearby. / in community.</u>
Total herb cover (TH) =	_____	50%	20%	_____	Total (P) = _____
Total Vegetation Cover (TVC): TT+TS+TH =	_____	50%	_____	_____	

WT3

SECTION C – SOIL AND HYDROLOGY

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-5	2.5YR 2.5/3					Organic fibric	
5-12	10YR 4/1	5YR 4/6	20%	3-5mm	Ped faces	peat	clay & gravel small
12 ↓							gravel large

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

Hydric soil indicators:

Soil drainage (circle) W MW P VP

<p>Organic layers:</p> <input type="checkbox"/> Organic soil material <input type="checkbox"/> Litter <input checked="" type="checkbox"/> Fibric <input type="checkbox"/> Mesic <input type="checkbox"/> Humic <input type="checkbox"/> Peaty topsoil <input type="checkbox"/> Peaty subsoil	<p>Concretions:</p> <input checked="" type="checkbox"/> Iron concretions <input type="checkbox"/> Manganese concretions <input type="checkbox"/> Nodular <p>Consistence:</p> <input type="checkbox"/> Plastic <input checked="" type="checkbox"/> Sticky <input type="checkbox"/> Fluid	<p>Colours: profile form either:</p> <input type="checkbox"/> Gley profile form OR <input checked="" type="checkbox"/> Mottled profile form <p>Horizon:</p> <input type="checkbox"/> Reductimorphic <input checked="" type="checkbox"/> Redox mottled <input type="checkbox"/> Redox segregations <input type="checkbox"/> Perch-gley features
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Cause of wetness (circle appropriate):

Location: Depression Flat Valley Gully Slope
 Water table: Depth (cm) 25cm
 High Perched Seepage Tidal Lithic stream
 Pans: Depth (cm) _____
 Pan Humus Fe-pan Densi- Duri- Fragi Ortstein
 Restricting layer: Depth (cm) _____
 Slow perm argillic
 Pugged

Hydric soils present? YES NO UNCERTAIN NZSC subgroup _____

Primary hydrology indicators: minimum of 1 required; check all boxes that apply

<input type="checkbox"/> Surface water (1A)	<input type="checkbox"/> Algal mat/crust (2D)	<input type="checkbox"/> Aquatic invertebrates (2J)
<input type="checkbox"/> Groundwater <30 cm (1B)	<input checked="" type="checkbox"/> Iron deposits (2E)	<input type="checkbox"/> Hydrogen sulphide odour (3A)
<input checked="" type="checkbox"/> Soil saturation <30 cm (1C)	<input type="checkbox"/> Surface soil cracks (2F)	<input type="checkbox"/> Oxidised rhizosphere on roots (3B)
<input type="checkbox"/> Water marks (2A)	<input type="checkbox"/> Inundation on aerial imagery (2G)	<input type="checkbox"/> Reduced iron (3C)
<input type="checkbox"/> Sediment deposits (2B)	<input type="checkbox"/> Sparsely vegetated concave surface (2H)	<input type="checkbox"/> Reduced iron in tilled soil (3D)
<input type="checkbox"/> Drift deposits (2C)	<input type="checkbox"/> Salt crust (2I)	<input type="checkbox"/> High water table stunted/stressed plants (4A)

Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

<input type="checkbox"/> Water-stained leaves (2K)	<input checked="" type="checkbox"/> Geomorphic position (4B)	FAC-neutral test (4D); refer to Section B: Vegetation 1. No. OBL & FACW dominant species _____ (A) 2. No. FACU & UPL dominant species _____ (B) 3. Total _____ (A+B) 4. FAC-neutral (>50%) _____ (A/A+B)*100
<input checked="" type="checkbox"/> Drainage patterns (2L)	<input type="checkbox"/> Shallow aquitard (4C)	
<input type="checkbox"/> Dry-season water table (3E)	<input type="checkbox"/> FAC-neutral test (4D)	
<input type="checkbox"/> Saturation in aerial imagery (3F)	<input type="checkbox"/> Frost-heave hummocks (4E)	

Wetland hydrology present? YES NO



Remarks:

8586 NM

NEW ZEALAND WETLAND DELINEATION DATA FORM: PASTURE TEST

SECTION A – SITE INFORMATION

Site: Doolans Region: Remarkables Sampling point/ID: WT 4
 Owner/address: DOC Date: 13.01.26 Land use: Conservation
 Landform: slope Local relief: steep slope & angles to stream Land cover: Dussock
 Is the land drained? YES NO UNKNOWN Investigator(s): _____ Slope*: ~ 20°
 GPS (NZTM): 192 Altitude m: 1628 Photo Nos: #7046

Are climatic/hydrologic conditions on the site typical for this time of year? YES NO (if NO explain in Remarks)
 Are Vegetation Soil or Hydrology significantly disturbed? NO Are 'Normal Circumstances' present? YES NO
 Are Vegetation Soil or Hydrology naturally problematic? NO Explain answers in Remarks if needed

SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features etc.

Pasture exclusion? YES <input type="checkbox"/>	Hydrophytic vegetation present? YES <input type="checkbox"/>	NO <input type="checkbox"/>	Is the sampled area within a wetland? YES <input type="checkbox"/>
NO <input checked="" type="checkbox"/>	Hydric soils present? YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	
	Wetland hydrology present? YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	

SECTION B – VEGETATION

Use scientific names of plants.	Absolute % cover	Dominant Species?	Indicator Status	Pasture % cover	
Tree Stratum (Plot size: _____)					Pasture Exclusion Test: Pasture cover/Total vegetation cover (P/TVC) x100 = _____ % <input type="checkbox"/> Rapid Pasture Test <input type="checkbox"/> Pasture Exclusion Test is >50%
1. _____	_____	_____	_____	_____	
2. _____	_____	_____	_____	_____	
3. _____	_____	_____	_____	_____	
4. _____	_____	_____	_____	_____	
Total tree cover (TT) = _____		50%	20%		
Sapling/Shrub Stratum (Plot size: _____)					Dominance Test: No. Dominant Spp. OBL/FACW/FAC (A) <u>0</u> Tot. Dominant Spp. across strata (B) <u>1</u> % OBL/FACW/FAC (A/B) <u>0</u>
1. _____	_____	_____	_____	_____	
2. _____	_____	_____	_____	_____	
3. _____	_____	_____	_____	_____	
4. _____	_____	_____	_____	_____	
Total sapling/shrub cover (TS) = _____		50%	20%		
Herb Stratum (Plot size: _____)					Prevalence Index: Total % cover of: Multiply by: OBL _____ x 1 = _____ FACW _____ x 2 = _____ FAC _____ x 3 = _____ FACU _____ x 4 = _____ UPL _____ x 5 = _____ Total _____ (A) _____ (B) Prevalence Index (B/A) = _____
1. <u>Ch: Mac</u>	<u>90%</u>	<u>y</u>	<u>n/a (FACU)</u>	_____	
2. <u>Aci Kirk</u>	<u>10%</u>	_____	<u>n/a</u>	_____	
3. <u>Brachy Bell</u>	<u>1%</u>	_____	<u>n/a</u>	_____	
4. <u>Wahlerbergia albo</u>	<u>2%</u>	_____	<u>n/a</u>	_____	
5. <u>Geum cockaynei</u>	<u>1%</u>	_____	<u>n/a</u>	_____	
6. <u>Ran multiscorpus</u>	<u><1%</u>	_____	<u>UPL</u>	_____	
7. _____	_____	_____	_____	_____	
8. _____	_____	_____	_____	_____	
9. _____	_____	_____	_____	_____	
10. _____	_____	_____	_____	_____	
11. _____	_____	_____	_____	_____	
12. _____	_____	_____	_____	_____	
13. _____	_____	_____	_____	_____	
14. _____	_____	_____	_____	_____	
15. _____	_____	_____	_____	_____	
16. _____	_____	_____	_____	_____	
17. _____	_____	_____	_____	_____	
18. _____	_____	_____	_____	_____	
Total herb cover (TH) = _____		50%	20%		
				Total (P) = _____	
Total Vegetation Cover (IVC): TT+TS+TH = _____		50%			

Hydrophytic vegetation indicators:
 Rapid Test
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological adaptations¹ (supporting data in Remarks)
 Problematic hydrophytic vegetation¹

Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present?
 YES NO UNCERTAIN

Remarks:

SECTION C – SOIL AND HYDROLOGY

WT4

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-22							
0-5	7.5 YR 6/2	-	-	-		mineral	Fine roots
5-22	7.5 YR 6/2	-	-	-	-	mineral	gravel & roots

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

Hydric soil indicators:

Soil drainage (circle) W MW | P VP

Cause of wetness (circle appropriate):

Organic layers:

- Organic soil material
- Litter
- Fibric
- Mesic
- Humic
- Peaty topsoil
- Peaty subsoil

Concretions:

- Iron concretions
- Manganese concretions
- Nodular

Consistence:

- Plastic
- Sticky
- Fluid

Colours: profile form either:

- Gley profile form OR
- Mottled profile form

Horizon:

- Reductimorphic
- Redox mottled
- Redox segregations
- Perch-gley features

Location: Depression Flat Valley Gully Slope

Water table: Depth (cm) _____

High GW Perched Seepage Tidal Lithic

Pans: Depth (cm) _____

Pan Humus Fe-pan Densi- Duri- Fragi Ortstein

Restricting layer: Depth (cm) _____

Slow perm argillic

Pugged

Hydric soils present?

