Sheet E502

TOWER 9
TOWER 10
TOWER 11
TOWER 12
ACCESS TRACK FROM CURVEY BASIN TO MID-STATION
MID-STATION AREA
RESERVOIR
Boundary
TOWER 13
4WD ACCESS TRACK
INTERMEDIATE GROOMED SKI TRAIL WITH SNOWMAKING
QLDC
CODC
TOWER 14
4WD ACCESS TRACK
TEMPORARY ACCESS TRACK
TOWER 15
Boundary
DOOLANS ACCESS GONDOLA
INTERMEDIATE GROOMED SKI TRAIL WITH SNOWMAKING
TOWER 16
TOWER 17
TEMPORARY ACCESS TRACK
TOWER 18
TOWER 19
PROPOSED LIFT STATION - SEE LIFT DESIGN
PROPOSED DOOLANS BASE BUILDING
RETURN TERMINAL
PROPOSED LEARNERS SLOPE
4WD ACCESS TRACK TO WATER INTAKE
DOOLANS EXPANSION AREA BOUNDARY
Doolans Creek

CROSSING 1:
NO EARTHWORKS ACROSS WETLANDS. SKI TRAIL TO BE BUILT UP WITH SNOW. 4WD TRACK CROSSING TO BE ROCK FILLED + CULVERT + SCOUR PROTECTION (REFER STANTEC)

CROSSING 2:
NO EARTHWORKS ACROSS WETLANDS. SKI TRAIL TO BE BUILT UP WITH SNOW. 4WD TRACK CROSSING TO BE ROCK FILLED. WATER FLOW TO BE DIRECTED TO CROSSING 1 CULVERT (REFER STANTEC)

CROSSING 3:
NO EARTHWORKS ACROSS WETLANDS. SKI TRAIL TO BE BUILT UP WITH SNOW. 4WD TRACK CROSSING TO BE ROCK FILLED. WATER FLOW TO BE DIRECTED TO CROSSING 4 CULVERT (REFER STANTEC)

CROSSING 4:
NO EARTHWORKS ACROSS WETLANDS. SKI TRAIL TO BE BUILT UP WITH SNOW. 4WD TRACK CROSSING TO BE ROCK FILLED + CULVERT + SCOUR PROTECTION (REFER STANTEC)

ECOLOGY LEGEND:

- Cushion Bog
- Cushionfield
- Cushionfield Heatflux
- Dracophyllum shrubland
- Rockfield
- Rocky Outcrop
- Tussock Grassland
- Tussock North Facing
- Waterway
- Wetland Riparian
- Wetland Seepage

Elevations Table

Min. Depth	Max. Depth	Colour
-14.00	-12.00 m	
-12.00	-10.00 m	
-10.00	-8.00 m	
-8.00	-6.00 m	
-6.00	-4.00 m	
-4.00	-2.00 m	
-2.00	0.00 m	
0.00	2.00 m	
2.00	4.00 m	
4.00	6.00 m	
6.00	8.00 m	
8.00	10.00 m	
10.00	12.00 m	
12.00	14.00 m	

Earthworks Notes:

- Refer to ***Construction Management Framework*** for Earthworks Volumes

FOR FAST-TRACK APPLICATION
NOT FOR CONSTRUCTION

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Doolans Access, Roads, Trails & Utilities
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DRAWN	DATE	APPROVED	DATE
TN/MS	06/05/26	AJHB	06/05/26

SCALE: 1:5,500 @ A3
DATUM & LEVEL: NZTM
LEVEL IN TERMS OF DVD58
ORIGIN OIT XI DP XXXXX RL = XXX.XX
DRAWING REFERENCE: A30043_E7
REVISION: K

Sheet E503

ACCESS TRACK FROM CURVEY BASIN TO MID-STATION

COMBINED AIR AND VACUUM VALVE

2D1 TRANSFORMER (750kVA)

MID-STATION AREA

MID STATION STORAGE TANK APPROX 2.5m x 10m x 3m

RISING MAIN DISCHARGES INTO CHAMBER/MANHOLE BEFORE ENTERING FALLING MAIN SECTION

2 x NEW ELECTRICAL CABLES

RESERVOIR

Boundary

RADIO COMMUNICATIONS:
INSTALL NEW RADIO COMMUNICATIONS SYSTEM REPEATER(S) TO PROVIDE COVERAGE FOR THE DOOLANS EXPANSION AREA.

REFER SHEET E511 FOR TYPICAL TRENCH DETAILS

PUMP STATION 3 IN PUMP SHED WITH STORAGE TO ACCOMMODATE RISING MAIN VOLUME 1.5-3 l/s 190-200m HEAD PROGRESSIVE CAVITY

COMBINED AIR AND VACUUM VALVE WITH ODOUR CONTROL

4WD ACCESS TRACK

RMU 1D-1 AND 2D3 TRANSFORMER (1250kVA)

INTERMEDIATE GROOMED SKI TRAIL WITH SNOWMAKING

2D2 TRANSFORMER (300kVA)

QLDC

GODC

4WD ACCESS TRACK

OD110 PE100 PN25 RISING MAIN OR PN35 DI EQUIVALENT

OD110 PE100 PN25 RISING MAIN OR PN35 DI EQUIVALENT

RMU 1D-3 AT TOP OF CURVEY BASIN LIFT

Boundary

PROPOSED FIBRE OPTIC CABLE, IN COMBINED SERVICES TRENCH.

PROPOSED FIBRE OPTIC CABLE TO BE INSTALLED IN PARALLEL WITH GONDOLA CONTROL CABLING

Boundary

DOOLANS ACCESS GONDOLA

INTERMEDIATE GROOMED SKI TRAIL WITH SNOWMAKING

NEW ELECTRICAL CABLE

2D4 TRANSFORMER (1000kVA)

DOOLANS EXPANSION AREA BOUNDARY

Doolans Creek

PUMP STATION 2 IN PUMP SHED WITH STORAGE TO ACCOMMODATE RISING MAIN VOLUME 1.5-3 l/s 175-200m HEAD PROGRESSIVE CAVITY

75,000L STORAGE TANKS (24hr STORAGE)

OD90 PE100 PN16 RISING MAIN

PROPOSED LIFT STATION - SEE LIFT DESIGN

MOBILE COMMUNICATIONS:
POTENTIAL NEW TOWER AT OR NEAR DOOLANS BUILDING, SUBJECT TO NZSKI REQUIREMENT

PROPOSED DOOLANS BASE BUILDING

PROPOSED LEARNERS SLOPE

PUMP STATION 1 3-5 l/s 20m HEAD MACERATING

RMU 1D-2 AND 2D5 TRANSFORMER (750kVA)

4WD ACCESS TRACK TO WATER INTAKE

FOR FAST-TRACK APPLICATION
NOT FOR CONSTRUCTION

ECOLOGY LEGEND:

- Cushion Bog
- Cushionfield
- Cushionfield Heatflux
- Dracophyllum shrubland
- Rockfield
- Rocky Outcrop
- Tussock Grassland
- Tussock North Facing
- Waterway
- Wetland Riparian
- Wetland Seepage

COMBINED SERVICES TRENCH LEGEND (SEE SHEET 511 FOR TYPICAL SECTIONS):

- Trench Type 1
- Trench Type 2
- Trench Type 3
- Trench Type 4
- Trench Type 5
- Trench Type 6

General Notes:

- Refer to ***Remarkables Ski Area Doolans Expansion - Electric Power Concept Report*** prepared by Stantec New Zealand Limited for further Electricity details.
- Refer to ***Remarkables Ski Area Doolans Expansion Wastewater Feasibility Report*** prepared by Stantec New Zealand Limited for further Wastewater details.
- Refer to ***Remarkables Ski Area Doolans Expansion - Telecommunications Infrastructure Report*** prepared by Stantec New Zealand Limited for further Communications details.

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Proposed Utilities

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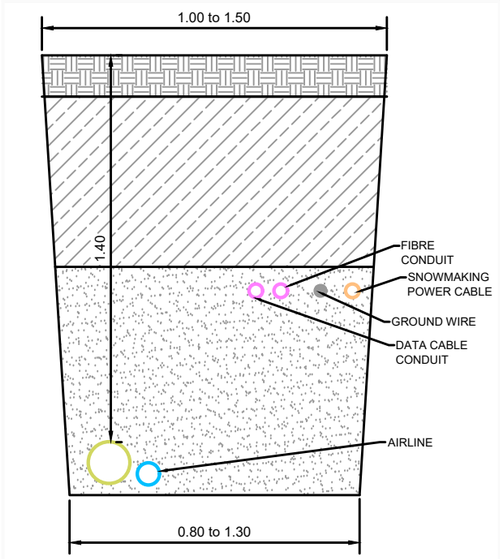
TN/MS	06/05/26	AJHB	06/05/26

SCALE: 1:5,500 @ A3

DATUM & LEVEL: NZTM
LEVEL IN TERMS OF DVD58
ORIGIN OIT XI DP XXXXX RL = XXX.XX

DRAWING REFERENCE: A30043_E7

REVISION: K



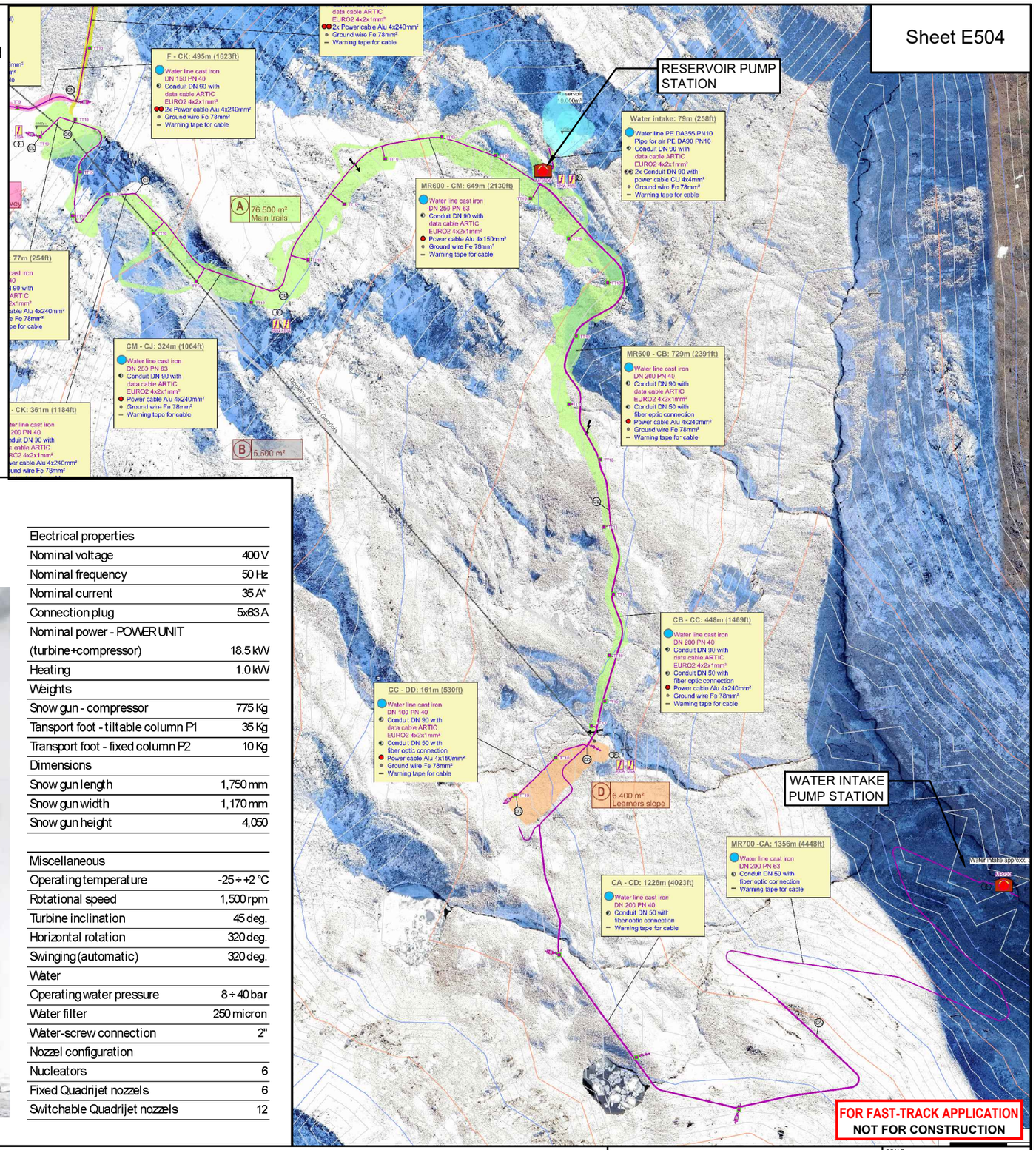
SNOWMAKING TRENCH DETAIL (TRENCH TYPE 4)

SNOW GUN FOUNDATIONS

Snow gun towers to be founded on precast reinforced concrete foundation units, installed on a prepared and compacted subgrade (or lean concrete blinding if required). Foundations to include cast-in anchor bolts / base plate fixing for the snow gun tower. Final foundation type, bearing preparation, anchoring and levels to be confirmed by geotechnical assessment and detailed design.

SNOWMAKING INFRASTRUCTURE TRENCH

Typical cross section of snowmaking infrastructure trench provided above. Trench to be in combined services trench with supply services in the Doolans. All trenches to be constructed in trails and access roads.



TechnoAlpin TT10 Snow Gun

- 1 x Units along mid station return access
- 26 x Units along Doolans Ski Trails and mid station

Electrical properties	
Nominal voltage	400 V
Nominal frequency	50 Hz
Nominal current	41 A*
Connection plug	5x63 A
Nominal power - POWER UNIT (turbine+compressor)	22 kW
Heating	1.3 kW
Weights	
Snow gun - compressor	825 Kg
Tansport foot - tiltable column P1	35 Kg
Transport foot - fixed column P2	10 Kg
Dimensions	
Snow gun length	1,780 mm
Snow gun width	1,220 mm
Snow gun height	4,100
Miscellaneous	
Operating temperature	-25 ÷ +2 °C
Rotational speed	1,500 rpm
Turbine inclination	45 deg.
Horizontal rotation	320 deg.
Swinging (automatic)	320 deg.
Water	
Operating water pressure	8 ÷ 40 bar
Water filter	250 micron
Water connection - Camlock	2"
Nozzel configuration	
Nucleators	8
Fixed Quadrijet nozzels	8
Controlable Quadrijet nozzels	16

TechnoAlpin TT9 Snow Gun

- 8 x Units along mid station return access
- 4 x Units along Curvey access

Electrical properties	
Nominal voltage	400 V
Nominal frequency	50 Hz
Nominal current	35 A*
Connection plug	5x63 A
Nominal power - POWER UNIT (turbine+compressor)	18.5 kW
Heating	1.0 kW
Weights	
Snow gun - compressor	775 Kg
Tansport foot - tiltable column P1	35 Kg
Transport foot - fixed column P2	10 Kg
Dimensions	
Snow gun length	1,750 mm
Snow gun width	1,170 mm
Snow gun height	4,050
Miscellaneous	
Operating temperature	-25 ÷ +2 °C
Rotational speed	1,500 rpm
Turbine inclination	45 deg.
Horizontal rotation	320 deg.
Swinging (automatic)	320 deg.
Water	
Operating water pressure	8 ÷ 40 bar
Water filter	250 micron
Water-screw connection	2"
Nozzel configuration	
Nucleators	6
Fixed Quadrijet nozzels	6
Switchable Quadrijet nozzels	12

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Doolans Access, Roads, Trails & Utilities
Snowmaking Infrastructure & Equipment

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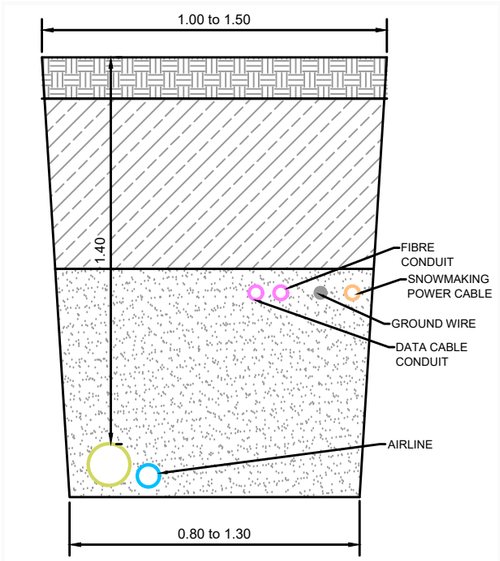
MS	16/04/26	AJHB	16/04/26

SCALE

DATUM & LEVEL

DRAWING REFERENCE: A30043_E7

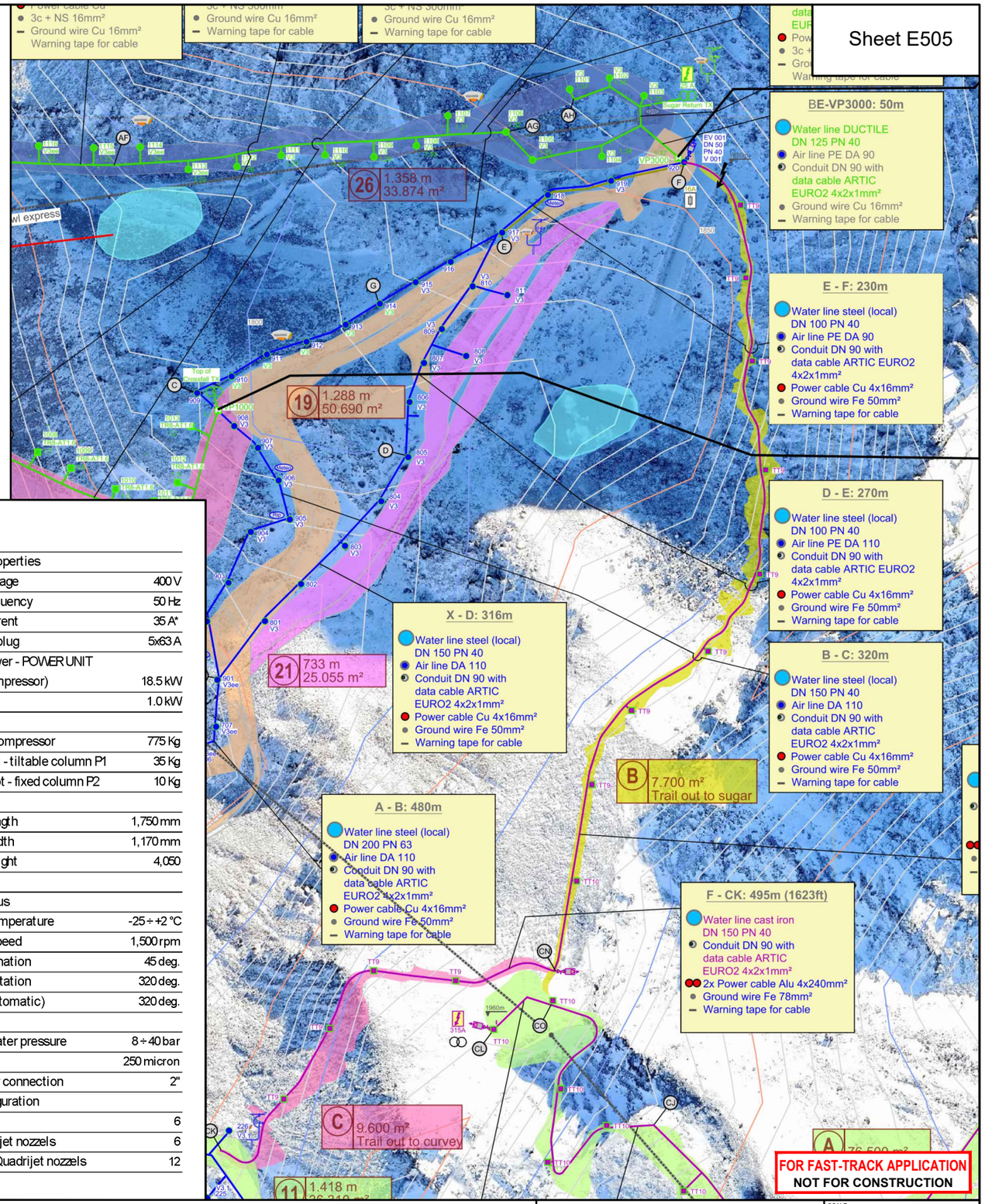
REVISION: J



SNOWMAKING TRENCH DETAIL (TRENCH TYPE 4)

SNOW GUN FOUNDATIONS
Snow gun towers to be founded on precast reinforced concrete foundation units, installed on a prepared and compacted subgrade (or lean concrete blinding if required). Foundations to include cast-in anchor bolts / base plate fixing for the snow gun tower. Final foundation type, bearing preparation, anchoring and levels to be confirmed by geotechnical assessment and detailed design.

SNOWMAKING INFRASTRUCTURE TRENCH
Typical cross section of snowmaking infrastructure trench provided above. Trench to be in combined services trench with supply services in the Doolans. All trenches to be constructed in trails and access roads.



TechnoAlpin TT10 Snow Gun

- 1 x Units along mid station return access
- 26 x Units along Doolans Ski Trails and mid station

Electrical properties	
Nominal voltage	400 V
Nominal frequency	50 Hz
Nominal current	41 A*
Connection plug	5x63 A
Nominal power - POWER UNIT (turbine+compressor)	22 kW
Heating	1.3 kW
Weights	
Snow gun - compressor	825 Kg
Tansport foot - tiltable column P1	35 Kg
Transport foot - fixed column P2	10 Kg
Dimensions	
Snow gun length	1,780 mm
Snow gun width	1,220 mm
Snow gun height	4,100
Miscellaneous	
Operating temperature	-25 ÷ +2 °C
Rotational speed	1,500 rpm
Turbine inclination	45 deg.
Horizontal rotation	320 deg.
Swinging (automatic)	320 deg.
Water	
Operating water pressure	8 ÷ 40 bar
Water filter	250 micron
Water connection - Camlock	2"
Nozzel configuration	
Nucleators	8
Fixed Quadrijet nozzels	8
Controlable Quadrijet nozzels	16

TechnoAlpin TT9 Snow Gun

- 8 x Units along mid station return access
- 4 x Units along Curvey access

Electrical properties	
Nominal voltage	400 V
Nominal frequency	50 Hz
Nominal current	35 A*
Connection plug	5x63 A
Nominal power - POWER UNIT (turbine+compressor)	18.5 kW
Heating	1.0 kW
Weights	
Snow gun - compressor	775 Kg
Tansport foot - tiltable column P1	35 Kg
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Dimensions	
Snow gun length	1,750 mm
Snow gun width	1,170 mm
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Miscellaneous	
Operating temperature	-25 ÷ +2 °C
Rotational speed	1,500 rpm
Turbine inclination	45 deg.
Horizontal rotation	320 deg.
Swinging (automatic)	320 deg.
Water	
Operating water pressure	8 ÷ 40 bar
Water filter	250 micron
Water-screw connection	2"
Nozzel configuration	
Nucleators	6
Fixed Quadrijet nozzels	6
Switchable Quadrijet nozzels	12

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CSNZ THE CONSULTING SURVEYORS OF NEW ZEALAND
A DIVISION OF THE NEW ZEALAND INSTITUTE OF SURVEYORS

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I	For Consent	23/03/26
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Remarkables Ski Area Upgrades & Doolans Basin Expansion
Doolans Access, Roads, Trails & Utilities
Snowmaking Infrastructure & Equipment

nzski

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DRAWN	DATE	APPROVED	DATE
MS	16/04/26	AJHB	16/04/26

SCALE

DATUM & LEVEL

DRAWING REFERENCE	REVISION
A30043_E7	J

Sheet E506

ACCESS TRACK FROM CURVEY BASIN TO MID-STATION

ROOF AREA 2: ~500m^2
ESTIMATE Q = 10l/s
FLOW TO BE DIVERTED TOWARD THE NEW ROADSIDE CHANNEL AND DISTRIBUTED TO SURROUNDING AREAS ON THE QLDC SIDE

SPLASH CROSSING B

RESERVOIR

Boundary

CATCHMENT : ~8.07Ha
ESTIMATED RUNOFF Q= 277 l/s (FOR 100 ARI)

DRAINAGE SWALE/CHANNEL AROUND THE POND TO BE DIVERTED AND DISTRIBUTED TO SURROUNDING AREA:

-DEPTH: 0.23m + 0.15m FREEBOARD-BOTTOM WIDTH: 0.6m-TOP WIDTH 2.0m- SLOPE 1-2%-VELOCITY: 0.79m/s LOW VELOCITY, SO NO RIPRAP REQUIRED; GRASS LINING OR AS EXCAVATED FINISH WILL BE OKAY

SPLASH CROSSING A

SPLASH CROSSING C

SPLASH CROSSING D

SPLASH CROSSING E

MID-STATION AREA

4WD ACCESS TRACK

INTERMEDIATE GROOMED SKI TRAIL WITH SNOWMAKING

ROOF AREA 5: ~141m^2
ESTIMATED Q = 2.6 l/s
DOWNPIPES DISCHARGING TO ROADSIDE SWALES FOR DISTRIBUTION TO SURROUNDING AREA

QLDC

OODC

4WD ACCESS TRACK

SPLASH CROSSING F

REPLICATE CULVERT E: 525mm HDPE/RCP, WITH POTENTIAL SCOUR PROTECTION (I.E D50=200)
CATCHMENT SIZE = ~17.5 Ha
ESTIMATED RUNOFF Q= 623 l/s

ARMOURED SWALE TO DIRECT EXISTING CREEK AROUND TRAIL

Boundary

CULVERT C: 750mm HDPE/RCP OR TWIN 450mm CULVERTS FOR REDUNDANCY, WITH SCOUR PROTECTION (I.E D50=200)
CATCHMENT SIZE = ~24.08 Ha
ESTIMATED RUNOFF Q= 711l/s

Boundary

INTERMEDIATE GROOMED SKI TRAIL WITH SNOWMAKING

BASED ON GOOGLE MAPS ELEVATION DATA, THIS ROAD SLOPES TOWARD CULVERT C, SO FLOW CAN POTENTIALLY BE DIVERTED TO CULVERT C

DOOLANS ACCESS GONDOLA

EXISTING SHEET FLOW TO BE RETAINED

DOOLANS EXPANSION AREA BOUNDARY

Doolans Creek

CULVERT B: 525mm HDPE/RCP, WITH SCOUR PROTECTION (I.E D50=200)
CATCHMENT SIZE = ~24.2 Ha
ESTIMATED RUNOFF Q= 714 l/s

CULVERT A: 900mm HDPE/RCP OR TWIN 600mm CULVERTS FOR REDUNDANCY, WITH SCOUR PROTECTION (I.E D50=300)
CATCHMENT SIZE = ~61.45 Ha
ESTIMATED RUNOFF Q= 1814 l/s

PROPOSED LIFT STATION - SEE LIFT DESIGN

PROPOSED DOOLANS BASE BUILDING

PROPOSED LEARNERS SLOPE

ROOF AREA 4: ~900m^2
ESTIMATED Q = 16 l/s
DOWNPIPES DISCHARGING TO GROUND WITH SUMPS AND PIPED TO ADJACENT CREEK

ROOF AREA 3 : ~1318m^2
ESTIMATED Q = 24 l/s
DOWNPIPE CAN BE EXTENDED AT THE BASE TO ALLOW FLOW TO DRAIN INTO EXISTING WATERCOURSE, WITH OUTLET SCOUR PROTECTION (2xD50=100 ROCKS)

SPLASH CROSSING G

4WD ACCESS TRACK TO WATER INTAKE

FOR FAST-TRACK APPLICATION
NOT FOR CONSTRUCTION

ECOLOGY LEGEND:

- Cushion Bog
- Cushionfield
- Cushionfield Heatflux
- Dracophyllum shrubland
- Rockfield
- Rocky Outcrop
- Tussock Grassland
- Tussock North Facing
- Waterway
- Wetland Riparian
- Wetland Seepage

General Notes:

- Refer to ***Remarkables Ski Area Doolans Expansion Stormwater Concept Report*** prepared by Stantec New Zealand Limited.

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Doolans Access, Roads, Trails & Utilities
Stormwater

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DRAWN TN/MS	DATE 06/05/26	APPROVED AJHB	DATE 06/05/26

SCALE 1:5,500 @ A3

DATUM & LEVEL NZTM
LEVEL IN TERMS OF DVD58
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DRAWING REFERENCE A30043_E7

REVISION K

Sheet E507

SWALE/CUT-OFF DRAIN 2:1 SIDE SLOPES 350mm DEEP, 600mm BASE WIDTH, MIN 1% GRADE

CONSTRUCTION LAYDOWN AREA AND POTENTIAL SPOIL DISPOSAL

INLET RIPRAP PROTECTION (ALSO ACT AS SEDIMENT CONTROL)
2xD50=300 ON GEOTEXTILE
~3m LONG X 2.5 WIDE

SWALE/CUT-OFF DRAIN 2:1 SIDE SLOPES 350mm DEEP 200mm BASE WIDTH, MIN 1% GRADE

BALLAST TRENCHES EVERY SECOND STOPS AT BASE OF EMBANKMENT

TEMPORARY LAYDOWN AREA ACCESS ROAD

CUT BATTER DRAINAGE CHANNEL

SWALE DISCHARGE POINT SCOUR PROTECTION
2xD50=150 ON GEOTEXTILE
~1.5m LONG X 2.5 WIDE

4WD ACCESS ROAD

SWALE DISCHARGE POINT SCOUR PROTECTION
2xD50=150 ON GEOTEXTILE
~1.5m LONG X 2.5 WIDE

PUMP RAIL

PUMP HOUSE

SKI TRAIL

A E508

B E508

C E509

D E509

CH 1150

CH 1250

CH

ECOLOGY LEGEND:

- Cushion Bog
- Cushionfield
- Cushionfield Heatflux
- Dracophyllum shrubland
- Rockfield
- Rocky Outcrop
- Tussock Grassland
- Tussock North Facing
- Waterway
- Wetland Riparian
- Wetland Seepage

PROPOSED UTILITIES LEGEND:

- Water Supply (Potable)
- Water Supply Rising Main
- Underground Power
- Telecommunications
- Wastewater Main
- Snowmaking Main
- Snowmaking Gun

General Notes:

- Refer to ***Remarkables Ski Area Doolans Expansion Resevoir Concept Report*** prepared by Stantec New Zealand Limited, for further details

FOR FAST-TRACK APPLICATION
NOT FOR CONSTRUCTION

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Remarkables Ski Area Upgrades & Doolans Basin Expansion
Doolans Access, Roads, Trails & Utilities
Reservoir Layout

nzski

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DRAWN: TN/MS	DATE: 16/04/26	APPROVED: AJHB	DATE: 16/04/26

SCALE: 1:750 @ A3

DATUM & LEVEL: NZTM
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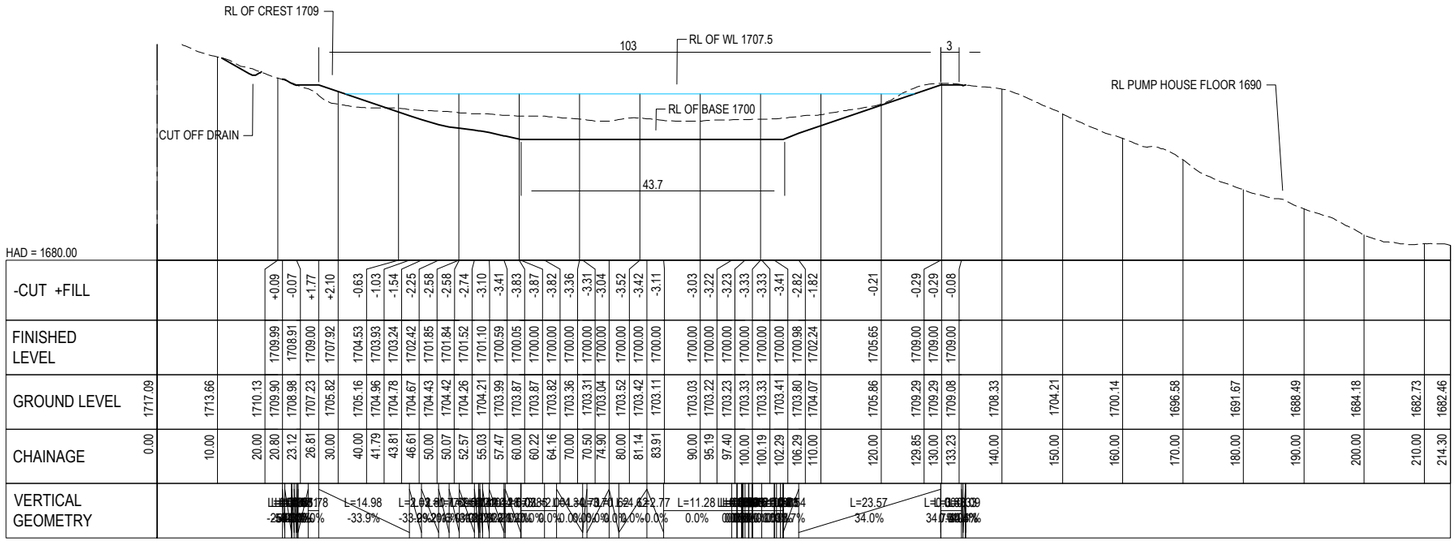
DRAWING REFERENCE: A30043_E7

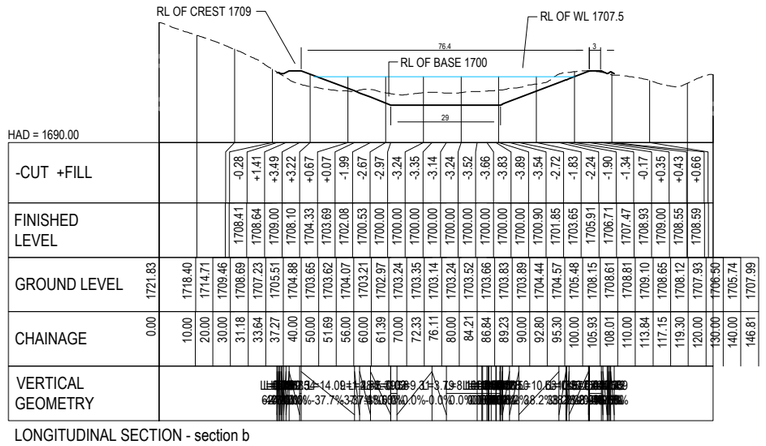
REVISION: J



LONGITUDINAL SECTION - Section AA

SECTION A-A

SCALE 1 :500



LONGITUDINAL SECTION - section b

SECTION B-B

SCALE 1 :500

General Notes:

- Refer to ***Remarkables Ski Area Doolans Expansion Resevoir Concept Report*** prepared by Stantec New Zealand Limited, for further details

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Remarkables Ski Area Upgrades & Doolans Basin Expansion
Doolans Access, Roads, Trails & Utilities
Reservoir Sections Sheet 1

nzski

SURVEYED: -	DATE: -	CHECKED: AJHB	DATE: 16/04/26	SCALE
DRAWN: TN/MS	DATE: 16/04/26	APPROVED: AJHB	DATE: 16/04/26	DATUM & LEVEL

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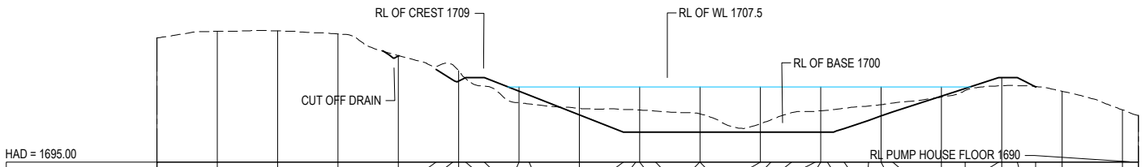

Sheet E509

CHAINAGE	GROUND LEVEL	FINISHED LEVEL	-CUT +FILL
0.00	1715.63		
10.00	1716.66		
20.00	1716.74		
30.00	1716.25		
40.00	1712.68		
46.26	1710.89	1710.42	-0.47
48.99	1711.19	1708.63	-2.56
50.00	1710.20	1708.42	-1.77
51.18	1708.83	1709.00	+0.17
54.26	1707.58	1709.00	+1.42
60.00	1704.85	1706.76	+1.91
61.66	1704.65	1706.11	+1.46
70.00	1703.93	1702.86	-1.07
77.32	1703.76	1700.00	-3.76
79.36	1703.69	1700.00	-3.69
80.00	1703.67	1700.00	-3.67
82.63	1703.46	1700.00	-3.46
89.92	1703.03	1700.00	-3.03
90.00	1703.01	1700.00	-3.01
100.00	1701.40	1700.00	-1.40
101.75	1702.02	1700.00	-2.02
105.18	1703.21	1700.00	-3.21
109.09	1703.45	1700.00	-3.45
110.00	1703.51	1700.00	-3.51
111.09	1703.61	1700.00	-3.61
113.83	1703.93	1700.58	-3.35
117.92	1704.32	1701.95	-2.36
120.00	1704.52	1702.66	-1.86
121.92	1704.80	1703.32	-1.48
130.00	1705.81	1705.93	+0.12
133.94	1706.87	1707.20	+0.33
139.48	1707.66	1709.00	+1.34
140.00	1707.70	1709.00	+1.30
142.53	1707.71	1709.00	+1.29
145.59	1707.54	1707.49	-0.05
150.00	1706.77		
160.00	1703.68		
162.64	1702.73		

VERTICAL GEOMETRY: [illegible] L=7.40 -39.1% | L=15.66 -39.0% | [illegible] L=7.29 -0.0% | L=11.83 0.0% | [illegible] | L=12.02 32.3% | L=5 [illegible] 32.4% [illegible]