YES

NO

UNCERTAIN

NZSC subgroup _____

Primary hydrology indicators: minimum of 1 required; check all boxes that apply

- | | | |
|--|--|--|
| <input type="checkbox"/> Surface water (1A) | <input type="checkbox"/> Algal mat/crust (2D) | <input type="checkbox"/> Aquatic invertebrates (2J) |
| <input type="checkbox"/> Groundwater <30 cm (1B) | <input type="checkbox"/> Iron deposits (2E) | <input type="checkbox"/> Hydrogen sulphide odour (3A) |
| <input type="checkbox"/> Soil saturation <30 cm (1C) | <input type="checkbox"/> Surface soil cracks (2F) | <input type="checkbox"/> Oxidised rhizosphere on roots (3B) |
| <input type="checkbox"/> Water marks (2A) | <input type="checkbox"/> Inundation on aerial imagery (2G) | <input type="checkbox"/> Reduced iron (3C) |
| <input type="checkbox"/> Sediment deposits (2B) | <input type="checkbox"/> Sparsely vegetated concave surface (2H) | <input type="checkbox"/> Reduced iron in tilled soil (3D) |
| <input type="checkbox"/> Drift deposits (2C) | <input type="checkbox"/> Salt crust (2I) | <input type="checkbox"/> High water table stunted/stressed plants (4A) |

Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

- | | |
|--|--|
| <input type="checkbox"/> Water-stained leaves (2K) | <input type="checkbox"/> Geomorphic position (4B) |
| <input type="checkbox"/> Drainage patterns (2L) | <input type="checkbox"/> Shallow aquitard (4C) |
| <input type="checkbox"/> Dry-season water table (3E) | <input type="checkbox"/> FAC-neutral test (4D) |
| <input type="checkbox"/> Saturation in aerial imagery (3F) | <input type="checkbox"/> Frost-heave hummocks (4E) |

FAC-neutral test (4D); refer to Section B: Vegetation

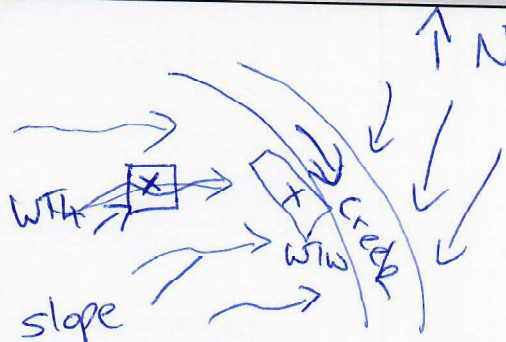
1. No. OBL & FACW dominant species _____ (A)
2. No. FACU & UPL dominant species _____ (B)
3. Total _____ (A+B)
4. FAC-neutral (>50%) _____ (A/A+B)*100

Wetland hydrology present?

YES

NO

Sketch of site/soil:



Remarks:

#8586 NM

NEW ZEALAND WETLAND DELINEATION DATA FORM: PASTURE TEST

SECTION A – SITE INFORMATION

Site: Doolans Region: Remarkables Sampling point/ID: WT6
 Owner/address: DOC Date: 13/01/26 Land use: Conservation
 Landform: knoll Local relief: ~10 to North Land cover: tussock/herb
 Is the land drained? YES ___ NO ___ UNKNOWN ___ Investigator(s): LSOJ/NM Slope: 5°
 GPS (NZTM): 295 (294 possibly blanked.) Altitude m: 1628 Photo Nos: #7050

Are climatic/hydrologic conditions on the site typical for this time of year? YES ___ NO ___ (if NO explain in Remarks)
 Are Vegetation ___ Soil ___ or Hydrology ___ significantly disturbed? Are 'Normal Circumstances' present? YES ___ NO ___
 Are Vegetation ___ Soil ___ or Hydrology ___ naturally problematic? Explain answers in Remarks if needed

SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features etc.

Pasture exclusion? YES <input type="checkbox"/> NO <input type="checkbox"/>	Hydrophytic vegetation present? YES <input type="checkbox"/> NO <input type="checkbox"/>	Is the sampled area within a wetland? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
	Hydric soils present? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
	Wetland hydrology present? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	

SECTION B – VEGETATION

Use scientific names of plants.	Absolute % cover	Dominant Species?	Indicator Status	Pasture % cover	
Tree Stratum (Plot size: _____)					Pasture Exclusion Test: Pasture cover/Total vegetation cover (P/TVC) x100 = _____ % <input type="checkbox"/> Rapid Pasture Test <input type="checkbox"/> Pasture Exclusion Test is >50%
1. _____	_____	_____	_____	_____	
2. _____	_____	_____	_____	_____	
3. _____	_____	_____	_____	_____	
4. _____	_____	_____	_____	_____	
Total tree cover (TT) = _____		50%	20%		
Sapling/Shrub Stratum (Plot size: _____)					Dominance Test: No. Dominant Spp. OBL/FACW/FAC (A) <u>0</u> Tot. Dominant Spp. across strata (B) <u>1</u> % OBL/FACW/FAC (A/B) <u>0</u>
1. _____	_____	_____	_____	_____	
2. _____	_____	_____	_____	_____	
3. _____	_____	_____	_____	_____	
4. _____	_____	_____	_____	_____	
Total sapling/shrub cover (TS) = _____		50%	20%		
Herb Stratum (Plot size: <u>2x2</u>)					Prevalence Index: Total % cover of: Multiply by: OBL _____ x 1 = _____ FACW _____ x 2 = _____ FAC _____ x 3 = _____ FACU _____ x 4 = _____ UPL _____ x 5 = _____ Total _____ (A) _____ (B) Prevalence Index (B/A) = _____
1. <u>chi Mac</u>	<u>60</u>	<u>y</u>	<u>n/a (FACU)</u>		
2. <u>Aci Kirk</u>	<u>37%</u>		<u>n/a</u>		
3. <u>Rao grand</u>	<u>10%</u>		<u>n/a</u>		
4. <u>Uenla rufa</u>	<u>1%</u>		<u>n/a</u>		
5. <u>Dra mus</u>	<u>15%</u>		<u>n/a</u>		
6. <u>Cop perp</u>	<u>15%</u>		<u>FAC</u>		
7. <u>Poa col</u>	<u>5%</u>		<u>n/a</u>		
8. <u>lyc fast</u>	<u>1%</u>		<u>FAC</u>		
9. <u>Gau dp</u>	<u>1%</u>		<u>n/a</u>		
10. <u>Carex edura.</u>	<u>1%</u>		<u>FAC</u>		
11. <u>Gentianella corym</u>	<u>1%</u>		<u>n/a</u>		
12. <u>↳ subsp. corym</u>					
13. _____					
14. _____					
15. _____					
16. _____					
17. _____					
18. _____					
Total herb cover (TH) = _____		50%	20%		
				Total (P) = _____	
Total Vegetation Cover (TVC): TT+TS+TH = _____ 50%					Hydrophytic vegetation indicators: <input type="checkbox"/> Rapid Test <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological adaptations ¹ (supporting data in Remarks) <input type="checkbox"/> Problematic hydrophytic vegetation ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Hydrophytic vegetation present? YES <input type="checkbox"/> NO <input type="checkbox"/> UNCERTAIN <input checked="" type="checkbox"/>					
Remarks: _____					

SECTION C – SOIL AND HYDROLOGY

WT6

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-4	Z.5YR.3/1					imneutral	many fine roots
4-23	10YR.5/1					imneutral	fine roots + some gravel

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

Hydric soil indicators:

Soil drainage (circle) **W** MW I P VP

Organic layers:

- Organic soil material
- Litter
- Fibric
- Mesic
- Humic
- Peaty topsoil
- Peaty subsoil

Concretions:

- Iron concretions
- Manganese concretions
- Nodular
- Consistence:**
- Plastic
- Sticky
- Fluid

Colours: profile form either:

- Gley profile form OR
- Mottled profile form
- Horizon:**
- Reductimorphic
- Redox mottled
- Redox segregations
- Perch-gley features

Cause of wetness (circle appropriate):

- Location: Depression Flat Valley Gully Slope
- Water table: Depth (cm) _____
- High GW Perched Seepage Tidal Lithic
- Pans: Depth (cm) _____
- Pan Humus Fe-pan Densi- Duri- Fragi Ortstein
- Restricting layer: Depth (cm) _____
- Slow perm argillic
- Pugged

Hydric soils present? YES NO UNCERTAIN NZSC subgroup _____

Primary hydrology indicators: minimum of 1 required; check all boxes that apply

- | | | |
|--|--|--|
| <input type="checkbox"/> Surface water (1A) | <input type="checkbox"/> Algal mat/crust (2D) | <input type="checkbox"/> Aquatic invertebrates (2J) |
| <input type="checkbox"/> Groundwater <30 cm (1B) | <input type="checkbox"/> Iron deposits (2E) | <input type="checkbox"/> Hydrogen sulphide odour (3A) |
| <input type="checkbox"/> Soil saturation <30 cm (1C) | <input type="checkbox"/> Surface soil cracks (2F) | <input type="checkbox"/> Oxidised rhizosphere on roots (3B) |
| <input type="checkbox"/> Water marks (2A) | <input type="checkbox"/> Inundation on aerial imagery (2G) | <input type="checkbox"/> Reduced iron (3C) |
| <input type="checkbox"/> Sediment deposits (2B) | <input type="checkbox"/> Sparsely vegetated concave surface (2H) | <input type="checkbox"/> Reduced iron in tilled soil (3D) |
| <input type="checkbox"/> Drift deposits (2C) | <input type="checkbox"/> Salt crust (2I) | <input type="checkbox"/> High water table stunted/stressed plants (4A) |

Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

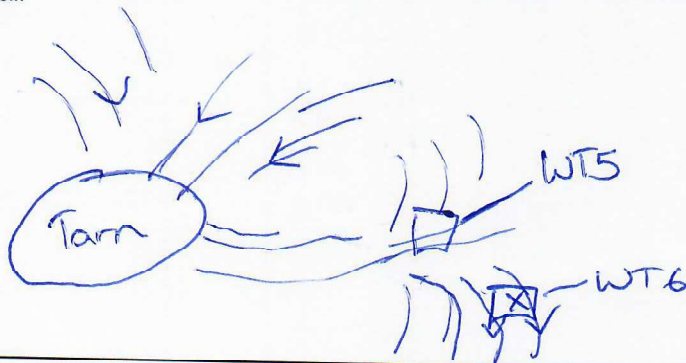
- | | |
|--|--|
| <input type="checkbox"/> Water-stained leaves (2K) | <input type="checkbox"/> Geomorphic position (4B) |
| <input type="checkbox"/> Drainage patterns (2L) | <input type="checkbox"/> Shallow aquitard (4C) |
| <input type="checkbox"/> Dry-season water table (3F) | <input type="checkbox"/> FAC-neutral test (4D) |
| <input type="checkbox"/> Saturation in aerial imagery (3F) | <input type="checkbox"/> Frost-heave hummocks (4E) |

FAC-neutral test (4D); refer to Section B: Vegetation

1. No. OBL & FACW dominant species _____ (A)
2. No. FACU & UPL dominant species _____ (B)
3. Total _____ (A+B)
4. FAC-neutral (>50%) _____ (A/A+B)*100

Wetland hydrology present? YES NO

Sketch of site/soil:



Remarks:

#8589 NM

NEW ZEALAND WETLAND DELINEATION DATA FORM: PASTURE TEST

SECTION A – SITE INFORMATION

Site: Doolans Region: Remarkables Sampling point/ID: WT8
 Owner/address: DOC Date: 13/01/06 Land use: conservation
 Landform: Seepage Local relief: upslope seepages Land cover: herbs
 Is the land drained? YES NO UNKNOWN Investigator(s): LSW Slope°: 60
 GPS (NZTM): 298 Altitude m: 1668 Photo Nos: 7060 (LSW)

Are climatic/hydrologic conditions on the site typical for this time of year? YES NO (if NO explain in Remarks)
 Are Vegetation Soil or Hydrology Soil significantly disturbed? No Are 'Normal Circumstances' present? YES NO
 Are Vegetation Soil or Hydrology Soil naturally problematic? No Explain answers in Remarks if needed

SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features etc.

Pasture exclusion? YES NO Hydrophytic vegetation present? YES NO
 Hydric soils present? YES NO Wetland hydrology present? YES NO

Is the sampled area within a wetland? YES NO

SECTION B – VEGETATION

Use scientific names of plants.	Absolute % cover	Dominant Species?	Indicator Status	Pasture % cover	
Tree Stratum (Plot size: _____)					Pasture Exclusion Test: Pasture cover/Total vegetation cover (P/TVC) x100 = _____ % <input type="checkbox"/> Rapid Pasture Test <input type="checkbox"/> Pasture Exclusion Test is >50%
1. _____	_____	_____	_____	_____	
2. _____	_____	_____	_____	_____	
3. _____	_____	_____	_____	_____	
4. _____	_____	_____	_____	_____	
Total tree cover (TT) = _____		50%	20%		Dominance Test: No. Dominant Spp. OBL/FACW/FAC (A) <u>1</u> Tot. Dominant Spp. across strata (B) <u>2</u> % OBL/FACW/FAC (A/B) <u>50</u>
Sapling/Shrub Stratum (Plot size: _____)					
1. _____	_____	_____	_____	_____	
2. _____	_____	_____	_____	_____	
3. _____	_____	_____	_____	_____	
4. _____	_____	_____	_____	_____	
5. _____	_____	_____	_____	_____	
Total sapling/shrub cover (TS) = _____		50%	20%		Prevalence Index: Total % cover of: Multiply by: OBL _____ x 1 = _____ FACW _____ x 2 = _____ FAC _____ x 3 = _____ FACU _____ x 4 = _____ UPL _____ x 5 = _____ Total _____ (A) _____ (B) Prevalence Index (B/A) = _____
Herb Stratum (Plot size: <u>2x2</u>)					
1. <u>sch pac</u>	<u>7%</u>		FACW		
2. <u>abr caus</u>	<u>7%</u>		FACW		
3. <u>plantago NZ</u>	<u>7%</u>		FAC		
4. <u>Chi Mac</u>	<u>30%</u>	y	n/a (FACU)		
5. <u>Cal obt</u>	<u>10%</u>		OBL		
6. <u>gauranium micro</u>	<u>1%</u>		FACU		
7. <u>Tarax edura</u>	<u>2%</u>		FAC		
8. <u>Cop perp</u>	<u>50%</u>	y	FAC		
9. <u>Celmisia alp</u>	<u>1%</u>		OBL		
10. <u>oreo pec</u>	<u>5%</u>		OBL		
11. <u>Ran gra</u>	<u>1%</u>		n/a		
12. <u>Poa col</u>	<u>2%</u>		n/a		
13. <u>viola cunn</u>	<u>1%</u>		n/a		
14. <u>geum leiospermum</u>	<u>1%</u>		n/a		
15. _____	_____	_____	_____	_____	
16. _____	_____	_____	_____	_____	
17. _____	_____	_____	_____	_____	
18. _____	_____	_____	_____	_____	
Total herb cover (TH) = _____		50%	20%		Hydrophytic vegetation indicators: <input type="checkbox"/> Rapid Test <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological adaptations ¹ (supporting data in Remarks) <input type="checkbox"/> Problematic hydrophytic vegetation ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Total (P) = _____					
Total Vegetation Cover (TVC): TT+TS+TH = _____ 50%					Hydrophytic vegetation present? YES <input type="checkbox"/> NO <input type="checkbox"/> UNCERTAIN <input checked="" type="checkbox"/>
Remarks:					

SECTION C – SOIL AND HYDROLOGY

WT8

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-5	2.5YR 2.5/2					mesic-C	one worm
5-15	2.5YR 5/1	2.5YR 4/6	40%	3-5mm	Ped faces	mineral	fine roots

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

Hydric soil indicators:

Soil drainage (circle) W MW I **P** VP

Cause of wetness (circle appropriate):

Organic layers:

- Organic soil material
- Litter
- Fibric
- Mesic
- Humic
- Peaty topsoil
- Peaty subsoil

Concretions:

- Iron concretions
- Manganese concretions
- Nodular

Consistence:

- Plastic
- Sticky
- Fluid

Colours: profile form either:

- Gley profile form OR
- Mottled profile form

Horizon:

- Reductimorphic
- Redox mottled
- Redox segregations
- Perch-gley features

Location: Depression, Flat Valley Gully Slope

Water table: Depth (cm) _____

High GW: Perched, Seepage Tidal Lithic

Pans: Depth (cm) _____

Pan Humus Fe-pan Densi- Duri- Fragi Ortstein

Restricting layer: Depth (cm) _____

Slow perm argillic

Pugged

Hydric soils present? YES NO UNCERTAIN

YES

NO

UNCERTAIN

NZSC subgroup _____

Primary hydrology indicators: minimum of 1 required; check all boxes that apply

- | | | |
|---|--|--|
| <input checked="" type="checkbox"/> Surface water (1A) | <input type="checkbox"/> Algal mat/crust (2D) | <input type="checkbox"/> Aquatic invertebrates (2J) |
| <input type="checkbox"/> Groundwater <30 cm (1B) | <input checked="" type="checkbox"/> Iron deposits (2E) | <input type="checkbox"/> Hydrogen sulphide odour (3A) |
| <input checked="" type="checkbox"/> Soil saturation <30 cm (1C) | <input type="checkbox"/> Surface soil cracks (2F) | <input type="checkbox"/> Oxidised rhizosphere on roots (3B) |
| <input type="checkbox"/> Water marks (2A) | <input type="checkbox"/> Inundation on aerial imagery (2G) | <input type="checkbox"/> Reduced iron (3C) |
| <input type="checkbox"/> Sediment deposits (2B) | <input type="checkbox"/> Sparsely vegetated concave surface (2H) | <input type="checkbox"/> Reduced iron in tilled soil (3D) |
| <input type="checkbox"/> Drift deposits (2C) | <input type="checkbox"/> Salt crust (2I) | <input type="checkbox"/> High water table stunted/stressed plants (4A) |

Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

- | | |
|---|--|
| <input type="checkbox"/> Water-stained leaves (2K) | <input checked="" type="checkbox"/> Geomorphic position (4B) |
| <input type="checkbox"/> Drainage patterns (2L) | <input type="checkbox"/> Shallow aquitard (4C) |
| <input type="checkbox"/> Dry-season water table (3E) | <input type="checkbox"/> FAC-neutral test (4D) |
| <input checked="" type="checkbox"/> Saturation in aerial imagery (3F) | <input type="checkbox"/> Frost-heave hummocks (4E) |

FAC-neutral test (4D); refer to Section B: Vegetation

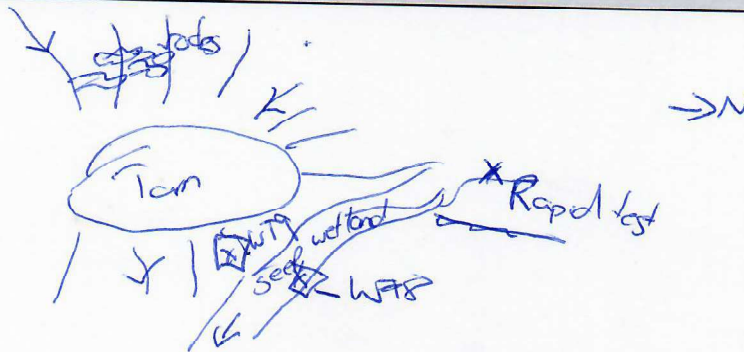
1. No. OBL & FACW dominant species _____ (A)
2. No. FACU & UPL dominant species _____ (B)
3. Total _____ (A+B)
4. FAC-neutral (>50%) _____ (A/A+B)*100

Wetland hydrology present? YES NO

YES

NO

Sketch of site/soil:



Remarks:

8595 NM

NEW ZEALAND WETLAND DELINEATION DATA FORM

SECTION A – SITE INFORMATION

Site: Doolans Region: Remarkables Sampling point: WT9
 Owner: DOC Date: 13/01/26 Land use: Conservation
 Landform: slope Local relief: → LSW, NM Land cover: tussock
 Is the land drained (circle) YES NO Investigator(s): slope between Knottland Soil °C: _____ Slope°: 5-10°
 GPS (NZTM): 299 Altitude m: _____ Photo Nos: 7061

Are climatic/hydrologic conditions on the site typical for this time of year? YES NO (circle appropriate; if NO explain in Remarks)
 Are vegetation, soil or hydrology significantly disturbed? (circle) No Are 'normal circumstances' present? (circle) YES NO
 Are vegetation, soil or hydrology naturally problematic? (circle) No Explain answers in Remarks if needed

SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features etc.