LONGITUDINAL SECTION - section c

SCALES: HOR 1:200 VERT 1:200

SECTION C-C

SCALE 1 :500

CHAINAGE	GROUND LEVEL	FINISHED LEVEL	-CUT +FILL
0.00	1710.77		
10.00	1707.40		
20.00	1709.57		
30.00	1710.05		
36.62	1707.98	1707.97	0.00
39.81	1708.26	1708.92	+0.66
40.00	1708.22	1709.00	+0.78
42.55	1707.76	1709.00	+1.24
50.00	1706.39	1706.41	+0.02
55.72	1705.15	1704.28	-0.87
59.81	1704.71	1702.70	-2.01
60.00	1704.69	1702.63	-2.06
63.68	1704.21	1701.28	-2.93
67.08	1703.79	1700.00	-3.79
70.00	1703.73	1700.00	-3.73
74.76	1703.35	1700.00	-3.35
80.00	1703.15	1700.00	-3.15
88.04	1701.79	1700.00	-1.79
90.00	1702.21	1700.00	-2.21
93.23	1702.70	1700.00	-2.70
96.98	1702.92	1701.38	-1.54
100.00	1702.85	1702.51	-0.34
108.14	1703.93	1705.55	+1.61
110.00	1704.14	1706.24	+2.10
117.38	1705.41	1709.00	+3.59
120.00	1706.02	1709.00	+2.98
120.59	1706.24	1709.00	+2.76
122.65	1707.81	1708.04	+0.23
124.66	1708.75	1708.74	-0.01
130.00	1711.11		
140.00	1712.16		
150.00	1712.97		
154.11	1714.15		

VERTICAL GEOMETRY: [illegible] | L=12.65 -37.3% | [illegible] L=6.91 -0.0% | L=13.28 0.0% | [illegible] | L=9.90 37.3% | L=9.24 37.3% [illegible]

LONGITUDINAL SECTION - section d

SCALES: HOR 1:200 VERT 1:200

SECTION D-D

SCALE 1 :500

General Notes:

- Refer to ***Remarkables Ski Area Doolans Expansion Resevoir Concept Report*** prepared by Stantec New Zealand Limited, for further details

FOR FAST-TRACK APPLICATION
NOT FOR CONSTRUCTION

SOUTHERN LAND
DEVELOPMENT CONSULTANTS

REVISION	DESCRIPTION	DATE
H	For Consent	30/01/26
I	For Consent	06/03/26
J	For Consent	16/04/26

Level 2 Brownston House, 21 Brownston St., Wanaka, Ph: (03) 443 5577, Email: contact@southernland.co.nz, www.southernland.co.nz

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Remarkables Ski Area Upgrades & Doolans Basin Expansion
Doolans Access, Roads, Trails & Utilities
Reservoir Sections Sheet 2

nzski

SURVEYED -	DATE -	CHECKED AJHB	DATE 16/04/26
DRAWN TN/MS	DATE 16/04/26	APPROVED AJHB	DATE 16/04/26

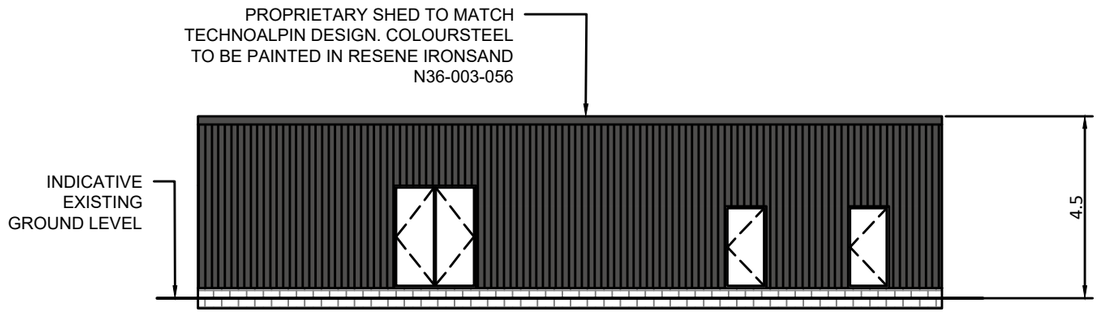
SCALE

DATUM & LEVEL

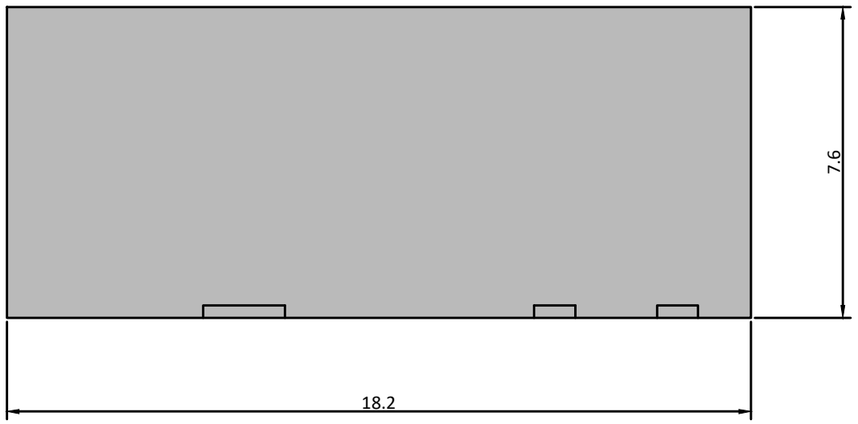
DRAWING REFERENCE
A30043_E7

REVISION
J

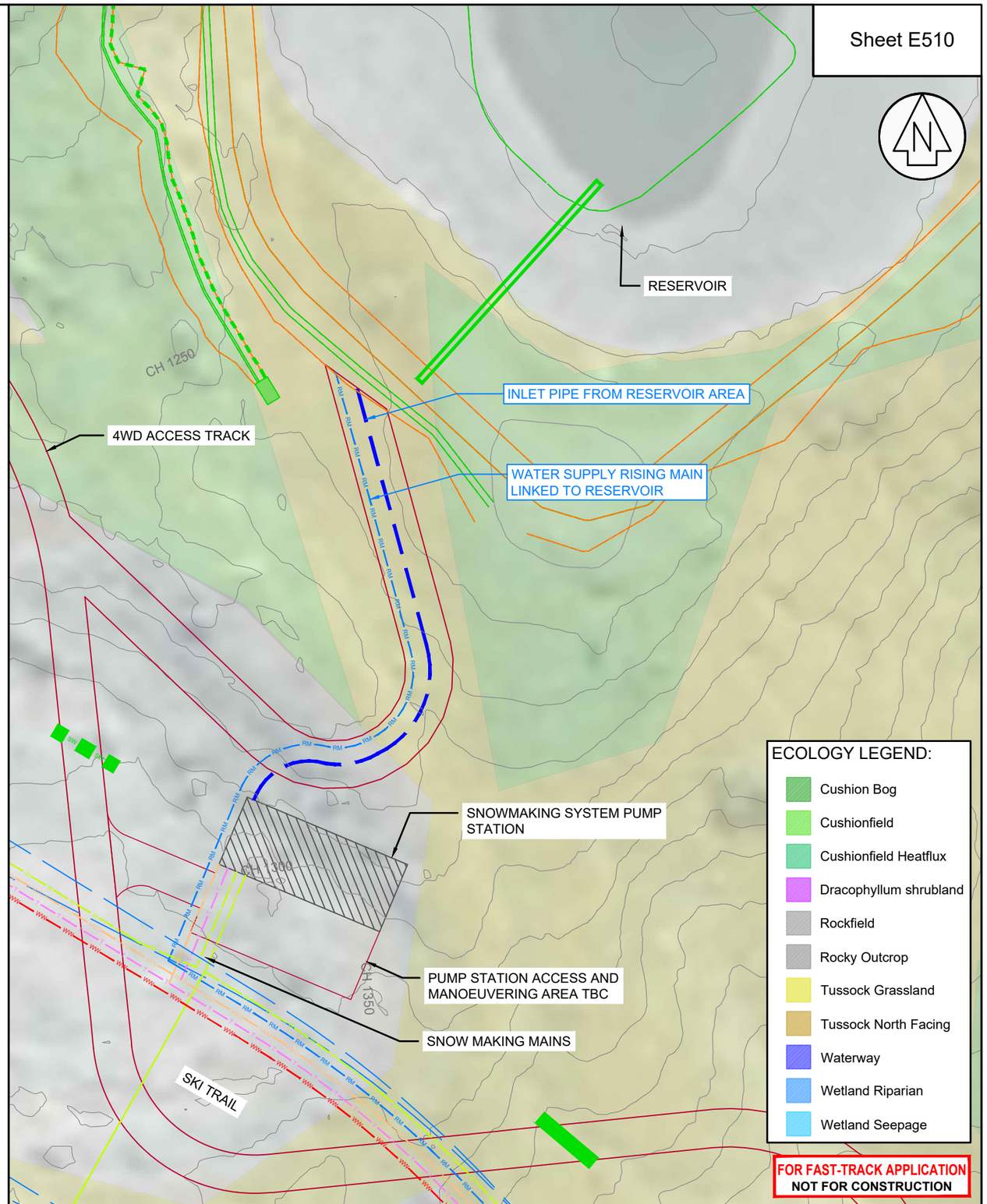
SNOWMAKING SYSTEM PUMP STATION BUILDING



SOUTHERN ELEVATION
1:150 @ A3



FOUNDATION PLAN
1:150 @ A3



General Notes:

- Refer to ***Remarkables Ski Area Doolans Expansion Resevoir Concept Report, Remarkables Ski Area and Doolans Expansion Waer Supply Package*** and ***Remarkables Ski Area Expansion Water Intake Concept Report,*** all prepared by Stantec New Zealand Limited.

SERVICES REQUIRED TO BUILDING:
1. POWER SUPPLY = UNDERGROUND MAINS
2. TELECOMMUNICATIONS = UNDERGROUND MAINS

REVISION	DESCRIPTION	DATE
G	For Review	11/11/25
H	For Information	30/01/26
I	For Consent	06/03/26
J	For Consent	16/04/26

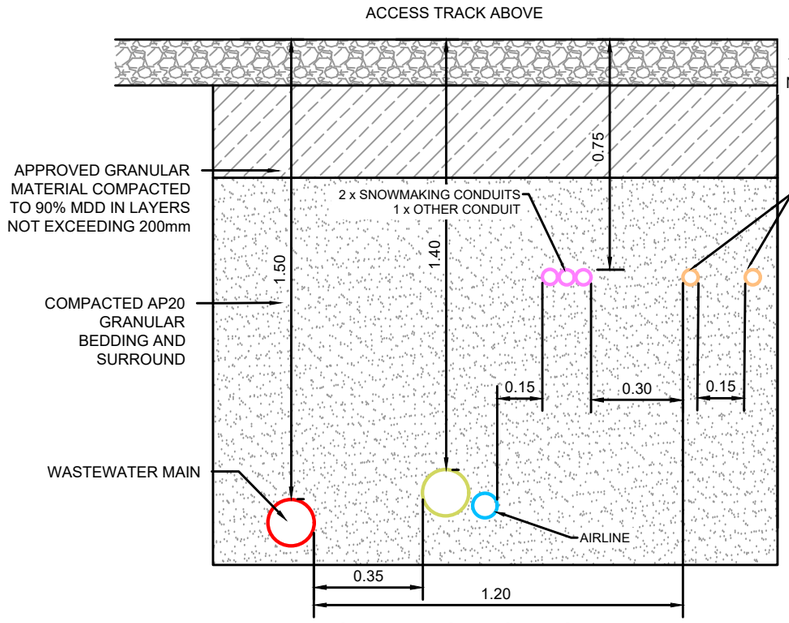
SOUTHERN LAND
DEVELOPMENT CONSULTANTS
Level 2 Brownston House, 21 Brownston St., Wanaka, Ph: (03) 443 5577, Email: contact@southernland.co.nz, www.southernland.co.nz

Remarkables Ski Area Upgrades & Doolans Basin Expansion
Doolans Access, Roads, Trails & Utilities
Pumphouse Building Details

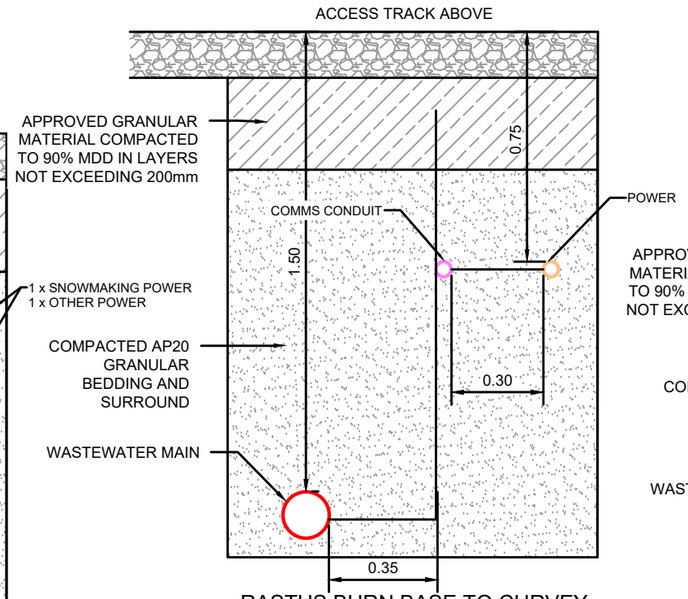
nzski

SURVEYED	DATE	CHECKED	DATE
-	-	MB	16/04/26
DRAWN	DATE	APPROVED	DATE
AJHB/TN	16/04/26	AJHB	16/04/26

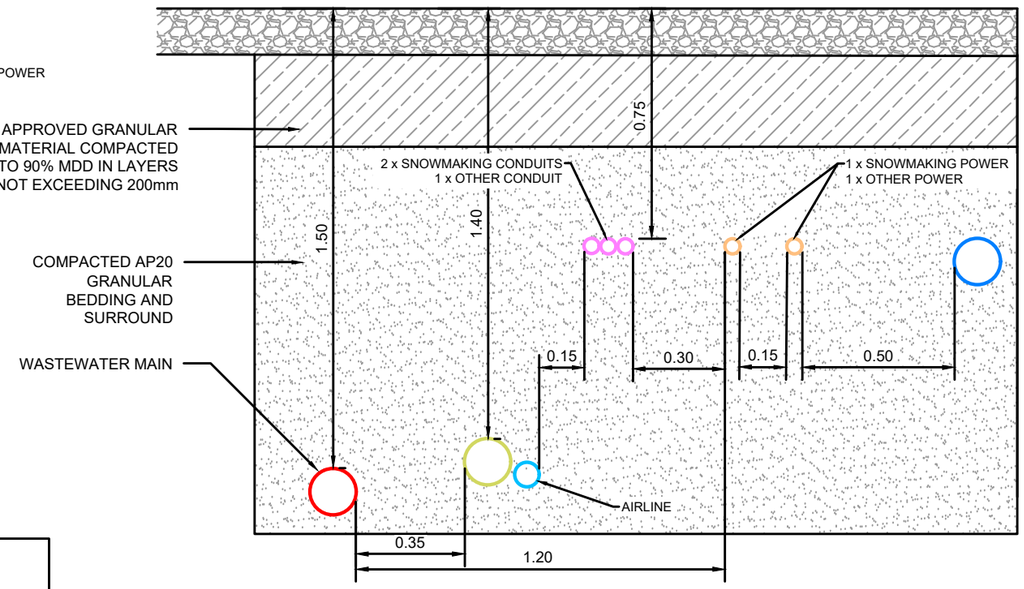
SCALE: 1:500 @ A3
DATUM & LEVEL: NZTM
LEVEL IN TERMS OF DVD58
ORIGIN OIT XI DP XXXXX RL = XXX.XX
DRAWING REFERENCE: A30043_E7
REVISION: J



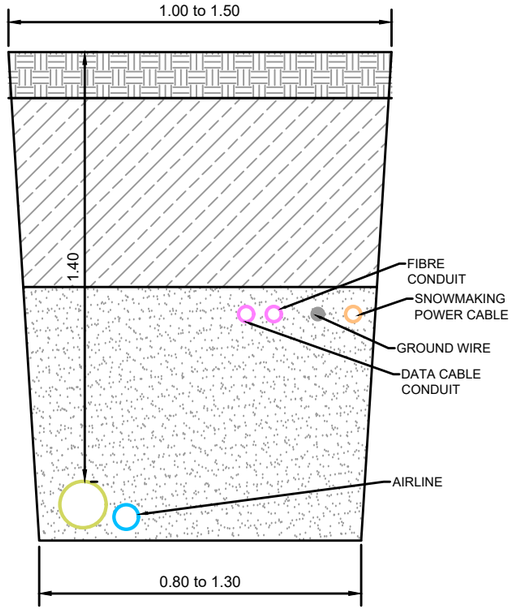
CURVEY TO RESERVOIR DETAIL
(TRENCH TYPE 1)



RASTUS BURN BASE TO CURVEY
(TRENCH TYPE 2)



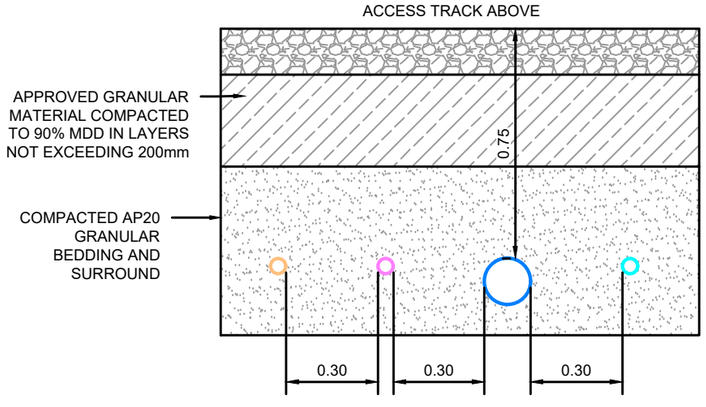
REVERVOIR TO DOOLANS BASE AREA DETAIL
(TRENCH TYPE 3)



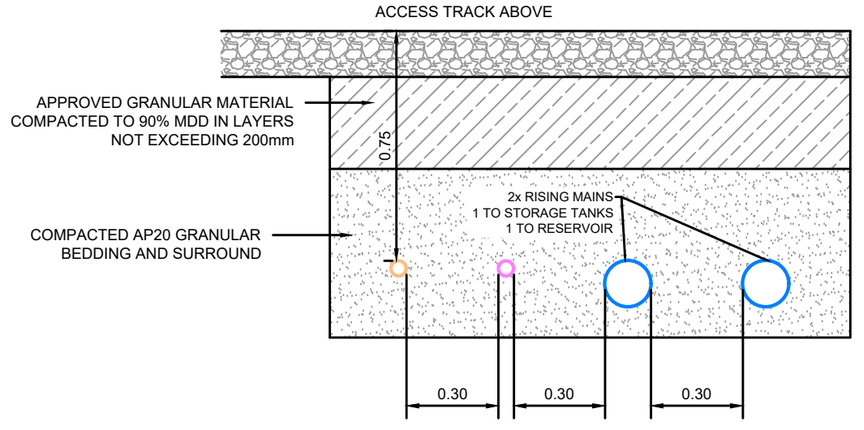
SNOWMAKING TRENCH DETAIL (TRENCH TYPE 4)

PROPOSED UTILITIES LEGEND:

- Water Supply (Potable)
- Water Supply Rising Main
- Underground Power
- Telecommunications
- Wastewater Main
- Snowmaking Main
- Snowmaking Gun



DOOLANS BASE AREA TO WATER STORAGE TANKS DETAIL
(TRENCH TYPE 5)



WATER STORAGE TANKS TO WATER INTAKE DETAIL
(TRENCH TYPE 6)

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SOUTHERN LAND
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REVISION	DESCRIPTION	DATE
G	For Information	28/11/25
H	For Consent	30/01/26
I	For Consent	09/03/26
J	For Consent	16/04/26

Remarkables Ski Area Upgrades & Doolans Basin Expansion
Doolans Access, Roads, Trails & Utilities
Typical Trench Details

nzski

SURVEYED	DATE	CHECKED	DATE
-	-	MB	16/04/26
DRAWN	DATE	APPROVED	DATE
AJHB/TN	16/04/26	AJHB	16/04/26

SCALE: 1:20 @ A3

DATUM & LEVEL: NZTM
LEVEL IN TERMS OF DVD58
ORIGIN OIT XI DP XXXXX RL = XXX.XX

DRAWING REFERENCE: A30043_E7

REVISION: J

Appendix B: Co-ordinates of all recorded Threatened, At Risk and Data Deficient plant species.

Species	Easting	Northing
Acaena caesiiglauca	1273073	5000568
Acaena caesiiglauca	1273057	5000532
Acaena caesiiglauca	1272887	5000604
Acaena caesiiglauca	1272856	5000649
Acaena caesiiglauca	1272482	5001697
Acaena caesiiglauca	1270561	5002519
Aciphylla lecomtei	1272748	5002349
Aciphylla lecomtei	1272745	5002360
Aciphylla lecomtei	1272744	5002332
Aciphylla lecomtei	1272742	5002345
Aciphylla lecomtei	1272738	5002336
Aciphylla lecomtei	1272734	5002336
Aciphylla lecomtei	1272730	5002329
Aciphylla lecomtei	1272470	5001954
Aciphylla lecomtei	1272460	5001953
Aciphylla lecomtei	1272455	5001440
Aciphylla lecomtei	1272452	5001478
Aciphylla lecomtei	1272452	5001437
Aciphylla lecomtei	1272452	5001451
Aciphylla lecomtei	1272450	5001709
Aciphylla lecomtei	1272449	5001461
Aciphylla lecomtei	1272447	5001710
Aciphylla lecomtei	1272439	5001720
Aciphylla lecomtei	1272439	5001719
Aciphylla lecomtei	1272439	5001466
Aciphylla lecomtei	1272438	5001721
Aciphylla lecomtei	1272437	5001722
Aciphylla lecomtei	1272437	5001720
Aciphylla lecomtei	1272437	5001720
Aciphylla lecomtei	1272437	5001720
Aciphylla lecomtei	1272422	5001625
Aciphylla lecomtei	1272416	5001481
Aciphylla lecomtei	1272398	5001668
Aciphylla lecomtei	1272396	5001669
Aciphylla lecomtei	1272395	5001668

Aciphylla lecomtei	1272394	5001669
Aciphylla lecomtei	1272392	5001670
Aciphylla lecomtei	1272391	5001673
Aciphylla lecomtei	1272366	5001751
Aciphylla lecomtei	1272366	5001742
Aciphylla lecomtei	1272365	5001750
Aciphylla lecomtei	1272364	5001741
Aciphylla lecomtei	1272354	5001523
Aciphylla lecomtei	1272352	5001519
Aciphylla lecomtei	1272351	5001517
Aciphylla lecomtei	1272323	5001779
Aciphylla lecomtei	1272321	5001778
Aciphylla lecomtei	1272311	5001794
Aciphylla lecomtei	1272310	5001794
Aciphylla lecomtei	1272309	5001795
Aciphylla lecomtei	1272309	5001797
Aciphylla lecomtei	1272309	5001800
Aciphylla lecomtei	1272308	5001797
Aciphylla lecomtei	1272270	5000650
Aciphylla lecomtei	1272259	5001828
Aciphylla lecomtei	1272258	5001826
Aciphylla lecomtei	1272257	5001828
Aciphylla lecomtei	1272256	5001825
Aciphylla lecomtei	1272256	5001824
Aciphylla lecomtei	1272255	5001828
Aciphylla lecomtei	1272255	5001826
Aciphylla lecomtei	1272254	5001826
Aciphylla lecomtei	1272109	5000734
Aciphylla lecomtei	1272097	5000718
Aciphylla lecomtei	1271910	5001262
Aciphylla lecomtei	1271876	5001558
Aciphylla lecomtei	1271703	5001778
Aciphylla simplex	1272409	5002450
Aciphylla simplex	1272406	5002494
Aciphylla simplex	1272330	5002489
Aciphylla simplex	1272308	5001968
Aciphylla simplex	1272306	5001966
Aciphylla simplex	1272304	5001967

Aciphylla simplex	1272302	5002445
Aciphylla simplex	1272298	5001970
Aciphylla simplex	1272298	5001972
Aciphylla simplex	1272296	5002463
Aciphylla simplex	1272292	5001967
Aciphylla simplex	1272291	5001970
Aciphylla simplex	1272278	5001948
Aciphylla simplex	1272239	5002183
Aciphylla simplex	1272001	5002039
Aciphylla simplex	1271972	5002019
Aciphylla simplex	1271967	5002022
Aciphylla simplex	1271965	5002020
Aciphylla simplex	1271928	5001564
Aciphylla simplex	1271920	5001998
Aciphylla simplex	1271912	5001550
Aciphylla simplex	1271911	5002003
Aciphylla simplex	1271870	5001524
Aciphylla simplex	1271825	5001497
Aciphylla simplex	1271823	5001495
Aciphylla simplex	1271822	5001497
Aciphylla simplex	1271797	5001475
Aciphylla simplex	1271796	5001479
Aciphylla simplex	1271795	5001474
Aciphylla simplex	1271787	5001492
Aciphylla simplex	1271773	5001380
Aciphylla simplex	1271755	5001399
Aciphylla simplex	1271744	5001149
Aciphylla simplex	1271632	5001537
Aciphylla simplex	1271538	5001702
Aciphylla simplex	1271518	5001576
Aciphylla simplex	1271516	5001705
Aciphylla simplex	1271513	5001806
Aciphylla simplex	1271509	5001600
Aciphylla simplex	1271474	5001850
Aciphylla simplex	1271440	5001822
Anisotome (b) (CHR 511716); ("Otago bog")	1272355	5000978

Anisotome (b) (CHR 511716); ("Otago bog")	1272342	5001059
Anisotome (b) (CHR 511716); ("Otago bog")	1272282	5000852
Anisotome (b) (CHR 511716); ("Otago bog")	1272262	5000576
Anisotome (b) (CHR 511716); ("Otago bog")	1272249	5000772
Anisotome (b) (CHR 511716); ("Otago bog")	1272147	5001020
Anisotome (b) (CHR 511716); ("Otago bog")	1272130	5001250
Anisotome (b) (CHR 511716); ("Otago bog")	1271976	5001827
Anisotome (b) (CHR 511716); ("Otago bog")	1271879	5000964
Anisotome (b) (CHR 511716); ("Otago bog")	1271876	5001307
Anisotome (b) (CHR 511716); ("Otago bog")	1271682	5001239
Anisotome lanuginosa	1272702	5002364
Anisotome lanuginosa	1272697	5002368
Anisotome lanuginosa	1272691	5002366
Anisotome lanuginosa	1272668	5002353
Anisotome lanuginosa	1272594	5002103
Anisotome lanuginosa	1272594	5002103
Anisotome lanuginosa	1272593	5002102
Anisotome lanuginosa	1272593	5002102
Anisotome lanuginosa	1272575	5002109
Anisotome lanuginosa	1272574	5002454
Anisotome lanuginosa	1272571	5002109
Anisotome lanuginosa	1272569	5002291
Anisotome lanuginosa	1272567	5002105
Anisotome lanuginosa	1272535	5002091
Anisotome lanuginosa	1272507	5002069
Anisotome lanuginosa	1272474	5002034
Anisotome lanuginosa	1272469	5001958
Anisotome lanuginosa	1272467	5001970

Anisotome lanuginosa	1272466	5001964
Anisotome lanuginosa	1272463	5001958
Anisotome lanuginosa	1272459	5001959
Anisotome lanuginosa	1272449	5001711
Anisotome lanuginosa	1272449	5001491
Anisotome lanuginosa	1272448	5001709
Anisotome lanuginosa	1272448	5001532
Anisotome lanuginosa	1272447	5001512
Anisotome lanuginosa	1272445	5001562
Anisotome lanuginosa	1272445	5001573
Anisotome lanuginosa	1272441	5001589
Anisotome lanuginosa	1272433	5001601
Anisotome lanuginosa	1272428	5001612
Anisotome lanuginosa	1272419	5000474
Anisotome lanuginosa	1272395	5000769
Anisotome lanuginosa	1272354	5001845
Anisotome lanuginosa	1272351	5001844
Anisotome lanuginosa	1272347	5001845
Anisotome lanuginosa	1272340	5001854
Anisotome lanuginosa	1272315	5000446
Anisotome lanuginosa	1272309	5001816
Anisotome lanuginosa	1272308	5000450
Anisotome lanuginosa	1272268	5001561
Anisotome lanuginosa	1272268	5001560
Anisotome lanuginosa	1272267	5001561
Anisotome lanuginosa	1272267	5001562
Anisotome lanuginosa	1272266	5001563
Anisotome lanuginosa	1272266	5001561
Anisotome lanuginosa	1272266	5001560
Anisotome lanuginosa	1272265	5001560
Anisotome lanuginosa	1272244	5001847
Anisotome lanuginosa	1272225	5001467
Anisotome lanuginosa	1272225	5001466
Anisotome lanuginosa	1272225	5001467
Anisotome lanuginosa	1272223	5001466
Anisotome lanuginosa	1272220	5001464
Anisotome lanuginosa	1272220	5001465
Anisotome lanuginosa	1272220	5001464

Anisotome lanuginosa	1272219	5001464
Anisotome lanuginosa	1272195	5001824
Anisotome lanuginosa	1272186	5001836
Anisotome lanuginosa	1272183	5001478
Anisotome lanuginosa	1272182	5001834
Anisotome lanuginosa	1272182	5001481
Anisotome lanuginosa	1272181	5001476
Anisotome lanuginosa	1272180	5001478
Anisotome lanuginosa	1272171	5001831
Anisotome lanuginosa	1272169	5001832
Anisotome lanuginosa	1272166	5001511
Anisotome lanuginosa	1272165	5001512
Anisotome lanuginosa	1272160	5001513
Anisotome lanuginosa	1272155	5001521
Anisotome lanuginosa	1272154	5001578
Anisotome lanuginosa	1272154	5001574
Anisotome lanuginosa	1272153	5001576
Anisotome lanuginosa	1272131	5001937
Anisotome lanuginosa	1272129	5001940
Anisotome lanuginosa	1272126	5001938
Anisotome lanuginosa	1272108	5000734
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Anisotome lanuginosa	1272092	5000770
Anisotome lanuginosa	1272068	5000767
Anisotome lanuginosa	1272065	5000843
Anisotome lanuginosa	1272063	5000805
Anisotome lanuginosa	1272056	5000816
Anisotome lanuginosa	1272052	5000832
Anisotome lanuginosa	1272050	5000825
Anisotome lanuginosa	1272045	5001703
Anisotome lanuginosa	1272039	5000872
Anisotome lanuginosa	1272025	5000899
Anisotome lanuginosa	1272022	5000893
Anisotome lanuginosa	1272018	5000925
Anisotome lanuginosa	1272018	5000907
Anisotome lanuginosa	1272017	5000915
Anisotome lanuginosa	1272017	5000915
Anisotome lanuginosa	1271998	5001733

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Anisotome lanuginosa	1271980	5001728
Anisotome lanuginosa	1271966	5001725
Anisotome lanuginosa	1271959	5001727
Anisotome lanuginosa	1271954	5001729
Anisotome lanuginosa	1271948	5001732
Anisotome lanuginosa	1271940	5001054
Anisotome lanuginosa	1271931	5001077
Anisotome lanuginosa	1271918	5001354
Anisotome lanuginosa	1271917	5001095
Anisotome lanuginosa	1271906	5001113
Anisotome lanuginosa	1271906	5001365
Anisotome lanuginosa	1271906	5001361
Anisotome lanuginosa	1271903	5001876
Anisotome lanuginosa	1271881	5001322
Anisotome lanuginosa	1271879	5001324
Anisotome lanuginosa	1271876	5001884
Anisotome lanuginosa	1271786	5001607
Anisotome lanuginosa	1271775	5001333
Anisotome lanuginosa	1271775	5001858
Anisotome lanuginosa	1271715	5001208
Anisotome lanuginosa	1271466	5001833
Anisotome lanuginosa	1271230	5001953
Anisotome lanuginosa	1271227	5001956
Anisotome lanuginosa	1270554	5002518
Azorella exigua	1272762	5002360
Azorella exigua	1272306	5000450
Azorella haastii subsp. *haastii*	1272158	5000811
Brachyscome longiscarpa	1272215	5001920
Brachyscome montana	1272757	5002360
Brachyscome montana	1272757	5000312
Brachyscome montana	1272730	5002323
Brachyscome montana	1272461	5001969
Brachyscome montana	1272457	5001966
Brachyscome montana	1272455	5001960
Brachyscome montana	1272438	5001950
Brachyscome montana	1272413	5001632
Brachyscome montana	1272410	5000511

Brachyscome montana	1272336	5001854
Brachyscome montana	1272286	5002413
Brachyscome montana	1272258	5002422
Brachyscome montana	1272214	5002405
Brachyscome montana	1272207	5002421
Brachyscome montana	1272206	5002419
Brachyscome montana	1272205	5002419
Brachyscome montana	1272204	5002420
Brachyscome montana	1272188	5001841
Brachyscome montana	1272183	5000633
Brachyscome montana	1272177	5001824
Brachyscome montana	1272171	5002433
Brachyscome montana	1272145	5002010
Brachyscome montana	1272119	5002020
Brachyscome montana	1272118	5002028
Brachyscome montana	1272112	5002031
Brachyscome montana	1272053	5000845
Brachyscome montana	1271888	5001332
Brachyscome montana	1271885	5001331
Brachyscome montana	1271884	5001329
Brachyscome montana	1271858	5001709
Brachyscome montana	1271728	5001602
Brachyscome montana	1271678	5001353
Brachyscome montana	1271599	5002497
Brachyscome montana	1271349	5001925
Brachyscome montana	1271312	5001934
Brachyscome montana	1271270	5001937
Brachyscome montana	1271232	5001949
Carex edgariae	1272541	5002277
Carex edgariae	1272533	5002277
Carex edgariae	1272512	5002276
Carex edgariae	1272512	5002281
Carex edgariae	1272260	5002418
Carex edgariae	1272239	5001354
Carex edgariae	1272152	5002008
Carex edgariae	1272105	5001117
Carex edgariae	1272094	5001098
Carex edgariae	1272041	5001847

Carex edgariae	1271828	5001682
Carex hectorii	1272530	5002281
Carex hectorii	1272365	5000682
Carex hectorii	1272277	5000796
Carex hectorii	1272276	5002403
Carex hectorii	1272227	5000543
Carex hectorii	1270566	5002514
Carex kirkii var. *kirkii*	1272412	5002052
Carex kirkii var. *kirkii*	1272392	5002039
Carex kirkii var. *kirkii*	1271804	5001648
Carex kirkii var. *kirkii*	1270798	5002189
Carex lachenalii subsp. *parkeri*	1271465	5001883
Carex petriei	1270551	5002525
Carex talbotii	1271974	5001829
Centrolepis pallida	1272283	5000852
Centrolepis pallida	1272149	5001020
Centrolepis pallida	1271876	5000967
Colobanthus apetalus	1272247	5000775
Colobanthus apetalus	1271979	5001831
Colobanthus apetalus	1271872	5001307
Colobanthus apetalus	1271683	5001239
Colobanthus apetalus	1270798	5002190
Colobanthus apetalus	1270480	5002452
Colobanthus apetalus	1270420	5002661
Colobanthus strictus	1272158	5001808
Craspedia uniflora var. *uniflora*	1273053	5000293
Craspedia uniflora var. *uniflora*	1272862	5000547
Craspedia uniflora var. *uniflora*	1272837	5000687
Craspedia uniflora var. *uniflora*	1272805	5000517
Craspedia uniflora var. *uniflora*	1272677	5000599
Craspedia uniflora var. *uniflora*	1272353	5000977

Craspedia uniflora var. *uniflora*	1272288	5000894
Craspedia uniflora var. *uniflora*	1272280	5000851
Craspedia uniflora var. *uniflora*	1272253	5001304
Craspedia uniflora var. *uniflora*	1272221	5000929
Craspedia uniflora var. *uniflora*	1272215	5001919
Craspedia uniflora var. *uniflora*	1271978	5001828
Craspedia uniflora var. *uniflora*	1271878	5000966
Craspedia uniflora var. *uniflora*	1270554	5002522
Dracophyllum prostratum	1272357	5000976
Epilobium komarovianum	1272261	5000576
Epilobium komarovianum	1272130	5001252
Epilobium komarovianum	1271874	5001308
Epilobium komarovianum	1271684	5001239
Epilobium komarovianum	1271683	5001239
Epilobium komarovianum	1270548	5002524
Epilobium porphyrium	1272762	5002359
Epilobium porphyrium	1272577	5002472
Epilobium porphyrium	1272488	5002287
Epilobium porphyrium	1272482	5002541
Epilobium porphyrium	1272413	5002463
Epilobium porphyrium	1272279	5001948
Epilobium porphyrium	1272160	5001807
Epilobium porphyrium	1271877	5001310
Epilobium porphyrium	1271803	5001490
Epilobium porphyrium	1271554	5002271
Epilobium porphyrium	1271516	5001705
Epilobium porphyrium	1271497	5001818
Epilobium porphyrium	1271228	5001999
Epilobium porphyrium	1271068	5002219
Epilobium porphyrium	1270797	5002189

Epilobium porphyrium	1270670	5002433
Epilobium porphyrium	1270419	5002660
Euchiton traversii	1271874	5001310
Euphrasia petriei	1272220	5000520
Forstera purpurata	1272735	5000530
Gaultheria nubicola	1272307	5000449
Gaultheria nubicola	1272300	5000439
Gaultheria nubicola	1272264	5000577
Gaultheria nubicola	1271578	5002466
Gaultheria nubicola	1271230	5001999
Gaultheria nubicola	1270981	5002160
Geranium microphyllum	1273211	5000371
Geranium microphyllum	1272862	5000548
Geranium microphyllum	1272735	5000529
Geranium microphyllum	1272676	5000600
Geranium microphyllum	1272395	5000290
Geranium microphyllum	1272360	5000651
Geranium microphyllum	1272247	5000773
Geranium microphyllum	1272228	5000799
Geranium microphyllum	1272220	5000932
Geranium microphyllum	1272220	5000931
Juncus novae-zelandiae	1272148	5001020
Juncus pusillus	1272356	5000976
Juncus pusillus	1272283	5000850
Juncus pusillus	1272262	5000575
Juncus pusillus	1272257	5001306
Juncus pusillus	1272149	5001019
Juncus pusillus	1272131	5001251
Juncus pusillus	1270549	5002521
Kelleria childii	1272578	5002472
Kelleria childii	1272488	5002287
Kelleria childii	1272415	5002463
Kelleria childii	1272284	5002401
Kelleria childii	1272278	5001948
Kelleria childii	1272239	5002183
Kelleria childii	1272227	5001942
Kelleria childii	1272097	5001124
Kelleria childii	1271928	5001708

Kelleria childii	1271877	5000965
Kelleria childii	1271875	5001885
Kelleria childii	1271811	5001679
Kelleria childii	1271803	5001490
Kelleria childii	1271700	5001495
Kelleria childii	1271577	5002468
Kelleria childii	1271559	5001653
Kelleria childii	1271554	5002271
Kelleria childii	1271530	5001559
Kelleria childii	1271516	5001705
Kelleria childii	1271468	5002236
Kelleria childii	1271464	5001882
Kelleria childii	1271382	5001935
Kelleria childii	1271174	5002039
Kelleria childii	1271112	5002193
Kelleria childii	1270981	5002159
Kelleria paludosa	1273054	5000293
Kelleria paludosa	1272356	5000977
Kelleria paludosa	1272341	5001059
Kelleria paludosa	1272262	5000575
Kelleria paludosa	1272258	5001304
Kelleria paludosa	1272246	5000772
Kelleria paludosa	1272149	5001019
Kelleria paludosa	1272131	5001251
Kelleria paludosa	1271877	5000966
Kelleria paludosa	1271874	5001309
Kelleria paludosa	1271684	5001239
Kelleria paludosa	1270550	5002518
Leptinella goyenii	1272578	5002473
Leptinella goyenii	1272480	5002541
Leptinella goyenii	1272467	5001979
Leptinella goyenii	1272425	5001624
Leptinella goyenii	1272414	5002466
Leptinella goyenii	1272411	5000865
Leptinella goyenii	1272410	5000511
Leptinella goyenii	1272315	5000559
Leptinella goyenii	1272307	5000449
Leptinella goyenii	1272238	5002185

Leptinella goyenii	1272226	5001459
Leptinella goyenii	1272156	5001576
Leptinella goyenii	1272146	5000652
Leptinella goyenii	1272063	5000804
Leptinella goyenii	1271903	5001114
Leptinella goyenii	1271873	5001883
Leptinella goyenii	1271836	5001769
Leptinella goyenii	1271805	5001494
Leptinella goyenii	1271559	5001655
Leptinella goyenii	1271499	5001817
Leptinella goyenii	1271466	5002238
Leptinella goyenii	1271464	5001883
Leptinella goyenii	1271383	5001938
Leptinella goyenii	1271226	5002000
Luzula leptophylla	1272862	5000548
Luzula leptophylla	1272357	5000977
Luzula leptophylla	1271684	5001239
Myosotis antarctica subsp. *antarctica*	1270419	5002661
Myosotis antarctica subsp. *antarctica*	1270213	5002935
Myosotis lyallii subsp. *elderi*	1272250	5001809
Myosotis lyallii subsp. *elderi*	1271929	5001708
Myosotis pulvinaris	1272482	5002541
Myosotis pulvinaris	1272468	5001981
Myosotis pulvinaris	1272311	5001969
Myosotis pulvinaris	1272301	5001969
Myosotis pulvinaris	1272295	5001971
Myosotis pulvinaris	1272238	5002182
Myosotis pulvinaris	1272153	5001575
Myosotis pulvinaris	1272144	5000653
Myosotis pulvinaris	1271904	5001111
Myosotis pulvinaris	1271836	5001766
Myosotis pulvinaris	1271806	5001491
Myosotis pulvinaris	1271495	5001818
Myosotis pulvinaris	1271469	5002235
Myosotis pulvinaris	1270981	5002158
Nertera balfouriana	1272282	5000851

Nertera balfouriana	1272149	5001020
Pachycladon novae-zelandiae	1272299	5001965
Phyllachne rubra	1271874	5001885
Phyllachne rubra	1271700	5001494
Phyllachne rubra	1271559	5001653
Phyllachne rubra	1271465	5001883
Phyllachne rubra	1271384	5001934
Pimelia notia	1272395	5000290
Pimelia notia	1272366	5000532
Pimelia notia	1272345	5000779
Pimelia notia	1272325	5000731
Pimelia notia	1272209	5000632
Pimelia notia	1272157	5000809
Pimelia notia	1272121	5001348
Pimelia notia	1271835	5001767
Pimelia notia	1271775	5001816
Pimelia notia	1271174	5002039
Poa lindsayi	1271068	5002219
Poa lindsayi	1270798	5002189
Poa lindsayi	1270670	5002432
Poa schistacea	1271803	5001492
Poa schistacea	1271497	5001817
Ranunculus buchananii	1271806	5001474
Ranunculus maculatus	1272277	5002412
Ranunculus maculatus	1271975	5001830
Ranunculus maculatus	1271874	5001309
Ranunculus pachyrrhizus	1272337	5000418
Ranunculus pachyrrhizus	1271976	5001829
Ranunculus royi	1272465	5000079
Raoulia apicinigra	1272158	5001807
Raoulia apicinigra	1270799	5002189
Raoulia apicinigra	1270669	5002433
Raoulia apicinigra	1270483	5002451
Raoulia apicinigra	1270420	5002660
Raoulia youngii	1272483	5002542
Raoulia youngii	1272465	5001980
Raoulia youngii	1272154	5001576
Raoulia youngii	1271804	5001490

Raoulia youngii	1271530	5001559
Rytidosperma pumilum	1273251	5000186
Rytidosperma pumilum	1273211	5000372
Rytidosperma pumilum	1273053	5000294
Rytidosperma pumilum	1273018	5000328
Rytidosperma pumilum	1272906	5000121
Rytidosperma pumilum	1272863	5000548
Rytidosperma pumilum	1272804	5000092
Rytidosperma pumilum	1272764	5002361
Rytidosperma pumilum	1272755	5000312
Rytidosperma pumilum	1272666	5000700
Rytidosperma pumilum	1272547	5000578
Rytidosperma pumilum	1272497	5002141
Rytidosperma pumilum	1272466	5001978
Rytidosperma pumilum	1272455	5001437
Rytidosperma pumilum	1272421	5001622
Rytidosperma pumilum	1272411	5000863
Rytidosperma pumilum	1272410	5000511
Rytidosperma pumilum	1272384	5002033
Rytidosperma pumilum	1272365	5000532
Rytidosperma pumilum	1272345	5000779
Rytidosperma pumilum	1272345	5001249
Rytidosperma pumilum	1272325	5000733
Rytidosperma pumilum	1272315	5000557
Rytidosperma pumilum	1272307	5000449
Rytidosperma pumilum	1272300	5000440
Rytidosperma pumilum	1272281	5000541
Rytidosperma pumilum	1272279	5001950
Rytidosperma pumilum	1272227	5001941
Rytidosperma pumilum	1272212	5000634
Rytidosperma pumilum	1272209	5000438
Rytidosperma pumilum	1272158	5001806
Rytidosperma pumilum	1272157	5001737
Rytidosperma pumilum	1272156	5000811
Rytidosperma pumilum	1272144	5000650
Rytidosperma pumilum	1272139	5002390
Rytidosperma pumilum	1271859	5001656
Rytidosperma pumilum	1271836	5001764

Rytidosperma pumilum	1271775	5001817
Rytidosperma pumilum	1271496	5001820
Rytidosperma pumilum	1271469	5002237
Rytidosperma pumilum	1271228	5002001
Rytidosperma pumilum	1271175	5002038
Rytidosperma pumilum	1271068	5002218
Rytidosperma pumilum	1270833	5002263
Rytidosperma pumilum	1270797	5002189
Rytidosperma pumilum	1270669	5002434
Rytidosperma pumilum	1270624	5002460
Rytidosperma pumilum	1270484	5002452
Rytidosperma pumilum	1270419	5002661

Appendix C: Vegetation Quadrat Data Forms

Snow tussock grassland

Species	Quadrat												
	6	11	18	32	29	66	63	61	35	45	48	33	51
	Aspect												
	NW	W	E	E	NE	NE	E	NW	NNE	Flat/WSW	ENE	E	SW
Abrotonella inconspicua	0	2	0	0	0	0	0	0	0	0	0	0	1
Acaena saccaticupula	0	0	0	0	0	0	0	0	0	0	0	0	0
Aceana caesilglauca	0	0	0	0	0	0	0	0	0	0	0	0	0
Aciphylla aurea	0	0	0	0	0	0	0	0	0	0	0	0	0
Aciphylla kirkii	0	1	0	0	0	0	0	0	0	0	0	0	0
Aciphylla lecomtei	0	0	0	0	0	0	0	0	0	0	0	0	0
Aciphylla "Lomond"	0	0	0	0	0	0	0	0	0	0	0	0	0
Agrostis capillaris	0	0	0	0	0	0	0	0	0	0	0	0	0
Agrostis muelleriana	0	1	0	0	0	0	1	0	0	0	0	0	0
Anisotome flexuosa	0	0	0	0	0	0	0	0	0	0	0	0	0
Anisotome imbricata var. imbricata	0	0	0	0	0	1	0	0	0	0	0	0	0
Argyrotegium mackayi	0	0	0	0	0	0	0	0	0	0	0	0	0
Asperula perpusilla	0	0	0	0	0	0	0	0	0	0	0	0	0
Astelia nervosa	0	0	0	0	1	0	0	0	0	0	0	0	0
Austroblechnum penna-marina subsp. *alpina*	2	0	0	4	0	0	0	0	0	0	0	0	0
Austrolycopodium fastigiatum	0	0	0	0	0	0	0	0	0	0	1	0	2
Brachyglottis bellidioides	0	0	0	0	0	0	0	0	0	0	0	0	0
Brachyscome montana	0	1	0	0	0	0	0	0	0	0	0	0	0
Caltha obtusa	0	0	0	0	0	0	0	0	0	0	0	0	0
Carex edura	0	0	0	0	0	1	0	0	0	0	0	0	0
Carex penalpina	0	0	0	2	0	0	0	0	0	0	0	0	0
Carex pyrenaica var. cephalotes	0	0	0	0	0	0	0	0	0	0	0	0	0
Carex subviridis	2	0	0	0	0	0	0	0	0	0	0	0	0
Carex wakatipu	0	1	0	0	0	0	0	3	0	0	0	0	0
Celmisia haastii	2	2	0	0	0	1	0	0	0	1	2	2	1
Celmisia laricifolia	0	0	0	0	0	0	0	0	0	0	0	0	2
Celmisia lyalii	0	0	6	0	0	0	0	0	0	0	0	0	0
Chiloglottis cornuta	not observed in a quadrat but noted in community during walk through												
Celmisia sessiliflora	0	0	0	0	0	0	0	0	0	0	0	0	0
Chionochloa macra	5	6	6	5	6	5	6	4	4	6	6	5	5
Chionochloa rigida	0	0	0	0	0	0	0	0	0	0	0	0	0
Colobanthus buchanii	0	0	0	0	0	0	0	0	0	0	0	0	0
Coprosma atropurpurea	0	0	0	0	0	0	0	0	1	0	0	0	0
Coprosma niphophylla	0	0	0	2	0	0	0	0	0	0	0	0	0
Coprosma perpusilla subsp. perpusilla	3	0	0	0	0	0	0	0	0	0	0	0	0
Craspedia lanata var. lanata	0	0	0	0	0	0	0	0	0	0	0	0	0
Dracophyllum muscoides	0	3	2	0	0	2	0	0	2	1	0	0	2
Dracophyllum pronum	but noted in com	0	0	0	0	0	0	0	0	0	0	0	0
Dracophyllum rosmarinifolium	0	0	0	0	0	0	0	0	0	0	0	0	0
Epilobium alsinoides	0	1	1	1	0	1	0	1	1	1	0	1	0
Epilobium atripicifolium	0	0	0	0	0	0	0	0	0	0	0	0	0
Epilobium porphyrium	0	0	0	0	0	0	0	0	0	0	0	0	0
Euchiton lateralis	0	0	0	0	0	0	0	0	0	0	0	0	0
Gaultheria depressa var. novae-zelandiae	0	0	0	1	1	0	0	0	0	1	2	1	2
Gaultheria nubicola	0	0	0	0	0	0	0	0	0	0	0	0	0
Gaultheria parvula	0	0	0	0	0	0	0	0	0	0	0	0	0
Gentianella bellidifolia	0	0	0	0	0	0	0	0	0	0	0	0	0
Gentianella corymbifera subsp. corymbifera	0	0	0	0	0	0	0	0	0	0	0	0	1
Geranium microphyllum	0	0	0	0	0	0	0	0	0	0	0	0	0
Geum leiospermum	0	0	0	0	0	0	0	0	0	0	0	0	0
Geum cockaynei	0	0	0	0	0	0	0	0	0	0	0	0	0
Hectorella caespitosa	0	0	0	0	0	0	1	1	0	0	0	0	0
Heiracium lepidulum	0	0	0	0	0	0	0	0	0	0	0	0	0
Huperzia australiana	0	1	0	0	0	0	0	0	0	0	0	0	3
Hypochaeris radicata	0	0	0	0	0	0	0	0	0	0	0	0	0
Koeleria cheesemanii	0	0	0	0	0	0	0	0	0	0	0	0	0
Kelleria childii	0	0	0	0	0	0	0	0	0	0	0	0	0
Leptinella pectinata subsp. *villosa*	0	1	0	0	0	0	0	0	0	0	0	0	0
Lichens	1	1	1	1	0	2	1	1	1	0	0	0	1
Luzula pumila	0	0	0	0	0	0	0	0	0	0	0	0	0
Luzula rufa var. rufa	0	0	0	0	0	0	0	0	0	0	0	0	0
Marsippospermum gracile	0	0	0	0	0	0	0	0	0	0	0	0	1
Melicytus alpinus	0	0	0	0	0	0	1	0	0	0	0	0	0
Mosses	1	1	3	1	1	1	1	2	2	0	0	1	1
Myosotis lyallii subsp elderii	0	0	0	0	0	0	0	0	0	0	0	0	0
Myrsine nummularia	0	0	0	0	0	0	0	0	0	0	0	0	3
Ophioglossum coriaceum	0	0	0	0	0	0	0	0	0	0	0	0	0
Ourisia caespitosa	0	0	0	0	0	0	0	0	0	0	0	0	0
Ourisia glandulosa	0	0	0	1	0	0	0	0	0	0	0	0	0
Ozothamnus vauvilliersii	0	0	0	0	0	0	0	0	0	0	0	0	0
Phyllachne colsensoi	0	0	0	0	0	0	0	0	0	0	0	0	0
Pillosella officinarum	0	0	0	0	0	0	0	1	0	0	0	0	0
Pimelia notia	0	0	1	0	0	0	0	0	0	0	0	0	0
Plantago lanigera	2	1	0	1	0	1	0	1	0	1	0	0	0
Poa colensoi	1	1	2	0	1	1	1	2	2	1	1	2	2
Polystichum cystostegia	0	0	0	0	0	0	0	0	0	0	0	0	0
Polystichum vestitum	0	0	0	0	0	0	0	0	0	0	0	0	0
Rytidosperma pumilum	0	0	1	0	0	1	0	1	1	1	0	0	0
Rytidosperma setifolium	0	0	0	0	0	0	0	0	0	0	0	0	0
Ranunculus multiscarpus	0	0	0	0	0	0	0	0	0	0	0	0	0
Raoulia hectorii	0	0	0	0	0	0	0	0	0	0	0	0	0
Raoulia grandiflora	1	1	1	1	1	3	0	1	0	1	1	2	1
Raoulia subsericea	0	0	0	0	0	0	0	0	2	0	0	0	0
Schoenus pauciflorus	0	0	0	0	0	0	0	0	0	0	0	0	0
Scleranthus uniflorus	0	0	0	0	0	0	0	0	0	0	0	0	0
Shawia cymbifolia	not observed in a quadrat but noted in community during walk through												
Azorella haastii subsp. haastii	0	0	0	1	0	0	0	0	0	0	0	0	0
Veronica densifolia	0	0	0	0	0	0	0	0	0	0	0	0	0
Veronica hectorii subsp. hectorii	0	0	0	0	0	0	0	0	0	0	0	0	0
Viola cunninghamii	2	1	0	1	0	1	1	1	1	0	0	1	0
Wahlenbergia albomarginata subsp. albomarginata	0	1	0	0	0	0	0	0	0	0	0	0	0

Abundant
Not Abundant

Snow tussock grassland												
Species	Quadrat											
	54	55	26 (delineation)	22 (delineation)	19 (delineation)	18 (delineation)	6 (delineation)	46 (delineation)	44 (delineation)	41 (delineation)	38 (delineation)	31 (delineation)
	Aspect											
	E	N	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Abrotonella inconspicua	0	0	1	0	0	0	0	5	0	0	0	20
Acaena saccaticupula	0	0	0	1	0	0	0	0	0	0	0	0
Aceana caesilglauca	0	0	0	0	0	0	0	0	0	0	0	0
Aciphylla aurea	0	0	0	0	0	0	0	0	0	0	0	0
Aciphylla kirkii	0	0	0	3	1	1	1	0	2	0	0	1
Aciphylla lecomtei	0	0	0	0	0	0	0	0	0	0	0	0
Aciphylla "Lomond"	0	0	0	0	0	0	0	0	0	0	0	0
Agrostis capillaris	0	0	0	0	0	0	0	0	0	0	0	0
Agrostis muelleriana	0	0	0	0	0	0	0	0	0	0	0	0
Anisotome flexuosa	0	0	0	0	0	0	0	0	0	0	0	0
Anisotome imbricata var. imbricata	0	0	0	0	0	0	0	0	0	0	1	0
Argyrotegium mackayi	0	0	1	0	0	1	0	0	0	0	0	0
Asperula perpusilla	0	0	0	0	0	0	0	0	0	0	0	0
Astelia nervosa	0	0	0	0	0	0	0	0	0	0	0	0
Austroblechnum penna-marina subsp. *alpina*	0	0	0	20	0	0	1	0	1	0	10	0
Austrolycopodium fastigiatum	0	0	0	0	10	1	0	0	0	0	0	0
Brachyglottis bellidioides	0	0	0	0	0	0	0	0	0	0	0	0
Brachyscome montana	0	0	1	0	0	0	0	0	0	0	0	0
Caltha obtusa	0	0	0	0	0	0	0	0	0	0	0	0
Carex edura	0	0	7	0	0	0	1	0	0	0	1	0
Carex penalpina	1	1	0	0	0	0	0	0	0	0	0	0
Carex pyrenaica var. cephalotes	0	0	0	0	0	0	0	0	3	0	0	1
Carex subviridis	0	0	0	0	0	0	0	0	0	0	0	0
Carex wakatipu	1	1	0	0	0	0	0	0	0	0	0	0
Celmisia haastii	0	0	0	0	0	0	1	1	5	0	0	1
Celmisia laricifolia	0	0	0	0	0	0	0	0	0	0	0	0
Celmisia lyalii	0	0	0	0	0	0	0	0	0	0	0	0
Chiloglottis cornuta	not observed in a quadrat but noted in community during walk through											
Celmisia sessiliflora	0	0	0	0	0	0	0	1	0	0	0	0
Chionochloa macra	6	4	20	15	7	20	40	15	55	100	10	30
Chionochloa rigida	0	0	0	0	0	0	0	0	0	0	0	0
Colobanthus buchanii	0	0	1	0	0	0	0	0	0	0	0	0
Coprosma atropurpurea	0	0	1	0	0	0	0	0	0	0	0	0
Coprosma niphophylla	0	0	0	0	0	0	2	0	0	0	0	0
Coprosma perpusilla subsp. perpusilla	0	0	0	0	30	50	0	0	0	0	0	0
Craspedia lanata var. lanata	0	0	0	0	0	0	0	0	0	0	0	0
Dracophyllum muscoides	2	0	0	1	0	10	0	20	2	0	3	5
Dracophyllum pronum	0	0	0	0	0	0	0	0	0	0	0	0
Dracophyllum rosmarinifolium	0	0	0	0	0	0	0	0	0	0	0	0
Epilobium alsinoides	3	0	1	0	0	0	0	0	1	1	0	0
Epilobium atripicifolium	0	0	0	0	0	0	0	0	0	0	0	0
Epilobium porphyrium	0	0	0	0	0	0	0	0	0	0	1	0
Euchiton lateralis	0	0	0	0	0	0	0	0	0	0	0	0
Gaultheria depressa var. novae-zelandiae	0	0	0	0	2	1	1	0	0	0	0	0
Gaultheria nubicola	0	0	0	0	0	0	0	50	2	0	25	20
Gaultheria parvula	0	0	0	3	10	0	0	0	0	0	0	0
Gentianella bellidifolia	0	0	0	0	0	0	0	0	0	0	0	0
Gentianella corymbifera subsp. corymbifera	0	0	0	0	0	1	0	0	0	0	0	0
Geranium microphyllum	0	0	0	0	0	1	0	0	0	0	0	0
Geum leiospermum	0	0	0	0	0	0	0	0	0	3	0	0
Geum cockaynei	0	0	0	0	0	0	0	0	0	0	0	0
Hectorella caespitosa	0	0	0	0	0	0	0	2	2	0	0	0
Heiracium lepidulum	0	0	0	0	0	1	0	0	0	0	0	0
Huperzia australiana	0	0	0	0	0	0	0	0	0	0	0	0
Hypochaeris radicata	0	0	0	0	0	0	0	0	0	0	0	0
Koeleria cheesemanii	0	0	0	0	0	0	0	0	0	0	0	0
Kelleria childii	0	0	2	0	0	0	1	1	0	0	1	1
Leptinella pectinata subsp. *villosa*	0	0	15	1	0	0	0	0	5	0	0	0
Lichens	0	1	40	0	0	0	0	0	0	0	0	0
Luzula pumila	0	0	3	0	0	0	0	0	1	0	0	1
Luzula rufa var. rufa	0	0	0	0	0	1	0	0	0	0	0	0
Marsippospermum gracile	0	0	0	0	0	0	0	0	0	0	0	0
Melicytus alpinus	0	0	0	0	0	0	0	0	0	0	1	0
Mosses	1	3	0	7	0	0	0	0	0	0	0	0
Myosotis lyallii subsp elderii	0	0	1	0	0	0	0	0	0	0	0	0
Myrsine nummularia	0	0	0	0	0	0	0	0	0	0	0	0
Ophioglossum coriaceum	0	0	0	0	0	0	0	0	0	0	0	0
Ourisia caespitosa	0	0	0	1	0	0	0	0	0	0	0	0
Ourisia glandulosa	0	0	0	0	0	0	1	0	1	0	0	0
Ozothamnus vauvilliersii	0	0	0	0	0	0	0	0	0	0	0	0
Phyllachne colsensoi	0	0	1	0	0	0	0	1	15	0	0	1
Pillosella officinarum	0	0	1	0	0	0	1	0	0	0	0	0
Pimelia notia	0	0	0	0	2	0	0	0	0	0	0	0
Plantago lanigera	0	0	1	1	1	1	1	0	0	1	1	0
Poa colensoi	2	3	15	1	5	10	5	1	10	0	3	2
Polystichum cystostegia	0	0	0	0	0	0	2	0	1	0	0	0
Polystichum vestitum	0	0	0	0	0	0	0	0	0	0	0	0
Rytidosperma pumilum	0	2	0	0	2	0	0	0	0	0	3	2
Rytidosperma setifolium	0	0	0	0	0	0	0	0	0	0	0	0
Ranunculus multiscarpus	0	0	0	0	0	0	0	0	0	0	0	0
Raoulia hectorii	0	0	1	0	0	0	0	0	0	0	0	0
Raoulia grandiflora	1	1	2	0	5	10	0	0	0	0	5	30
Raoulia subsericea	0	0	0	0	0	2	0	0	0	0	0	0
Schoenus pauciflorus	0	0	0	0	0	0	0	0	0	0	0	0
Scleranthus uniflorus	0	0	0	0	0	0	0	0	0	0	0	0
Shawia cymbifolia	not observed in a quadrat but noted in community during walk through											
Azorella haastii subsp. haastii	0	0	0	0	0	0	0	0	0	0	0	0
Veronica densifolia	0	0	0	0	0	0	0	0	0	0	0	0
Veronica hectorii subsp. hectorii	0	0	0	0	0	0	0	0	0	0	0	0
Viola cunninghamii	1	1	1	1	0	0	0	0	1	0	3	1
Wahlenbergia albomarginata subsp. albomarginata	0	0	0	0	1	1	0	0	0	0	0	0

Snow tussock grassland

Species	Quadrat											
	29 (delineation)	21 (delineation)	14 (delineation)	11 (delineation)	8 (delineation)	1 (delineation)	84	86	74	94	98	WT2 (delineation)
	Aspect											
	n/a	n/a	n/a	n/a	n/a	n/a	ENE	WNW	ENE	NE	NE	n/a
Abrotonella inconspicua	0	0	0	0	0	0	0	0	0	0	0	0
Acaena saccaticupula	0	0	0	0	1	0	0	0	0	0	0	0
Aceana caesilglauca	0	0	0	0	0	0	0	0	0	0	0	0
Aciphylla aurea	0	0	0	0	0	0	0	0	0	0	0	0
Aciphylla kirkii	1	0	0	0	2	1	0	0	0	0	0	0
Aciphylla lecomtei	0	0	0	0	0	0	0	0	0	0	0	0
Aciphylla "Lomond"	0	0	0	0	0	0	0	0	0	0	0	0
Agrostis capillaris	0	0	0	0	0	0	0	0	0	0	0	0
Agrostis muelleriana	0	0	0	0	0	0	0	0	0	0	0	0
Anisotome flexuosa	0	1	0	0	0	0	0	0	0	0	0	0
Anisotome imbricata var. imbricata	0	0	0	0	0	1	0	0	0	0	0	0
Argyrotegium mackayi	0	0	0	0	0	0	0	0	0	0	0	0
Asperula perpusilla	0	0	0	0	0	0	0	0	0	0	0	0
Astelia nervosa	0	0	0	15	0	0	0	0	0	0	0	0
Austroblechnum penna-marina subsp. *alpina*	0	0	0	0	10	0	0	0	0	0	0	0
Austrolycopodium fastigiatum	0	2	0	0	0	0	0	1	0	0	2	1
Brachyglottis bellidioides	0	0	0	0	0	0	0	0	0	0	0	0
Brachyscome montana	0	0	0	0	0	0	0	0	0	0	0	0
Caltha obtusa	0	0	0	0	0	0	0	0	0	0	0	0
Carex edura	0	0	0	0	5	0	0	0	0	0	0	0
Carex penalpina	2	0	0	0	0	0	0	0	1	1	1	5
Carex pyrenaica var. cephalotes	0	0	0	0	0	0	0	0	0	0	0	0
Carex subviridis	0	0	0	0	0	0	0	0	0	0	0	0
Carex wakatipu	0	0	0	0	0	0	0	0	2	0	1	0
Celmisia haastii	1	1	3	2	0	1	0	0	1	0	0	0
Celmisia laricifolia	0	0	0	0	0	1	0	0	0	0	0	0
Celmisia lyalii	0	1	25	1	0	1	0	0	0	0	0	0
Chiloglottis cornuta	not observed in a quadrat but noted in community during walk through											
Celmisia sessiliflora	0	0	0	0	0	0	0	0	0	0	0	0
Chionochloa macra	50	50	85	80	40	60	0	0	0	0	0	80
Chionochloa rigida	0	0	5	0	0	0	3	5	5	5	6	5
Colobanthus buchanii	0	0	0	0	0	0	0	0	0	0	0	0
Coprosma atropurpurea	0	0	0	0	0	0	0	0	0	0	0	0
Coprosma niphophylla	0	0	0	0	0	0	0	0	0	0	0	0
Coprosma perpusilla subsp. perpusilla	5	0	0	0	0	0	0	0	0	0	0	10
Craspedia lanata var. lanata	0	0	0	0	0	1	0	0	0	0	0	0
Dracophyllum muscoides	2	5	0	1	0	20	0	0	1	0	0	0
Dracophyllum pronum	0	0	0	0	0	0	0	0	0	0	0	0
Dracophyllum rosmarinifolium	0	2	0	0	0	0	0	0	0	0	0	0
Epilobium alsinoides	0	0	25	0	1	1	1	1	1	0	1	0
Epilobium atripicifolium	0	0	0	0	0	0	0	0	0	0	0	0
Epilobium porphyrium	0	0	0	0	0	0	0	0	0	0	0	0
Euchiton lateralis	1	0	0	0	0	0	0	0	0	0	0	0
Gaultheria depressa var. novae-zelandiae	0	1	0	1	0	1	0	1	1	0	1	1
Gaultheria nubicola	0	0	0	0	0	0	0	0	0	0	0	0
Gaultheria parvula	0	0	0	0	0	0	0	0	0	0	0	0
Gentianella bellidifolia	0	0	0	0	0	0	0	0	0	0	0	0
Gentianella corymbifera subsp. corymbifera	0	1	0	1	0	0	0	0	0	0	0	0
Geranium microphyllum	0	0	0	0	0	0	0	0	0	0	0	0
Geum leiospermum	0	0	0	0	0	0	0	0	0	0	0	0
Geum cockaynei	0	0	0	1	0	0	0	0	0	0	0	0
Hectorella caespitosa	0	0	0	0	0	0	0	0	0	0	0	0
Heiracium lepidulum	0	0	0	0	0	0	0	0	0	0	0	0
Huperzia australiana	0	0	0	0	0	0	0	0	0	0	0	0
Hypochaeris radicata	0	0	0	0	0	0	0	0	0	0	0	0
Koeleria cheesemanii	0	0	0	0	0	0	0	0	0	0	0	0
Kelleria childii	0	0	0	0	0	0	0	0	0	0	0	0
Leptinella pectinata subsp. villosa	0	0	0	0	2	0	0	0	0	0	0	0
Lichens	0	0	0	0	0	0	2	1	0	0	0	0
Luzula pumila	0	1	0	0	0	1	0	0	0	0	0	0
Luzula rufa var. rufa	0	0	0	0	0	0	0	0	1	0	0	0
Marsippospermum gracile	0	0	0	0	0	3	0	0	0	0	0	0
Melicytus alpinus	0	0	0	0	0	0	0	0	1	0	0	0
Mosses	5	2	0	0	0	1	1	1	0	0	0	0
Myosotis lyallii subsp elderii	0	0	0	0	0	0	0	0	0	0	0	0
Myrsine nummularia	0	0	0	0	0	0	0	0	0	0	0	0
Ophioglossum coriaceum	0	0	0	0	0	0	0	0	0	0	0	0
Ourisia caespitosa	0	0	0	0	0	0	0	0	0	0	0	0
Ourisia glandulosa	0	0	0	0	0	1	0	0	1	0	0	0
Ozothamnus vauvilliersii	0	0	0	0	0	0	0	0	0	0	0	0
Phyllachne colsensoi	15	2	0	0	0	1	0	0	0	0	0	0
Pillosella officinarum	1	0	0	0	0	0	0	0	0	0	0	0
Pimelia notia	0	0	0	0	0	0	0	0	0	0	0	0
Plantago lanigera	0	1	0	0	1	0	0	0	1	0	0	1
Poa colensoi	25	15	15	5	5	1	1	3	2	2	2	0
Polystichum cystostegia	0	0	0	0	0	0	0	0	0	0	0	0
Polystichum vestitum	0	0	0	0	0	0	0	0	0	0	0	0
Rytidosperma pumilum	2	0	0	0	0	0	1	1	1	0	0	1
Rytidosperma setifolium	0	0	0	0	0	0	2	0	0	0	0	0
Ranunculus multiscarpus	0	0	0	0	0	0	0	0	0	0	0	0
Raoulia hectorii	0	0	0	0	0	0	0	0	0	0	0	0
Raoulia grandiflora	1	1	0	1	0	0	0	0	0	0	1	0
Raoulia subsericea	0	0	0	0	0	0	3	0	0	0	0	0
Schoenus pauciflorus	0	0	0	2	0	0	0	0	0	0	0	0
Scleranthus uniflorus	0	0	0	0	0	0	0	0	0	0	0	0
Shawia cymbifolia	not observed in a quadrat but noted in community during walk through											
Azorella haastii subsp. haastii	0	0	0	0	0	0	0	0	0	0	0	0
Veronica densifolia	0	0	0	0	0	0	0	1	1	0	0	0
Veronica hectorii subsp. hectorii	0	25	0	10	0	0	0	0	0	0	0	0
Viola cunninghamii	1	0	0	0	1	0	1	0	1	0	1	1
Wahlenbergia albomarginata subsp. albomarginata	0	1	0	0	0	0	0	0	1	0	0	0

Snow tussock grassland

Species	Quadrat											
	WT4 (delineation)	WT6 (delineation)	WT9 (delineation)	WT11 (delineation)	WT14 (delineation)	WT16 (delineation)	WT18 (delineation)	WT21 (delineation)	WT23 (delineation)	WT25 (delineation)	WT26 (delineation)	WT28 (delineation)
	Aspect											
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Abrotonella inconspicua	0	0	0	0	0	0	0	0	0	0	0	0
Acaena saccaticupula	0	0	0	0	0	0	0	0	0	0	0	0
Aceana caesilglauca	0	0	0	1	1	0	0	0	0	0	0	0
Aciphylla aurea	0	0	0	0	0	0	0	0	0	0	0	0
Aciphylla kirkii	10	3	1	0	0	0	2	0	0	0	0	0
Aciphylla lecomtei	0	0	0	0	0	0	0	0	0	0	0	0
Aciphylla "Lomond"	0	0	0	0	0	0	0	0	0	0	0	3
Agrostis capillaris	0	0	0	2	0	0	0	0	25	0	0	5
Agrostis muelleriana	0	0	0	0	0	0	0	0	0	0	0	0
Anisotome flexuosa	0	0	0	0	0	0	0	0	0	0	0	0
Anisotome imbricata var. imbricata	0	0	0	0	0	0	0	0	0	0	0	0
Argyrotegium mackayi	0	0	1	0	1	0	1	0	0	0	0	0
Asperula perpusilla	0	0	0	1	0	0	0	0	0	0	0	0
Astelia nervosa	0	0	0	0	0	0	10	0	0	0	0	0
Austroblechnum penna-marina subsp. *alpina*	0	0	0	0	0	0	0	1	0	0	0	0
Austrolycopodium fastigiatum	0	1	2	0	0	1	0	5	0	0	1	1
Brachyglottis bellidioides	1	0	0	0	0	0	0	0	0	0	0	0
Brachyscome montana	0	0	0	0	0	0	0	0	0	0	0	0
Caltha obtusa	0	0	0	0	0	0	0	0	0	0	0	0
Carex edura	0	1	0	0	0	0	0	0	0	0	0	0
Carex penalpina	0	0	2	0	0	1	1	1	2	0	0	0
Carex pyrenaica var. cephalotes	0	0	0	0	0	0	0	0	0	0	0	0
Carex subviridis	0	0	0	0	0	0	0	0	0	0	0	0
Carex wakatipu	0	0	0	0	0	0	0	0	0	0	0	0
Celmisia haastii	0	0	0	0	0	0	0	0	0	0	0	0
Celmisia laricifolia	0	0	0	0	0	0	0	0	0	0	0	0
Celmisia lyalii	0	0	0	0	0	0	0	0	0	0	0	0
Chiloglottis cornuta	not observed in a quadrat but noted in communty during walk through											
Celmisia sessiliflora	0	0	0	0	0	0	0	0	0	0	0	0
Chionochloa macra	90	60	90	90	0	0	30	85	0	0	0	0
Chionochloa rigida	0	0	0	0	85	85	0	0	80	35	35	60
Colobanthus buchanii	0	0	0	0	0	0	0	0	0	0	0	0
Coprosma atropurpurea	0	0	0	0	0	0	0	0	0	0	0	0
Coprosma niphophylla	0	0	0	0	0	0	0	0	0	0	0	0
Coprosma perpusilla subsp. perpusilla	0	15	0	0	0	0	40	0	0	10	2	0
Craspedia lanata var. lanata	0	0	0	0	0	0	0	0	0	0	0	1
Dracophyllum muscoides	0	15	0	0	0	0	0	0	0	0	0	0
Dracophyllum pronum	0	0	0	0	0	0	3	0	0	0	0	0
Dracophyllum rosmarinifolium	0	0	2	0	0	10	0	0	0	0	45	0
Epilobium alsinoides	0	0	1	1	0	0	0	0	0	0	0	0
Epilobium atripicifolium	0	0	0	0	0	0	0	0	0	0	0	0
Epilobium porphyrium	0	0	0	0	0	0	0	0	0	0	0	0
Euchiton lateralis	0	0	0	0	0	0	0	0	0	0	0	0
Gaultheria depressa var. novae-zelandiae	0	1	1	0	0	0	1	0	0	0	1	0
Gaultheria nubicola	0	0	0	0	0	0	0	0	0	0	0	0
Gaultheria parvula	0	0	0	0	0	0	0	0	0	0	0	0
Gentianella bellidifolia	0	0	0	0	0	0	0	0	0	0	0	0
Gentianella corymbifera subsp. corymbifera	0	1	0	0	0	0	0	0	0	0	0	0
Geranium microphyllum	0	0	1	0	0	0	0	0	0	0	0	0
Geum leiospermum	0	0	0	1	0	0	0	0	0	0	0	0
Geum cockaynei	1	0	0	0	0	0	0	0	0	0	0	0
Hectorella caespitosa	0	0	0	0	0	0	0	0	0	0	0	0
Heiracium lepidulum	0	0	0	0	0	0	0	0	0	0	0	0
Huperzia australiana	0	0	0	0	0	0	0	0	0	0	0	0
Hypochaeris radicata	0	0	0	0	0	0	0	0	0	1	0	0
Koeleria cheesemanii	0	0	0	0	0	0	0	0	0	0	0	0
Kelleria childii	0	0	0	0	0	0	0	0	0	0	0	0
Leptinella pectinata subsp. villosa	0	0	0	0	0	0	0	0	0	0	0	0
Lichens	0	0	0	0	0	0	0	0	0	0	0	0
Luzula pumila	0	0	0	0	0	0	0	0	0	0	0	0
Luzula rufa var. rufa	0	1	0	0	1	0	0	0	0	0	0	0
Marsippospermum gracile	0	0	0	0	0	0	0	0	0	0	0	0
Melicytus alpinus	0	0	0	0	0	0	0	0	0	0	0	0
Mosses	0	0	0	0	0	0	0	0	0	0	0	0
Myosotis lyallii subsp elderii	0	0	0	0	0	0	0	0	0	0	0	0
Myrsine nummularia	0	0	0	0	0	0	0	0	0	0	0	0
Ophioglossum coriaceum	0	0	0	0	0	0	0	0	0	0	0	1
Ourisia caespitosa	0	0	0	0	0	0	0	0	0	0	0	0
Ourisia glandulosa	0	0	0	0	0	0	0	0	0	0	0	0
Ozothamnus vauvilliersii	0	0	0	0	0	0	0	0	0	0	0	0
Phyllachne colsensoi	0	0	0	0	0	0	0	0	0	0	0	0
Pillosella officinarum	0	0	0	2	0	0	0	0	0	0	0	0
Pimelia notia	0	0	1	0	0	0	0	0	0	0	0	0
Plantago lanigera	0	0	2	1	0	0	1	1	0	0	0	0
Poa colensoi	0	5	3	0	20	2	10	0	0	20	0	25
Polystichum cystostegia	0	0	0	0	0	0	0	0	0	0	0	0
Polystichum vestitum	0	0	0	0	0	0	0	0	0	0	0	0
Rytidosperma pumilum	0	0	0	0	0	0	0	0	0	30	0	0
Rytidosperma setifolium	0	0	0	0	0	0	0	0	0	0	0	0
Ranunculus multiscarpus	1	0	0	0	0	0	0	0	0	0	0	0
Raoulia hectorii	0	0	0	0	0	0	0	0	0	0	0	0
Raoulia grandiflora	0	10	2	0	0	0	2	0	0	0	0	0
Raoulia subsericea	0	0	0	0	0	0	0	0	0	0	0	0
Schoenus pauciflorus	0	0	0	0	0	0	0	0	0	10	0	0
Scleranthus uniflorus	0	0	0	0	0	0	0	0	0	0	0	0
Shawia cymbifolia	not observed in a quadrat but noted in communty during walk through											
Azorella haastii subsp. haastii	0	0	0	0	0	0	0	0	0	0	0	0
Veronica densifolia	0	0	0	0	0	0	0	0	0	0	0	0
Veronica hectorii subsp. hectorii	0	0	0	0	0	0	0	0	0	0	0	0
Viola cunninghamii	0	0	0	2	1	0	0	1	3	1	0	1
Wahlenbergia albomarginata subsp. albomarginata	2	0	0	0	0	0	0	0	0	2	0	0