Hydrophytic vegetation present? YES NO Is the sampled area within a wetland? YES NO
 Hydric soils present? YES NO
 Wetland hydrology present? YES NO

SECTION B – VEGETATION

Use scientific names of plants.	Absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
Total cover = _____			
Sapling/Shrub Stratum (Plot size: _____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
Total cover = _____			
Herb Stratum (Plot size: <u>2x2</u>)			
1. <u>chi Mac</u>	<u>90%</u>	<u>y</u>	<u>n/a (FACU)</u>
2. <u>Carex penulpinna</u>	<u>2%</u>	_____	<u>n/a</u>
3. <u>Aci hirk.</u>	<u>1%</u>	_____	<u>n/a</u>
4. <u>gar micro</u>	<u>1%</u>	_____	<u>UPL</u>
5. <u>lyco fast</u>	<u>2%</u>	_____	<u>FAC</u>
6. <u>epi als</u>	<u>1%</u>	_____	<u>FACU</u>
7. <u>gan dep.</u>	<u>1%</u>	_____	<u>n/a</u>
8. <u>Plantago lami</u>	<u>2%</u>	_____	<u>FAC</u>
9. <u>Rao grand</u>	<u>2%</u>	_____	<u>n/a</u>
10. <u>Dra ros</u>	<u>2%</u>	_____	<u>n/a</u>
11. <u>pim notia</u>	<u>1%</u>	_____	<u>n/a</u>
12. <u>Argyrotegium mach</u>	<u>1%</u>	_____	<u>FACU</u>
Total cover = _____			
<u>Poa col</u>	<u>3%</u>	_____	<u>n/a</u>

Dominance Test:
 No. Dominant Spp. OBL/FACW/FAC (A) 0
 Tot. Dominant Spp. across strata (B) 1
 % OBL/FACW/FAC (A/B) 0

Prevalence Index:
 Total % cover of: Multiply by:
 OBL _____ x 1 = _____
 FACW _____ x 2 = _____
 FAC _____ x 3 = _____
 FACU _____ x 4 = _____
 UPL _____ x 5 = _____
 Total _____ (A) _____ (B)
 Prevalence Index (B/A) = _____

Hydrophytic vegetation indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological adaptations¹ (supporting data in Remarks)
 Problematic hydrophytic vegetation¹

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present?

YES
 NO
 UNCERTAIN

Remarks: • WP 300 still connected to wetland WT8
 ↳ lots of ?? Ranunculus at WP ↳ assumed to be R. grac
 - WP 301 tightens to ~2-3m for ~10m downslope and then narrows to shape.

WT9

SECTION C – SOIL AND HYDROLOGY

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-6	7.5YR 4/2					mineral	fine roots
6-24	10YR 4/2	7.5YR 4/4	40%	3-5mm	ped faces	mineral	fine roots

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

Hydric soil indicators:

Soil drainage (circle) W MW I P VP

<p>Organic layers:</p> <input type="checkbox"/> Organic soil material <input type="checkbox"/> Litter <input type="checkbox"/> Fibric <input type="checkbox"/> Mesic <input type="checkbox"/> Humic <input type="checkbox"/> Peaty topsoil <input type="checkbox"/> Peaty subsoil	<p>Concretions:</p> <input type="checkbox"/> Iron concretions <input type="checkbox"/> Manganese concretions <input type="checkbox"/> Nodular	<p>Colours: profile form either:</p> <input type="checkbox"/> Gley profile form OR <input checked="" type="checkbox"/> Mottled profile form
<p>Consistence:</p> <input type="checkbox"/> Plastic <input type="checkbox"/> Sticky <input type="checkbox"/> Fluid	<p>Horizons: profile form either:</p> <input type="checkbox"/> Reductimorphic <input type="checkbox"/> Redox mottled <input type="checkbox"/> Redox segregations <input type="checkbox"/> Perch-gley features	<p>Cause of wetness (circle appropriate):</p> <p>Location: Depression <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Valley <input type="checkbox"/> Gully <input type="checkbox"/> Slope</p> <p>Water table: Depth (cm) _____</p> <p>High GW Perched Seepage Tidal Lithic Pans: Depth (cm) _____</p> <p>Pan Humus Fe-pan Densi- Duri- Fragi Ortstein Restricting layer: Depth (cm) _____</p> <p>Slow perm argillic <input type="checkbox"/> Pugged</p>

Hydric soils present? YES NO UNCERTAIN NZSC subgroup _____

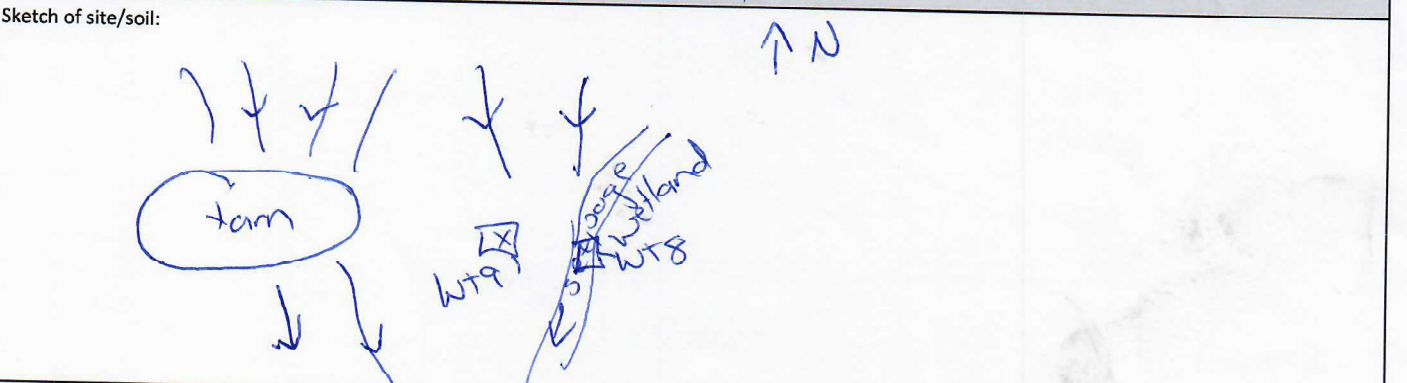
Primary hydrology indicators: minimum of 1 required; check all boxes that apply

<input type="checkbox"/> Surface water (1A)	<input type="checkbox"/> Algal mat/crust (2D)	<input type="checkbox"/> Aquatic invertebrates (2J)
<input type="checkbox"/> Groundwater <30 cm (1B)	<input type="checkbox"/> Iron deposits (2E)	<input type="checkbox"/> Hydrogen sulphide odour (3A)
<input type="checkbox"/> Soil saturation <30 cm (1C)	<input type="checkbox"/> Surface soil cracks (2F)	<input type="checkbox"/> Oxidised rhizosphere on roots (3B)
<input type="checkbox"/> Water marks (2A)	<input type="checkbox"/> Inundation on aerial imagery (2G)	<input type="checkbox"/> Reduced iron (3C)
<input type="checkbox"/> Sediment deposits (2B)	<input type="checkbox"/> Sparsely vegetated concave surface (2H)	<input type="checkbox"/> Reduced iron in tilled soil (3D)
<input type="checkbox"/> Drift deposits (2C)	<input type="checkbox"/> Salt crust (2I)	<input type="checkbox"/> High water table stunted/stressed plants (4A)

Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

<input type="checkbox"/> Water-stained leaves (2K)	<input type="checkbox"/> Geomorphic position (4B)	FAC-neutral test (4D); refer to Section B: Vegetation 1. No. OBL & FACW dominant species _____ (A) 2. No. FACU & UPL dominant species _____ (B) 3. Total _____ (A+B) 4. FAC-neutral (>50%) _____ (A/A+B)*100
<input type="checkbox"/> Drainage patterns (2L)	<input type="checkbox"/> Shallow aquitard (4C)	
<input type="checkbox"/> Dry-season water table (3E)	<input type="checkbox"/> FAC-neutral test (4D)	
<input type="checkbox"/> Saturation in aerial imagery (3F)	<input type="checkbox"/> Frost-heave hummocks (4E)	

Wetland hydrology present? YES NO



Remarks: # 8596 NM

NEW ZEALAND WETLAND DELINEATION DATA FORM

SECTION A – SITE INFORMATION

Site: Doolans Region: Remarkables Sampling point: WT 11
 Owner: DOC Date: 13/01/20 Land use: Conservation
 Landform: Slope to creek Local relief: ~10m upslope 2m to creek Land cover: tussock/ex grass
 Is the land drained (circle) YES NO Investigator(s): CSW Soil °C: _____ Slope°: 20°
 GPS (NZTM): 317 Altitude m: 1366 Photo Nos: 7145 (CSW)

Are climatic/hydrologic conditions on the site typical for this time of year? YES NO (circle appropriate; if NO explain in Remarks)
 Are vegetation, soil or hydrology significantly disturbed? (circle) NO Are 'normal circumstances' present? (circle) YES NO
 Are vegetation, soil or hydrology naturally problematic? (circle) NO Explain answers in Remarks if needed

SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features etc.

Hydrophytic vegetation present? YES NO Is the sampled area within a wetland? YES
 Hydric soils present? YES NO NO
 Wetland hydrology present? YES NO NO

SECTION B – VEGETATION

Use scientific names of plants.	Absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
Total cover = _____			
Sapling/Shrub Stratum (Plot size: _____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
Total cover = _____			
Herb Stratum (Plot size: _____)			
1. <u>Chl nig</u>	<u>80%</u>	<u>y</u>	<u>FACU</u>
2. <u>pilosella off</u>	<u>2%</u>	_____	<u>FACU</u>
3. <u>Vio can</u>	<u>2%</u>	_____	<u>n/a</u>
4. <u>genm leio</u>	<u>1%</u>	_____	<u>n/a</u>
5. <u>Acaena caesiiflora</u>	<u>1%</u>	_____	<u>n/a</u>
6. <u>plantago tri</u>	<u>1%</u>	_____	<u>FACW</u>
7. <u>Har-otis cap</u>	<u>2%</u>	_____	<u>FACU</u>
8. <u>galium perp</u>	<u><1%</u>	_____	<u>FAC</u>
9. <u>epi als</u>	<u><1%</u>	_____	<u>FACU</u>
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
Total cover = _____			

Dominance Test:
 No. Dominant Spp. OBL/FACW/FAC (A) 0
 Tot. Dominant Spp. across strata (B) 1
 % OBL/FACW/FAC (A/B) 0

Prevalence Index:
 Total % cover of: Multiply by:
 OBL _____ x 1 = _____
 FACW _____ x 2 = _____
 FAC _____ x 3 = _____
 FACU _____ x 4 = _____
 UPL _____ x 5 = _____
 Total _____ (A) _____ (B)
 Prevalence Index (B/A) = _____

Hydrophytic vegetation indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological adaptations¹ (supporting data in Remarks)
 Problematic hydrophytic vegetation¹

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present?
 YES
 NO
 UNCERTAIN

Remarks: 0.5m riparian strip/stream vegetation margin
↳ flatter ground containing flood plain wetland
5m up and down stream.