North facing tussock grassland									
Species	Quadrat								
	20	39	64	55	83	85	102	99	93
	Aspect								
	NNW	Flat/N	N	N	N	NNE	N	N	N
Abrotonella inconspicua	0	0	0	0	0	0	0	0	0
Acaena saccaticupula	0	0	0	0	0	0	0	0	0
Aceana caesilglauca	0	0	0	0	0	0	0	0	0
Aciphylla aurea	0	0	0	0	0	0	0	0	0
Aciphylla kirkii	0	0	0	0	0	0	0	0	0
Aciphylla lecomtei	0	0	0	0	0	0	0	0	0
Aciphylla 'lomond'	0	0	0	0	0	0	0	0	0
Agrostis capillaris	0	0	0	0	0	0	0	0	0
Agrostis muelleriana	0	0	0	0	0	0	0	0	0
Anisotome imbricata var. imbricata	0	0	0	0	0	0	0	0	0
Argyrotegium mackayi	0	0	0	0	0	0	0	0	0
Asperula perpusilla	0	0	0	0	0	0	0	0	1
Astelia nervosa	0	0	0	0	0	0	0	0	0
Austroblechnum penna-marina subsp. *alpina*	0	0	0	0	0	0	0	0	0
Austrolycopodium fastigiatum	0	2	0	0	2	1	1	0	0
Brachyscome montana	0	0	0	0	0	0	0	0	0
Caltha obtusa	0	0	0	0	0	0	0	0	0
Carex edura	0	0	0	0	0	0	0	0	0
Carex kirkii var. kirkii	0	0	0	0	0	0	0	0	0
Carex penalpina	1	0	1	1	1	0	0	0	0
Carex subviridis	0	0	0	0	0	0	0	0	0
Carex wakatipu	0	1	0	1	0	0	0	0	1
Celmisia gracilenta	0	0	0	0	0	0	0	0	0
Celmisia haastii	0	0	0	0	0	0	0	0	0
Celmisia laricifolia	0	0	0	0	0	0	0	0	0
Celmisia lyalii	0	0	0	0	0	0	0	0	0
Chiloglottis cornuta	0	0	0	0	0	0	0	0	0
Chionochloa macra	4	6	5	4	0	0	0	0	0
Chionochloa rigida	0	0	0	0	5	5	5	4	4
Colobanthus buchanii	0	0	0	0	0	0	0	0	0
Coprosma atropurpurea	0	0	0	0	0	0	0	0	0
Coprosma niphophylla	0	0	0	0	0	0	0	0	0
Coprosma perpusilla subsp. perpusilla	0	0	0	0	0	0	0	0	0
Dracophyllum muscoides	0	0	0	0	0	0	2	0	0
Dracophyllum rosmarinifolium	0	2	0	0	0	3	0	0	0
Epilobium alsinoides	0	2	0	0	1	1	0	1	0
Epilobium atripicifolium	0	0	0	0	0	0	0	0	0
Epilobium brunnescens subsp. brunnescens	0	0	0	0	0	0	0	0	0
Gaultheria depressa var. novae-zelandiae	0	1	0	0	0	2	1	0	0
Gaultheria nubicola	0	0	0	0	0	0	0	0	0
Gentianella bellidifolia	0	0	0	0	0	0	0	0	0
Gentianella corymbifera subsp. Corymbifera	0	0	0	0	0	0	0	0	0
Geranium brevicaule	0	0	0	0	0	0	0	0	0
Geum leiospermum	0	0	0	0	0	0	0	0	0
Geum cockaynei	0	0	0	0	0	0	0	0	0
Hectorella caespitosa	1	0	1	0	0	0	0	0	0
Huperzia australiana	0	0	0	0	0	0	0	0	0
Hypochaeris radicata	0	0	0	0	0	0	0	0	1
Kelleria childii	0	0	0	0	0	0	0	0	0
Koeleria cheesemanii	0	0	0	0	0	0	0	0	0
Leptinella pectinata var. *pectinata*	0	0	0	0	0	0	0	0	0
Lichens	1	1	1	1	0	1	0	1	0
Luzula pumila	0	0	0	0	0	0	0	0	0
Luzula rufa var. rufa	0	0	0	0	0	0	0	0	0
Marsippospermum gracile	0	0	0	0	0	0	0	0	0
Melicytus alpinus	0	0	0	0	0	0	0	0	0
Mosses	2	0	3	3	0	0	0	2	0
Myrsine nummularia	0	0	0	0	0	0	0	0	0
Ourisia glandulosa	0	1	0	0	0	0	0	0	0
Ozothamnus vauvilliersii	0	0	0	0	0	0	0	0	0
Pentapogon avenoides	0	0	0	0	0	0	0	1	0
Phyllachne colsensoi	0	0	0	0	0	0	0	0	0
Pillosella officinarum	0	0	0	0	0	0	0	0	3
Pimelia notia	0	0	0	0	0	0	0	0	0
Plantago lanigera	0	1	0	0	0	0	0	0	0
Poa colensoi	1	2	3	3	0	1	1	1	3
Polystichum cystostegia	0	0	0	0	0	0	0	0	0
Polystichum vestitum	0	0	0	0	0	0	0	0	0
Prasophyllum colensoi	0	0	0	0	0	0	0	1	0
Raoulia grandiflora	1	1	0	1	0	0	1	0	0
Raoulia subsericea	0	0	0	0	0	0	0	0	0
Rytidosperma pumilum	0	0	0	2	0	0	1	0	0
Shawia cymbifolia	0	0	0	0	0	0	0	0	0
Azorella haastii subsp. haastii	0	0	0	0	0	0	0	0	0
Veronica densifolia	0	0	0	0	0	0	0	0	0
Veronica hectorii	0	0	0	0	0	0	0	0	0
Viola cunninghamii	1	1	0	1	1	1	1	0	1
Wahlenbergia albomarginata subsp. albomarginata	0	0	0	0	0	0	0	0	0
Ranunculus multiscarpus	0	0	0	0	0	0	0	0	0

Dracophyllum scrub			
Species	Quadrat		
	101	89	91
	Aspect		
	NE	NNE	N
Draophyllum rosmarinifolium	5	5	5
Chionochloa rigida	2	3	3
Lichens	2	0	0
Muehlenbeckia axillaris	0	0	0
Poa colensoi	0	0	0
Gaultheria depressa var. novae-zealandiae	0	0	0
Austroblechnum penna-marina subsp. a*lpina*	0	0	0
Raoulia subsericea	0	0	0
Aciphylla "lomond"	0	0	1
Austrolycopodium fastigiatum	0	0	0
Epilobium alsinoides	0	0	0

Cushionfield

Species	Quadrat								
	9	37	2	5	8	19	34	31	42
	Aspect								
	SSW	NE	NW	W	SSW	E	ENE	ESE	SE
Carex pyrenaica var. cephalotes	0	0	0	0	0	0	0	0	0
Phyllachne rubra	0	0	0	0	0	0	0	0	0
Raoulia aff bryoides	0	0	0	0	0	0	0	0	0
Abrotanella inconspicua	0	0	0	3	1	0	0	1	1
Aciphylla lecomptei	0	0	0	0	0	0	0	0	0
Aciphylla kirkii	0	0	0	1	0	0	0	0	0
Aciphylla simplex	0	0	0	0	0	0	0	0	0
Agrostis muelleriana	0	1	0	0	1	0	1	1	1
Anisotome flexuosa	0	0	0	1	0	0	0	0	0
Anisotome imbricata	1	2	1	0	0	1	1	0	0
Anisotome lanuginosa	1	0	0	0	0	0	0	1	1
Austroblechnum penna-marina subsp. *alpina*	0	0	0	0	0	0	0	0	0
Austrolycopodium fastigiatum	0	0	0	0	0	0	2	0	1
Azorella haastii subsp. haastii	0	0	0	0	0	0	0	0	0
Azorella exigua	0	0	0	0	0	0	0	0	0
Brachyglottis bellidiodes	0	0	0	1	0	0	0	0	0
Brachyscome montana	0	0	0	0	0	0	0	0	0
Cardamine corymbosa	0	0	0	0	1	0	0	0	0
Carex pyrenaica var. cephalotes	0	0	0	0	0	0	0	0	0
Celmisia brevifolia	0	0	0	0	0	0	0	0	0
Celmisia haastii	0	0	0	0	1	0	0	0	0
Celmisia laricifolia	1	0	0	0	0	0	0	0	0
Celmisia lyallii	0	0	0	0	0	0	0	0	1
Chionochloa macra	1	0	0	2	2	0	1	0	1
Chionochloa rigida	0	0	0	0	0	0	0	0	0
Colobanthus buchananii	0	0	0	0	0	0	0	0	0
Coprosma niphophila	0	0	0	2	0	0	0	0	0
Dracophyllum muscoides	4	4	4	3	1	4	3	3	4
Dracophyllum pronum	0	0	0	0	0	0	0	0	0
Epilobium atriplicifolium	0	0	0	0	0	0	0	0	0
Epilobium porphyrium	0	0	0	0	0	0	0	0	0
Epilobium tasmanicum	0	0	0	0	0	0	0	0	0
Euphrasia zelandica	0	0	0	0	0	0	0	0	1
Gaultheria depressa var. novae-zelandiae	0	0	0	0	0	0	0	0	0
Gaultheria nubicola	0	0	0	1	5	0	0	0	0
Gentianella corymbifera subsp. corymbifera	0	0	0	0	0	0	0	0	0
Hectorella caespitosa	0	1	1	1	0	0	2	1	0
Hieracium lepidulum	0	0	0	0	0	0	0	0	0
Huperzia australiana	0	0	0	0	0	0	0	0	0
Kelleria childii	0	0	0	0	1	0	0	0	0
Koeleria cheesemanii	0	0	0	0	0	0	1	0	0
Leptinella goyenii	0	1	1	0	0	1	1	1	0
Leptinella pectinata subsp. villosa	0	0	0	2	0	0	0	0	0
Lichens	2	2	1	0	1	1	2	0	2
Luzula pumila	1	1	1	1	1	2	1	1	2
Mosses	0	1	0	2	1	1	3	0	3
Marsippospermum gracile	0	0	0	0	0	0	0	0	0
Mouse ear chickweed	0	0	0	0	0	0	0	0	0
Myosotis pulvinaris	0	0	0	0	1	1	3	0	0
Ourisia glandulosa	0	0	0	1	0	0	0	0	0
Pentapogon avenoides	0	0	0	0	0	0	0	0	0
Phyllachne colsensoi	0	0	0	2	0	0	0	0	0
Phyllachne rubra	0	0	0	0	0	0	0	0	0
Pillosella officinarum	0	0	0	0	0	0	0	0	1
Poa colensoi	2	1	1	1	2	1	1	1	3
Polystichum cytostegia	0	0	0	0	0	0	0	0	0
Raoulia aff. bryoides	0	0	0	0	0	0	0	1	0
Raoulia grandiflora	0	1	1	2	1	1	1	1	1
Raoulia hectorii	1	0	2	0	0	2	0	1	0
Raoulia subsericea	0	0	0	0	0	0	0	0	0
Raoulia subulata	0	0	0	0	0	0	0	0	0
Raoulia youngii	0	0	0	0	0	0	0	0	0
Rumex acetosella	0	0	0	0	0	0	0	0	0
Rytidosperma pumilum	0	2	0	0	0	2	1	0	0
Rytidosperma setifolium	0	0	0	0	0	0	0	0	0
Veronica densifolia	0	2	0	0	0	0	1	0	0
Veronica hectorii	0	0	0	0	0	0	0	0	0
Veronica thompsonii	0	0	1	0	0	1	0	1	0
Viola cunninghamii	0	0	0	0	0	0	0	0	0
Wahlenbergia albomarginata subsp. albomarginata	0	0	0	1	0	0	0	0	1
Ranunculus pachyrrhizus	0	0	0	0	0	0	0	0	0

Cushionfield

Species		Quadrat							
	72	49	52	53	65	35 (delineation)	24 (delineation	75	77
		Aspect							
	ESE	Flat/SE	SE	SE	SE	n/a	n/a	S	ENE
Carex pyrenaica var. cephalotes	0	0	0	0	0	15	15	0	0
Phyllachne rubra	2	0	0	0	0	0	0	0	0
Raoulia aff bryoides	0	0	0	0	0	0	0	0	0
Abrotanella inconspicua	2	0	1	0	1	0	1	2	1
Aciphylla lecomptei	0	0	0	0	0	0	0	0	0
Aciphylla kirkii	0	0	0	0	0	0	0	0	0
Aciphylla simplex	0	0	0	0	0	1	0	0	0
Agrostis muelleriana	1	1	1	1	1	0	0	1	1
Anisotome flexuosa	0	0	0	0	0	0	0	0	0
Anisotome imbricata	1	0	0	0	1	0	0	0	0
Anisotome lanuginosa	0	1	1	1	0	0	0	1	0
Austroblechnum penna-marina subsp. *alpina*	0	0	0	0	0	0	0	0	0
Austrolycopodium fastigiatum	0	0	2	0	0	0	0	0	0
Azorella haastii subsp. haastii	0	0	0	0	0	0	0	0	0
Azorella exigua	0	0	0	0	0	0	0	1	0
Brachyglottis bellidiodes	0	0	0	0	0	0	10	0	0
Brachyscome montana	0	0	0	0	0	0	0	0	0
Cardamine corymbosa	0	0	0	0	0	1	1	0	0
Carex pyrenaica var. cephalotes	0	0	0	0	0	0	0	0	0
Celmisia brevifolia	0	0	0	0	0	0	0	0	0
Celmisia haastii	0	0	0	0	0	0	1	0	0
Celmisia laricifolia	0	0	0	0	0	1	2	1	0
Celmisia lyallii	0	0	0	0	0	0	15	0	0
Chionochloa macra	0	0	1	0	0	7	10	0	0
Chionochloa rigida	0	0	0	0	0	0	0	0	0
Colobanthus buchananii	0	0	0	0	0	0	0	1	1
Coprosma niphophila	0	0	0	0	0	0	0	0	0
Dracophyllum muscoides	2	3	4	4	4	0	1	5	4
Dracophyllum pronum	0	0	0	0	0	0	0	0	0
Epilobium atriplicifolium	0	0	0	0	0	0	0	0	0
Epilobium porphyrium	0	0	0	0	0	0	0	0	0
Epilobium tasmanicum	1	0	0	0	0	50	15	0	0
Euphrasia zelandica	0	0	0	1	0	0	0	0	1
Gaultheria depressa var. novae-zelandiae	0	0	0	0	0	0	0	0	0
Gaultheria nubicola	0	0	0	0	0	0	0	0	0
Gentianella corymbifera subsp. corymbifera	0	0	0	0	0	0	0	0	0
Hectorella caespitosa	0	1	0	0	1	3	3	2	2
Hieracium lepidulum	0	0	0	0	0	0	0	0	0
Huperzia australiana	0	0	0	0	0	0	0	0	0
Kelleria childii	3	0	0	0	0	0	0	0	0
Koeleria cheesemanii	0	0	0	0	0	0	0	0	0
Leptinella goyenii	0	2	0	1	1	2	1	0	1
Leptinella pectinata subsp. villosa	0	0	0	0	0	5	10	0	0
Lichens	1	2	2	2	2	0	0	0	4
Luzula pumila	1	2	1	2	1	0	0	2	2
Mosses	1	1	1	0	0	2	0	3	0
Marsippospermum gracile	0	0	0	0	0	0	0	0	0
Mouse ear chickweed	0	0	0	0	0	0	0	0	0
Myosotis pulvinaris	0	0	0	0	0	20	1	0	0
Ourisia glandulosa	1	0	0	0	0	0	0	0	0
Pentapogon avenoides	0	0	0	0	0	0	0	0	0
Phyllachne colsensoi	0	0	0	0	0	1	0	0	0
Phyllachne rubra	2	0	0	0	0	3	2	0	0
Pillosella officinarum	0	0	0	0	0	0	0	0	0
Poa colensoi	1	2	2	2	1	0	0	1	0
Polystichum cytostegia	0	0	0	0	0	0	0	0	0
Raoulia aff. bryoides	0	1	0	0	0	15	5	0	0
Raoulia grandiflora	1	1	1	1	1	0	0	0	0
Raoulia hectorii	0	1	0	0	0	0	0	0	0
Raoulia subsericea	0	0	0	0	2	0	0	0	0
Raoulia subulata	0	0	0	1	0	0	0	0	0
Raoulia youngii	0	0	0	0	0	0	0	0	0
Rumex acetosella	0	0	0	0	0	0	0	0	1
Rytidosperma pumilum	0	0	2	1	0	0	0	0	2
Rytidosperma setifolium	0	0	0	0	0	0	0	0	2
Veronica densifolia	0	0	1	0	0	0	0	0	1
Veronica hectorii	0	0	0	0	0	0	0	0	0
Veronica thompsonii	0	1	0	1	0	0	0	0	0
Viola cunninghamii	0	0	0	0	0	0	0	0	0
Wahlenbergia albomarginata subsp. albomarginata	0	0	0	0	0	0	0	0	0
Ranunculus pachyrrhizus	0	0	0	0	0	0	0	0	0

High alpine cushionfield

Species	Quadrat			
	15	17	26	3
	Aspect			
	SSE	SE	S	n/a
Carex pyrenaica var. cephalotes	1	2	0	2
Phyllachne rubra	1	0	0	0
Raoulia aff bryoides	0	0	0	0
Abrotanella inconspicua	1	1	0	2
Agrostis muelleriana	0	1	1	0
Anisotome flexuosa	0	0	0	0
Anisotome imbricata	1	1	0	1
Anisotome lanuginosa	0	0	1	0
Brachyscome montana	0	0	1	0
Celmisia brevifolia	0	0	0	0
Celmisia laricifolia	0	0	1	0
Chionochloa macra	0	0	0	0
Colobanthus buchananii	1	1	0	0
Dracophyllum muscoides	2	2	4	0
Epilobium tasmanicum	1	1	0	0
Hectorella caespitosa	1	0	0	2
Kelleria childii	1	1	0	2
Koeleria cheesemanii	0	0	0	0
Leptinella goyenii	1	0	1	0
Lichens	0	2	4	1
Luzula pumila	1	1	1	1
Mosses	1	2	1	3
Myosotis pulvinaris	0	0	0	3
Ourisia glandulosa	0	0	0	0
Poa colensoi	2	1	2	2
Raoulia grandiflora	1	1	1	1
Raoulia hectorii	0	0	2	0
Rytidosperma pumilum	0	0	0	3
Veronica thompsonii	0	0	2	0

Cushion Bog

Species	Quadrat						
	36	28	24	43	44	25	30
	Aspect						
	NE	E	SE	WSW	S	SE	E
Anisotome (b) (CHR 511716); ("Otago bog")	1	1	1	1	1	1	1
Abrotonella caespitosa	0	2	3	2	3	1	3
Agrostis muelleriana	0	2	1	0	0	0	0
Agrostis stolonifera	0	0	0	0	1	0	1
Anisitome flexulosa	0	0	0	1	0	0	0
Argyrotegium mackayi	0	0	0	0	0	0	0
Austrolycopodium fastigiatum	0	0	0	0	0	0	0
Caltha obtusa	2	0	0	2	0	0	3
Carex edura	0	0	0	0	0	0	0
Carex gaudichaudiana	1	2	2	1	4	4	1
Carex hectorii	not observed in a quadrat but noted in communty during walk through						
Carex pyrenaica var. cephalotes	0	0	0	0	0	1	0
Carex wakatipu	0	0	0	0	0	0	0
Carpha alpina	0	1	0	1	1	0	1
Celmisia alpina	1	0	0	0	0	0	3
Celmisia gracilenta	0	0	0	0	0	0	0
Celmisia haastii	0	0	0	0	0	0	0
Celmisia lyallii	0	0	0	0	0	0	0
Celmisia sessilifolora	0	0	1	0	0	0	0
Centrolepis pallida	0	1	0	0	0	0	0
Chionochloa macra	1	1	0	1	1	0	1
Colobanthus apetalus	0	0	1	0	0	0	0
Coprosma perpusilla subsp. perpusilla	1	2	0	0	1	0	1
Craspedia uniflora var. uniflora	0	0	0	0	0	0	0
Dracophyllum muscoides	0	0	0	0	0	1	0
Dracophyllum prostratum	0	0	0	2	0	0	0
Drosera arcturi	0	0	0	0	1	0	1
Epilobium brunnsescens	0	0	0	0	0	0	0
Epilobium komarovianum	0	0	1	0	0	0	0
Epilobium macropus	0	0	0	0	0	0	0
Epilobium porphyrium	0	0	0	0	0	0	0
Euchiton lateralis	1	2	1	1	1	1	1
Euchiton traversii	0	0	0	0	0	0	0
Euphrasia zelandica	0	0	0	1	0	0	1
Gaultheria nubicola	0	0	0	0	0	0	0
Gaultheria parvula	0	0	0	2	0	0	0
Gentianella amabilis	1	2	2	0	1	1	1
Gingidia decipiens	0	0	0	0	0	0	0
Isolepis aucklandica	0	0	2	0	0	1	0
Juncus novae-zelandiae	0	0	0	0	0	0	2
**Juncus pusillus*	1	0	0	1	0	0	3
Kelleria paludosa	1	3	2	2	1	1	1
Leptinella pectinata subsp. villosa	0	0	1	0	0	0	0
Liverworts	0	0	0	0	0	0	1
Luzula leptophylla	0	0	1	1	0	0	0
Marsippospermum gracile	0	0	2	0	0	0	0
Montia sessiliflora	0	0	1	0	1	0	0
Mosses	0	2	5	0	2	2	2
Nertera balfouriana	0	0	0	0	0	0	3
Oreobolus pectinatus	6	2	0	5	3	3	5
Phyllachne colensoi	0	0	0	1	0	0	0
Pilosella officinarum	0	0	0	0	0	1	0
Plantago novae-zelandiae	1	0	0	0	1	0	0
Plantago unibracteolata	1	0	0	0	0	0	2
Prasophyllum colensoi	0	0	0	0	0	0	1
Ranunculus gracilipes	0	0	0	0	0	0	1
**Ranunculus maculatus*	0	0	0	0	0	0	0
Ranunculus multiscapus	0	0	0	0	0	0	0
Rytidosperma australe	1	1	0	3	1	1	0
Schoenus pauciflorus	2	2	0	0	0	0	4
Viola cunninghamii	0	0	0	0	0	0	0
Hydrocotyle novae-zeelandiae	not observed in a quadrat but noted in communty during walk through						
Leptinella squalida subsp. mediana	not observed in a quadrat but noted in communty during walk through						
Festuca novae-zeelandiae	not observed in a quadrat but noted in communty during walk through						
Lobelia angulata	not observed in a quadrat but noted in communty during walk through						
Ranunculus royi	not observed in a quadrat but noted in communty during walk through						

Riparian wetland

Species	Quadrat							
	41	56	58	76	96	90	/T3 (Delineatio	27 (delineation)
	Aspect							
	Flat (drains to E	ENE	SE	Flat/E	NE	NE	n/a	n/a
Aciphylla kirkii	0	0	0	2	0	0	0	1
Anisotome (b) (CHR 511716); ("Otago bog")	2	1	0	0	0	0	0	0
Anisotome aromatica	0	0	0	1	0	0	0	0
Abrotonella caespitosa	1	0	0	0	4	0	5	0
Acaena saccaticupula	0	2	1	1	0	0	0	2
Agrostis capillaris	0	0	2	0	0	1	0	1
Agrostis muelleriana	0	1	0	0	0	0	0	0
Agrostis stolonifera	0	0	0	0	0	0	0	0
Anaphalioides bellidiodes	0	0	0	1	1	1	0	0
Austroblechnum penna-marina subsp. *alpina*	0	0	0	0	0	0	0	0
Austrolycopodium fastigiatum	0	0	0	0	0	0	0	0
Brachyscome longiscapa	0	0	1	1	0	0	0	0
Bulbinella angustifolia	0	0	0	0	0	0	0	0
Caltha obtusa	1	0	2	3	1	0	10	0
Carex edgariae	0	0	0	0	0	0	0	1
Carex edura	0	2	0	1	0	0	0	3
Carex gaudichaudiana	1	0	0	0	2	0	5	0
Carex hectorii	0	0	0	0	1	0	1	0
Carex petriei	0	0	0	0	0	0	0	0
Carex pyrenaica var. cephalotes	0	0	0	0	0	0	0	2
Carex talbotii	0	1	0	0	0	0	0	0
Carex wakatipu	0	0	1	0	0	0	0	0
Carpha alpina	1	0	0	0	0	0	0	0
Celmisia alpina	2	0	1	0	0	1	2	0
Celmisia glandulosa	0	0	0	0	0	0	1	0
Celmisia haastii	0	1	0	1	0	0	2	2
Celmisia sessilifolora	0	0	3	0	0	0	0	0
Centrolepis pallida	3	0	0	0	0	0	0	0
Chionochloa macra	1	3	2	0	0	0	20	3
Chionochloa rigida	0	0	0	0	3	0	0	0
Colobanthus apetalus	0	1	0	0	0	0	0	0
Coprosma niphophila	0	0	0	0	0	0	0	0
Coprosma perpusilla subsp. perpusilla	1	0	3	2	0	0	5	35
Craspedia uniflora var uniflora	1	2	2	0	0	0	0	0
Craspedia lanata var. lanata	0	0	0	2	0	0	0	0
Dolichoglottis lyallii	0	0	0	1	1	0	0	0
Dracophyllum muscoides	0	1	1	0	0	0	0	0
Dracophyllum rosmarinifolium	0	0	0	0	1	3	0	0
Drosera arcturi	1	0	0	0	0	0	0	0
Epilobium alsinoides	0	0	0	0	0	0	0	1
Epilobium brunnsescens	0	1	0	1	1	0	0	0
Epilobium macropus	0	0	0	0	0	0	0	0
Euchiton lateralis	1	2	1	0	1	0	0	10
Euphrasia zelandica	0	0	1	0	0	0	0	0
Forstera purpurata	0	0	0	0	0	0	0	0
Gaultheria depressa var. novae-zealandiae	0	0	1	0	2	0	0	0
Gautheria nubicola	0	0	0	1	0	0	0	0
Gaultheria parvula	0	0	0	0	0	0	25	0
Gentianella amabilis	1	0	0	0	0	0	0	0
Gentianella corymbifera subsp. corymbifera	0	0	0	0	0	0	0	1
Geranium microphyllum	0	0	0	0	0	1	0	0
Geum cockaynei	0	0	0	1	0	0	0	0
Hydrocotyle novae-zeelandiae	0	0	0	0	1	0	0	0
Hieracium lepidulum	0	0	0	0	0	1	0	0
Isolepis aucklandica	0	1	0	0	2	0	10	5
**Juncus pusillus*	3	0	0	0	0	0	0	0
Kelleria childii	0	0	0	0	0	0	0	1
Kelleria paludosa	1	0	0	0	0	0	0	0
Koeleria cheesemanii	0	0	0	0	0	1	0	0
Leptinella pectinata subsp. villosa	0	1	0	0	0	0	0	15
Lichens	0	1	0	0	0	1	0	0
Lobelia angulata	1	0	0	0	0	0	0	0
Marsippospermum gracile	0	0	0	1	0	0	0	0
Montia sessiliflora	0	1	0	0	0	0	0	0
Mosses	2	3	0	0	3	2	0	25
Nertera balfouriana	0	0	0	0	0	0	0	0
Oreobolus pectinatus	6	0	0	0	1	0	15	0
Ourisia caespitosa	0	0	0	0	1	0	0	0
Ourisia glandulosa	0	0	0	1	0	0	1	0
Pilosella officinarum	1	0	0	0	0	0	0	0
Phyllachne colensoi	0	0	0	1	0	0	5	0
Plantago lanigera	0	1	0	1	1	0	1	10
Plantago novae-zelandiae	0	0	0	0	0	0	1	1
Plantago unibracteolata	0	1	1	2	1	0	0	0
Poa colensoi	0	1	2	0	0	2	0	2
Ranunculus gracilipes	0	0	1	1	0	0	1	0
**Ranunculus maculatus*	0	1	0	0	0	0	0	0
Ranunculus pachyrrhizus	0	0	0	0	0	0	nearby	0
Rytidosperma australe	0	0	0	0	0	1	0	0
Rytidosperma pumilium	0	0	0	0	0	2	0	0
Schoenus pauciflorus	4	0	2	3	2	4	20	1
Taraxacum officinale	0	0	0	0	0	0	0	1
Viola cunninghamii	1	1	1	1	1	2	0	0
Wahlenbergia albomarginata subsp. albomarginata	0	0	0	1	0	0	0	0
Leptinella squalida subsp. mediana	not observed in a quadrat but noted in communty during walk through							
Festuca novae-zeelandiae	not observed in a quadrat but noted in communty during walk through							
Lobelia angulata	not observed in a quadrat but noted in communty during walk through							
Ranunculus royi	not observed in a quadrat but noted in communty during walk through							
Celmisia verbascifolia	not observed in a quadrat but noted in communty during walk through							
Veronica salicifolia	not observed in a quadrat but noted in communty during walk through							

Seepage

Species	Quadrat									
	12	38	40	46	47	25 (delineation)	36 (delineation)	34 (delineation)	15 (delineation)	13 (delineation)
	Aspect									
	E	NE	NE	WNW	E	n/a	n/a	n/a	n/a	n/a
Anisotome (b) (CHR 511716); ("Otago bog")	0	0	2	0	1	0	0	0	0	0
Abrotonella caespitosa	1	2	2	1	2	0	0	0	2	20
Acaena saccaticupula	1	0	0	0	0	0	1	1	0	0
Acaena caesiiglauca	0	0	0	0	0	0	0	0	0	0
Aciphylla kirkii	1	0	1	0	0	0	0	0	0	0
Agrostis stolonifera	0	2	1	0	0	0	0	0	0	0
Anaphalioides bellidioides	1	0	0	0	0	20	0	0	0	0
Agrostis capillaris	0	0	0	0	0	0	0	0	0	0
Agrostis mulleriana	0	0	0	0	0	0	0	0	0	0
Anisotome aromatica	0	0	0	0	0	0	0	0	0	2
Austroblechnum penna-marina subsp. *alpina*	1	0	0	0	0	0	0	0	0	0
Austrolycopodium fastigiatum	0	0	0	0	0	0	0	0	0	0
Bulbinella angustifolia	1	0	0	0	0	0	0	0	0	0
Carex coriacea	0	0	0	0	0	0	0	0	0	0
Caltha obtusa	2	4	4	1	2	0	3	0	60	20
Carex edgariae	0	0	0	0	0	15	15	0	0	0
Carex edura	0	2	0	0	0	0	25	50	0	0
Carex gaudichaudiana	1	1	1	2	2	0	0	0	0	0
Carex hectorii	0	0	0	0	0	0	0	0	0	0
Carex petriei	0	0	0	0	0	0	0	0	0	0
Carex talbotii	1	0	0	0	0	0	0	0	0	0
Carex wakatipu	0	0	0	0	0	0	0	0	0	0
Carpha alpina	0	0	0	1	0	0	0	0	0	0
Celmisia alpina	0	1	0	0	1	0	0	0	0	1
Celmisia glandulosa	0	4	0	0	0	0	0	0	0	0
Celmisia gracilenta	0	0	1	0	0	0	0	0	0	0
Celmisia haastii	0	0	1	0	0	0	0	0	1	0
Celmisia laricifolia	0	0	0	0	0	0	0	0	0	0
Celmisia sessilifolora	0	0	0	0	0	0	0	0	10	3
Celmisia verbascifolia	0	0	0	0	0	0	0	0	0	0
Centrolepis pallida	0	0	0	0	1	0	0	0	0	0
Chaerophyllum colensoi var. colensoi	0	0	0	0	0	0	0	0	0	0
Chionochloa macra	2	3	2	1	0	3	0	0	10	5
Chionochloa rigida	0	0	0	0	0	0	0	0	0	0
Colobanthus apetalus	0	0	1	0	0	0	0	0	0	0
Coprosma niphophila	0	0	2	0	0	0	0	0	0	0
Coprosma perpusilla subsp. perpusilla	2	3	0	1	0	0	0	0	0	2
**Craspedia uniflora var. uniflora*	1	0	0	0	0	0	0	0	0	1
Dolichoglottis lyallii	0	0	0	0	0	0	0	0	0	0
Dracophyllum muscoides	0	0	0	0	0	0	0	0	0	0
Dracophyllum rosmarinifolium	0	0	0	0	0	0	0	0	0	0
Drosera arcturi	0	0	0	1	0	0	0	0	0	0
Epilobium atriplicifolium	0	0	1	0	0	0	0	0	0	0
Epilobium brunnsescens	0	0	0	0	0	1	1	1	0	0
Epilobium komarovianum	0	0	0	0	0	0	0	0	0	0
Epilobium macropus	0	1	1	0	0	0	0	0	0	0
Euchiton lateralis	2	0	1	1	2	5	3	2	0	1
Festuca novae-zeelandiae	0	0	0	0	0	0	0	0	0	0
Gaultheria depressa var. novae-zealandiae	0	0	0	0	0	0	0	0	0	0
Gaultheria parvula	3	0	0	0	0	0	1	0	2	0
Gentianella amabilis	0	1	1	0	1	0	0	0	0	0
**Geranium microphyllum*	0	1	1	0	0	0	0	0	0	0
Geum cockaynei	0	0	0	0	0	0	0	0	1	0
Geum leiospermum	0	0	0	0	0	0	0	0	0	0
Hieracium lepidulum	0	0	1	0	0	0	0	0	0	0
Hydrocotyle novae-zeelandiae	0	0	0	0	0	0	0	0	0	0
Hypochaeris radicata	0	0	0	0	0	0	0	0	0	0
Isolepis aucklandica	0	0	0	0	6	20	25	30	0	0
Juncus novae-zelandiae	0	0	0	0	3	0	0	0	0	0
Juncus pusillus	1	0	0	0	3	0	0	0	0	0
Kelleria paludosa	0	0	1	1	2	0	0	0	0	0
Koeleria cheesemanii	0	0	0	0	0	4	0	1	0	0
Leptinella pectinata subsp. villosa	0	0	0	0	0	0	0	1	0	0
Liverworts	0	0	1	0	0	0	0	0	0	0
Lobelia angulata	1	0	1	0	0	0	0	0	0	0
Luzula leptophylla	0	0	0	0	0	0	0	0	0	0
Marchantia macropora	1	0	0	0	0	0	0	0	0	0
Marsippospermum gracile	0	0	0	0	0	0	0	0	0	0
Montia sessiliflora	0	0	0	1	0	0	0	0	0	0
Mosses	1	0	0	3	2	40	5	15	0	0
Oreobolus pectinatus	3	4	4	4	1	0	0	0	2	0
Chaerophyllum colensoi var. colensoi	0	1	0	0	0	0	0	0	0	0
Ourisia glandulosa	0	0	0	0	0	0	0	0	0	1
Ozothamnus vauvilliersii	0	0	0	0	0	0	0	0	0	0
Phyllachne colensoi	0	0	0	0	0	0	0	0	3	0
Pilosella officinarum	1	0	0	0	0	0	0	0	0	0
Plantago lanigera	0	0	0	0	0	0	0	0	0	0
Plantago novae-zelandiae	0	0	2	0	0	0	0	0	0	0
Plantago unibracteolata	1	1	2	0	0	0	1	2	10	20
Poa colensoi	0	2	1	0	0	0	0	0	5	25
Prasophyllum colensoi	0	1	0	1	0	0	0	0	0	0
Ranunculus foliosus	0	0	0	0	0	0	0	0	0	0
Ranunculus gracilipes	0	2	3	1	0	0	0	0	0	0
Ranunculus maculatus	0	0	0	0	0	2	0	1	0	0
Rytidosperma pumilum	0	0	0	0	0	0	0	0	0	0
Rytidosperma australe	0	0	2	0	0	0	0	0	0	0
Salix cinerea	1	0	0	0	0	0	0	0	0	0
Schoenus pauciflorus	3	4	4	4	3	0	15	2	30	15
Trifolium repens	0	0	0	0	0	0	0	0	0	0
Veronica pauciramosa	0	0	0	0	0	0	0	0	0	0
Viola cunninghamii	0	1	1	0	0	0	0	0	0	0
Wahlenbergia albomarginata subsp. albomarginata	0	0	0	0	0	0	0	0	0	0
Gunnera dentata	not observed in a quadrat but noted in community during walk through									
Leptinella squalida subsp. mediana	not observed in a quadrat but noted in community during walk through									
Lobelia angulata	not observed in a quadrat but noted in community during walk through									
Ranunculus royi	not observed in a quadrat but noted in community during walk through									
Plantago udicola	not observed in a quadrat but noted in community during walk through									

Seepage									
Species	Quadrat								
	12 (delineation)	87	97	95	100	WT1 (Delineation)	WT8 (Delineation)	WT22 (Delineation)	WT24 (Delineation)
	Aspect								
	n/a	E	Flat	N	Flat/NE	n/a	n/a	n/a	n/a
Anisotome (b) (CHR 511716); ("Otago bog")	0	0	0	0	0	0	0	0	0
Abrotonella caespitosa	0	0	1	0	0	0	7	0	0
Acaena saccaticupula	1	0	0	0	0	0	0	0	0
Acaena caesiiglauca	0	0	0	0	0	0	0	0	0
Aciphylla kirkii	0	0	0	0	0	1	0	0	0
Agrostis stolonifera	0	0	0	0	0	0	0	15	0
Anaphalioides bellidioides	0	0	0	1	0	0	0	0	0
Agrostis capillaris	0	0	0	0	0	0	0	0	5
Agrostis mulleriana	0	1	0	0	0	0	0	0	0
Anisotome aromatica	1	0	0	0	0	0	0	0	0
Austroblechnum penna-marina subsp. *alpina*	0	0	0	0	0	0	0	0	0
Austrolycopodium fastigiatum	0	1	0	0	0	1	0	0	0
Bulbinella angustifolia	0	0	0	0	0	0	0	0	0
Carex coriacea	0	0	0	0	0	0	0	0	0
Caltha obtusa	40	2	0	0	0	0	10	10	5
Carex edgariae	0	0	0	0	0	0	0	0	0
Carex edura	0	0	0	0	1	0	2	0	1
Carex gaudichaudiana	0	3	1	0	1	0	0	20	0
Carex hectorii	0	0	0	0	0	0	0	0	0
Carex petriei	0	0	0	0	0	0	0	0	0
Carex talbotii	0	0	0	0	0	0	0	0	0
Carex wakatipu	0	0	0	0	0	0	0	0	0
Carpha alpina	0	0	2	0	2	0	0	0	0
Celmisia alpina	1	1	1	0	0	0	1	0	5
Celmisia glandulosa	0	3	0	0	0	0	0	0	0
Celmisia gracilenta	0	0	0	0	0	0	0	0	0
Celmisia haastii	1	0	0	0	0	0	0	0	0
Celmisia laricifolia	0	1	0	0	0	0	0	0	0
Celmisia sessilifolora	0	0	0	0	0	0	0	0	0
Celmisia verbascifolia	0	0	0	0	0	0	0	0	0
Centrolepis pallida	0	0	0	0	0	0	0	0	0
Chaerophyllum colensoi var. colensoi	0	0	0	0	0	0	0	0	0
Chionochloa macra	15	0	0	0	0	30	30	0	0
Chionochloa rigida	0	3	1	2	1	0	0	30	25
Colobanthus apetalus	0	0	0	0	0	0	0	0	0
Coprosma niphophila	0	0	0	0	0	0	0	0	0
Coprosma perpusilla subsp. perpusilla	5	2	0	0	0	40	50	5	10
**Craspedia uniflora var. uniflora*	1	0	1	0	0	0	0	0	0
Dolichoglottis lyallii	0	1	1	0	0	0	0	0	0
Dracophyllum muscoides	0	0	0	0	0	2	0	0	0
Dracophyllum rosmarinifolium	0	1	0	2	0	0	0	0	0
Drosera arcturi	0	2	1	0	0	0	0	0	0
Epilobium atriplicifolium	0	0	0	0	0	0	0	0	0
Epilobium brunnsescens	0	0	0	0	0	0	0	0	0
Epilobium komarovianum	0	0	0	0	0	0	0	0	0
Epilobium macropus	0	0	0	0	0	0	0	0	0
Euchiton lateralis	1	0	0	0	0	0	0	0	0
Festuca novae-zeelandiae	0	0	0	0	0	0	0	0	0
Gaultheria depressa var. novae-zealandiae	0	0	0	0	0	2	0	0	0
Gaultheria parvula	0	0	2	0	0	0	0	0	0
Gentianella amabilis	0	0	0	0	0	0	0	0	0
**Geranium microphyllum*	1	0	0	0	0	0	1	1	0
Geum cockaynei	0	0	0	0	0	0	0	0	0
Geum leiospermum	0	0	0	0	0	0	1	0	0
Hieracium lepidulum	0	0	0	0	0	0	0	0	0
Hydrocotyle novae-zeelandiae	0	0	0	0	0	0	0	5	0
Hypochaeris radicata	0	0	0	0	0	0	0	0	0
Isolepis aucklandica	0	0	0	0	0	0	0	0	0
Juncus novae-zelandiae	0	0	0	0	0	0	0	0	0
Juncus pusillus	0	0	0	0	0	0	0	0	0
Kelleria paludosa	0	3	0	0	0	0	0	0	0
Koeleria cheesemanii	0	0	0	0	0	0	0	0	0
Leptinella pectinata subsp. villosa	0	0	0	0	0	0	0	0	0
Liverworts	0	0	0	0	0	0	0	0	0
Lobelia angulata	0	0	0	0	0	0	0	0	0
Luzula leptophylla	0	0	0	0	0	0	0	0	0
Marchantia macropora	0	0	0	0	0	0	0	0	0
Marsippospermum gracile	5	0	0	0	0	0	0	0	0
Montia sessiliflora	0	0	0	0	0	0	0	0	0
Mosses	0	0	0	2	2	2	0	0	0
Oreobolus pectinatus	0	2	3	0	5	0	5	2	0
Chaerophyllum colensoi var. colensoi	0	0	0	0	0	0	0	0	0
Ourisia glandulosa	0	0	0	0	0	0	0	0	0
Ozothamnus vauvilliersii	0	0	0	0	0	0	0	0	0
Phyllachne colensoi	0	0	0	0	0	0	0	0	0
Pilosella officinarum	0	0	0	0	0	0	0	2	0
Plantago lanigera	0	0	0	0	0	1	0	0	0
Plantago novae-zelandiae	0	1	0	0	0	0	7	5	5
Plantago unibracteolata	5	0	1	0	0	1	0	0	0
Poa colensoi	0	1	0	3	0	0	2	0	2
Prasophyllum colensoi	0	0	0	0	0	0	0	0	0
Ranunculus foliosus	0	0	0	0	0	0	0	0	0
Ranunculus gracilipes	0	0	0	0	0	0	1	0	5
Ranunculus maculatus	0	0	0	0	0	0	0	0	0
Rytidosperma pumilum	0	1	0	2	0	0	0	0	0
Rytidosperma australe	0	0	0	0	0	0	0	0	0
Salix cinerea	0	0	0	0	0	0	0	0	0
Schoenus pauciflorus	40	2	4	6	4	30	7	5	50
Trifolium repens	0	0	0	0	0	0	0	0	0
Veronica pauciramosa	0	0	0	0	0	0	0	0	0
Viola cunninghamii	0	0	0	1	0	0	1	0	1
Wahlenbergia albomarginata subsp. albomarginata	0	0	0	0	0	0	0	0	0
Gunnera dentata	not observed in a quadrat but noted in community during walk through								
Leptinella squalida subsp. mediana	not observed in a quadrat but noted in community during walk through								
Lobelia angulata	not observed in a quadrat but noted in community during walk through								
Ranunculus royi	not observed in a quadrat but noted in community during walk through								
Plantago udicola	not observed in a quadrat but noted in community during walk through								

Rockfield										
Species	Quadrat									
	4	14	16	23	22	27	69	57	60	4 (Delineation)
	Aspect									
	NW	ESE	SE	E	E	NE	S	E	ESE	
Carex pyrenaica var. cephalotes	0	0	0	0	0	0	0	1	1	0
Phyllachne rubra	0	0	0	0	0	0	0	0	1	0
Abrotonella inconspicua	0	0	0	0	0	0	0	0	0	0
Aciphylla kirkii	0	0	0	0	0	0	0	0	0	0
Aciphylla simplex	0	0	0	0	0	0	0	0	0	0
Agrostis muelleriana	0	0	0	0	0	1	0	0	0	0
Anaphalioides bellidioides	0	0	0	0	0	0	0	0	0	0
Anisotome imbricata var. imbricata	0	0	1	0	0	1	0	0	0	0
Austroblechnum penna-marina subsp. *alpina*	0	0	0	0	0	1	0	0	0	1
Brachyglottis bellidioides	0	0	0	0	0	0	0	0	0	0
Cardamine corymbosa	0	0	0	0	0	0	0	0	0	0
Celmsia haastii	0	0	0	0	0	1	0	0	0	0
Chionochloa macra	0	0	0	0	0	0	0	3	3	3
Colobanthus buchananii	0	0	0	0	1	0	1	0	0	0
Colobanthus strictus	0	0	0	0	0	0	0	1	0	0
Coprosma perpusilla subsp. perpusilla	0	0	0	0	0	0	0	0	0	1
Dracophyllum muscoides	0	0	0	0	0	0	0	0	0	0
Dracophyllum rosmarinifolium	0	0	0	0	0	0	0	0	0	0
Epilobium porphyrium	1	0	0	1	0	0	0	1	0	0
Epilobium tasmanicum	0	0	1	0	1	1	0	0	1	0
Asperula perpusilla	0	0	0	0	0	0	0	0	0	0
Geum leiospermum	0	0	0	0	0	0	0	0	0	0
Haastia sinclairii var. fulvida	0	0	0	0	2	0	0	0	0	0
Hectorella caespitosa	2	1	0	1	2	0	2	0	0	0
Kelleria childii	0	0	1	0	0	0	0	0	1	0
Leptinella goyenii	0	0	0	0	0	0	0	0	0	0
Lichen	0	0	0	0	1	0	0	1	0	0
Luzula pumila	0	0	0	0	0	0	1	0	0	0
Luzula rufa var. rufa	0	0	0	0	0	1	0	0	0	0
Melicytus alpinus	0	0	0	0	0	1	0	1	0	2
Mosses	1	0	0	0	0	0	0	0	0	0
Pachycladon novae-zelandiae	0	0	0	0	0	0	0	0	0	0
Plantago lanigera	0	0	0	0	0	0	0	0	0	0
Poa colensoi	0	0	0	0	1	3	2	0	0	1
Poa NZ	0	0	0	0	0	0	0	0	0	0
Polystichum cystostegia	0	0	0	1	0	0	0	0	1	2
Polystichum vestitum	0	0	0	0	0	1	0	0	0	0
Raoulia apicinigra	0	0	0	0	0	0	0	0	0	0
Raoulia grandiflora	0	0	1	0	0	2	1	0	0	0
Raoulia subsericea	0	0	0	0	0	0	0	0	0	0
Raoulia youngii	0	0	0	0	0	0	0	0	0	0
Rytidosperma pumilum	0	0	0	0	0	0	0	1	0	0
Scleranthus uniflorus	0	0	0	0	0	0	0	0	0	0
Taraxacum officinale	0	0	0	0	0	0	0	0	0	0
Veronica epacridea	0	0	0	0	0	0	0	0	0	0
Viola cunninghamii	0	0	0	0	0	1	0	0	0	0
Luzula traversii var. traversii	not observed in a quadrat but noted in communty during walk through									

Rocky outcrop							
Species	Quadrat						
	50	7	13	21	71	62	88
	Aspect						
	SE	NW	SE	SE	ENE	ENE	Flat/NE
Abrotanella inconspicua	1	0	0	0	0	0	0
Acaena saccaticupula	0	0	0	0	1	0	0
Aciphylla kirkii	0	0	0	0	0	0	0
Aciphylla lecomtei	0	0	0	0	0	0	0
Aciphylla simplex	0	0	0	0	0	0	0
Agrostis muelleriana	2	0	1	1	0	1	1
Anaphalioides bellidioides	0	0	0	0	1	0	0
Anisotome imbricata var. imbricata	0	0	0	1	0	0	0
Anisotome lanuginosa	1	0	0	0	0	0	0
Austroblechnum penna-marina subsp. *alpina*	0	0	0	0	0	0	0
Azorella haastii subsp. haastii	0	0	0	0	0	0	0
Azorella exigua	0	0	0	0	0	0	0
Brachyglottis bellidiodes var. bellidioides	0	0	0	0	0	0	0
Brachyscome montana	0	0	0	0	0	0	0
Carex wakatipu	0	0	0	0	0	0	0
Celmisia brevifolia	0	0	0	0	2	0	0
Celmisia laricifolia	1	0	0	0	0	0	0
Chaerophyllum colensoi var. colensoi	0	0	0	0	0	0	0
Chionochloa rigida	0	0	0	0	0	0	0
Chionochloa macra	0	0	0	0	0	0	0
Colobanthus buchanii	1	0	0	1	0	0	0
Craspedia lanata var. lanata	0	0	0	0	0	0	0
Dracophyllum muscoides	2	0	0	0	1	3	0
Epilobium alsinoides	0	0	0	0	0	0	1
Epilobium porphyrium	0	1	1	0	1	0	0
Epilobium tasmanicum	1	0	1	0	0	0	0
Gaultheria depressa var. novae-zelandiae	0	0	0	0	0	0	0
Gaultheria nubicola	0	0	0	0	0	0	0
Haastia sinclairii var. fulvida	0	0	0	0	0	0	0
Hectorella caespitosa	1	2	3	1	1	1	0
Kelleria childii	0	0	0	0	0	0	0
Koeleria cheesemanii	0	2	0	0	0	0	0
Koeleria spicata	1	0	0	0	0	0	0
Leptinella goyenii	3	0	0	3	0	2	0
Leptinella pectinata var. *pectinata*	0	0	0	0	1	0	0
Leucogenes grandiceps	0	0	0	0	0	0	0
Lichens	1	1	2	3	0	2	3
Luzula pumila	3	2	0	2	1	2	0
Luzula traversii var. traversii	1	0	0	0	0	0	0
Mosses	1	0	0	0	0	2	2
Cerastium fontanum	0	0	0	0	0	0	0
Myosotis pulvinaris	0	0	0	0	0	0	0
Notogrammitis angustifolia subsp. angustifolia	1	0	0	0	0	0	0
Ourisia glandulosa	0	0	0	0	0	0	0
Phyllachne rubra	0	0	0	0	0	0	0
Pillosella officinarum	0	0	0	0	0	0	0
Poa colensoi	3	3	2	2	0	2	3
Poa lindsayi	0	0	0	0	0	0	0
Poa schistacea	0	0	0	0	0	0	0
Polystichum cystostegia	0	0	0	0	0	0	0
Raoulia aff. bryoides	0	0	0	0	0	1	0
Raoulia apicinigra	0	0	0	0	0	0	0
Raoulia grandiflora	0	1	1	1	1	1	0
Raoulia hectorii	0	0	0	0	0	0	1
Raoulia subsericea	0	0	0	0	0	0	0
Raoulia youngii	0	0	0	0	0	0	0
Rytidosperma pumilum	0	1	0	0	1	0	1
Rytidosprema setifolium	0	0	0	0	0	0	0
Scleranthus uniflorus	0	0	0	0	0	0	0
Stellaria gracilenta	0	0	0	0	0	0	1
Styfelia nesophila	0	0	0	0	0	0	1
Veronica densifolia	0	0	0	0	0	0	2
Veronica epacridea	0	0	0	0	0	0	0
Veronica thomponsii	2	0	1	2	0	1	0
Wahlenbergia albomarginata subsp. albomarginata	0	0	0	0	1	0	1
Celmisia ramulosa var. tuberculata	not observed in a quadrat but noted in communty during walk through						

Snowbank			
Species	**Quadrat**		
	1	**73**	**70**
	Aspect		
	ESE	**NE**	**S**
Acaena saccaticupula	0	0	0
Abrotanella inconspicua	2	2	0
Abrotonella caespitosa	1	0	0
Agrostis muelleriana	0	0	0
Anisotome imbricata	1	0	0
Anisotome lanuginosa	0	0	0
Austroblechnum penna-marina subsp. a*lpina*	0	0	0
Austrolycopodium fastigiatum	0	0	0
Carex lachenalii subsp. parkeri	3	0	0
Carex pyrenaica var. cephalotes	0	5	0
Celmisia brevifolia	0	0	0
Celmisia haastii	1	0	0
Celmisia laricifolia	0	0	0
Chionochloa macra	0	1	0
Colobanthus buchananii	0	1	0
Coprosma perpusilla subsp. Perpusilla	2	0	0
Dracophyllum muscoides	1	1	3
Epilobium porphyrium	0	1	1
Epilobium tasmanicum	1	0	0
Hectorella caespitosa	2	1	0
Kelleria childii	3	2	0
Leptinella goyenii	0	0	1
Lichens	1	1	2
Luzula pumila	1	1	1
Mosses	2	1	1
Myosotis pulvinaris	0	0	0
Ourisia glandulosa	2	0	0
Phyllachne rubra	2	0	0
Poa colensoi	2	1	2
Polystichum cystostegia	0	0	0
Raoulia grandiflora	1	2	1
Raoulia subsericea	0	0	0
Raoulia youngii	0	0	0
Raoulia hectorii	0	0	0
Veronica pulvinaris	0	0	0
Veronica thomponsii	1	0	1

Disturbed vegetation					
Species	Quadrat				
	10	103	92	105	104
	Aspect				
	W	SE	flat/NW	NW	NE
Acaena saccaticupula	1	2	0	0	1
Achillea millefolium	0	0	0	0	0
Agrostis capillaris	0	0	1	3	2
Agrostis muelleriana	2	1	0	1	1
Anaphalioides bellidioides	0	0	0	0	0
Carex kirkii var. kirkii	0	0	1	0	0
Carex wakatipu	1	0	0	0	1
Celmisia lyallii	0	0	0	0	0
Celmisia haastii	0	0	0	0	0
Chionochloa macra	1	1	0	0	1
Colobanthus apetalus	0	0	0	1	0
Colobanthus buchananii	0	1	1	0	1
Colobanthus strictus	0	0	0	0	0
Coprosma perpusilla	0	0	0	0	0
Epilobium brunnescens	0	0	0	1	0
Epilobium melanocaulon	0	0	0	0	0
Epilobium porphyrium	1	1	1	1	0
Epilobium tasmanicum	0	0	1	0	0
Festuca novae-zelandiae	0	0	0	0	1
Hectorella caespitosa	0	0	0	0	0
Hieracium lepidulum	0	0	1	0	1
Huperzia australiana	0	0	0	0	0
Hypochaeris radicata	0	0	1	1	1
Kelleria dieffenbachii	0	0	0	1	0
Koeleria cheesemanii	0	0	1	0	0
Leptinella goyenii	0	0	0	0	0
Leptinella pectinata subsp. *villosa*	0	0	0	0	0
Luzula pumila	2	0	1	0	1
Montia sessiflora	0	0	0	0	0
Mosses	1	1	0	0	0
Cerastium fontanum	0	0	0	0	0
Muehlenbeckia axillaris	0	0	0	0	0
Myosotis antarctica subsp. antarctica	0	0	0	0	1
Ozothamnus vauvilliersii	0	0	0	0	0
Pentapogon avenoides	0	0	0	0	1
Pilosella officinarum	0	0	1	0	1
Poa colensoi	1	1	2	0	2
Poa lindsayi	3	1	0	0	0
Pseudognaphalium lanatum	0	0	0	0	1
Ranunculus foliosus	0	0	0	1	0
Raoulia apicinigra	1	0	0	2	3
Raoulia grandiflora	1	0	0	0	0
Raoulia subsericea	0	0	2	1	0
Raoulia tenuicaulis	0	0	0	0	0
Rumex acetosella	0	0	0	1	0
Rytidosperma pumilum	2	4	3	3	1
Salix cinerea	0	0	0	0	0
Scleranthus uniflorus	1	0	0	0	0
Spergularia rubra	0	0	0	1	0
Verbascum thapsus	0	0	0	0	0
Wahlenbergia albomarginata	0	0	0	1	0

Appendix D: All Identified Invertebrate Taxa.

Filename:	E3 Remarkables Insect Data
Created by:	William Frost
Date created:	16/03/2025
Project name:	NZSki Entomological Survey of the Doolans region, the Remarkables, Queenstown, NZ
Project aim:	risk species within a proposed ski lift's footprint
Project objectives:	1. Determine a snapshot of the invertebrate fauna within the Doolan's area 2. Identify noteworthy threatened species collected within the footprint area
Data collection description:	Specimen data for 100 pitfalls separated into 20 sites is identified with a generic/ specific name where possible and a family level taxonomic unit where generic/ specific identification is too difficult to discern.
Data entered by:	William Frost & Dustin Lamont
Data checked by:	William Frost

Worksheets:

"Pitfall"	Contains information referring to all larval and adult specimens of invertebrates collected and identified from pitfall trapping within the Doolans.
"Hand collect"	Contains information referring to all larval and adult specimens collected and identified from hand collection surveys throughout the Doolans area.
"Light trap"	Contains information referring to all adult Lepidoptera specimens collected and identified from light trapping with a 200 watt mercury vapour bulb within the Doolans.

Variable name	**Description**
Set_Date	The date in which a given pitfall trap was set up and established, i.e the surveying period began on the date the pitfall was installed.
Collection_ Date	The date in which samples from a given pitfall trap were collected and the pitfall was removed, i.e the surveying period ended on the date the pitfall was removed.
Site_No	A number from 1-20 referring to which pitfall site a specimen was collected from.
Pit_No	A number from 1-5 referring to which pitfall trap within a site a specimen was collected from.
Code	A combination of both the Site_No and Pit_No in one code to simplify labelling of specimens.
Class	The Class grouping classification for an invertebrate, i.e 'Insecta, Arachnida'.
Order	The order level taxonomic grouping for classification and identification of an invertebrate, i.e 'Orthoptera, Lepidoptera'.
Family	The family level taxonomic grouping for classification and identification of an invertebrate, i.e 'Anostostomatidae, Crambidae'.
Genus	The genus level taxonomic grouping for classification and identification of an invertebrate, i.e 'Hemiandrus, Scoparia'.
Species	The species level taxonomic grouping for classification and identification of an invertebrate, i.e 'focalis, niphospora'.
Name	The genus and species taxonomic identification for a specimen are supplied here if possible.
Tentative Y/N	Was an identification made with uncertainty?
Life_Stage	What life stage was an invertebrate specimen, i.e nymph, larval, adult, pupal.
Count	What number of specimens of the same grouping were collected within a pitfall trap.
Threat_Classification	What is the threat status (if available) for an invertebrate specimen, note these are all derived from the New Zealand Threat Classification System, Lepidoptera are updated as per unpublished assessments for Hoare. et al 2025.
Determiner_Name	The person that made an identification, i.e Will Frost, Dustin Lamont
Notes	Any notes of relevance or value pertaining to a singular specimen/ set of specimens.
Collection_Method	How was the specimen hand collected? I.e sweeping net, hand collection.
Lat	What was the latitude where a specimen was collected.
Lon	What was the longitude where a specimen was collected.

Additional comments:	Any 'Indet.' (indeterminate identification) notations refer to specimens that could not be identified to the highest possible taxonomic level due to a lack of resources for identification of that group, difficulty of identification or damage to specimens. The 'Indet.' notation is also provided for threat classification where a species could not be identified to the highest possible taxonomic unit. Threat assessments made for Lepidoptera are updated pertaining to the most recent unpublished threat assessment, for which I was a panel member. The specimens collected and identified represent a small and suboptimal time frame of monitoring within the Doolans area and in no

Set Date	Collection Date	Site No	Pit No	Code	Class	Order	Family	Genus	Species	Name	Tentative Y/N	Life Stage	Count	Threat Classification	Determiner Name
26/02/2025	10/03/2025	T1	1	T1-1	Arachnida	Araneae	Linyphiidae	Diplocephalus	cristatus	Diplocephalus cristatus	N	Adult	2	Introduced and Naturalised	Dustin Lamont
26/02/2025	10/03/2025	T1	1	T1-1	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Juvenile	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T1	1	T1-1	Insecta	Diptera	Sciaridae	Indet.	Indet.	Indet.	N	Adult	3	Indet.	Will Frost
26/02/2025	10/03/2025	T1	1	T1-1	Insecta	Hemiptera	Saldidae	Kiwisaldula	cranshawi	Kiwisaldula cranshawi	N	Adult	2	Not assessed	Will Frost
26/02/2025	10/03/2025	T1	1	T1-1	Insecta	Hemiptera	Cicadellidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T1	1	T1-1	Insecta	Hymenoptera	Diapriidae	Stylaclista	Indet.	Stylaclista Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T1	1	T1-1	Insecta	Hymenoptera	Diapriidae	Basalys	Indet.	Basalys Indet.	Y	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T1	2	T1-2	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T1	2	T1-2	Insecta	Hemiptera	Saldidae	Kiwisaldula	cranshawi	Kiwisaldula cranshawi	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T1	2	T1-2	Insecta	Hemiptera	Cicadellidae	Indet.	Indet.	subfamily Deltocephalinae	Y	Juvenile	1	Indet.	Dustin Lamont
26/02/2025	10/03/2025	T1	2	T1-2	Arachnida	Araneae	Stiphidiidae	Neoramia	alta	Neoramia alta	Y	Juvenile	1	Naturally Uncommon	Dustin Lamont
26/02/2025	10/03/2025	T1	2	T1-2	Arachnida	Trombidiformes	Trombidiidae	Indet.	Indet.	Indet.	N	Adult	2	Indet.	Dustin Lamont
26/02/2025	10/03/2025	T1	3	T1-3	Insecta	Hemiptera	Cicadellidae	Indet.	Indet.	Indet.	N	Adult	2	Indet.	Will Frost
26/02/2025	10/03/2025	T1	4	T1-4	Insecta	Coleoptera	Coccinellidae	Indet.	Indet.	Indet.	N	Juvenile	1	Indet.	Will Frost
26/02/2025	10/03/2025	T1	4	T1-4	Insecta	Hemiptera	Lygaeidae	Nysius	huttoni	Nysius huttoni	N	Juvenile	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T1	4	T1-4	Insecta	Hemiptera	Pentatomidae	Indet.	Indet.	Indet.	N	Juvenile	1	Indet.	Will Frost
26/02/2025	10/03/2025	T1	4	T1-4	Arachnida	Araneae	Linyphiidae	Diplocephalus	cristatus	Diplocephalus cristatus	N	Adult	2	Introduced and Naturalised	Dustin Lamont
26/02/2025	10/03/2025	T1	4	T1-4	Insecta	Hymenoptera	Scelionidae	Baeus	Indet.	Baeus Indet.	N	Adult	1	Indet.	Dustin Lamont
26/02/2025	10/03/2025	T1	4	T1-4	Arachnida	Araneae	Linyphiidae	Haplinis	inexacta	Haplinis inexacta	N	Adult	6	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T1	5	T1-5	Insecta	Coleoptera	Staphylinidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T1	5	T1-5	Insecta	Hymenoptera	Figitidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T1	5	T1-5	Insecta	Hemiptera	Cicadellidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T1	5	T1-5	Insecta	Diptera	Sciaridae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T1	5	T1-5	Insecta	Hemiptera	Saldidae	Kiwisaldula	cranshawi	Kiwisaldula cranshawi	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T1	5	T1-5	Insecta	Lepidoptera	Plutellidae	Plutella	sp.1 (CO)	Plutella sp.1 (CO)	N	Adult	1	At Risk, Declining	Will Frost
26/02/2025	10/03/2025	T1	5	T1-5	Arachnida	Araneae	Linyphiidae	Haplinis	inexacta	Haplinis inexacta	N	Adult	2	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T1	5	T1-5	Arachnida	Araneae	Linyphiidae	Diplocephalus	cristatus	Diplocephalus cristatus	N	Adult	1	Introduced and Naturalised	Dustin Lamont
26/02/2025	10/03/2025	T1	5	T1-5	Arachnida	Trombidiformes	Trombidiidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Dustin Lamont
26/02/2025	10/03/2025	T10	2	T10-2	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis indet.	Y	Juvenile	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T10	2	T10-2	Chilopoda	Craterostigmomorpha	Craterostigmidae	Craterostigmus	crabilli	Craterostigmus crabilli	N	Juvenile	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T10	2	T10-2	Diplopoda	Chordeumatida	Metopidiotrichidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T10	3	T10-3	Insecta	Coleoptera	Carabidae	Mecodema	politanum	Mecodema politanum	N	Adult	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T10	3	T10-3	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	4	Not Threatened	Will Frost
26/02/2025	10/03/2025	T10	4	T10-4	Insecta	Coleoptera	Scarabaeidae	Scythrodes	squalidus	Scythrodes squalidus	N	Adult	1	Not assessed	John Marris
26/02/2025	10/03/2025	T10	4	T10-4	Insecta	Hymenoptera	Pompilidae	Priocnemis	nitidiventris	Priocnemis nitidiventris	N	Adult	4	Not assessed	Will Frost
26/02/2025	10/03/2025	T10	4	T10-4	Chilopoda	Craterostigmomorpha	Craterostigmidae	Craterostigmus	crabilli	Craterostigmus crabilli	N	Adult	2	Not assessed	Will Frost
26/02/2025	10/03/2025	T10	5	T10-5	Insecta	Blattodea	Blattidae	Celatoblatta	quinquemaculata	Celatoblatta quinquemaculata	N	Juvenile	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T11	1	T11-1	Insecta	Coleoptera	Staphylinidae	Pselaphus	Indet.	Pselaphus Indet.	N	Adult	6	Indet.	Will Frost
26/02/2025	10/03/2025	T11	1	T11-1	Arachnida	Trombidiformes	Trombidiidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T11	1	T11-1	Arachnida	Araneae	Cycloctenidae	Orepukia	sorenseni	Orepukia sorenseni	Y	Adult	1	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T11	2	T11-2	Insecta	Coleoptera	Staphylinidae	Pselaphus	Indet.	Pselaphus Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T11	2	T11-2	Arachnida	Trombidiformes	Trombidiidae	Indet.	Indet.	Indet.	N	Adult	6	Indet.	Will Frost
26/02/2025	10/03/2025	T11	2	T11-2	Arachnida	Araneae	Hahniidae	Rinawa	otagoensis	Rinawa otagoensis	N	adult	1	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T11	2	T11-2	Insecta	Blattodea	Blattidae	Celatoblatta	quinquemaculata	Celatoblatta quinquemaculata	N	Juvenile	3	Not assessed	Will Frost
26/02/2025	10/03/2025	T11	3	T11-3	Insecta	Coleoptera	Staphylinidae	Pselaphus	Indet.	Pselaphus Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T11	3	T11-3	Arachnida	Trombidiformes	Trombidiidae	Indet.	Indet.	Indet.	N	Adult	22	Indet.	Dustin Lamont
26/02/2025	10/03/2025	T11	3	T11-3	Arachnida	Araneae	Cycloctenidae	Orepukia	sorenseni	Orepukia sorenseni	Y	Adult	1	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T11	3	T11-3	Arachnida	Araneae	Hahniidae	Rinawa	otagoensis	Rinawa otagoensis	N	adult	6	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T11	4	T11-4	Insecta	Coleoptera	Staphylinidae	Pselaphus	Indet.	Pselaphus Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T11	4	T11-4	Insecta	Coleoptera	Coccinellidae	Rhyzobius	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T11	4	T11-4	Insecta	Blattodea	Blattidae	Celatoblatta	quinquemaculata	Celatoblatta quinquemaculata	N	Juvenile	1	Not assessed	Will Frost