WT 11

SECTION C – SOIL AND HYDROLOGY

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-8	7.5YR2.5/2					Organic	Roots not peat
8-24	" "					mineral	fine roots

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

Hydric soil indicators:

Soil drainage (circle) W MW P VP

Cause of wetness (circle appropriate):

Organic layers:

- Organic soil material
- Litter
- Fibric
- Mesic
- Humic
- Peaty topsoil
- Peaty subsoil

Concretions:

- Iron concretions
- Manganese concretions
- Nodular

Consistence:

- Plastic
- Sticky
- Fluid

Colours: profile form either:

- Gley profile form OR
- Mottled profile form

Horizon:

- Reductimorphic
- Redox mottled
- Redox segregations
- Perch-gley features

Location: Depression Flat Valley Gully Slope

Water table: Depth (cm) _____

High GW Perched Seepage Tidal Lithic

Pans: Depth (cm) _____

Pan Humus Fe-pan Densi- Duri- Fragi Ortstein

Restricting layer: Depth (cm) _____

Slow perm argillic

Pugged

Hydric soils present?

YES

NO

UNCERTAIN

NZSC subgroup _____

Primary hydrology indicators: minimum of 1 required; check all boxes that apply

- | | | |
|--|--|--|
| <input type="checkbox"/> Surface water (1A) | <input type="checkbox"/> Algal mat/crust (2D) | <input type="checkbox"/> Aquatic Invertebrates (2J) |
| <input type="checkbox"/> Groundwater <30 cm (1B) | <input type="checkbox"/> Iron deposits (2E) | <input type="checkbox"/> Hydrogen sulphide odour (3A) |
| <input type="checkbox"/> Soil saturation <30 cm (1C) | <input type="checkbox"/> Surface soil cracks (2F) | <input type="checkbox"/> Oxidised rhizosphere on roots (3B) |
| <input type="checkbox"/> Water marks (2A) | <input type="checkbox"/> Inundation on aerial imagery (2G) | <input type="checkbox"/> Reduced iron (3C) |
| <input type="checkbox"/> Sediment deposits (2B) | <input type="checkbox"/> Sparsely vegetated concave surface (2H) | <input type="checkbox"/> Reduced iron in tilled soil (3D) |
| <input type="checkbox"/> Drift deposits (2C) | <input type="checkbox"/> Salt crust (2I) | <input type="checkbox"/> High water table stunted/stressed plants (4A) |

Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

- | | |
|--|--|
| <input type="checkbox"/> Water-stained leaves (2K) | <input type="checkbox"/> Geomorphic position (4B) |
| <input type="checkbox"/> Drainage patterns (2L) | <input type="checkbox"/> Shallow aquitard (4C) |
| <input type="checkbox"/> Dry-season water table (3E) | <input type="checkbox"/> FAC-neutral test (4D) |
| <input type="checkbox"/> Saturation in aerial imagery (3F) | <input type="checkbox"/> Frost-heave hummocks (4E) |

FAC-neutral test (4D); refer to Section B: Vegetation

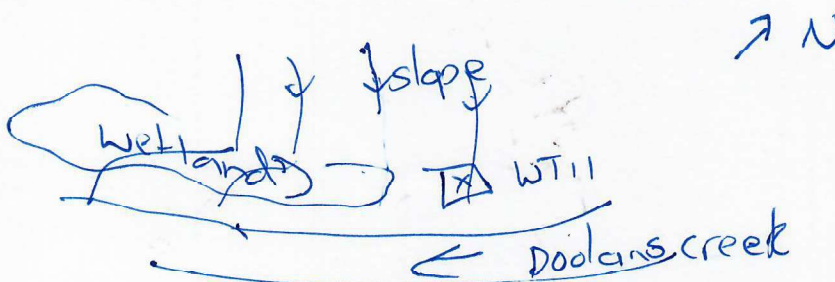
1. No. OBL & FACW dominant species _____ (A)
2. No. FACU & UPL dominant species _____ (B)
3. Total _____ (A+B)
4. FAC-neutral (>50%) _____ (A/A+B)*100

Wetland hydrology present?

YES

NO

Sketch of site/soil:



Remarks:

A 8617 NM

NEW ZEALAND WETLAND DELINEATION DATA FORM

SECTION A – SITE INFORMATION

Site: Doolans Region: Remarkables Sampling point: WT14
 Owner: DOC Date: 13/01/26 Land use: Conservation
 Landform: Platcan Local relief: raised area of plateau Land cover: Tussock
 Is the land drained (circle) YES NO Investigator(s): LSW Soil °C: _____ Slope°: <5°
 GPS (NZTM): 335 Altitude m: 1373 Photo Nos: 7163

Are climatic/hydrologic conditions on the site typical for this time of year? YES NO (circle appropriate; if NO explain in Remarks)
 Are vegetation, soil or hydrology significantly disturbed? (circle) No Are 'normal circumstances' present? (circle) YES NO
 Are vegetation, soil or hydrology naturally problematic? (circle) No Explain answers in Remarks if needed

SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features etc.

Hydrophytic vegetation present? YES NO Is the sampled area within a wetland? YES
 Hydric soils present? YES NO NO
 Wetland hydrology present? YES NO NO

SECTION B – VEGETATION

Use scientific names of plants.	Absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
Total cover = _____			
Sapling/Shrub Stratum (Plot size: _____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
Total cover = _____			
Herb Stratum (Plot size: _____)			
1. <u>Chi nig</u>	<u>85%</u>	_____	<u>FACU</u>
2. <u>Luz rufa v. rufa</u>	<u>1%</u>	<u>y</u>	<u>n/a</u>
3. <u>Poa col</u>	<u>20%</u>	<u>y</u>	<u>n/a</u>
4. <u>Vio can</u>	<u>1%</u>	_____	<u>n/a</u>
5. <u>Argyrost Mack</u>	<u>1%</u>	_____	<u>n/a</u>
6. <u>Acaena caesiogarra</u>	<u>1%</u>	_____	<u>n/a</u>
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
Total cover = _____			

Dominance Test:
 No. Dominant Spp. OBL/FACW/FAC (A) n/a
 Tot. Dominant Spp. across strata (B) 2
 % OBL/FACW/FAC (A/B) _____

Prevalence Index:
 Total % cover of: Multiply by:
 OBL _____ x 1 = _____
 FACW _____ x 2 = _____
 FAC _____ x 3 = _____
 FACU _____ x 4 = _____
 UPL _____ x 5 = _____
 Total _____ (A) _____ (B)
 Prevalence Index (B/A) = _____

Hydrophytic vegetation indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological adaptations¹ (supporting data in Remarks)
 Problematic hydrophytic vegetation¹

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present?
 YES
 NO
 UNCERTAIN

Remarks: WOP 318 - 348 = wetland edge. → connects to mapped boundary
↓
Leptinella sp.? Photos

SECTION C – SOIL AND HYDROLOGY

WT 14

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-3	10YR 4/2					mineral	lots small roots
3-14	2.5Y 5/1	10YR 5/8	15	2mm	ped matrix	mineral	silt

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

Hydric soil indicators:

Soil drainage (circle) W MW I P VP

Cause of wetness (circle appropriate):

Location: Depression Flat Valley Gully Slope

Water table: Depth (cm) _____

High GW Perched Seepage Tidal Lithic

Pans: Depth (cm) _____

Pan Humus Fe-pan Densi- Duri- Fragi Ortstein

Restricting layer: Depth (cm) _____

Slow perm argillic

Pugged

Organic layers:

- Organic soil material
- Litter
- Fibric
- Mesic
- Humic
- Peaty topsoil
- Peaty subsoil

Concretions:

- Iron concretions
- Manganese concretions
- Nodular

Consistence:

- Plastic
- Sticky
- Fluid

Colours: profile form either:

- Gley profile form OR
- Mottled profile form

Horizon:

- Reductimorphic
- Redox mottled
- Redox segregations
- Perch-gley features

Hydric soils present? YES

NO

UNCERTAIN

NZSC subgroup _____

Primary hydrology indicators: minimum of 1 required; check all boxes that apply

- | | | |
|--|--|--|
| <input type="checkbox"/> Surface water (1A) | <input type="checkbox"/> Algal mat/crust (2D) | <input type="checkbox"/> Aquatic invertebrates (2J) |
| <input type="checkbox"/> Groundwater <30 cm (1B) | <input type="checkbox"/> Iron deposits (2E) | <input type="checkbox"/> Hydrogen sulphide odour (3A) |
| <input type="checkbox"/> Soil saturation <30 cm (1C) | <input type="checkbox"/> Surface soil cracks (2F) | <input type="checkbox"/> Oxidised rhizosphere on roots (3B) |
| <input type="checkbox"/> Water marks (2A) | <input type="checkbox"/> Inundation on aerial imagery (2G) | <input type="checkbox"/> Reduced iron (3C) |
| <input type="checkbox"/> Sediment deposits (2B) | <input type="checkbox"/> Sparsely vegetated concave surface (2H) | <input type="checkbox"/> Reduced iron in tilled soil (3D) |
| <input type="checkbox"/> Drift deposits (2C) | <input type="checkbox"/> Salt crust (2I) | <input type="checkbox"/> High water table stunted/stressed plants (4A) |

Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

- | | |
|--|--|
| <input type="checkbox"/> Water-stained leaves (2K) | <input type="checkbox"/> Geomorphic position (4B) |
| <input type="checkbox"/> Drainage patterns (2L) | <input type="checkbox"/> Shallow aquitard (4C) |
| <input type="checkbox"/> Dry-season water table (3E) | <input type="checkbox"/> FAC-neutral test (4D) |
| <input type="checkbox"/> Saturation in aerial imagery (3F) | <input type="checkbox"/> Frost-heave hummocks (4E) |

FAC-neutral test (4D); refer to Section B: Vegetation

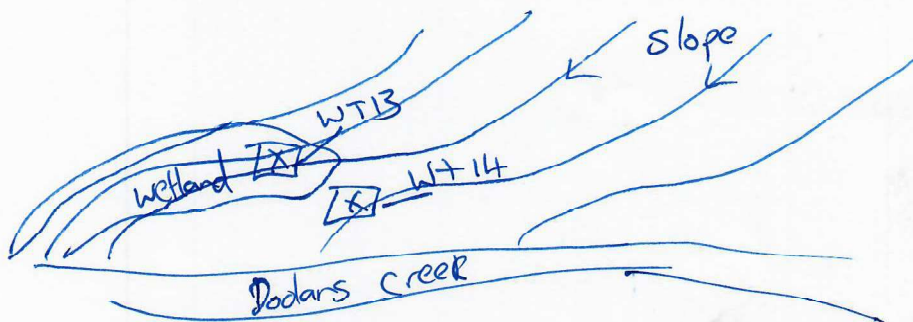
1. No. OBL & FACW dominant species _____ (A)
2. No. FACU & UPL dominant species _____ (B)
3. Total _____ (A+B)
4. FAC-neutral (>50%) _____ (A/A+B)*100

Wetland hydrology present? YES

NO

Remarks:

Sketch of site/soil:



Remarks:

8620 NM

NEW ZEALAND WETLAND DELINEATION DATA FORM

SECTION A – SITE INFORMATION

Site: Doolans Region: Remarkables Sampling point: WT 16
 Owner: DOC Date: 13/01/26 Land use: Conservation
 Landform: hill rise Local relief: ~30m upslope gradual from SW, NN Land cover: Tusssock
 Is the land drained (circle) YES NO Investigator(s): ISW, NM Soil °C: _____ Slope°: ~5°-10°
 GPS (NZTM): 353 Altitude m: 1386 m Photo Nos: #7165

Are climatic/hydrologic conditions on the site typical for this time of year? YES NO (circle appropriate; if NO explain in Remarks)
 Are vegetation, soil or hydrology significantly disturbed? (circle) NO Are 'normal circumstances' present? (circle) YES NO
 Are vegetation, soil or hydrology naturally problematic? (circle) NO Explain answers in Remarks if needed

SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features etc.

Hydrophytic vegetation present? YES NO Is the sampled area within a wetland? YES
 Hydric soils present? YES NO NO
 Wetland hydrology present? YES NO NO

SECTION B – VEGETATION

Use scientific names of plants.	Absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
Total cover = _____			
Sapling/Shrub Stratum (Plot size: _____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
Total cover = _____			
Herb Stratum (Plot size: _____)			
1. <u>chi rig</u>	<u>85%</u>	<u>y</u>	<u>FACU</u>
2. <u>Dra ros</u>	<u>10%</u>		<u>n/a</u>
3. <u>Lyc fas</u>	<u>1%</u>		<u>FAC</u>
4. <u>Poa col</u>	<u>2%</u>		<u>n/a</u>
5. <u>Carex pen</u>	<u>1%</u>		<u>n/a</u>
6. <u>littor</u>	<u>10%</u>		<u>n/a</u>
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
Total cover = _____			

Dominance Test:
 No. Dominant Spp. OBL/FACW/FAC (A) 0
 Tot. Dominant Spp. across strata (B) 1
 % OBL/FACW/FAC (A/B) 0

Prevalence Index:
 Total % cover of: Multiply by:
 OBL _____ x 1 = _____
 FACW _____ x 2 = _____
 FAC _____ x 3 = _____
 FACU _____ x 4 = _____
 UPL _____ x 5 = _____
 Total _____ (A) _____ (B)
 Prevalence Index (B/A) = _____

Hydrophytic vegetation indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological adaptations¹ (supporting data in Remarks)
 Problematic hydrophytic vegetation¹
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present?
 YES
 NO
 UNCERTAIN

Remarks:

SECTION C – SOIL AND HYDROLOGY

WT16

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-4	7.5YR 3/2					mineral	root mass
4-22	10YR 4/1					mineral	fine roots & worm mounds

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

Hydric soil indicators:

Soil drainage (circle) W MW P VP

Cause of wetness (circle appropriate):

Location: Depression Flat Valley Gully Slope
 Water table: Depth (cm) _____
 High GW Perched Seepage Tidal Lithic
 Pans: Depth (cm) _____
 Pan Humus Fe-pan Densi- Duri- Fragi Ortstein
 Restricting layer: Depth (cm) _____
 Slow perm argillic
 Pugged

Organic layers:

- Organic soil material
- Litter
- Fibric
- Mesic
- Humic
- Peaty topsoil
- Peaty subsoil

Concretions:

- Iron concretions
- Manganese concretions
- Nodular
- Consistence:**
- Plastic
- Sticky
- Fluid

Colours: profile form either:

- Gley profile form OR
- Mottled profile form
- Horizon:**
- Reductomorphic
- Redox mottled
- Redox segregations
- Perch-gley features

Hydric soils present? YES NO UNCERTAIN NZSC subgroup _____

Primary hydrology indicators: minimum of 1 required; check all boxes that apply

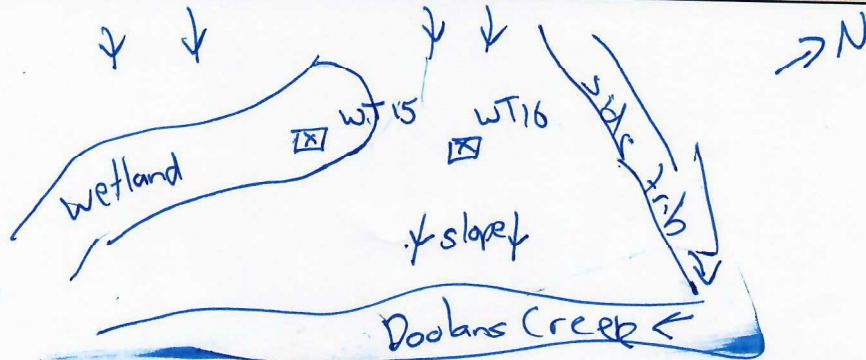
- | | | |
|--|--|--|
| <input type="checkbox"/> Surface water (1A) | <input type="checkbox"/> Algal mat/crust (2D) | <input type="checkbox"/> Aquatic invertebrates (2J) |
| <input type="checkbox"/> Groundwater <30 cm (1B) | <input type="checkbox"/> Iron deposits (2E) | <input type="checkbox"/> Hydrogen sulphide odour (3A) |
| <input type="checkbox"/> Soil saturation <30 cm (1C) | <input type="checkbox"/> Surface soil cracks (2F) | <input type="checkbox"/> Oxidised rhizosphere on roots (3B) |
| <input type="checkbox"/> Water marks (2A) | <input type="checkbox"/> Inundation on aerial imagery (2G) | <input type="checkbox"/> Reduced iron (3C) |
| <input type="checkbox"/> Sediment deposits (2B) | <input type="checkbox"/> Sparsely vegetated concave surface (2H) | <input type="checkbox"/> Reduced iron in tilled soil (3D) |
| <input type="checkbox"/> Drift deposits (2C) | <input type="checkbox"/> Salt crust (2I) | <input type="checkbox"/> High water table stunted/stressed plants (4A) |

Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

- | | | |
|--|--|--|
| <input type="checkbox"/> Water-stained leaves (2K) | <input type="checkbox"/> Geomorphic position (4B) | FAC-neutral test (4D); refer to Section B: Vegetation
1. No. OBL & FACW dominant species _____ (A)
2. No. FACU & UPL dominant species _____ (B)
3. Total _____ (A+B)
4. FAC-neutral (>50%) _____ (A/A+B)*100 |
| <input type="checkbox"/> Drainage patterns (2L) | <input type="checkbox"/> Shallow aquitard (4C) | |
| <input type="checkbox"/> Dry-season water table (3E) | <input type="checkbox"/> FAC-neutral test (4D) | |
| <input type="checkbox"/> Saturation in aerial imagery (3F) | <input type="checkbox"/> Frost-heave hummocks (4E) | |

Wetland hydrology present? YES NO

Sketch of site/soil:



Remarks:

PI 8622 NM

NEW ZEALAND WETLAND DELINEATION DATA FORM

SECTION A – SITE INFORMATION

Site: Doolans Region: Remarkables Sampling point: WT18
 Owner: DOC Date: 18/01/26 Land use: Conservation
 Landform: Knoll Local relief: Convex (slight) Land cover: herb / tussock
 Is the land drained (circle) YES NO Investigator(s): LSW, NM Soil °C: Slope: < 5°
 GPS (NZTM): 363 Altitude m: 1599 Photo Nos: 7887

Are climatic/hydrologic conditions on the site typical for this time of year? YES NO (circle appropriate; if NO explain in Remarks)
 Are vegetation, soil or hydrology significantly disturbed? (circle) No Are 'normal circumstances' present? (circle) YES NO
 Are vegetation, soil or hydrology naturally problematic? (circle) No Explain answers in Remarks if needed

SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features etc.

Hydrophytic vegetation present? YES NO Is the sampled area within a wetland? YES
 Hydric soils present? YES NO NO
 Wetland hydrology present? YES NO

SECTION B – VEGETATION

Use scientific names of plants. Absolute Dominant Indicator

Tree Stratum (Plot size:) % cover Species? Status

1.			
2.			
3.			
4.			
Total cover =			

Sapling/Shrub Stratum (Plot size:)

1.			
2.			
3.			
4.			
5.			
Total cover =			

Herb Stratum (Plot size:)

1.	<u>Aci Kirk</u>	<u>2%</u>	<u>n/a</u>
2.	<u>Chi Mac</u>	<u>30%</u>	<u>y</u>
3.	<u>Cop pep</u>	<u>4%</u>	<u>y</u>
4.	<u>gan dip</u>	<u>1%</u>	<u>n/a</u>
5.	<u>Poa col</u>	<u>10%</u>	<u>n/a</u>
6.	<u>Rao grand</u>	<u>2%</u>	<u>n/a</u>
7.	<u>Astelia nervosa</u>	<u>10%</u>	<u>n/a</u>
8.	<u>Plantago hani</u>	<u>1%</u>	<u>FAC</u>
9.	<u>Argyrostachys mack</u>	<u>1%</u>	<u>n/a</u>
10.	<u>Carex pectin</u>	<u>1%</u>	<u>n/a</u>
11.	<u>Dra prorum</u>	<u>3%</u>	<u>n/a</u>
12.			
Total cover =			