Set Date	Collection Date	Site No	Pit No	Code	Class	Order	Family	Genus	Species	Name	Tentative Y/N	Life Stage	Count	Threat Classification	Determiner Name
26/02/2025	10/03/2025	T11	4	T11-4	Insecta	Diptera	Sciaridae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T11	4	T11-4	Arachnida	Trombidiformes	Trombidiidae	Indet.	Indet.	Indet.	N	Adult	29	Indet.	Dustin Lamont
26/02/2025	10/03/2025	T11	4	T11-4	Arachnida	Araneae	Hahniidae	Rinawa	otagoensis	Rinawa otagoensis	N	adult	4	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T11	4	T11-4	Arachnida	Araneae	Linyphiidae	Erigone	wiltoni	Erigone wiltoni	Y	Adult	1	Introduced and Naturalised	Dustin Lamont
26/02/2025	10/03/2025	T11	4	T11-4	Arachnida	Araneae	Desidae	Rorea	otagoensis	Rorea otagoensis	Y	Adult	1	Data Deficient	Dustin Lamont
26/02/2025	10/03/2025	T11	5	T11-5	Arachnida	Araneae	Desidae	Mamoea	montana	Mamoea montana	Y	Adult	1	Data Deficient	Dustin Lamont
26/02/2025	10/03/2025	T11	5	T11-5	Arachnida	Trombidiformes	Trombidiidae	Indet.	Indet.	Indet.	N	Adult	5	Indet.	Will Frost
26/02/2025	10/03/2025	T11	5	T11-5	Insecta	Blattodea	Blattidae	Celatoblatta	quinquemaculata	Celatoblatta quinquemaculata	N	Adult + Juvenile	2	Not assessed	Will Frost
26/02/2025	10/03/2025	T12	1	T12-1	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T12	1	T12-1	Arachnida	Araneae	Desidae	Mamoea	montana	Mamoea montana	N	Adult	1	Data Deficient	Dustin Lamont
26/02/2025	10/03/2025	T12	1	T12-1	Insecta	Diptera	Mycetophilidae	Indet.	Indet.	Indet.	N	Adult	4	Indet.	Will Frost
26/02/2025	10/03/2025	T12	1	T12-1	Insecta	Blattodea	Blattidae	Celatoblatta	quinquemaculata	Celatoblatta quinquemaculata	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T12	2	T12-2	Insecta	Diptera	Sciaridae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T12	2	T12-2	Insecta	Diptera	Mycetophilidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T12	2	T12-2	Insecta	Diptera	Emphydridae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T12	2	T12-2	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	1	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T12	2	T12-2	Arachnida	Araneae	Cycloctenidae	Orepukia	sorenseni	Orepukia sorenseni	Y	Adult	1	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T12	3	T12-3	Insecta	Coleoptera	Staphylinidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T12	3	T12-3	Insecta	Coleoptera	Leiodidae	Inocatops	Indet.	Inocatops Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T12	4	T12-4	Insecta	Coleoptera	Staphylinidae	Indet.	Indet.	Indet.	N	Adult	2	Indet.	Will Frost
26/02/2025	10/03/2025	T12	4	T12-4	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult + Juvenile	2	Not Threatened	Will Frost
26/02/2025	10/03/2025	T12	4	T12-4	Arachnida	Araneae	Linyphiidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T12	4	T12-4	Insecta	Blattodea	Blattidae	Celatoblatta	quinquemaculata	Celatoblatta quinquemaculata	N	Adult + Juvenile	2	Indet.	Will Frost
26/02/2025	10/03/2025	T12	4	T12-4	Insecta	Diptera	Mycetophilidae	Indet.	Indet.	Indet.	N	Adult	4	Indet.	Will Frost
26/02/2025	10/03/2025	T12	4	T12-4	Insecta	Diptera	Emphydridae	Scatella	nitidithorax	Scatella nitidithorax	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T12	5	T12-5	Insecta	Coleoptera	Scarabaeidae	Scythrodes	squalidus	Scythrodes squalidus	N	Adult	1	Not assessed	John Marris
26/02/2025	10/03/2025	T13	1	T13-1	Insecta	Coleoptera	Staphylinidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T13	1	T13-1	Chilopoda	Craterostigmomorpha	Craterostigmidae	Craterostigmus	crabilli	Craterostigmus crabilli	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T13	1	T13-1	Arachnida	Araneae	Desidae	Mamoea	montana	Mamoea montana	Y	Juvenile	1	Data Deficient	Dustin Lamont
26/02/2025	10/03/2025	T13	1	T13-1	Arachnida	Trombidiformes	Erythraeidae	Indet.	Indet.	Erythraeid mites	Y	Juvenile	1	Indet.	Dustin Lamont
26/02/2025	10/03/2025	T13	1	T13-1	Arachnida	Araneae	Stiphidiidae	Neoramia	alta	Neoramia alta	Y	Juvenile	1	Naturally Uncommon	Dustin Lamont
26/02/2025	10/03/2025	T13	1	T13-1	Arachnida	Araneae	Cycloctenidae	Orepukia	sorenseni	Orepukia sorenseni	Y	Adult	1	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T13	1	T13-1	Arachnida	Araneae	Hahniidae	Rinawa	otagoensis	Rinawa otagoensis	N	adult	1	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T13	2	T13-2	Insecta	Hymenoptera	Ichneumonidae	?Aclosmation	Indet.	Aclosmation Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T13	3	T13-3	Insecta	Diptera	Mycetophilidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T13	3	T13-3	Chilopoda	Craterostigmomorpha	Craterostigmidae	Craterostigmus	crabilli	Craterostigmus crabilli	N	Adult	2	Not assessed	Will Frost
26/02/2025	10/03/2025	T13	4	T13-4	Insecta	Coleoptera	Staphylinidae	?Pselaphus	Indet.	Indet.	N	Adult	2	Indet.	Will Frost
26/02/2025	10/03/2025	T13	4	T13-4	Insecta	Coleoptera	Staphylinidae	Indet.	Indet.	Indet.	N	Adult	2	Indet.	Will Frost
26/02/2025	10/03/2025	T13	4	T13-4	Insecta	Coleoptera	Byrrhidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T13	4	T13-4	Insecta	Hemiptera	Saldidae	Kiwisaldula	cranshawi	Kiwisaldula cranshawi	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T13	5	T13-5	Insecta	Coleoptera	Staphylinidae	?Pselaphus	Indet.	Pselaphus Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T13	5	T13-5	Insecta	Coleoptera	Staphylinidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T13	5	T13-5	Insecta	Diptera	Sphaeoceridae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T13	5	T13-5	Insecta	Diptera	Phoridae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T13	5	T13-5	Insecta	Hymenoptera	Pompilidae	Priocnemis	nitidiventris	Priocnemis nitidiventris	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T13	5	T13-5	Chilopoda	Craterostigmomorpha	Craterostigmidae	Craterostigmus	crabilli	Craterostigmus crabilli	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T13	5	T13-5	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Juvenile	1	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T13	5	T13-5	Arachnida	Araneae	Stiphidiidae	Neoramia	alta	Neoramia alta	Y	Juvenile	1	Naturally Uncommon	Dustin Lamont
26/02/2025	10/03/2025	T13	5	T13-5	Arachnida	Trombidiformes	Trombidiidae	Indet.	Indet.	Indet.	N	Adult	3	Indet.	Dustin Lamont
26/02/2025	10/03/2025	T14	1	T14-1	Insecta	Diptera	Mycetophilidae	Indet.	Indet.	Indet.	N	Adult	14	Indet.	Will Frost
26/02/2025	10/03/2025	T14	1	T14-1	Insecta	Hymenoptera	Diapriidae	?Spilomicrus	Indet.	Spilomicrus Indet.	N	Adult	1	Indet.	Will Frost

Set Date	Collection Date	Site No	Pit No	Code	Class	Order	Family	Genus	Species	Name	Tentative Y/N	Life Stage	Count	Threat Classification	Determiner Name
26/02/2025	10/03/2025	T14	2	T14-2	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	3	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T14	2	T14-2	Arachnida	Araneae	Stiphidiidae	Neoramia	alta	Neoramia alta	Y	Juvenile	1	Naturally Uncommon	Dustin Lamont
26/02/2025	10/03/2025	T14	2	T14-2	Arachnida	Trombidiformes	Trombidiidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Dustin Lamont
26/02/2025	10/03/2025	T14	2	T14-2	Arachnida	Araneae	Salticidae	Ourea	saffroclypeus	'Ourea saffroclypeus'	N	Adult	1	Not assessed	Dustin Lamont
26/02/2025	10/03/2025	T14	3	T14-3	Insecta	Coleoptera	Carabidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	John Marris
26/02/2025	10/03/2025	T14	3	T14-3	Insecta	Coleoptera	Scarabaeidae	Prodontria	capito	Prodontria capito	N	Adult	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T14	3	T14-3	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T14	3	T14-3	Arachnida	Araneae	Linyphiidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T14	3	T14-3	Insecta	Hemiptera	Lygaeidae	Nysius	huttoni	Nysius huttoni	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T14	3	T14-3	Insecta	Diptera	Tachinidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T14	5	T14-5	Insecta	Orthoptera	Acrididae	Sigaus	australis	Sigaus australis	N	Adult	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T14	5	T14-5	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	2	Not Threatened	Will Frost
26/02/2025	10/03/2025	T15	1	T15-1	Insecta	Coleoptera	Staphylinidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T15	1	T15-1	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	1	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T15	1	T15-1	Arachnida	Araneae	Salticidae	Ourea	saffroclypeus	'Ourea saffroclypeus'	N	Adult	1	Not assessed	Dustin Lamont
26/02/2025	10/03/2025	T15	1	T15-1	Arachnida	Araneae	Linyphiidae	Erigone	wiltoni	Erigone wiltoni	Y	Adult	1	Introduced and Naturalised	Dustin Lamont
26/02/2025	10/03/2025	T15	2	T15-2	Insecta	Coleoptera	Byrrhidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T15	2	T15-2	Insecta	Coleoptera	Curculionidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T15	2	T15-2	Insecta	Coleoptera	Staphylinidae	Indet.	Indet.	Indet.	N	Adult	2	Indet.	Will Frost
26/02/2025	10/03/2025	T15	2	T15-2	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	2	Not Threatened	Will Frost
26/02/2025	10/03/2025	T15	2	T15-2	Arachnida	Trombidiformes	Trombidiidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T15	3	T15-3	Insecta	Coleoptera	Curculionidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T15	3	T15-3	Insecta	Hymenoptera	Pompilidae	Priocnemis	nitidiventris	Priocnemis nitidiventris	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T15	3	T15-3	Arachnida	Araneae	Salticidae	Ourea	saffroclypeus	'Ourea saffroclypeus'	N	Adult	1	Not assessed	Dustin Lamont
26/02/2025	10/03/2025	T15	3	T15-3	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult + Juvenile	3	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T15	3	T15-3	Arachnida	Araneae	Linyphiidae	Erigone	wiltoni	Erigone wiltoni	N	Adult	1	Introduced and Naturalised	Dustin Lamont
26/02/2025	10/03/2025	T15	4	T15-4	Insecta	Orthoptera	Acrididae	Sigaus	australis	Sigaus australis	N	Nymph	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T15	4	T15-4	Insecta	Coleoptera	Staphylinidae	Pselaphus	Indet.	Pselaphus Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T15	4	T15-4	Insecta	Coleoptera	Curculionidae	Indet.	Indet.	Indet.	N	Adult	3	Indet.	Will Frost
26/02/2025	10/03/2025	T15	4	T15-4	Insecta	Diptera	Sciaridae	Indet.	Indet.	Indet.	N	Adult	2	Indet.	Will Frost
26/02/2025	10/03/2025	T15	4	T15-4	Insecta	Blattodea	Blattidae	Celatoblatta	quinquemaculata	Celatoblatta quinquemaculata	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T15	4	T15-4	Arachnida	Araneae	Hahniidae	Rinawa	otagoensis	Rinawa otagoensis	N	adult	2	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T15	4	T15-4	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	1	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T15	5	T15-5	Insecta	Orthoptera	Anostostomatidae	Hemiandrus	focalis	Hemiandrus focalis	N	Adult	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T15	5	T15-5	Insecta	Coleoptera	Curculionidae	Indet.	Indet.	Indet.	N	Adult	3	Indet.	Will Frost
26/02/2025	10/03/2025	T15	5	T15-5	Insecta	Hymenoptera	Pompilidae	Priocnemis	nitidiventris	Priocnemis nitidiventris	N	Adult	2	Not assessed	Will Frost
26/02/2025	10/03/2025	T15	5	T15-5	Insecta	Diptera	Tachinidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T15	5	T15-5	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult + Juvenile	5	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T15	5	T15-5	Arachnida	Araneae	Linyphiidae	Erigone	wiltoni	Erigone wiltoni	N	Adult	1	Introduced and Naturalised	Dustin Lamont
26/02/2025	10/03/2025	T16	1	T16-1	Insecta	Orthoptera	Anostostomatidae	Hemiandrus	focalis	Hemiandrus focalis	N	Nymph	2	Not Threatened	Will Frost
26/02/2025	10/03/2025	T16	1	T16-1	Insecta	Diptera	Blattidae	Celatoblatta	quinquemaculata	Celatoblatta quinquemaculata	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T16	2	T16-2	Insecta	Coleoptera	Staphylinidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T16	3	T16-3	Insecta	Coleoptera	Byrrhidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T16	3	T16-3	Arachnida	Araneae	Clubionidae	Clubiona	Indet.	Clubiona indet.	N	Juvenile	1	Indet.	Dustin Lamont
26/02/2025	10/03/2025	T16	3	T16-3	Entognatha	Poduromorpha	Neanuridae	Holacanthella	Indet.	Holacanthella Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T16	3	T16-3	Insecta	Diptera	Tachinidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T16	3	T16-3	Insecta	Diptera	Emphydridae	Scatella	nitidithorax	Scatella nitidithorax	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T16	3	T16-3	Arachnida	Araneae	Desidae	Rorea	otagoensis	Rorea otagoensis	Y	Adult	1	Data Deficient	Dustin Lamont
26/02/2025	10/03/2025	T16	3	T16-3	Entognatha	Poduromorpha	Neanuridae	Holacanthella	Indet.	Holacanthella Indet.	Y	Adult	1	Indet.	Dustin Lamont
26/02/2025	10/03/2025	T16	4	T16-4	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T16	5	T16-5	Insecta	Orthoptera	Acrididae	Sigaus	australis	Sigaus australis	N	Nymph	1	Not Threatened	Will Frost

Set Date	Collection Date	Site No	Pit No	Code	Class	Order	Family	Genus	Species	Name	Tentative Y/N	Life Stage	Count	Threat Classification	Determiner Name
26/02/2025	10/03/2025	T16	5	T16-5	Insecta	Coleoptera	Pompilidae	Priocnemis	nitidiventris	Priocnemis nitidiventris	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T17	1	T17-1	Chilopoda	Craterostigmomorpha	Craterostigmidae	Craterostigmus	crabilli	Craterostigmus crabilli	N	Juvenile	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T17	1	T17-1	Arachnida	Araneae	Stiphidiidae	Neoramia	alta	Neoramia alta	N	Adult	1	Naturally Uncommon	Dustin Lamont
26/02/2025	10/03/2025	T17	1	T17-1	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	Y	Juvenile	1	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T17	1	T17-1	Arachnida	Araneae	Linyphiidae	Haplinis	Indet.	Haplinis indet.	N	Juvenile	1	Indet.	Dustin Lamont
26/02/2025	10/03/2025	T17	2	T17-2	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	3	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T17	2	T17-2	Insecta	Diptera	Emphydridae	Scatella	nitidithorax	Scatella nitidithorax	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T17	2	T17-2	Chilopoda	Craterostigmomorpha	Craterostigmidae	Craterostigmus	crabilli	Craterostigmus crabilli	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T17	3	T17-3	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T17	3	T17-3	Insecta	Hemiptera	Cicadellidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T17	4	T17-4	Insecta	Hemiptera	Cicadellidae	Indet.	Indet.	Indet.	N	Adult + Juvenile	4	Indet.	Will Frost
26/02/2025	10/03/2025	T17	5	T17-5	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	Y	Juvenile	1	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T17	5	T17-5	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	2	Not Threatened	Will Frost
26/02/2025	10/03/2025	T18	3	T18-3	Arachnida	Trombidiformes	Trombidiidae	Indet.	Indet.	Indet.	N	Adult	2	Indet.	Will Frost
26/02/2025	10/03/2025	T18	3	T18-3	Arachnida	Araneae	Linyphiidae	Indet.	Indet.	Mynogleninae	N	Juvenile	1	Indet.	Dustin Lamont
26/02/2025	10/03/2025	T18	3	T18-3	Diplopoda	Chordeumatida	Metopidiotrichidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T18	3	T18-3	Insecta	Blattodea	Blattidae	Celatoblatta	quinquemaculata	Celatoblatta quinquemaculata	N	Juvenile	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T18	3	T18-3	Insecta	Diptera	Mycetophilidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T18	3	T18-3	Insecta	Diptera	Emphydridae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T18	3	T18-3	Insecta	Hymenoptera	Figitidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T18	4	T18-4	Entognatha	Poduromorpha	Neanuridae	Holacanthella	Indet.	Holacanthella Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T18	4	T18-4	Insecta	Hemiptera	Cicadellidae	Indet.	Indet.	Indet.	N	Adult	2	Indet.	Will Frost
26/02/2025	10/03/2025	T18	4	T18-4	Insecta	Diptera	Emphydridae	Scatella	nitidithorax	Scatella nitidithorax	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T18	5	T18-5	Insecta	Hemiptera	Cicadellidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T18	5	T18-5	Insecta	Blattodea	Blattidae	Celatoblatta	quinquemaculata	Celatoblatta quinquemaculata	N	Adult + Juvenile	2	Not assessed	Will Frost
26/02/2025	10/03/2025	T18	5	T18-5	Arachnida	Araneae	Linyphiidae	Haplinis	inexacta	Haplinis inexacta	N	Adult	3	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T18	5	T18-5	Arachnida	Araneae	Linyphiidae	Haplinis	Indet.	Haplinis indet.	Y	Juvenile	1	Indet.	Dustin Lamont
26/02/2025	10/03/2025	T18	5	T18-5	Insecta	Hemiptera	Cicadellidae	Indet.	Indet.	Cicadellidae indet.	N	Adult	1	Indet.	Dustin Lamont
26/02/2025	10/03/2025	T19	1	T19-1	Insecta	Coleoptera	Scirtidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T19	2	T19-2	Insecta	Coleoptera	Scirtidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T19	2	T19-2	Insecta	Diptera	Sciaridae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T19	2	T19-2	Insecta	Diptera	Mycetophilidae	Indet.	Indet.	Indet.	N	Adult	9	Indet.	Will Frost
26/02/2025	10/03/2025	T19	2	T19-2	Insecta	Hemiptera	Lygaeidae	Nysius	huttoni	Nysius huttoni	N	Juvenile	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T19	2	T19-2	Arachnida	Araneae	Desidae	Mamoea	montana	Mamoea montana	Y	Adult	1	Data Deficient	Dustin Lamont
26/02/2025	10/03/2025	T19	2	T19-2	Arachnida	Araneae	Cyclocteninidae	Orepukia	sorenseni	Orepukia sorenseni	Y	Adult	1	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T19	2	T19-2	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	1	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T19	2	T19-2	Arachnida	Araneae	Indet.	Indet.	Indet.	Marronoidea	Y	Juvenile	1	Indet.	Dustin Lamont
26/02/2025	10/03/2025	T19	4	T19-4	Insecta	Orthoptera	Acrididae	Sigaus	australis	Sigaus australis	N	Adult	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T19	5	T19-5	Insecta	Coleoptera	Scirtidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T2	1	T2-1	Arachnida	Trombidiformes	Trombidiidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T2	1	T2-1	Insecta	Hemiptera	Cicadellidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T2	1	T2-1	Insecta	Diptera	Sciaridae	Indet.	Indet.	Indet.	N	Adult	3	Indet.	Will Frost
26/02/2025	10/03/2025	T2	1	T2-1	Arachnida	Araneae	Indet.	Indet.	Indet.	Marronoidea	Y	Juvenile	1	Indet.	Dustin Lamont
26/02/2025	10/03/2025	T2	3	T2-3	Insecta	Diptera	Emphydridae	Indet.	Indet.	Indet.	N	Adult	2	Indet.	Will Frost
26/02/2025	10/03/2025	T2	3	T2-3	Insecta	Diptera	Canacidae	Indet.	Indet.	Indet.	Y	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T2	3	T2-3	Insecta	Blattodea	Blattidae	Celatoblatta	quinquemaculata	Celatoblatta quinquemaculata	N	Juvenile	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T2	5	T2-5	Insecta	Orthoptera	Anostostomatidae	Hemiandrus	focalis	Hemiandrus focalis	N	Nymph	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T2	5	T2-5	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	1	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T20	1	T20-1	Arachnida	Araneae	Cyclocteninidae	Orepukia	sorenseni	Orepukia sorenseni	Y	Adult	1	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T20	1	T20-1	Arachnida	Araneae	Stiphidiidae	Neoramia	alta	Neoramia alta	N	Adult	1	Naturally Uncommon	Dustin Lamont
26/02/2025	10/03/2025	T20	2	T20-2	Insecta	Coleoptera	Staphylinidae	Indet.	Indet.	Indet.	N	Adult	2	Indet.	Will Frost

Set Date	Collection Date	Site No	Pit No	Code	Class	Order	Family	Genus	Species	Name	Tentative Y/N	Life Stage	Count	Threat Classification	Determiner Name
26/02/2025	10/03/2025	T20	2	T20-2	Arachnida	Araneae	Stiphidiidae	Neoramia	alta	Neoramia alta	Y	Juvenile	1	Naturally Uncommon	Dustin Lamont
26/02/2025	10/03/2025	T20	3	T20-3	Arachnida	Araneae	Stiphidiidae	Neoramia	alta	Neoramia alta	Y	Juvenile	1	Naturally Uncommon	Dustin Lamont
26/02/2025	10/03/2025	T20	5	T20-5	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	Y	Juvenile	1	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T3	1	T3-1	Insecta	Coleoptera	Byrrhidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T3	1	T3-1	Insecta	Diptera	Emphydridae	Indet.	Indet.	Indet.	N	Adult	2	Indet.	Will Frost
26/02/2025	10/03/2025	T3	1	T3-1	Insecta	Hymenoptera	Pompilidae	Priocnemis	?nitidiventris	Priocnemis ?nitidiventris	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T3	1	T3-1	Arachnida	Araneae	Stiphidiidae	Neoramia	alta	Neoramia alta	N	Adult + Juvenile	2	Naturally Uncommon	Dustin Lamont
26/02/2025	10/03/2025	T3	1	T3-1	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	1	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T3	2	T3-2	Insecta	Coleoptera	Curculionidae	Indet.	Indet.	Indet.	N	Adult	2	Indet.	Will Frost
26/02/2025	10/03/2025	T3	2	T3-2	Insecta	Coleoptera	Byrrhidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T3	2	T3-2	Insecta	Coleoptera	Leiodidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T3	2	T3-2	Arachnida	Araneae	Hahniidae	Rinawa	otagoensis	Rinawa otagoensis	N	adult	2	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T3	2	T3-2	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T3	2	T3-2	Arachnida	Trombidiformes	Trombidiidae	Indet.	Indet.	Indet.	N	Adult	5	Indet.	Will Frost
26/02/2025	10/03/2025	T3	2	T3-2	Insecta	Diptera	Muscidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T3	2	T3-2	Insecta	Diptera	Sciaridae	Indet.	Indet.	Indet.	N	Adult	2	Indet.	Will Frost
26/02/2025	10/03/2025	T3	2	T3-2	Entognatha	Poduromorpha	Neanuridae	Holacanthella	Indet.	Holacanthella Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T3	4	T3-4	Insecta	Coleoptera	Carabidae	Mecodema	politanum	Mecodema politanum	N	Adult	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T3	4	T3-4	Insecta	Coleoptera	Staphylinidae	Pselaphus	Indet.	Pselaphus Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T3	4	T3-4	Insecta	Coleoptera	Curculionidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T3	4	T3-4	Insecta	Coleoptera	Byrrhidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T3	4	T3-4	Chilopoda	Craterostigmomorpha	Craterostigmidae	Craterostigmus	crabilli	Craterostigmus crabilli	N	Adult	2	Not assessed	Will Frost
26/02/2025	10/03/2025	T3	4	T3-4	Insecta	Hymenoptera	Pompilidae	Priocnemis	nitidiventris	Priocnemis nitidiventris	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T3	4	T3-4	Insecta	Hemiptera	Cicadellidae	Indet.	Indet.	Indet.	N	Juvenile	1	Indet.	Will Frost
26/02/2025	10/03/2025	T3	4	T3-4	Insecta	Diptera	Sciaridae	Indet.	Indet.	Indet.	N	Adult	2	Indet.	Will Frost
26/02/2025	10/03/2025	T3	4	T3-4	Insecta	Hymenoptera	Indet.	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T3	4	T3-4	Arachnida	Araneae	Cyclocteninidae	Orepukia	sorenseni	Orepukia sorenseni	Y	Adult	1	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T3	4	T3-4	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	1	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T3	4	T3-4	Arachnida	Trombidiformes	Trombidiidae	Indet.	Indet.	Indet.	N	Adult	3	Indet.	Dustin Lamont
26/02/2025	10/03/2025	T3	5	T3-5	Insecta	Orthoptera	Anostostomatidae	Hemiandrus	focalis	Hemiandrus focalis	N	Nymph	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T3	5	T3-5	Insecta	Coleoptera	Carabidae	Mecodema	politanum	Mecodema politanum	N	Adult	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T3	5	T3-5	Insecta	Coleoptera	Melandryidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	John Marris
26/02/2025	10/03/2025	T3	5	T3-5	Insecta	Diptera	Sciaridae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T3	5	T3-5	Insecta	Hemiptera	Cicadidae	Indet.	Indet.	Indet.	N	Juvenile	1	Indet.	Will Frost
26/02/2025	10/03/2025	T3	5	T3-5	Insecta	Diptera	Emphydridae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T3	5	T3-5	Arachnida	Araneae	Linyphiidae	Erigone	wiltoni	Erigone wiltoni	N	Adult	1	Introduced and Naturalised	Dustin Lamont
26/02/2025	10/03/2025	T3	5	T3-5	Arachnida	Araneae	Stiphidiidae	Neoramia	alta	Neoramia alta	Y	Juvenile	1	Naturally Uncommon	Dustin Lamont
26/02/2025	10/03/2025	T3	5	T3-5	Arachnida	Trombidiformes	Trombidiidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Dustin Lamont
26/02/2025	10/03/2025	T4	1	T4-1	Insecta	Orthoptera	Acrididae	Sigaus	australis	Sigaus australis	N	Nymph	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T4	1	T4-1	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T4	1	T4-1	Insecta	Hymenoptera	Ichneumonidae	Aucklandella	Indet.	Aucklandella Indet.	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T4	1	T4-1	Insecta	Hymenoptera	Scelionidae	Scelio	Indet.	Scelio Indet.	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T4	1	T4-1	Chilopoda	Craterostigmomorpha	Craterostigmidae	Craterostigmus	crabilli	Craterostigmus crabilli	N	Juvenile	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T4	1	T4-1	Insecta	Diptera	Emphydridae	Scatella	nitidithorax	Scatella nitidithorax	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T4	1	T4-1	Insecta	Hemiptera	Cicadellidae	Indet.	Indet.	Indet.	N	Juvenile	1	Indet.	Will Frost
26/02/2025	10/03/2025	T4	2	T4-2	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T4	2	T4-2	Chilopoda	Craterostigmomorpha	Craterostigmidae	Craterostigmus	crabilli	Craterostigmus crabilli	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T4	2	T4-2	Insecta	Blattodea	Blattidae	Celatoblatta	quinquemaculata	Celatoblatta quinquemaculata	N	Adult	2	Not assessed	Will Frost
26/02/2025	10/03/2025	T4	2	T4-2	Insecta	Hemiptera	Cicadellidae	Indet.	Indet.	Indet.	N	Juvenile	1	Indet.	Will Frost
26/02/2025	10/03/2025	T4	3	T4-3	Insecta	Orthoptera	Acrididae	Sigaus	australis	Sigaus australis	N	Nymph	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T4	3	T4-3	Insecta	Coleoptera	Carabidae	Mecodema	politanum	Mecodema politanum	N	Adult	2	Not Threatened	Will Frost

Set Date	Collection Date	Site No	Pit No	Code	Class	Order	Family	Genus	Species	Name	Tentative Y/N	Life Stage	Count	Threat Classification	Determiner Name
26/02/2025	10/03/2025	T4	3	T4-3	Insecta	Coleoptera	Staphylinidae	?Pselaphus	Indet.	Pselaphus Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T4	3	T4-3	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	4	Not Threatened	Will Frost
26/02/2025	10/03/2025	T4	3	T4-3	Insecta	Diptera	Emphydridae	Scatella	nitidithorax	Scatella nitidithorax	N	Adult	3	Not assessed	Will Frost
26/02/2025	10/03/2025	T4	3	T4-3	Insecta	Hymenoptera	Pompilidae	Priocnemis	nitidiventris	Priocnemis nitidiventris	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T4	3	T4-3	Insecta	Hemiptera	Cicadellidae	Indet.	Indet.	Indet.	N	Adult	2	Indet.	Will Frost
26/02/2025	10/03/2025	T4	3	T4-3	Insecta	Diptera	Sciaridae	Indet.	Indet.	Indet.	N	Adult	2	Indet.	Will Frost
26/02/2025	10/03/2025	T4	3	T4-3	Chilopoda	Craterostigmomorpha	Craterostigmidae	Craterostigmus	crabilli	Craterostigmus crabilli	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T4	3	T4-3	Insecta	Diptera	Emphydridae	Indet.	Indet.	Indet.	N	Adult	4	Indet.	Will Frost
26/02/2025	10/03/2025	T4	3	T4-3	Insecta	Hymenoptera	Scelionidae	Baeus	Indet.	Baeus Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T4	3	T4-3	Insecta	Diptera	Canacidae	Indet.	Indet.	Indet.	N	Adult	2	Indet.	Dustin Lamont
26/02/2025	10/03/2025	T4	3	T4-3	Arachnida	Araneae	Indet.	Indet.	Indet.	Marronoidea	Y	Juvenile	2	Indet.	Dustin Lamont
26/02/2025	10/03/2025	T4	4	T4-4	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult + Juvenile	3	Not Threatened	Will Frost
26/02/2025	10/03/2025	T4	4	T4-4	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T4	4	T4-4	Insecta	Hymenoptera	Pteromalidae	Trichomalopsis	Indet.	Trichomalopsis Indet.	Y	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T4	4	T4-4	Insecta	Hymenoptera	Pompilidae	Priocnemis	nitidiventris	Priocnemis nitidiventris	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T4	4	T4-4	Entognatha	Poduromorpha	Neanuridae	Holacanthella	Indet.	Holacanthella Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T4	4	T4-4	Insecta	Hemiptera	Cicadellidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T4	5	T4-5	Insecta	Orthoptera	Acrididae	Sigaus	australis	Sigaus australis	N	Nymph	6	Not Threatened	Will Frost
26/02/2025	10/03/2025	T4	5	T4-5	Insecta	Coleoptera	Carabidae	Mecodema	politanum	Mecodema politanum	N	Adult	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T4	5	T4-5	Arachnida	Araneae	Stiphidiidae	Neoramia	Indet.	Neoramia alta	Y	Juvenile	1	Indet.	Dustin Lamont
26/02/2025	10/03/2025	T4	5	T4-5	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	2	Not Threatened	Will Frost
26/02/2025	10/03/2025	T4	5	T4-5	Arachnida	Trombidiformes	Trombidiidae	Indet.	Indet.	Indet.	N	Adult	5	Indet.	Will Frost
26/02/2025	10/03/2025	T4	5	T4-5	Insecta	Hemiptera	Cicadellidae	Indet.	Indet.	Indet.	N	Adult	3	Indet.	Will Frost
26/02/2025	10/03/2025	T4	5	T4-5	Insecta	Diptera	Sciaridae	Indet.	Indet.	Indet.	N	Adult	4	Indet.	Will Frost
26/02/2025	10/03/2025	T4	5	T4-5	Insecta	Diptera	Mycetophilidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T4	5	T4-5	Insecta	Coleoptera	Pompilidae	Priocnemis	nitidiventris	Priocnemis nitidiventris	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T4	5	T4-5	Chilopoda	Craterostigmomorpha	Craterostigmidae	Craterostigmus	crabilli	Craterostigmus crabilli	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T5	2	T5-2	Insecta	Blattodea	Blattidae	Celatoblatta	quinquemaculata	Celatoblatta quinquemaculata	N	Adult + Juvenile	9	Not assessed	Will Frost
26/02/2025	10/03/2025	T5	3	T5-3	Arachnida	Araneae	Linyphiidae	Haplinis	atticola	Haplinis atticola	Y	Adult	1	Data Deficient	Dustin Lamont
26/02/2025	10/03/2025	T5	3	T5-3	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult + Juvenile	3	Not Threatened	Will Frost
26/02/2025	10/03/2025	T5	3	T5-3	Insecta	Blattodea	Blattidae	Celatoblatta	quinquemaculata	Celatoblatta quinquemaculata	N	Adult	11	Not assessed	Will Frost
26/02/2025	10/03/2025	T5	5	T5-5	Insecta	Coleoptera	Carabidae	Mecodema	politanum	Mecodema politanum	N	Adult	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T5	5	T5-5	Insecta	Blattodea	Blattidae	Celatoblatta	quinquemaculata	Celatoblatta quinquemaculata	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T6	1	T6-1	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T6	1	T6-1	Arachnida	Araneae	Cycloctenidae	Orepukia	sorenseni	Orepukia sorenseni	Y	Adult	1	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T6	1	T6-1	Insecta	Diptera	Mycetophilidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T6	1	T6-1	Insecta	Diptera	Emphydridae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T6	1	T6-1	Chilopoda	Craterostigmomorpha	Craterostigmidae	Craterostigmus	crabilli	Craterostigmus crabilli	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T6	1	T6-1	Insecta	Blattodea	Blattidae	Celatoblatta	quinquemaculata	Celatoblatta quinquemaculata	N	Juvenile	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T6	3	T6-3	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	1	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T6	4	T6-4	Insecta	Coleoptera	Curculionidae	Sitona	obsoletus	Sitona obsoletus	N	Adult	1	Introduced and Naturalised	Will Frost
26/02/2025	10/03/2025	T6	4	T6-4	Diplopoda	Chordeumatida	Metopidiotrichidae	Indet.	Indet.	Indet.	N	Adult	2	Indet.	Will Frost
26/02/2025	10/03/2025	T6	4	T6-4	Insecta	Diptera	Emphydridae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T6	4	T6-4	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	1	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T6	5	T6-5	Insecta	Orthoptera	Acrididae	Sigaus	australis	Sigaus australis	N	Nymph	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T6	5	T6-5	Arachnida	Araneae	Linyphiidae	Haplinis	inexacta	Haplinis inexacta	N	Adult	1	Not Threatened	Dustin Lamont
26/02/2025	10/03/2025	T6	5	T6-5	Insecta	Blattodea	Blattidae	Celatoblatta	quinquemaculata	Celatoblatta quinquemaculata	N	Juvenile	1	Indet.	Will Frost
26/02/2025	10/03/2025	T7	3	T7-3	Insecta	Coleoptera	Carabidae	Mecodema	politanum	Mecodema politanum	N	Adult	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T7	3	T7-3	Diplopoda	Chordeumatida	Metopidiotrichidae	Indet.	Indet.	Indet.	N	Adult	1	Not assessed	Will Frost
26/02/2025	10/03/2025	T8	2	T8-2	Arachnida	Trombidiformes	Trombidiidae	Indet.	Indet.	Indet.	N	Adult	3	Indet.	Dustin Lamont
26/02/2025	10/03/2025	T8	2	T8-2	Arachnida	Araneae	Cycloctenidae	Orepukia	sorenseni	Orepukia sorenseni	Y	Adult	1	Not Threatened	Dustin Lamont

Set Date	Collection Date	Site No	Pit No	Code	Class	Order	Family	Genus	Species	Name	Tentative Y/N	Life Stage	Count	Threat Classification	Determiner Name
26/02/2025	10/03/2025	T8	4	T8-4	Insecta	Orthoptera	Acrididae	Sigaus	australis	Sigaus australis	N	Juvenile	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T8	4	T8-4	Insecta	Orthoptera	Anostostomatidae	Hemiandrus	focalis	Hemiandrus focalis	N	Juvenile	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T8	4	T8-4	Arachnida	Araneae	Stiphidiidae	Neoramia	alta	Neoramia alta	N	Adult	1	Naturally Uncommon	Dustin Lamont
26/02/2025	10/03/2025	T8	5	T8-5	Insecta	Coleoptera	Byrrhidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T8	5	T8-5	Diplopoda	Chordeumatida	Metopidiotrichidae	Indet.	Indet.	Indet.	N	Adult	2	Not assessed	Will Frost
26/02/2025	10/03/2025	T9	1	T9-1	Arachnida	Trombidiformes	Trombidiidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	10/03/2025	T9	2	T9-2	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	1	Not Threatened	Will Frost
26/02/2025	10/03/2025	T9	2	T9-2	Arachnida	Trombidiformes	Trombidiidae	Indet.	Indet.	Indet.	N	Adult	2	Indet.	Will Frost
26/02/2025	10/03/2025	T9	2	T9-2	Arachnida	Araneae	Desidae	Mamoea	montana	Mamoea montana	Y	Adult	1	Data Deficient	Dustin Lamont
26/02/2025	10/03/2025	T9	4	T9-4	Arachnida	Araneae	Desidae	Mamoea	montana	Mamoea montana	Y	Juvenile	1	Data Deficient	Dustin Lamont
26/02/2025	10/03/2025	T9	4	T9-4	Arachnida	Trombidiformes	Trombidiidae	Indet.	Indet.	Indet.	N	Adult	2	Indet.	Will Frost