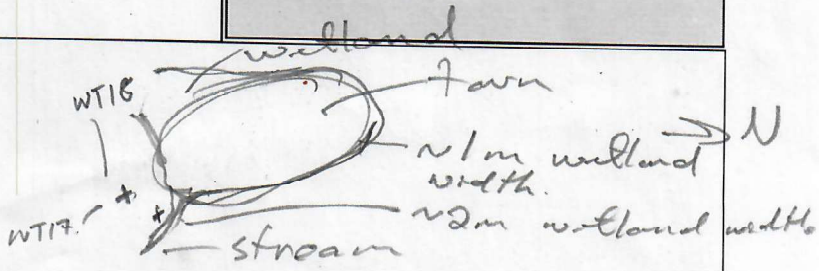
Dominance Test:
 No. Dominant Spp. OBL/FACW/FAC (A) 1
 Tot. Dominant Spp. across strata (B) 2
 % OBL/FACW/FAC (A/B) 50

Prevalence Index:
 Total % cover of: Multiply by:
 OBL x 1 =
 FACW x 2 =
 FAC x 3 =
 FACU x 4 =
 UPL x 5 =
 Total (A) (B)
 Prevalence Index (B/A) =

Hydrophytic vegetation indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological adaptations¹ (supporting data in Remarks)
 Problematic hydrophytic vegetation¹
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present?
 YES
 NO
 UNCERTAIN

Remarks:



SECTION C – SOIL AND HYDROLOGY

WT 18

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-5	7.5 YR 2.5/2					humic mineral	clay, lots fine roots
5-20	10 YR 4/2					mineral	clay & silt, w roots fine
20+						Gravel	

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

Hydric soil indicators:

Soil drainage (circle) W MW I P VP

Cause of wetness (circle appropriate):

Organic layers:

- Organic soil material
- Litter
- Fibric
- Mesic
- Humic
- Peaty topsoil
- Peaty subsoil

Concretions:

- Iron concretions
- Manganese concretions
- Nodular
- Consistence:**
- Plastic
- Sticky
- Fluid

Colours: profile form either:

- Gley profile form OR
- Mottled profile form
- Horizon:**
- Reductimorphic
- Redox mottled
- Redox segregations
- Perch-gley features

- Location: Depression Flat Valley Gully Slope slight
- Water table: Depth (cm) _____
- High GW Perched Seepage Tidal Lithic
- Pans: Depth (cm) _____
- Pan Humus Fe-pan Densi- Duri- Fragi Ortstein
- Restricting layer: Depth (cm) _____
- Slow perm argillic
- Pugged

Hydric soils present? YES NO UNCERTAIN NZSC subgroup _____

Primary hydrology indicators: minimum of 1 required; check all boxes that apply

- | | | |
|--|--|--|
| <input type="checkbox"/> Surface water (1A) | <input type="checkbox"/> Algal mat/crust (2D) | <input type="checkbox"/> Aquatic invertebrates (2J) |
| <input type="checkbox"/> Groundwater <30 cm (1B) | <input type="checkbox"/> Iron deposits (2E) | <input type="checkbox"/> Hydrogen sulphide odour (3A) |
| <input type="checkbox"/> Soil saturation <30 cm (1C) | <input type="checkbox"/> Surface soil cracks (2F) | <input type="checkbox"/> Oxidised rhizosphere on roots (3B) |
| <input type="checkbox"/> Water marks (2A) | <input type="checkbox"/> Inundation on aerial imagery (2G) | <input type="checkbox"/> Reduced iron (3C) |
| <input type="checkbox"/> Sediment deposits (2B) | <input type="checkbox"/> Sparsely vegetated concave surface (2H) | <input type="checkbox"/> Reduced iron in tilled soil (3D) |
| <input type="checkbox"/> Drift deposits (2C) | <input type="checkbox"/> Salt crust (2I) | <input type="checkbox"/> High water table stunted/stressed plants (4A) |

Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

- | | | |
|--|--|--|
| <input type="checkbox"/> Water-stained leaves (2K) | <input type="checkbox"/> Geomorphic position (4B) | FAC-neutral test (4D); refer to Section B: Vegetation
1. No. OBL & FACW dominant species _____ (A)
2. No. FACU & UPL dominant species _____ (B)
3. Total _____ (A+B)
4. FAC-neutral (>50%) _____ (A/A+B)*100 |
| <input type="checkbox"/> Drainage patterns (2L) | <input type="checkbox"/> Shallow aquitard (4C) | |
| <input type="checkbox"/> Dry-season water table (3E) | <input type="checkbox"/> FAC-neutral test (4D) | |
| <input type="checkbox"/> Saturation in aerial imagery (3F) | <input type="checkbox"/> Frost-heave hummocks (4E) | |

Wetland hydrology present? YES NO

Sketch of site/soil:



Remarks:

8634 NM

NEW ZEALAND WETLAND DELINEATION DATA FORM

SECTION A – SITE INFORMATION

Site: Doolans Region: Remarkables Sampling point: WT 21
 Owner: DOC Date: 15/11/20 Land use: _____
 Landform: slope Local relief: _____ Land cover: Tusssock
 Is the land drained (circle) YES NO Investigator(s): Caroex F LSW, NM Soil °C: _____ Slope: 20°
 GPS (NZTM): 370 Altitude m: _____ Photo Nos: #7231

Are climatic/hydrologic conditions on the site typical for this time of year? YES NO (circle appropriate; if NO explain in Remarks)
 Are vegetation, soil or hydrology significantly disturbed? (circle) NO Are 'normal circumstances' present? (circle) YES NO
 Are vegetation, soil or hydrology naturally problematic? (circle) NO Explain answers in Remarks if needed

SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features etc.

Hydrophytic vegetation present? YES NO Is the sampled area within a wetland? YES NO
 Hydric soils present? YES NO
 Wetland hydrology present? YES NO

SECTION B – VEGETATION

Use scientific names of plants.	Absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
Total cover = _____			
Sapling/Shrub Stratum (Plot size: _____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
Total cover = _____			
Herb Stratum (Plot size: _____)			
1. <u>chi mac</u>	<u>85%</u>	<u>y</u>	<u>n/a (FACU)</u>
2. <u>Lyc Fast</u>	<u>5%</u>	_____	<u>FAC</u>
3. <u>pta lan</u>	<u>1%</u>	_____	<u>FAC</u>
4. <u>Astrolech PM</u>	<u>1%</u>	_____	<u>FAC</u>
5. <u>Carax penal</u>	<u>1%</u>	_____	<u>n/a</u>
6. <u>Vso cul</u>	<u>1%</u>	_____	<u>n/a</u>
7. <u>bare ground/litter</u>	<u>10%</u>	_____	<u>n/a</u>
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
Total cover = _____			

Dominance Test:
 No. Dominant Spp. OBL/FACW/FAC (A) 0
 Tot. Dominant Spp. across strata (B) 1
 % OBL/FACW/FAC (A/B) 0

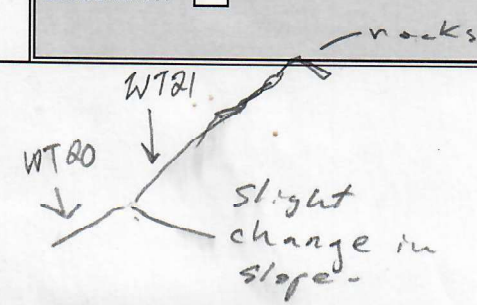
Prevalence Index:
 Total % cover of: Multiply by:
 OBL _____ x 1 = _____
 FACW _____ x 2 = _____
 FAC _____ x 3 = _____
 FACU _____ x 4 = _____
 UPL _____ x 5 = _____
 Total _____(A) _____(B)
 Prevalence Index (B/A) = _____

Hydrophytic vegetation indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological adaptations¹ (supporting data in Remarks)
 Problematic hydrophytic vegetation¹

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present?
 YES
 NO
 UNCERTAIN

Remarks:



SECTION C – SOIL AND HYDROLOGY

WTZ

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-2	7.5YR 3/2					mineral	A horizon
2-15	10YR 4/2					mineral	B horizon Pine roots

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

Hydric soil indicators:

Soil drainage (circle) MW | P VP

Organic layers:

Organic soil material
 Litter
 Fibric
 Mesic
 Humic
 Peaty topsoil
 Peaty subsoil

Concretions:

Iron concretions
 Manganese concretions
 Nodular

Consistence:

Plastic
 Sticky
 Fluid

Colours: profile form either:

Gley profile form OR
 Mottled profile form

Horizon:

Reductimorphic
 Redox mottled
 Redox segregations
 Perch-gley features

Cause of wetness (circle appropriate):

Location: Depression Flat Valley Gully Slope
 Water table: Depth (cm) _____
 High GW Perched Seepage Tidal Lithic
 Pans: Depth (cm) _____
 Pan Humus Fe-pan Duri- Fragi Ortstein
 Restricting layer: Depth (cm) _____
 Slow perm argillic
 Pugged

Hydric soils present? YES NO UNCERTAIN NZSC subgroup _____

Primary hydrology indicators: minimum of 1 required; check all boxes that apply

Surface water (1A) Algal mat/crust (2D) Aquatic invertebrates (2J)
 Groundwater <30 cm (1B) Iron deposits (2E) Hydrogen sulphide odour (3A)
 Soil saturation <30 cm (1C) Surface soil cracks (2F) Oxidised rhizosphere on roots (3B)
 Water marks (2A) Inundation on aerial imagery (2G) Reduced iron (3C)
 Sediment deposits (2B) Sparsely vegetated concave surface (2H) Reduced iron in tilled soil (3D)
 Drift deposits (2C) Salt crust (2I) High water table stunted/stressed plants (4A)

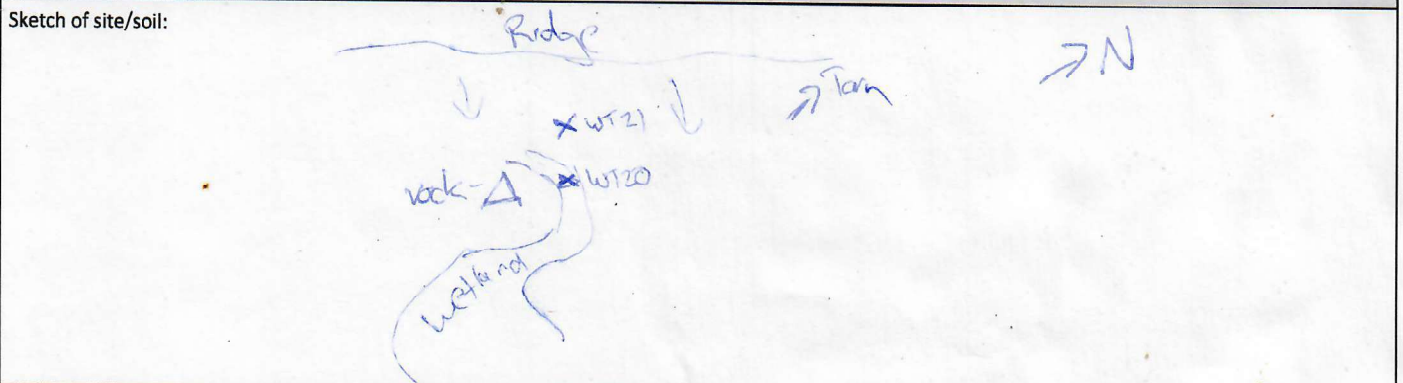
Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

Water-stained leaves (2K) Geomorphic position (4B)
 Drainage patterns (2L) Shallow aquitard (4C)
 Dry-season water table (3E) FAC-neutral test (4D)
 Saturation in aerial imagery (3F) Frost-heave hummocks (4E)

FAC-neutral test (4D); refer to Section B: Vegetation

1. No. OBL & FACW dominant species _____ (A)
 2. No. FACU & UPL dominant species _____ (B)
 3. Total _____ (A+B)
 4. FAC-neutral (>50%) _____ (A/A+B)*100

Wetland hydrology present? YES NO



Remarks:

H 8037 NM

NEW ZEALAND WETLAND DELINEATION DATA FORM

SECTION A – SITE INFORMATION

Site: Doolans Region: Remarkables Sampling point: WT02
 Owner: DOC Date: 15/01/06 Land use: Conservation
 Landform: Seepage Local relief: concave depression Land cover: herb/tussack
 Is the land drained (circle) YES NO Investigator(s): CSW/AM Soil °C: _____ Slope°: <5°
 GPS (NZTM): 399 Altitude m: 1495 Photo Nos: #7250

Are climatic/hydrologic conditions on the site typical for this time of year? YES NO (circle appropriate; if NO explain in Remarks)
 Are vegetation, soil or hydrology significantly disturbed? (circle) NO Are 'normal circumstances' present? (circle) YES NO
 Are vegetation, soil or hydrology naturally problematic? (circle) NO Explain answers in Remarks if needed

SUMMARY OF FINDINGS—Attach site map showing sampling point locations, transects, important features etc.

Hydrophytic vegetation present? YES NO Is the sampled area within a wetland? YES NO
 Hydric soils present? YES NO
 Wetland hydrology present? YES NO

SECTION B – VEGETATION

Use scientific names of plants.	Absolute	Dominant	Indicator
Tree Stratum (Plot size: _____)	% cover	Species?	Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
Total cover = _____			
Sapling/Shrub Stratum (Plot size: _____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
Total cover = _____			
Herb Stratum (Plot size: <u>2x2</u>)			
1. <u>chi ria</u>	<u>30%</u>	<u>y</u>	<u>FACU</u>
2. <u>sch pa</u>	<u>5%</u>		<u>FACW</u>
3. <u>plant NZ</u>	<u>7%</u>		<u>FAC</u>
4. <u>caltha obt</u>	<u>10%</u>		<u>OBL</u>
5. <u>agrostis stolonifera</u>	<u>15%</u>	<u>y</u>	<u>FACW</u>
6. <u>Leptinella squalida subsp</u>	<u>10%</u>		<u>FACW</u>
7. _____	<u>Hyd NZ 5%</u>		<u>FAC</u>
8. <u>viola cunn</u>	<u>1%</u>		<u>n/a</u>
9. <u>Cop perp</u>	<u>5%</u>		<u>FAC</u>
10. <u>Carex gaud</u>	<u>20%</u>	<u>y</u>	<u>FACW</u>
11. <u>pilosella off</u>	<u>2%</u>		<u>FACU</u>
12. <u>Geranium micro</u>	<u>1%</u>		<u>FACU</u>
Total cover = _____			
<u>Schleranthus apetalis ~5%</u>			

Dominance Test:
 No. Dominant Spp. OBL/FACW/FAC (A) 2
 Tot. Dominant Spp. across strata (B) 3
 % OBL/FACW/FAC (A/B) 66.6

Prevalence Index:
 Total % cover of: Multiply by:
 OBL 10 x 1 = 10
 FACW 50 x 2 = 100
 FAC 17 x 3 = 51
 FACU 33 x 4 = 132
 UPL _____ x 5 = _____
 Total 110 (A) 293 (B)
 Prevalence Index (B/A) = 2.66

Hydrophytic vegetation indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological adaptations¹ (supporting data in Remarks)
 Problematic hydrophytic vegetation¹
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present?
 YES
 NO
 UNCERTAIN

Remarks:

SECTION C – SOIL AND HYDROLOGY

WT22

Profile description: (Describe to the depth needed to confirm indicator presence/absence, 30 cm default)

Depth (cm)	Matrix colour (moist)	Mottles colour (moist)	Mottles % ¹	Mottles Size ²	Mottle location ³	Material ⁴	Remarks
0-10	5YR 2.5/1					Fibric peat	
10-30	2.5Y 4/2	2.5YR 4/4	30	3-5 mm	matrix	humic peat & clay same	sand deeper in profile.

¹Use % area charts; ²Use size classes; ³Ped face, pore, within ped along roots, within matrix; ⁴Organic (peaty), humic, mineral soil

Hydric soil indicators:

Soil drainage (circle) W MW I P VP

Organic layers:

Organic soil material
 Litter
 Fibric
 Mesic
 Humic
 Peaty topsoil
 Peaty subsoil

Concretions:

Iron concretions
 Manganese concretions
 Nodular

Consistence:

Plastic
 Sticky
 Fluid

Colours: profile form either:

Gley profile form OR
 Mottled profile form

Horizon:

Reductimorphic
 Redox mottled
 Redox segregations
 Perch-gley features

Cause of wetness (circle appropriate): *depression*

Location: Depression Flat Valley Gully Slope
 Water table: Depth (cm) 35
 High GW Perched Seepage Tidal Lithic
 Pans: Depth (cm) _____
 Pan Humus Fe-pan Densi- Duri- Fragi Ortstein
 Restricting layer: Depth (cm) _____
 Slow perm argillic
 Pugged

Hydric soils present? YES NO UNCERTAIN NZSC subgroup _____

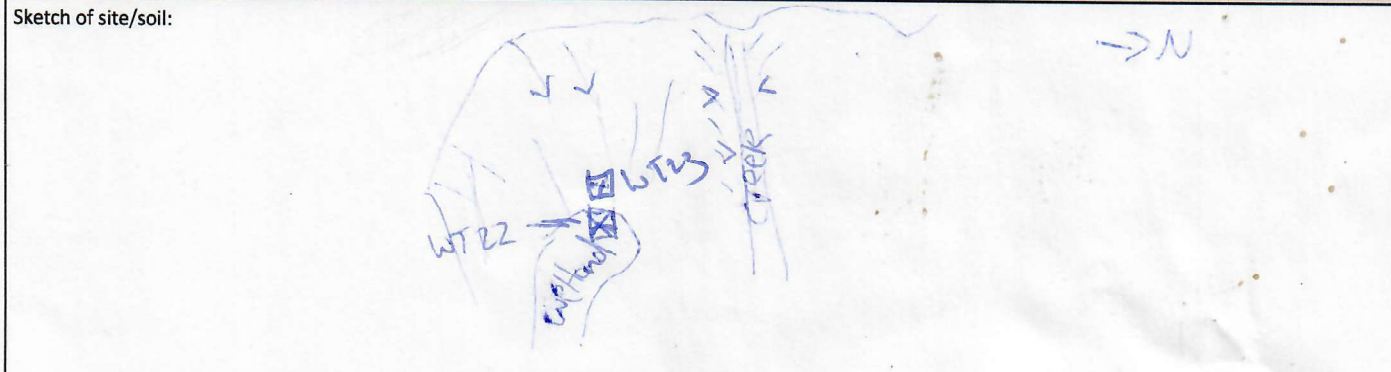
Primary hydrology indicators: minimum of 1 required; check all boxes that apply

<input type="checkbox"/> Surface water (1A)	<input type="checkbox"/> Algal mat/crust (2D)	<input type="checkbox"/> Aquatic invertebrates (2J)
<input type="checkbox"/> Groundwater <30 cm (1B)	<input checked="" type="checkbox"/> Iron deposits (2E)	<input type="checkbox"/> Hydrogen sulphide odour (3A)
<input checked="" type="checkbox"/> Soil saturation <30 cm (1C)	<input type="checkbox"/> Surface soil cracks (2F)	<input type="checkbox"/> Oxidised rhizosphere on roots (3B)
<input type="checkbox"/> Water marks (2A)	<input type="checkbox"/> Inundation on aerial imagery (2G)	<input checked="" type="checkbox"/> Reduced iron (3C)
<input type="checkbox"/> Sediment deposits (2B)	<input type="checkbox"/> Sparsely vegetated concave surface (2H)	<input type="checkbox"/> Reduced iron in tilled soil (3D)
<input type="checkbox"/> Drift deposits (2C)	<input type="checkbox"/> Salt crust (2I)	<input type="checkbox"/> High water table stunted/stressed plants (4A)

Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

<input type="checkbox"/> Water-stained leaves (2K)	<input checked="" type="checkbox"/> Geomorphic position (4B)	FAC-neutral test (4D); refer to Section B: Vegetation 1. No. OBL & FACW dominant species _____ (A) 2. No. FACU & UPL dominant species _____ (B) 3. Total _____ (A+B) 4. FAC-neutral (>50%) _____ (A/A+B)*100
<input type="checkbox"/> Drainage patterns (2L)	<input type="checkbox"/> Shallow aquitard (4C)	
<input checked="" type="checkbox"/> Dry-season water table (3F)	<input type="checkbox"/> FAC-neutral test (4D)	
<input type="checkbox"/> Saturation in aerial imagery (3F)	<input type="checkbox"/> Frost-heave hummocks (4E)	

Wetland hydrology present? YES NO



Remarks:

±8669 NM