Collection Date	Lat	Lon	Collection Method	Collector Name	Sample No	Class	Order	Family	Genus	Species	Name	Tentative Y/N	Life Stage	Count	Threat Classification	Determiner Name
26/02/2025	45.058	168.84	Sweep net	Will Frost	1	Insecta	Lepidoptera	Geometridae	Dasyuris	partheniata	Dasyuris partheniata	N	Adult	1	At Risk, Declining	Will Frost
26/02/2025	45.06	168.838	Sweep net	Will Frost	2	Insecta	Lepidoptera	Plutellidae	Plutella	sp.1 (CO)	Plutella sp.1 (CO)	N	Adult	2	At Risk, Declining	Will Frost
26/02/2025	45.06	168.838	Sweep net	Will Frost	3	Insecta	Lepidoptera	Crambidae	Eudonia	indet.	Eudonia indet.	Y	Adult	1	Indet.	Will Frost
26/02/2025	45.061	168.829	Hand collect	Will Frost	4	Insecta	Orthoptera	Acrididae	Sigaus	campestris	Sigaus campestris	N	Adult	1	At Risk, Declining	Will Frost
26/02/2025	45.061	168.829	Hand collect	Will Frost	5	Insecta	Orthoptera	Acrididae	Sigaus	indet.	Sigaus indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	45.059	168.84	Hand collect	Will Frost	6	Insecta	Coleoptera	Curculionidae	Lyperobius	spedenii	Lyperobius spedenii	N	Adult	1	Not assessed	Will Frost
26/02/2025	45.06	168.834	Hand collect	Will Frost	7	Insecta	Coleoptera	Curculionidae	Lyperobius	hudsoni	Lyperobius hudsoni	N	Adult	1	Not Threatened	Will Frost
26/02/2025	45.067	168.833	Hand collect	Will Frost	8	Insecta	Coleoptera	Curculionidae	Anagotus	latirostris	Anagotus latirostris	N	Adult	1	Not assessed	Will Frost
25/02/2025	45.06	168.826	Hand collect	Will Frost	9	Insecta	Coleoptera	Scarabaeidae	Prodontria	capito	Prodontria capito	N	Adult	2	Not Threatened	Will Frost
26/02/2025	45.06	168.838	Hand collect	Will Frost	10	Insecta	Coleoptera	Byrrhidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	45.06	168.838	Hand collect	Will Frost	11	Insecta	Orthoptera	Anostostomatidae	Hemideina	maori	Hemideina maori	N	Adult	3	Not Threatened	Will Frost
4/2/2025-30/3/25	NA	NA	Hand collect	Liam Salemink-Waldren	12	Insecta	Orthoptera	Anostostomatidae	Hemideina	maori	Hemideina maori	N	Juvenile	1	Not Threatened	Will Frost
4/2/2025-30/3/25	NA	NA	Hand collect	Liam Salemink-Waldren	13	Insecta	Coleoptera	Curculionidae	Inophloeus	inuus	Inophloeus inuus	N	Adult	1	Not assessed	Will Frost
26/02/2025	45.06	168.838	Hand collect	Will Frost	14	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	1	Not Threatened	Will Frost/Dustin Lamont
4/2/2025-30/3/25	NA	NA	Hand collect	Liam Salemink-Waldren	15	Insecta	Lepidoptera	Nymphalidae	Pieris	rapae	Pieris rapae	N	Adult	1	Introduced and Naturalised	Will Frost
4/2/2025-30/3/25	NA	NA	Hand collect	Liam Salemink-Waldren	16	Insecta	Orthoptera	Rhaphidophoridae	Pharmacus	notabilis	Pharmacus notabilis	N	Adult	1	Not Threatened	Will Frost
4/2/2025-30/3/25	NA	NA	Hand collect	Liam Salemink-Waldren	17	Insecta	Lepidoptera	Geometridae	Pseudocoremia	indet.	Pseudocoremia indet.	N	Adult	1	Indet.	Will Frost
4/2/2025-30/3/25	NA	NA	Hand collect	Liam Salemink-Waldren	18	Insecta	Lepidoptera	Noctuidae	Bityla	defigurata	Bityla defigurata	N	Adult	1	Not assessed	Will Frost
4/2/2025-30/3/25	NA	NA	Hand collect	Liam Salemink-Waldren	19	Arachnida	Araneae	Desidae	Mamoea	montana	Mamoea montana	N	Adult	1	Data Deficient	Dustin Lamont
4/2/2025-30/3/25	NA	NA	Hand collect	Liam Salemink-Waldren	20	Insecta	Coleoptera	Carabidae	Mecodema	politanum	Mecodema politanum	N	Adult	1	Not Threatened	Will Frost
4/2/2025-30/3/25	NA	NA	Hand collect	Liam Salemink-Waldren	21	Insecta	Coleoptera	Carabidae	Mecodema	politanum	Mecodema politanum	N	Adult	1	Not Threatened	Will Frost
4/2/2025-30/3/25	NA	NA	Hand collect	Liam Salemink-Waldren	22	Insecta	Lepidoptera	Erebidae	Metacrias	indet.	Metacrias indet.	N	Larva	1	Not Threatened	Will Frost
4/2/2025-30/3/25	NA	NA	Hand collect	Liam Salemink-Waldren	23	Insecta	Coleoptera	Scarabaeidae	Scythrodes	squalidus	Scythrodes squalidus	N	Adult	2	Not assessed	Will Frost
4/2/2025-30/3/25	NA	NA	Hand collect	Liam Salemink-Waldren	24	Insecta	Coleoptera	Byrrhidae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
4/2/2025-30/3/25	NA	NA	Hand collect	Liam Salemink-Waldren	25	Insecta	Orthoptera	Anostostomatidae	Hemiandrus	focalis	Hemiandrus focalis	N	Adult	1	Not Threatened	Will Frost
4/2/2025-30/3/25	NA	NA	Hand collect	Liam Salemink-Waldren	26	Insecta	Lepidoptera	Hepialidae	Aoraia	indet.	Aoraia indet.	Y	Larva	1	Indet.	Will Frost
4/2/2025-30/3/25	NA	NA	Hand collect	Liam Salemink-Waldren	27	Insecta	Lepidoptera	Nymphalidae	Argyrophenga	antipodum	Argyrophenga antipodum	N	Adult	1	Not Threatened	Will Frost
4/2/2025-30/3/25	NA	NA	Hand collect	Liam Salemink-Waldren	28	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	1	Not Threatened	Will Frost
4/2/2025-30/3/25	NA	NA	Hand collect	Liam Salemink-Waldren	29	Gastropoda	Stylommatophora	Athoracophoridae	Indet.	Indet.	Indet.	N	Adult	1	Indet.	Will Frost
4/2/2025-30/3/25	NA	NA	Hand collect	Liam Salemink-Waldren	30	Insecta	Hemiptera	Pentatomidae	Cermatulus	nasalis	Cermatulus nasalis	N	Juvenile	1	Not assessed	Will Frost
4/2/2025-30/3/25	location 52 lizard traping	NA	Hand collect	Liam Salemink-Waldren	31	Insecta	Hemiptera	Pentatomidae	Hypsithocus	hudsonae	Hypsithocus hudsonae	N	Adult	1	At Risk, Uncommon	Will Frost

Collection Date	Lat	Lon	Collection Method	Collector Name	Sample No	Class	Order	Family	Genus	Species	Name	Tentative Y/N	Life Stage	Count	Threat Classification	Determiner Name
26/02/2025	45.06	168.836	Light trap	Will Frost/ Liam Salemink	1	Insecta	Lepidoptera	Noctuidae	Meterana	meyricci	Meterana meyricci	N	Adult	2	Not assessed	Will Frost
26/02/2025	45.06	168.836	Light trap	Will Frost/ Liam Salemink	2	Insecta	Lepidoptera	Noctuidae	Ichneutica	propria	Ichneutica propria	N	Adult	4	Not Threatened	Will Frost
26/02/2025	45.06	168.836	Light trap	Will Frost/ Liam Salemink	3	Insecta	Lepidoptera	Noctuidae	Ichneutica	moderata	Ichneutica moderata	N	Adult	2	Not Threatened	Will Frost
26/02/2025	45.06	168.836	Light trap	Will Frost/ Liam Salemink	4	Insecta	Lepidoptera	Noctuidae	Physetica	phricias	Physetica phricias	N	Adult	4	Not Threatened	Will Frost
26/02/2025	45.06	168.836	Light trap	Will Frost/ Liam Salemink	5	Insecta	Lepidoptera	Noctuidae	Ichneutica	mutans	Ichneutica mutans	N	Adult	5	Not Threatened	Will Frost
26/02/2025	45.06	168.836	Light trap	Will Frost/ Liam Salemink	6	Insecta	Lepidoptera	Noctuidae	Ichneutica	lithias	Ichneutica lithias	N	Adult	4	Not Threatened	Will Frost
26/02/2025	45.06	168.836	Light trap	Will Frost/ Liam Salemink	7	Insecta	Lepidoptera	Noctuidae	Bityla	defigurata	Bityla defigurata	N	Adult	2	Not assessed	Will Frost
26/02/2025	45.06	168.836	Light trap	Will Frost/ Liam Salemink	8	Insecta	Lepidoptera	Noctuidae	Persectania	aversa	Persectania aversa	N	Adult	3	Not assessed	Will Frost
26/02/2025	45.06	168.836	Light trap	Will Frost/ Liam Salemink	9	Insecta	Lepidoptera	Noctuidae	Ichneutica	lissoxyla	Ichneutica lissoxyla	N	Adult	5	Not assessed	Will Frost
26/02/2025	45.06	168.836	Light trap	Will Frost/ Liam Salemink	10	Insecta	Lepidoptera	Noctuidae	Ichneutica	indet.	Ichneutica indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	45.06	168.836	Light trap	Will Frost/ Liam Salemink	11	Insecta	Lepidoptera	Noctuidae	Ichneutica	indet.	Ichneutica indet.	N	Adult	1	Indet.	Will Frost
26/02/2025	45.06	168.836	Light trap	Will Frost/ Liam Salemink	12	Insecta	Lepidoptera	Crambidae	Scoparia	rotuella	Scoparia rotuella	N	Adult	1	Not assessed	Will Frost
26/02/2025	45.06	168.836	Light trap	Will Frost/ Liam Salemink	13	Insecta	Lepidoptera	Crambidae	Scoparia	niphospora	Scoparia niphospora	Y	Adult	2	Not assessed	Will Frost
26/02/2025	45.06	168.836	Light trap	Will Frost/ Liam Salemink	14	Insecta	Lepidoptera	Crambidae	Eudonia	cymatias	Eudonia cymatias	N	Adult	1	Not assessed	Will Frost

Filename:	E3 Remarkables Insect Data
Created by:	William Frost
Date created:	17/02/2026
Project name:	NZSki Entomological Survey of the Doolans region, the Remarkables, Queenstown, NZ
Project aim:	To survey the entomological fauna of the Doolan's area with a variety of collecting methods, to ascertain a snapshot view of the invertebrate fauna and at risk species within a proposed ski lift's footprint
Project objectives:	1. Determine a snapshot of the invertebrate fauna within the Doolan's area 2. Identify noteworthy threatened species collected within the footprint area
Data collection description:	Specimen data for 40 pitfalls separated into 8 sites is identified with a generic/ specific name where possible and a family level taxonomic unit where generic/ specific identification is too difficult to discern.
Data entered by:	William Frost & Dustin Lamont
Data checked by:	William Frost

Worksheets:

"Pitfall"	Contains information referring to all larval and adult specimens of invertebrates collected and identified from pitfall trapping within the Doolans.
"Hand collect"	Contains information referring to all larval and adult specimens collected and identified from hand collection surveys throughout the Doolans area.
"Light trap"	Contains information referring to all adult Lepidoptera specimens collected and identified from light trapping with a 200 watt mercury vapour bulb within the Doolans.

Variable name	**Description**
Set_Date	The date in which a given pitfall trap was set up and established, i.e the surveying period began on the date the pitfall was installed.
Collection_ Date	The date in which samples from a given pitfall trap were collected and the pitfall was removed, i.e the surveying period ended on the date the pitfall was removed.
Site_No	A number from 1-20 referring to which pitfall site a specimen was collected from.
Pit_No	A number from 1-5 referring to which pitfall trap within a site a specimen was collected from.
Code	A combination of both the Site_No and Pit_No in one code to simplify labelling of specimens.
Class	The Class grouping classification for an invertebrate, i.e 'Insecta, Arachnida'.
Order	The order level taxonomic grouping for classification and identification of an invertebrate, i.e 'Orthoptera, Lepidoptera'.
Family	The family level taxonomic grouping for classification and identification of an invertebrate, i.e 'Anostostomatidae, Crambidae'.
Genus	The genus level taxonomic grouping for classification and identification of an invertebrate, i.e 'Hemiandrus, Scoparia'.
Species	The species level taxonomic grouping for classification and identification of an invertebrate, i.e 'focalis, niphospora'.
Name	The genus and species taxonomic identification for a specimen are supplied here if possible.
Tentative Y/N	Was an identification made with uncertainty?
Life_Stage	What life stage was an invertebrate specimen, i.e nymph, larval, adult, pupal.
Count	What number of specimens of the same grouping were collected within a pitfall trap.
Threat_Classification	What is the threat status (if available) for an invertebrate specimen, note these are all derived from the New Zealand Threat Classification System, Lepidoptera are updated as per unpublished assessments for Hoare. et al 2025.
Determiner_Name	The person that made an identification, i.e Will Frost, Dustin Lamont
Notes	Any notes of relevance or value pertaining to a singular specimen/ set of specimens.
Collection_Method	How was the specimen hand collected? I.e sweeping net, hand collection.
Lat	What was the latitude where a specimen was collected.
Lon	What was the longitude where a specimen was collected.

Additional comments:	Any 'Indet.' (indeterminate identification) notations refer to specimens that could not be identified to the highest possible taxonomic level due to a lack of resources for identification of that group, difficulty of identification or damage to specimens. The 'Indet.' notation is also provided for threat classification where a species could not be identified to the highest possible taxonomic unit. Threat assessments made for Lepidoptera are updated pertaining to the most recent unpublished threat assessment, for which I was a panel member. The specimens collected and identified represent a small and suboptimal time frame of monitoring within the Doolans area and in no way represent a complete assessment of the Doolans area's invertebrate fauna. Will Frost.

Set Date	Collection Date	Code	Class	Order	Family	Genus	Species	Name	Tentative Y/N	Life Stage	Count	Threat Classification	Determiner Name
19/01/2026	1/02/2026	T21	Insecta	Blattodea	Blattidae	Celatoblatta	indet.	Celatoblatta indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T21	Insecta	Diptera	Tipulidae	Leptotarsus	indet.	Leptotarsus indet.	N	Adult	8	Indet.	Will Frost
19/01/2026	1/02/2026	T21	Insecta	Trichoptera	Hydrobiosidae	Psilochorema	indet.	Psilochorema indet.	N	Adult	3	Indet.	Will Frost
19/01/2026	1/02/2026	T21	Insecta	Diptera	Limoniidae	indet.	indet.	indet.	N	Adult	17	Indet.	Will Frost
19/01/2026	1/02/2026	T21	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Juvenile	2	Not threatened	Will Frost
19/01/2026	1/02/2026	T21	Insecta	Coleoptera	Chrysomelidae	indet.	indet.	indet.	N	Adult	2	Indet.	Will Frost
19/01/2026	1/02/2026	T21	Insecta	Coleoptera	Staphylinidae	indet.	indet.	indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T21	Arachnida	Opilliones	indet.	indet.	indet.	indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T22	Insecta	Orthoptera	Anostostomatidae	Hemideina	maori	Hemideina maori	N	Adult	11	Not threatened	Will Frost
19/01/2026	1/02/2026	T22	Insecta	Diptera	Tachinidae	indet.	indet.	indet.	N	Adult	3	Indet.	Will Frost
19/01/2026	1/02/2026	T22	Insecta	Coleoptera	Curculionidae	indet.	indet.	indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T22	Insecta	Lepidoptera	Geometridae	indet.	indet.	indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T22	Insecta	Diptera	Ephydridae	indet.	indet.	indet.	N	Adult	19	Indet.	Will Frost
19/01/2026	1/02/2026	T22	Insecta	Orthoptera	Acrididae	Sigaus	tumidicauda	Sigaus tumidicauda	N	Adult	2	Not threatened	Will Frost
19/01/2026	1/02/2026	T22	Insecta	Orthoptera	Acrididae	Sigaus	australis	Sigaus australis	N	Adult	2	Not threatened	Will Frost
19/01/2026	1/02/2026	T22	Insecta	Diptera	Tipulidae	Zelandotipula	novarae	Zelandotipula novarae	N	Adult	3	Indet.	Will Frost
19/01/2026	1/02/2026	T22	Insecta	Diptera	Tipulidae	Leptotarsus	indet.	Leptotarsus indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T22	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	4	Not threatened	Will Frost
19/01/2026	1/02/2026	T22	Insecta	Diptera	indet.	indet.	indet.	indet.	N	Adult	3	Indet.	Will Frost
19/01/2026	1/02/2026	T22	Insecta	Coleoptera	Chrysomelidae	indet.	indet.	indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T22	Arachnida	Opilliones	indet.	indet.	indet.	indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T22	Insecta	Hemiptera	Pentatomidae	Hypsithocus	hudsonae	Hypsithocus hudsonae	N	Adult	1	At Risk, Uncommon	Will Frost
19/01/2026	1/02/2026	T22	Insecta	Hemiptera	Lygaeidae	Nysius	huttoni	Nysius huttoni	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T22	Chilopoda	Craterostigmomorpha	Craterostigmidae	Craterostigmus	crabilli	Craterostigmus crabilli	N	Juvenile	2	Indet.	Will Frost
19/01/2026	1/02/2026	T22	Insecta	Coleoptera	Leiodidae	indet.	indet.	indet.	N	Adult	1	Indet.	John Marris
19/01/2026	1/02/2026	T22	Insecta	Coleoptera	Hydrophilidae	indet.	indet.	indet.	N	Adult	1	Indet.	John Marris
19/01/2026	1/02/2026	T22	Insecta	Coleoptera	Anobiidae	indet.	indet.	indet.	N	Adult	1	Indet.	John Marris
19/01/2026	1/02/2026	T23	Arachnida	Opilliones	indet.	indet.	indet.	indet.	N	Adult	3	Indet.	Will Frost
19/01/2026	1/02/2026	T23	Insecta	Diptera	Mycetophilidae	indet.	indet.	indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T23	Insecta	Diptera	Therevidae	indet.	indet.	indet.	N	Adult	3	Indet.	Will Frost
19/01/2026	1/02/2026	T23	Insecta	Diptera	Ephydridae	indet.	indet.	indet.	N	Adult	2	Indet.	Will Frost
19/01/2026	1/02/2026	T23	Insecta	Lepidoptera	Xyloryctidae	indet.	indet.	indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T23	Insecta	Diptera	Tipulidae	Zelandotipula	novarae	Zelandotipula novarae	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T23	Insecta	Diptera	Therevidae	indet.	indet.	indet.	N	Adult	3	Indet.	Will Frost
19/01/2026	1/02/2026	T23	Insecta	Blattodea	Blattidae	Celatoblatta	indet.	Celatoblatta indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T23	Insecta	Lepidoptera	Gelechiidae	indet.	indet.	indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T23	Insecta	Diptera	Therevidae	indet.	indet.	indet.	N	Adult	2	Indet.	Will Frost
19/01/2026	1/02/2026	T23	Insecta	Hymenoptera	Pompilidae	Priocnemis	indet.	Priocnemis indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T23	Insecta	Diptera	indet.	indet.	indet.	indet.	N	Adult	9	Indet.	Will Frost
19/01/2026	1/02/2026	T23	Arachnida	Opilliones	indet.	indet.	indet.	indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T24	Insecta	Diptera	Ephydridae	indet.	indet.	indet.	N	Adult	3	Indet.	Will Frost
19/01/2026	1/02/2026	T24	Insecta	Orthoptera	Anostostomatidae	Hemideina	maori	Hemideina maori	N	Adult	1	Not threatened	Will Frost
19/01/2026	1/02/2026	T24	Insecta	Blattodea	Blattidae	Celatoblatta	indet.	Celatoblatta indet.	N	Adult	2	Indet.	Will Frost
19/01/2026	1/02/2026	T24	Insecta	Diptera	Tipulidae	Leptotarsus	indet.	Leptotarsus indet.	N	Adult	2	Indet.	Will Frost
19/01/2026	1/02/2026	T24	Insecta	Diptera	indet.	indet.	indet.	indet.	N	Adult	6	Indet.	Will Frost
19/01/2026	1/02/2026	T24	Insecta	Diptera	Therevidae	indet.	indet.	indet.	N	Adult	2	Indet.	Will Frost
19/01/2026	1/02/2026	T24	Insecta	Blattodea	Blattidae	Celatoblatta	quinquemaculata	Celatoblatta quinquemaculata	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T25	Insecta	Diptera	indet.	indet.	indet.	indet.	N	Adult	65	Indet.	Will Frost
19/01/2026	1/02/2026	T25	Insecta	Coleoptera	Staphylinidae	indet.	indet.	indet.	N	Adult	2	Indet.	Will Frost
19/01/2026	1/02/2026	T25	Insecta	Lepidoptera	Gelechiidae	indet.	indet.	indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T25	Insecta	Coleoptera	Scarabaeidae	Scythrodes	squallidus	Scythrodes squallidus	N	Adult	2	Not threatened	Will Frost
19/01/2026	1/02/2026	T25	Insecta	Coleoptera	Chrysomelidae	indet.	indet.	indet.	N	Adult	2	Indet.	Will Frost
19/01/2026	1/02/2026	T25	Insecta	Coleoptera	Curculionidae	indet.	indet.	indet.	N	Adult	2	Indet.	Will Frost
19/01/2026	1/02/2026	T26	Insecta	Orthoptera	Anostostomatidae	Hemideina	maori	Hemideina maori	N	Adult	1	Not threatened	Will Frost
19/01/2026	1/02/2026	T26	Insecta	Lepidoptera	Gelechiidae	indet.	indet.	indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T26	Insecta	Lepidoptera	Plutellidae	indet.	indet.	indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T26	Insecta	Blattodea	Blattidae	Celatoblatta	indet.	Celatoblatta indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T26	Insecta	Orthoptera	Acrididae	Sigaus	australis	Sigaus australis	N	Adult	1	Not threatened	Will Frost
19/01/2026	1/02/2026	T26	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	7	Not threatened	Will Frost
19/01/2026	1/02/2026	T26	Insecta	Coleoptera	Staphylinidae	indet.	indet.	indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T26	Insecta	Diptera	Tipulidae	Leptotarsus	indet.	Leptotarsus indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T26	Insecta	Lepidoptera	Gelechiidae	indet.	indet.	indet.	N	Adult	4	Indet.	Will Frost
19/01/2026	1/02/2026	T27	Insecta	Diptera	indet.	indet.	indet.	indet.	N	Adult	30	Indet.	Will Frost
19/01/2026	1/02/2026	T27	Insecta	Orthoptera	Anostostomatidae	Hemideina	maori	Hemideina maori	N	Adult	1	Not threatened	Will Frost
19/01/2026	1/02/2026	T27	Insecta	Coleoptera	Scarabaeidae	Scythrodes	squallidus	Scythrodes squallidus	N	Adult	1	Not threatened	Will Frost
19/01/2026	1/02/2026	T27	Insecta	Diptera	Tipulidae	Leptotarsus	indet.	Leptotarsus indet.	N	Adult	9	Indet.	Will Frost
19/01/2026	1/02/2026	T27	Arachnida	Opilliones	indet.	indet.	indet.	indet.	N	Adult	2	Indet.	Will Frost
19/01/2026	1/02/2026	T27	Insecta	Diptera	Tachinidae	indet.	indet.	indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T27	Insecta	Blattodea	Blattidae	Celatoblatta	indet.	Celatoblatta indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T28	Insecta	Diptera	indet.	indet.	indet.	indet.	N	Adult	95	Indet.	Will Frost
19/01/2026	1/02/2026	T28	Insecta	Orthoptera	Anostostomatidae	Hemideina	maori	Hemideina maori	N	Adult	3	Not threatened	Will Frost

Set Date	Collection Date	Code	Class	Order	Family	Genus	Species	Name	Tentative Y/N	Life Stage	Count	Threat Classification	Determiner Name
19/01/2026	1/02/2026	T28	Insecta	Blattodea	Blattidae	Celatoblatta	quinquemaculata	Celatoblatta quinquemaculata	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T28	Chilopoda	Craterostigmomorpha	Craterostigmidae	Craterostigmus	crabilli	Craterostigmus crabilli	N	Juvenile	3	Indet.	Will Frost
19/01/2026	1/02/2026	T21	Arachnida	Araneae	indet.	indet.	indet.	indet.	N	Juvenile	1	Indet.	Dustin Edmundson
19/01/2026	1/02/2026	T21	Arachnida	Araneae	Desidae	Mamoea	montana	Mamoea montana	Y	Adult	1	Data deficient	Dustin Edmundson
19/01/2026	1/02/2026	T24	Arachnida	Araneae	Stiphidiidae	Neoramia	alta	Neoramia alta	N	Adult	1	At Risk, Uncommon	Dustin Edmundson
19/01/2026	1/02/2026	T24	Arachnida	Araneae	Orsolobidae	Subantarctia	centralis	Subantarctia centralis	Y	Adult	1	Data deficient	Dustin Edmundson
19/01/2026	1/02/2026	T24	Arachnida	Araneae	indet.	indet.	indet.	indet.	N	Juvenile	1	Indet.	Dustin Edmundson
19/01/2026	1/02/2026	T23	Arachnida	Araneae	Huttoniidae	Huttonia	indet.	Huttonia indet.	N	Juvenile	1	Indet.	Dustin Edmundson
19/01/2026	1/02/2026	T25	Arachnida	Araneae	Desidae	Mamoea	montana	Mamoea montana	N	Adult	1	Data deficient	Dustin Edmundson
19/01/2026	1/02/2026	T25	Arachnida	Araneae	Huttoniidae	Huttonia	indet.	Huttonia indet.	N	Adult	1	Indet.	Dustin Edmundson
19/01/2026	1/02/2026	T28	Arachnida	Araneae	Desidae	Mamoea	montana	Mamoea montana	N	Adult	2	Data deficient	Dustin Edmundson
19/01/2026	1/02/2026	T28	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	N	Adult	1	Not threatened	Dustin Edmundson
19/01/2026	1/02/2026	T27	Arachnida	Araneae	Desidae	Mamoea	montana	Mamoea montana	N	Adult	4	Data deficient	Dustin Edmundson
19/01/2026	1/02/2026	T27	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	Y	Adult	1	Not threatened	Dustin Edmundson
19/01/2026	1/02/2026	T27	Arachnida	Araneae	Stiphidiidae	Neoramia	indet.	Neoramia indet.	Y	Juvenile	1	Indet.	Dustin Edmundson
19/01/2026	1/02/2026	T27	Arachnida	Araneae	Stiphidiidae	Neoramia	alta	Neoramia alta	N	Adult	3	At Risk, Uncommon	Dustin Edmundson
19/01/2026	1/02/2026	T27	Arachnida	Araneae	Cycloctenidae	Orepukia	aff. sorenseni	Orepukia aff. Sorenseni	Y	Adult	1	Not threatened	Dustin Edmundson
19/01/2026	1/02/2026	T27	Arachnida	Araneae	Linyphiidae	Haplinis	inexacta	Haplinis inexacta	Y	Adult	1	Not threatened	Dustin Edmundson
19/01/2026	1/02/2026	T22	Arachnida	Araneae	Desidae	Mamoea	montana	Mamoea montana	N	Adult	6	Data deficient	Dustin Edmundson
19/01/2026	1/02/2026	T22	Arachnida	Araneae	Desidae	Mamoea	montana	Mamoea montana	Y	Juvenile	1	Data deficient	Dustin Edmundson
19/01/2026	1/02/2026	T22	Arachnida	Araneae	Lycosidae	Anoteropsis	hilaris	Anoteropsis hilaris	Y	Juvenile	1	Not threatened	Dustin Edmundson
19/01/2026	1/02/2026	T22	Arachnida	Araneae	Stiphidiidae	Neoramia	alta	Neoramia alta	N	Adult	1	At Risk, Uncommon	Dustin Edmundson
19/01/2026	1/02/2026	T22	Insecta	Hymenoptera	Diapriidae	Betyla	indet.	Betyla indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T22	Insecta	Hymenoptera	Ichneumonidae	Aucklandella	indet.	Aucklandella indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T23	Insecta	Coleoptera	Coccinellidae	indet.	indet.	indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T23	Insecta	Coleoptera	Carabidae	Holcaspis	indet.	Holcaspis indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T23	Insecta	Hymenoptera	Braconidae	indet.	indet.	indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T23	Insecta	Coleoptera	Carabidae	?Ctenognathus	indet.	Ctenognathus indet.	Y	Adult	2	Indet.	Will Frost
19/01/2026	1/02/2026	T24	Insecta	Coleoptera	Carabidae	Holcaspis	indet.	Holcaspis indet.	N	Adult	2	Indet.	Will Frost
19/01/2026	1/02/2026	T24	Insecta	Coleoptera	Chrysomelidae	indet.	indet.	indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T25	Insecta	Plecoptera	Austroperlidae	Austroperla	cyrene	Austroperla cyrene	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T25	Insecta	Coleoptera	Curculionidae	indet.	indet.	indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T25	Insecta	Coleoptera	Scarabaeidae	Pryonota	festiva	Pyronota festiva	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T26	Insecta	Coleoptera	Carabidae	Megadromus	indet.	Megadromus indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T26	Insecta	Coleoptera	Carabidae	indet.	indet.	indet.	N	Adult	18	Indet.	Will Frost
19/01/2026	1/02/2026	T26	Insecta	Coleoptera	Elateridae	indet.	indet.	indet.	N	Adult	3	Indet.	Will Frost
19/01/2026	1/02/2026	T26	Insecta	Coleoptera	Leiodidae	indet.	indet.	indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T26	Insecta	Coleoptera	Byrrhidae	indet.	indet.	indet.	N	Adult	2	Indet.	Will Frost
19/01/2026	1/02/2026	T27	Insecta	Orthoptera	Acrididae	Sigaus	tumidicauda	Not threatened	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T27	Insecta	Coleoptera	Curculionidae	indet.	indet.	indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T28	Insecta	Coleoptera	Anobiidae	indet.	indet.	indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T28	Insecta	Hymenoptera	Ichneumonidae	Aucklandella	indet.	Aucklandella indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T28	Insecta	Hymenoptera	Pompilidae	Priocnemis	conformis	Priocnemis confirmis	N	Adult	1	Indet.	Will Frost
19/01/2026	1/02/2026	T28	Insecta	Coleoptera	Staphylinidae	indet.	indet.	indet.	N	Adult	1	Indet.	Will Frost

Collection Date	Lat	Lon	Collection Method	CollectorName	Sample No	Class	Order	Family	Genus	Species	Name	Tentative Y/N	Life_Stage	Count	Threat Classification	Determiner Name
19/01/2026	45.076	168.839	Hand collected	Will Frost	1	Insecta	Hemiptera	Pentatomidae	Hypsithocus	hudsonae	Hypsithocus hudsonae	N	Adult	2	At Risk, Uncommon	Will Frost
19/01/2026	45.067	168.832	Hand collected	Will Frost	2	Insecta	Lepidoptera	Geometridae	Dasyuris	micropolis	Dasyuris micropolis	N	Adult	1	At Risk, Declining	Will Frost
19/01/2026	45.076	168.839	Hand collected	Will Frost	3	Insecta	Lepidoptera	Geometridae	Dasyuris	partheniata	Dasyuris partheniata	N	Adult	2	At Risk, Declining	Will Frost
19/01/2026	45.074	168.836	Hand collected	Will Frost	4	Insecta	Lepidoptera	Geometridae	Dasyuris	partheniata	Dasyuris partheniata	N	Adult	3	At Risk, Declining	Will Frost
19/01/2026	45.073	168.836	Hand collected	Will Frost	5	Insecta	Lepidoptera	Geometridae	Dasyuris	callicrena	Dasyuris callicrena	N	Adult	1	Not Assessed	Will Frost
19/01/2026	45.072	168.837	Hand collected	Will Frost	6	Insecta	Lepidoptera	Geometridae	Aponotoreas	insignis	Aponotoreas insignis	N	Adult	2	Not Assessed	Will Frost
19/01/2026	45.072	168.835	Hand collected	Will Frost	7	Insecta	Lepidoptera	Geometridae	Aponotoreas	anthracias	Aponotoreas anthracias	N	Adult	3	Not Assessed	Will Frost
19/01/2026	45.072	168.835	Hand collected	Will Frost	8	Insecta	Lepidoptera	Geometridae	Paranotoreas	zopyra	Paranotoreas zopyra	N	Adult	2	Not Assessed	Will Frost
19/01/2026	45.067	168.832	Hand collected	Will Frost	9	Insecta	Lepidoptera	Erebidae	Metacrias	erichrysa	Metacrias erichrysa	N	Adult	2	Not Threatened	Will Frost
19/01/2026	45.072	168.837	Hand collected	Will Frost	10	Insecta	Lepidoptera	Plutellidae	Orthenches	indet.	Orthenches indet.	N	Adult	1	Indet.	Will Frost
19/01/2026	45.072	168.835	Hand collected	Will Frost	11	Insecta	Lepidoptera	Geometridae	Notoreas	paradelpha	Notoreas paradelpha	N	Adult	4	Not Assessed	Will Frost
19/01/2026	45.067	168.832	Hand collected	Will Frost	12	Insecta	Lepidoptera	Crambidae	Tawhitia	glaucophanes	Tawhitia glaucophanes	N	Adult	10	Not Assessed	Will Frost
19/01/2026	45.074	168.836	Hand collected	Will Frost	13	Insecta	Lepidoptera	Crambidae	Tauroscopa	notabilis	Tauroscopa notabilis	N	Adult	5	Not Assessed	Will Frost
indet.	indet.	indet.	Hand collected	E3 staff	14	Insecta	Orthoptera	Rhaphidophoridae	indet.	indet.	indet.	N	Adult	2	Indet.	Will Frost
indet.	indet.	indet.	Hand collected	E3 staff	15	Insecta	Coleoptera	Curculionidae	Inophloeus	inuus	Inophloeus inuus	N	Adult	2	Not Assessed	Will Frost
indet.	indet.	indet.	Hand collected	E3 staff	16	Insecta	Coleoptera	Carabidae	Megadromus	indet.	Megadromus indet.	N	Adult	2	Not Assessed	Will Frost

Collection Date	Lat	Lon	Class	Order	Family	Genus	Species	Name	Tentative Y/N	Life Stage	Count	Threat Classification	Determiner Name
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Noctuidae	Ichneutica	ceraunias	Ichneutica ceraunias	N	Adult	10	Not Threatened	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Noctuidae	Persectania	aversa	Persectania aversa	N	Adult	6	Not Threatened	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Noctuidae	Bityla	defigurata	Bityla defigurata	N	Adult	4	Not Threatened	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Noctuidae	Peripyra	sanguinipuncta	Peripyra sanguinipuncta	N	Adult	1	Coloniser	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Geometridae	Anachloris	subochraria	Anachloris subochraria	N	Adult	1	Not Threatened	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Geometridae	Chloroclystis	filata	Chloroclystis filata	N	Adult	30	Coloniser	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Noctuidae	Agrotis	ipsilon	Agrotis ipsilon	N	Adult	2	Coloniser	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Psychidae	Orophora	unicolor	Liothula unicolor	N	Adult	1	Not Assessed	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Geometridae	Xanthorhoe	occulta	Xanthorhoe occulta	N	Adult	2	Not Assessed	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Crambidae	Eudonia	trivirgata	Eudonia trivirgata	N	Adult	5	Not Assessed	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Noctuidae	Physetica	phricias	Physetica phricias	N	Adult	2	Not Threatened	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Noctuidae	Nivetica	nervosa	Nivetica nervosa	N	Adult	2	At Risk, Declining	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Noctuidae	Ichneutica	lissoxyla	Ichneutica lissoxyla	N	Adult	3	Not Threatened	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Plutellidae	Plutella	antiphona	Plutella antiphona	N	Adult	1	Not Assessed	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Crambidae	Eudonia	oculata	Eudonia oculata	N	Adult	2	Not Assessed	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Crambidae	Eudonia	cataxesta	Eudonia cataxesta	N	Adult	1	Not Assessed	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Noctuidae	Ichneutica	falsidica	Ichneutica falsidica	N	Adult	10	Not Threatened	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Noctuidae	Ichneutica	cuneata	Ichneutica cuneata	N	Adult	2	Not Threatened	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Noctuidae	Physetica	caerulea	Physetica caerulea	N	Adult	2	Not Threatened	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Noctuidae	Physetica	cucullina	Physetica cucullina	N	Adult	2	Not Threatened	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Noctuidae	Ichneutica	lignana	Ichneutica lignana	N	Adult	2	Not Threatened	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Crambidae	Eudonia	sabulosella	Eudonia sabulosella	N	Adult	2	Not Assessed	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Crambidae	Scoparia	panopla	Scoparia panopla	N	Adult	1	Not Assessed	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Crambidae	Scoparia	niphospora	Scoparia niphospora	N	Adult	2	Not Assessed	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Pterophoridae	Amblyptilia	repletalis	Amblyptilia repletalis	N	Adult	10	Not Assessed	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Tortricidae	Clepsis	leucaniana	Clepsis leucaniana	N	Adult	1	Not Assessed	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Geometridae	Pasiphila	humilis	Pasiphila humilis	N	Adult	1	Not Assessed	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Geometridae	Pasiphila	halianthes	Pasiphila halianthes	N	Adult	3	Not Assessed	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Geometridae	Pasiphila	eratica	Pasiphila eratica	N	Adult	1	Not Assessed	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Geometridae	Pasiphila	sandycias	Pasiphila sandycias	N	Adult	1	Not Assessed	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Geometridae	Pasiphila	sp.n	Pasiphila sp.n	Y	Adult	1	Not Assessed	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Geometridae	Pasiphila	indet.	Pasiphila indet.	N	Adult	1	Not Assessed	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Noctuidae	Ichneutica	unica	Ichneutica unica	N	Adult	1	Not Threatened	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Crambidae	Orocrambus	ramosellus	Orocrambus ramosellus	N	Adult	2	Not Assessed	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Crambidae	Orocrambus	lewisi	Orocrambus lewisi	N	Adult	1	Not Assessed	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Crambidae	Eudonia	submarginalis	Eudonia submarginalis	N	Adult	1	Not Assessed	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Crambidae	Eudonia	legnota	Eudonia legnota	N	Adult	1	Not Assessed	Will Frost
19/01/2026	45.067	168.832	Insecta	Lepidoptera	Plutellidae	Proditrix	megalynta	Proditrix megalynta	N	Adult	1	Not Assessed	Will Frost

Appendix E: New Zealand Wetland Data Forms.

NEW ZEALAND WETLAND DELINEATION DATA FORM: PASTURE TEST

SECTION A – SITE INFORMATION

site 1

Site: 1 Doolans. Region: ~~Doolans~~ Remarks (otago) Sampling point/ID: Site 2

Owner/address: DOC Date: 26/3/25 Land use: Conservation land

Landform: adjacent farm. Local relief: Gentle slope - 20m Land cover: tussock grassland

Is the land drained? YES___ NO ✓ ___UNKNOWN___ Investigator(s): LSW, AD Slope°: <3°

GPS (NZTM): 643 Altitude m:___ Photo Nos: LSW Ph. 3273

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.

Tree Stratum (Plot size:___)	Absolute % cover	Dominant Species?	Indicator Status	Pasture % cover
1.				
2.				
3.				
4.				
Total tree cover (TT) =		50%	20%	

Sapling/Shrub Stratum (Plot size: 4m2)	Absolute % cover	Dominant Species?	Indicator Status	Pasture % cover
1. ~~Chi mac~~	~~60~~			
2. ~~Dra~~				
3.				
4.				
5.				
Total sapling/shrub cover (TS) =		50%	20%	

Herb Stratum (Plot size: 2×2)	Absolute % cover	Dominant Species?	Indicator Status	Pasture % cover
1. Dracmus	30	Y	N/a	
2. Aci Aurlei	1	–	N/a	
3. Mosi	1	–	–	
4. Cel lyallii	1	–	N/a	
5. Chi mac	60	Y	N/a (FACU)	
6. Phy colensoi	1	–	FAC	
7. Gau dep	1	–	FACU	
8. Cel hectorii	1	–	N/a	
9. Cre lineata	1	–	N/a	
10. Cel laris	1	–	N/a	
11. Dunsig gla	1	–	N/a	
12. ~~Aci~~ Poa col	1	–	N/a	
13. Ani imb	1	–	FACU	
14. Epi als	1	–	FACU	
15. Luz pum	1	–	UPL	
16. Marlsp...	3	–	FAC	
17. Rock	10	–	–	
18.				
Total herb cover (TH) =	~~100~~ 106	50% 1	20% 1	

96 not inc rock

Total (P) = ___

Total Vegetation Cover (TVC): TT+TS+TH = 96 50% 1

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)	2
% OBL/FACW/FAC	(A/B)	n/a

Prevalence Index:

Total % cover of:		Multiply by:
OBL	/	x 1 =
FACW	/	x 2 =
FAC	4	x 3 = 12
FACU	63	x 4 = 252
UPL/Na	29	x 5 = 145
Total	96 (A)	409 (B)

Prevalence Index (B/A) = 4.26

Hydrophytic vegetation indicators:

☐ Rapid Test

☐ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Morphological adaptations[1] (supporting data in Remarks)

☐ Problematic hydrophytic vegetation[1]

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

Hydrophytic vegetation present? YES ☐ NO ☐ UNCERTAIN ☒

Remarks: unable to be assessed due to indicator status not being assigned.

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	10YR 3/2		–			mineral	~~Soft~~ silt loam
							shallow profile - rock

[1]Use % area charts; [2]Use size classes; [3]Ped face, pore, within ped along roots, within matrix; [4]Organic (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 OR
- ☐ Mottled

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

Layers: Depth (cm) 8cm Rock

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

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

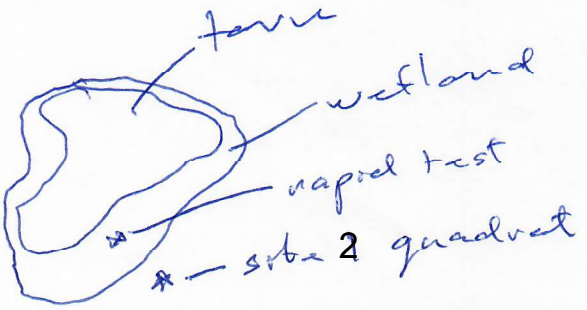
- ☐ Water-stained leaves (2K)
- ☐ Drainage patterns (2L)
- ☐ Dry-season water table (3E)
- ☐ Saturation in aerial imagery (3F)
- ☐ Geomorphic position (4B)
- ☐ Shallow aquitard (4C)
- ☐ FAC-neutral test (4D)
- ☐ Frost-heave hummocks (4E)

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: #5269 - NM Phone.

NEW ZEALAND WETLAND DELINEATION DATA FORM: PASTURE TEST

SECTION A – SITE INFORMATION

Site: Doolans. Region: Remarks Sampling point/ID: site 4

Owner/address: DOC Date: 26/03/25 Land use: Conservation.

Landform: slope Local relief: high hill 50m Land cover: rock

Is the land drained? YES___NO___UNKNOWN___ Investigator(s): CSW, GD Slope°: 10°

GPS (NZTM): 646 Altitude m: Photo Nos: # 3276

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. Tree Stratum (Plot size:_____)	Absolute % cover	Dominant Species?	Indicator Status	Pasture % cover
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. Cop per	1	Y	FAC	
2. Ch! mac	3	Y	N/a (FACU)	
3. Mel alp	2	Y	FACU	
4. poly cystostegia	2	Y	N/a	
5. austroblechnum PM	<1	Y	FAC	
6. Poa col	<1	Y	N/a	
7. rock	90%		✓	
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
Total herb cover (TH) = 100 (10 not inc rock)		50% 0	20% 0	
			Total (P) =	
Total Vegetation Cover (TVC): TT+TS+TH = 10		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) 6

% OBL/FACW/FAC (A/B) 33.33%

Prevalence Index:

Total % cover of:		Multiply by:	
OBL	✓	x 1 =	
FACW	✓	x 2 =	
FAC	2	x 3 =	6
FACU	5	x 4 =	20
UPL	3	x 5 =	15
Total	10 (A)		41 (B)

Prevalence Index (B/A) = 4.1

Hydrophytic vegetation indicators:

☐ Rapid Test

☒ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Morphological adaptations[1] (supporting data in Remarks)

☐ Problematic hydrophytic vegetation[1]

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
							Rock

[1]Use % area charts; [2]Use size classes; [3]Ped face, pore, within ped along roots, within matrix; [4]Organic (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 OR
- ☐ Mottled profile

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 layers: 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

Soil °C_____

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

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

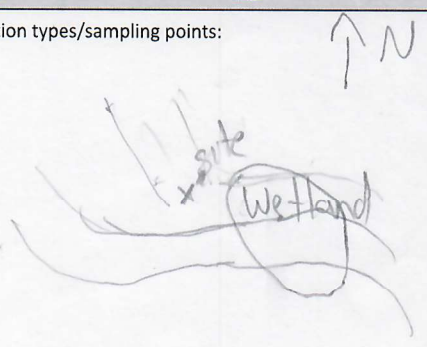
- ☐ Water-stained leaves (2K)
- ☐ Drainage patterns (2L)
- ☐ Dry-season water table (3E)
- ☐ Saturation in aerial imagery (3F)
- ☐ Geomorphic position (4B)
- ☐ Shallow aquitard (4C)
- ☐ FAC-neutral test (4D)
- ☐ Frost-heave hummocks (4E)

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/vegetation types/sampling points:



Remarks:

Site 4 Kram photo

NEW ZEALAND WETLAND DELINEATION DATA FORM: PASTURE TEST

SECTION A – SITE INFORMATION

Site: Dooleans. Region: Remarks (otago) Sampling point/ID: site 6

Owner/address: DOC Date: 26/03/26 Land use: Conservation

Landform: slope / hillside Local relief: 50-100 Land cover: Tussock

Is the land drained? YES___NO___UNKNOWN___ Investigator(s): CSW GD Slope°: 10°

GPS (NZTM): 648 Altitude m:_____ Photo Nos: #3279

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. chi mac	40	Y	N/a (FACU)	
2. poa col	5	N	N/a	
3. poly cyst	2	N	N/a	
4. cop nephopila	2	N	N/a	
5. plantago lanigera	1	N	FAC	
6. aci kirk	1	N	N/a	
7. cel haast	1	N	N/a	
8. gau dep	1	N	FACU	
9. Kelleria childii	1	N	N/a	
10. ourisia gland	1	N	N/a	
11. carex edura	1	N	FAC	
12. blechnum PM	1	N	FAC	
13. rock	60	N	/	
14.				
15.				
16.				
17.				
18.				
Total herb cover (TH) = 117 (57 not inc rock)		50% 0	20% 1	
			Total (P) =	
Total Vegetation Cover (TVC): TT+TS+TH = 57		50% 0		

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		x 1 =	
FACW		x 2 =	
FAC	3	x 3 =	9
FACU	41	x 4 =	164
UPL	13	x 5 =	65
Total	57 (A)		238 (B)

Prevalence Index (B/A) = 4.17

Hydrophytic vegetation indicators:

☐ Rapid Test

☒ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Morphological adaptations[1] (supporting data in Remarks)

☐ Problematic hydrophytic vegetation[1]

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	10YR 3/2					mineral	Gravelly sandy silt loam
3+						Rock	

[1]Use % area charts; [2]Use size classes; [3]Ped face, pore, within ped along roots, within matrix; [4]Organic (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 OR
- ☐ Mottled profile

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 layers: 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

Soil °C_____

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

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

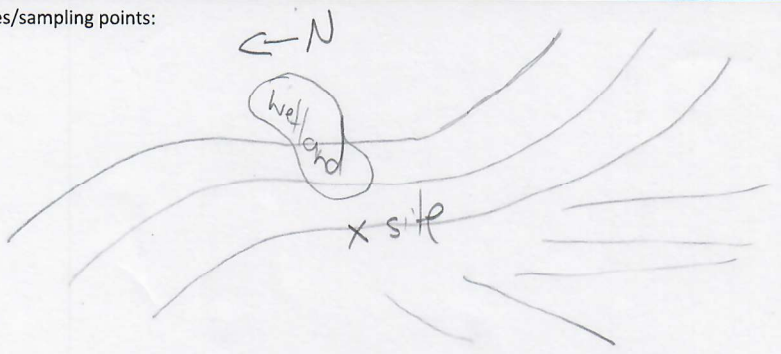
- ☐ Water-stained leaves (2K)
- ☐ Drainage patterns (2L)
- ☐ Dry-season water table (3E)
- ☐ Saturation in aerial imagery (3F)
- ☐ Geomorphic position (4B)
- ☐ Shallow aquitard (4C)
- ☐ FAC-neutral test (4D)
- ☐ Frost-heave hummocks (4E)

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/vegetation types/sampling points:



Remarks:

Site 6
Photo NM-5272

NEW ZEALAND WETLAND DELINEATION DATA FORM: PASTURE TEST

SECTION A – SITE INFORMATION

Site: Doolans. Region: Remarks Sampling point/ID: site 8

Owner/address: DOC Date: 26/03/25 Land use: Tussock

Landform: Slope Local relief: 50-100m Land cover: ↓ Conservation

Is the land drained? YES NO UNKNOWN Investigator(s): CSW, GP Slope°: 15-20°

GPS (NZTM): 650 Altitude m: Photo Nos: # 3281

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: 2m)				
1. chi mac	40	Y	N/a (FACU)	
2. Acaena sacc	1	N	FACU	
3. aci kirk	2	N	N/a	
4. viola cunninghamii	1	N	FAC	
5. blechnum P.M	10	N	FAC	
6. lept pect	8	N	N/a	
7. carex. edura	5	N	FAC	
8. epi alsinoides	1	N	FACU	
9. plantago lag	1	N	FAC	
10. poa col	5	N	N/a	
11. rock	50	1	✓	
12.				
13.				
14.				
15.				
16.				
17.				
18.				
Total herb cover (TH) = 118 (68 not inc rock)		50% 0	20% 1	
			Total (P) =	
Total Vegetation Cover (TVC): TT+TS+TH = 68		50% 0		

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 _____	x 1 = _____
FACW _____	x 2 = _____
FAC 17	x 3 = 51
FACU 42	x 4 = 168
UPL/NA 9	x 5 = 45
Total 68 (A)	264 (B)

Prevalence Index (B/A) = 3.88

Hydrophytic vegetation indicators:

☐ Rapid Test

☐ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Morphological adaptations[1] (supporting data in Remarks)

☐ Problematic hydrophytic vegetation[1]

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
0-6	10YR 2/2					Roots / litter	-organic
6+							Rock

[1]Use % area charts; [2]Use size classes; [3]Ped face, pore, within ped along roots, within matrix; [4]Organic (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 OR
- ☐ Mottled profile

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 layers: 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

Soil °C_____

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

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

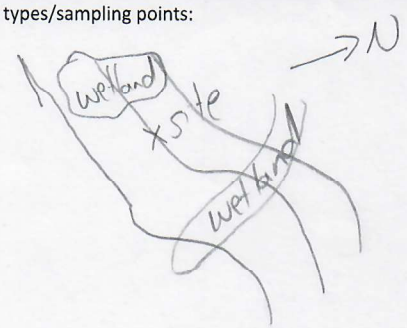
- ☐ Water-stained leaves (2K)
- ☐ Drainage patterns (2L)
- ☐ Dry-season water table (3E)
- ☐ Saturation in aerial imagery (3F)
- ☐ Geomorphic position (4B)
- ☐ Shallow aquitard (4C)
- ☐ FAC-neutral test (4D)
- ☐ Frost-heave hummocks (4E)

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/vegetation types/sampling points:



Remarks:

Site 8
photo = NM 5273

NEW ZEALAND WETLAND DELINEATION DATA FORM

SECTION A – SITE INFORMATION

Site: Dodans | Region: Remarks | Sampling point: Site 11

Owner: DOC | Date: 26/03/25 | Land use: Conservation

Landform: | Local relief: Convex | Land cover: Tussock

Is the land drained (circle) YES NO | Investigator(s): 100+ m LSW, GD NM | Soil °C: / | Slope°: <30

GPS (NZTM): 654 | Altitude m: | Photo Nos: #3289 - LSW

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. Chi mac	80	Y	N/a (FACU)
2. astelia nerv	15	N	FACW
3. ver hec	10	N	N/a
4. Dra mus	1		N/a
5. rao gra	1		N/a
6. aan dep	1		FACU
7. tel lya	1		N/a
8. gen corymbifera	1		N/a
9. rel hao	2		N/a
10. genm cockaynei	1		N/a
11. poa col	5		N/a
12. sch pac	2		FACW
Total cover =	120	50% = 1	
Total veg cover = 120		50% = 1	

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	2	x 2 =	4
FAC		x 3 =	
FACU	96	x 4 =	384
UPL	22	x 5 =	110
Total	120 (A)		498 (B)

Prevalence Index (B/A) = 4.15

Hydrophytic vegetation Indicators:

- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological adaptations[1] (supporting data in Remarks)
- ☐ Problematic hydrophytic vegetation[1]

[1]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	2.5Y 4/1					mineral	medium roots + OM
3-19	2.5Y 5/1					mineral	fine roots
19+						Rock	

[1]Use % area charts; [2]Use size classes; [3]Ped face, pore, within ped along roots, within matrix; [4]Organic (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 OR
- ☐ Mottled profile

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 layers: 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

Soil °C_____

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

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

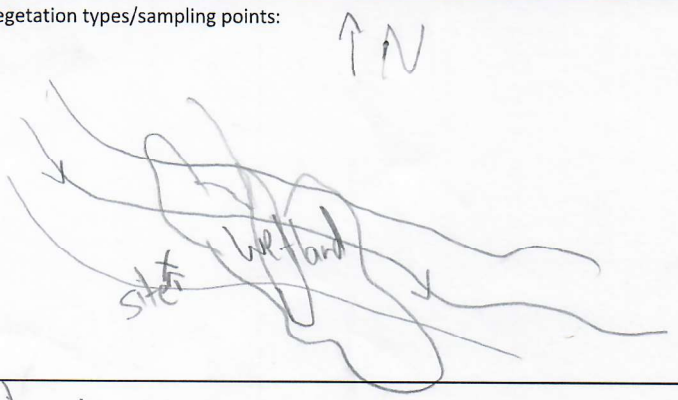
- ☐ Water-stained leaves (2K)
- ☐ Drainage patterns (2L)
- ☐ Dry-season water table (3E)
- ☐ Saturation in aerial imagery (3F)
- ☐ Geomorphic position (4B)
- ☐ Shallow aquitard (4C)
- ☐ FAC-neutral test (4D)
- ☐ Frost-heave hummocks (4E)

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/vegetation types/sampling points:



Remarks:

site 11

Photo - NM 8274

NEW ZEALAND WETLAND DELINEATION DATA FORM

SECTION A – SITE INFORMATION

Site: Doolans. Region: Remarks Sampling point: site 12

Owner: DOC Date: 26/03/25 Land use: Conservation

Landform: Seepage Local relief: concave. Land cover: rushes

Is the land drained (circle) YES NO (circled) Investigator(s): CSW GP Soil °C: ______ Slope°: 5°

GPS (NZTM): 655 Altitude m: ______ Photo Nos: #3290

Are climatic/hydrologic conditions on the site typical for this time of year? YES (circled) NO (circle appropriate; if NO explain in Remarks)

Are vegetation, soil or hydrology significantly disturbed? (circle) No Are 'normal circumstances' present? (circle) YES (circled) 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 % 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. ger micro	1		
Total cover =			
Herb Stratum (Plot size: 2x2.)			
1. chi mac	15	N	N/a (FACU)
2. sch pac	40	Y	FACW
3. caltha obt	40	Y	OBL
4. mars. ~~lepto~~ grac	5	N	FAC
5. craespedia ~~uniflora~~	1	N	N/a
6. plantago unibr	5	N	OBL
7. euchiton lat	1	N	FACW
8. acaena sacc	1	N	FACU
9. celmisia alpina	1	N	OBL
10. cop perpusilla	5	N	N/a
11. cel haast	1	N	N/a
12. anisotome aromatica	1	N	FACU
Total cover =	116	50% = 0	20% = 2

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	41	x 1 = 41
FACW	41	x 2 = 82
FAC	5	x 3 = 15
FACU	17	x 4 = 68
UPL/NI	7	x 5 = 35
Total	111 (A)	(B) 241

Prevalence Index (B/A) = 2.17

Hydrophytic vegetation indicators:

- ☑ Dominance Test is >50%
- ☑ Prevalence Index is ≤3.0[1]
- ☐ Morphological adaptations[1] (supporting data in Remarks)
- ☐ Problematic hydrophytic vegetation[1]

[1]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						humic organic	
10-25						mineral	med + fine roots
25+	5YR 2.5/2					Rock	

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

Hydric soil indicators:

Soil drainage (circle) W MW I P VP

Organic layers:
- [ ] Organic soil material
- [ ] Litter
- [ ] Fibric
- [x] Mesic
- [ ] Humic
- [ ] Peaty topsoil
- [ ] Peaty subsoil

Concretions:
- [ ] Iron concretions
- [ ] Manganese concretions
- [ ] Nodular

Consistence:
- [x] Plastic
- [ ] Sticky
- [ ] Fluid

Colours: profile form either:
- [ ] Gley OR
- [ ] Mottled

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

Layers: Depth (cm) 25cm rock

Slow perm argillic

- [ ] Pugged

Hydric soils present? YES [x] NO [ ] UNCERTAIN [ ] NZSC subgroup _____

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

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

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

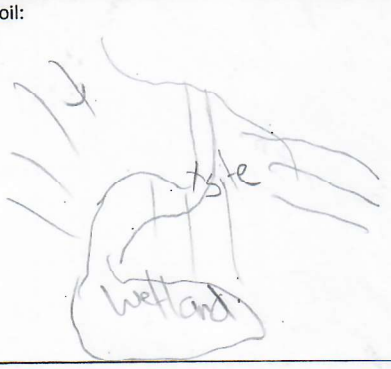
- [ ] Water-stained leaves (2K)
- [x] Drainage patterns (2L)
- [ ] Dry-season water table (3E)
- [ ] Saturation in aerial imagery (3F)
- [x] Geomorphic position (4B)
- [x] Shallow aquitard (4C)
- [ ] FAC-neutral test (4D)
- [ ] Frost-heave hummocks (4E)

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 [x] NO [ ]

Sketch of site/soil:



Remarks:

Site 12

Photo - NM 5275

NEW ZEALAND WETLAND DELINEATION DATA FORM

SECTION A – SITE INFORMATION

Site: Doolans.
Region: Remarks
Sampling point: Site 13
Owner: DOC
Date: 26/03/25
Land use: Conservation.
Landform: Seepage/wetland.
Local relief: 50+m
Land cover: herb/rushes
Is the land drained (circle) YES NO (circled)
Investigator(s): LSW, GD
Soil °C:
Slope°: 5°
GPS (NZTM): 656
Altitude m:
Photo Nos: # 3291

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

	YES	NO
Hydrophytic vegetation present?	☑	☐
Hydric soils present?	☑	☐
Wetland hydrology present?	☑	☐

Is the sampled area within a wetland? **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. Sch pac	15		FACW
Total cover =			
Herb Stratum (Plot size:)			
1. Poa col	25	Y	N/a
2. caltha obt	20	Y	OBL
3. Chi mac	5		N/a
4. Cel sess	3		FACU
5. abrotonella caes	20	Y	FACW
6. anisotome aro	2		FACU
7. ourisia gland	1		N/a
8. plantago unifr	20	Y	OBL
9. Leachiton lat	1		OBL
10. Craespedia lanata	1		N/a
11. coprosma perp	2		N/a
12. celmisia alpina	1		OBL
Total cover =	116		

Dominance Test:

No. Dominant Spp. OBL/FACW/FAC	(A)	3
Tot. Dominant Spp. across strata	(B)	4
% OBL/FACW/FAC	(A/B)	75%

Prevalence Index:

Total % cover of:		Multiply by:	
OBL	42	x 1 =	42
FACW	20	x 2 =	40
FAC	/	x 3 =	/
FACU	10	x 4 =	40
UPL	29	x 5 =	145
Total	101 (A)		267 (B)

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

Prevalence Index (B/A) = 2.643

Hydrophytic vegetation indicators:

- ☑ Dominance Test is >50%
- ☑ Prevalence Index is ≤3.0[1]
- ☐ Morphological adaptations[1] (supporting data in Remarks)
- ☐ Problematic hydrophytic vegetation[1]

[1]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	7.5YR 2.5/2					humic	med + fine roots
10-30	2.5Y 4/1					mineral	fine roots
30+						rock	

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

Hydric soil indicators:

Soil drainage (circle) W MW (P) VP

Organic layers:
- [ ] Organic soil material
- [ ] Litter
- [ ] Fibric
- [ ] Mesic
- [x] Humic
- [ ] Peaty topsoil
- [ ] Peaty subsoil

Concretions:
- [ ] Iron concretions
- [ ] Manganese concretions
- [ ] Nodular

Consistence:
- [ ] Plastic
- [ ] Sticky
- [ ] Fluid

Colours: profile form either:
- [ ] Gley OR
- [ ] Mottled

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

Layers: Depth (cm) rock 30

Slow perm argillic

- [ ] Pugged

Hydric soils present? YES [x] NO [ ] UNCERTAIN [ ] NZSC subgroup _____

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

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

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

- [ ] Water-stained leaves (2K)
- [ ] Drainage patterns (2L)
- [ ] Dry-season water table (3E)
- [ ] Saturation in aerial imagery (3F)
- [x] Geomorphic position (4B)
- [x] Shallow aquitard (4C)
- [ ] FAC-neutral test (4D)
- [ ] 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 [x] NO [ ]

Sketch of site/soil:

Remarks:

Site 13
Photo - NM 5276

NEW ZEALAND WETLAND DELINEATION DATA FORM

SECTION A – SITE INFORMATION

Site: Poolams · Region: Remarks · Sampling point: Site 14

Owner: DOC · Date: 26/03/26 · Land use: Conservation

Landform: hillside · Local relief: 50-100 Convex · Land cover: Tussock.

Is the land drained (circle) YES NO · Investigator(s): CSW, GD · Soil °C: _____ · Slope°: 1-2

GPS (NZTM): 658 CSW · Altitude m: _____ · Photo Nos: #3292 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~~ NO · **Is the sampled area within a wetland?** YES ☐ NO ☒

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: 2X2)			
1. Poa col	15	N	N/a
2. chi mac	85	Y	N/a /FACU
3. cel fwallii	25	y	N/a
4. cel haastii	3	N	N/a
5. epi alsinoides	<1	N	FACW
6. chi rid	5	N	FAC
7.			
8.			
9.			
10.			
11.			
12.			
Total cover =	134		

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	5	x 3 =	15
FACU	86	x 4 =	344
UPL	128 43	x 5 =	215
Total	134 (A)		574 (B)

Prevalence Index (B/A) = 4.28

Hydrophytic vegetation indicators:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological adaptations[2] (supporting data in Remarks)
- ☐ Problematic hydrophytic vegetation[1]

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

Hydrophytic vegetation present?

YES ☐

NO ☒

UNCERTAIN ☒ x

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
7cm	10YR4/1					mineral	fine roots
7+						Rock	

[1]Use % area charts; [2]Use size classes; [3]Ped face, pore, within ped along roots, within matrix; [4]Organic (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 OR
- ☐ Mottled

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

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

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

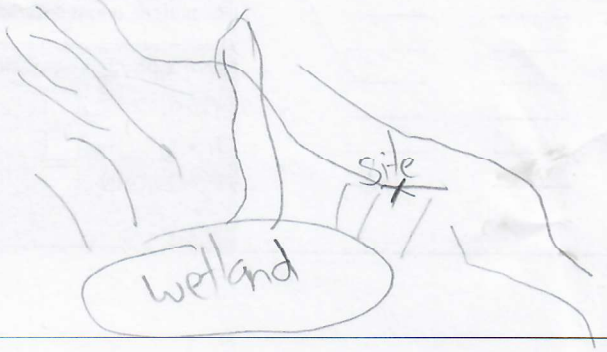
- ☐ Water-stained leaves (2K)
- ☐ Drainage patterns (2L)
- ☐ Dry-season water table (3E)
- ☐ Saturation in aerial imagery (3F)
- ☐ Geomorphic position (4B)
- ☐ Shallow aquitard (4C)
- ☐ FAC-neutral test (4D)
- ☐ Frost-heave hummocks (4E)

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:

site 14
Photo - NM 5277

NEW ZEALAND WETLAND DELINEATION DATA FORM: PASTURE TEST

SECTION A – SITE INFORMATION

Site: Doolans. Region: Remarks Sampling point/ID: site 15

Owner/address: DOC Date: 26/03/25 Land use: Conservation.

Landform: Seepage. Local relief: 50-100+m Land cover: herbs

Is the land drained? YES NO UNKNOWN Investigator(s): CSW, GD Slope°: 2°

GPS (NZTM): 659 Altitude m: Photo Nos: # 3293 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 ☐

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. chi mac	10	N	N/a	FAC
2. cel sess	10	N	FACU	
3. caltha obt	60	Y	OBL	
4. schoenus pac	30	Y	FACW	
5. plantago unibr	10	N	OBL	
6. Abrotonella caes	2	N	FACW	
7. oreobolus pect	2	N	OBL	
8. phyllachne colen	3	N	FAC	
9. cal haast	1	N	N/a	
10. gaultheria parvula	2	N	FAC	
11. poa col	5	N	N/a	
12. lenm covy	1	N	N/a	
13.				
14.				
15.				
16.				
17.				
18.				
Total herb cover (TH) = 136		50% 1	20% 1	
			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	72	x 1 =	72
FACW	32	x 2 =	64
FAC	5	x 3 =	15
FACU	20	x 4 =	80
UPL	7	x 5 =	35
Total	136 (A)		266 (B)

Prevalence Index (B/A) = 1.955

Hydrophytic vegetation indicators:

☑ Rapid Test

☑ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Morphological adaptations[1] (supporting data in Remarks)

☐ Problematic hydrophytic vegetation[1]

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	10YR 3/2					~~humic~~ organic	very little
3-16	2.5Y 5/1					mineral	silt loam med-fine root
16-22						mineral	gravelly silt

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

Hydric soil indicators:

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

Organic layers:
- [x] Organic soil material
- [ ] Litter
- [ ] Fibric
- [ ] Mesic
- [x] Humic
- [ ] Peaty topsoil
- [ ] Peaty subsoil

Concretions:
- [ ] Iron concretions
- [ ] Manganese concretions
- [ ] Nodular

Consistence:
- [ ] Plastic
- [x] Sticky
- [ ] Fluid

Colours: profile form either:
- [ ] Gley profile OR
- [ ] Mottled profile

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 layers: Depth (cm) ______

Slow perm argillic

- [ ] Pugged

Hydric soils present? YES [x] NO [ ] UNCERTAIN [ ] NZSC subgroup ____________________

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

Soil °C____________

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

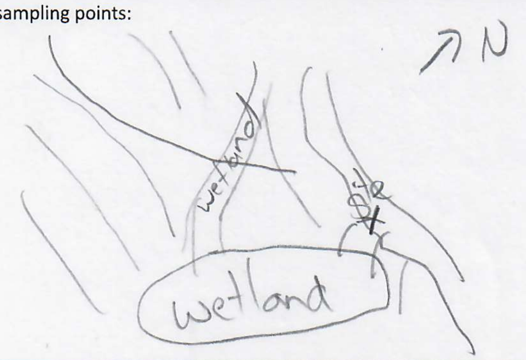
Secondary hydrology indicators: minimum of 2 required; check all boxes that apply

- [ ] Water-stained leaves (2K)
- [ ] Drainage patterns (2L)
- [ ] Dry-season water table (3E)
- [ ] Saturation in aerial imagery (3F)
- [x] Geomorphic position (4B)
- [ ] Shallow aquitard (4C)
- [ ] FAC-neutral test (4D)
- [ ] 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 [x] NO [ ]

Sketch of site/vegetation types/sampling points:



Remarks:

Site 15
Photo-NM 5278

NEW ZEALAND WETLAND DELINEATION DATA FORM: PASTURE TEST

SECTION A – SITE INFORMATION

Site: Conservation. Region: Remarks Sampling point/ID: site 18

Owner/address: DOC Date: 26/03/25 Land use: Conservation.

Landform: hillslope Local relief: Convex/flat slope Land cover: tussock/herb.

Is the land drained? YES NO UNKNOWN Investigator(s): SO + me Slope°: 3-50

GPS (NZTM): 665 Altitude m: Photo Nos: #3298

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? N- 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. Dra mus	10		N/a	
2. poa col	10		N/a	
3. chi mac	20	Y	N/a (FACU)	
4. rao sub	2		N/a	
5. cop pers	50	Y	N/a	
6. rao grand	10		N/a	
7. aci krk	1		N/a	
8. lycopodium fast	1		FAC	
9. luzula rufa	1		N/a	
10. gan dep	1		FACU	
11. gent corym	1		N/a	
12. Wahlen albo	1		FACW	
13. plantago lanceolan	1		FAC	
14. pilosella sp	1		FACU	
15. tussock hawkwood	1		UPL	
16. ger micro	1		FACU	
17. Agrostis mackayi	1		FACW	
18.				
Total herb cover (TH) = 113		50% 1	20% 1	
			Total (P) =	
Total Vegetation Cover (TVC): TT+TS+TH = 113		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	2	x 3 =	6
FACU	25	x 4 =	100
UPL	86	x 5 =	430
Total	113 (A)		536 (B)

Prevalence Index (B/A) = 4.743

Hydrophytic vegetation indicators:

☐ Rapid Test

☒ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Morphological adaptations[1] (supporting data in Remarks)

☐ Problematic hydrophytic vegetation[1]

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						organic	
3-15	10YR 4/2					mineral	fine roots
15+						Rock	

[1]Use % area charts; [2]Use size classes; [3]Ped face, pore, within ped along roots, within matrix; [4]Organic (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 OR
- ☐ Mottled profile

Horizon:
- ☐ Reductimorphic
- ☐ Redox mottled
- ☐ Redox segregations
- ☐ Perch-gley features

Cause of wetness (circle appropriate):

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 layers: Depth (cm) 15cm rock

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

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

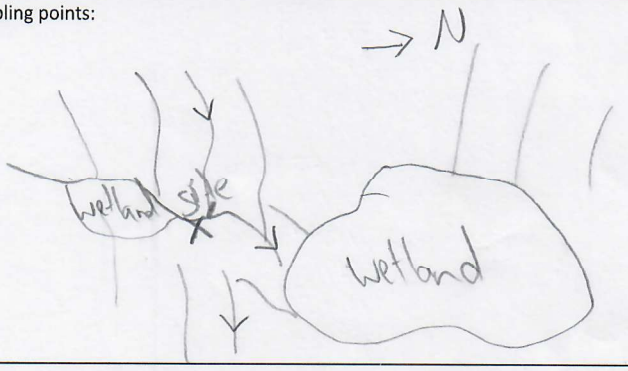
- ☐ Water-stained leaves (2K)
- ☐ Drainage patterns (2L)
- ☐ Dry-season water table (3E)
- ☐ Saturation in aerial imagery (3F)
- ☒ Geomorphic position (4B)
- ☐ Shallow aquitard (4C)
- ☐ FAC-neutral test (4D)
- ☐ Frost-heave hummocks (4E)

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/vegetation types/sampling points:



Remarks:

site 18
photo: NM 5279

NEW ZEALAND WETLAND DELINEATION DATA FORM: PASTURE TEST

SECTION A – SITE INFORMATION

Site: Doolans | Region: Remarks | Sampling point/ID: site 19

Owner/address: DOC | Date: 26/03/25 | Land use: Conservation area.

Landform: hillslope. | Local relief: 20 downslope, convex, 100+ above | Land cover: herb/grassland

Is the land drained? YES___ NO___ UNKNOWN___ | Investigator(s): CSW, GD. | Slope°: 2°

GPS (NZTM): 667 | Altitude m: | Photo Nos: # 3301

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. Tree Stratum (Plot size:_____)	Absolute % cover	Dominant Species?	Indicator Status	Pasture % cover
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. Chi mac	7	N	n/a FACU	
2. poa col	5	N	N/a	
3. cop perp	30	Y	FAC	
4. brig fast	10	Y	FAC	
5. rao granul	5	N	N/a	
6. pimelea notia	2	N	N/a	
7. acl Kirk	1	N	N/a	
8. gan dep	2	N	FAC	
9. plantago lag	1	N	FAC	
10. wahlen albo	1	N	FACU	
11. gan parv	10	Y	FAC	
12. rytido sperm pum	2	N	N/a	
13. bare ground	~40%	/	/	
14.				
15.				
16.				
17.				
18.				
Total herb cover (TH) = 116 (76 not inc bare ground)		50%_____	20%_____	
			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) 3

Tot. Dominant Spp. across strata (B) 3

% OBL/FACW/FAC (A/B) 100%

Prevalence Index:

Total % cover of:		Multiply by:	
OBL	\	x 1 =	\
FACW	\	x 2 =	\
FAC	23	x 3 =	39
FACU	8	x 4 =	32
UPL	45	x 5 =	225
Total	76 (A)		296 (B)

Prevalence Index (B/A) = 3.894

Hydrophytic vegetation indicators:

☒ Rapid Test

☑ Dominance Test is >50%

☒ Prevalence Index is ≤3.0[1]

☐ Morphological adaptations[1] (supporting data in Remarks)

☐ Problematic hydrophytic vegetation[1]

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
0-13	7.5YR 3/2					mineral	wed - v fine roots
3-13	7.5YR 3/2					mineral	fine - v fine roots

[1]Use % area charts; [2]Use size classes; [3]Ped face, pore, within ped along roots, within matrix; [4]Organic (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 OR
- ☐ Mottled profile

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 layers: 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

Soil °C_____

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

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

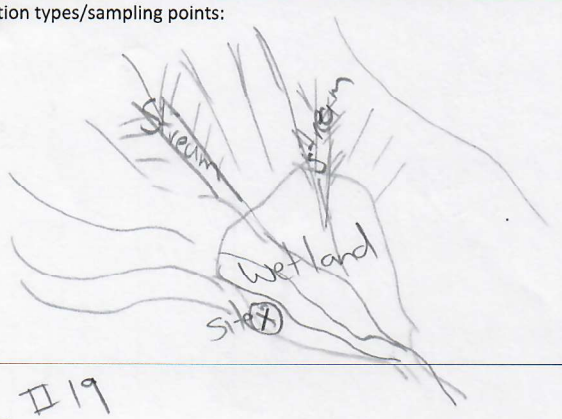
- ☐ Water-stained leaves (2K)
- ☐ Drainage patterns (2L)
- ☐ Dry-season water table (3E)
- ☐ Saturation in aerial imagery (3F)
- ☒ Geomorphic position (4B)
- ☐ Shallow aquitard (4C)
- ☐ FAC-neutral test (4D)
- ☐ Frost-heave hummocks (4E)

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/vegetation types/sampling points:



Remarks:

Site 19

photo - NM 5287

NEW ZEALAND WETLAND DELINEATION DATA FORM: PASTURE TEST

SECTION A – SITE INFORMATION

Site: Deelans. Region: Remarks Sampling point/ID: 21

Owner/address: DOC Date: 26/03/25 Land use: Conservation.

Landform: hillslope Local relief: Convex/Flat. Land cover: Tussock.

Is the land drained? YES NO UNKNOWN Investigator(s): whole above basin Slope°: 2°

GPS (NZTM): 670 Altitude m: Photo Nos: 3306

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. chi mac	50	Y	n/a FACU	
2. Ver hac	25	Y	N/a	
3. dra ros	2	N	N/a	
4. poa col	15	N	N/a	
5. ani flex	1	N	N/a	
6. lyco fast	2	N	FAC	
7. dra mus	5	N	N/a	
8. cel lyallii	1	N	N/a	
9. gen cotyledonis	1	N	N/a	
10. Wah albo	1	N	FACU	
11. rao grand	1	N	N/a	
12. phyllachne col	2	N	FAC	
13. gau dep	1	N	FACU	
14. Plantago lani	1	N	FAC	
15. Cel haastii	1	N	N/a	
16. moss	2	N	/	
17. Luzula pumila	1	N	UPL	
18.				
Total herb cover (TH) =	112	50% 1	20% 1	
			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) 2

% OBL/FACW/FAC (A/B) n/a

Prevalence Index:

Total % cover of:		Multiply by:	
OBL		x 1 =	
FACW		x 2 =	
FAC	5	x 3 =	15
FACU	52	x 4 =	208
UPL	55	x 5 =	275
Total	112 (A)		498 (B)

Prevalence Index (B/A) = 4.44

Hydrophytic vegetation indicators:

☐ Rapid Test

☐ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Morphological adaptations[1] (supporting data in Remarks)

☐ Problematic hydrophytic vegetation[1]

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	5Y 4/1					mineral	~~med~~ fine root
5-22	5Y 5/1	5YR 4/6	5	1-2mm	root face	mineral	~~fine~~ U fine roots

[1]Use % area charts; [2]Use size classes; [3]Ped face, pore, within ped along roots, within matrix; [4]Organic (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:
- [x] Iron concretions
- [ ] Manganese concretions
- [ ] Nodular

Consistence:
- [ ] Plastic
- [ ] Sticky
- [ ] Fluid

Colours: profile form either:
- [ ] Gley profile OR
- [ ] Mottled profile

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 layers: Depth (cm) 25cm rock

Slow perm argillic

- [ ] Pugged

Hydric soils present? YES [ ] NO [x] UNCERTAIN [ ] NZSC subgroup _____

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

Soil °C_____

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

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

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

Sketch of site/vegetation types/sampling points:

Remarks:

site: 21

Photo - NM 5284

NEW ZEALAND WETLAND DELINEATION DATA FORM: PASTURE TEST

SECTION A – SITE INFORMATION

Site: Remark | Region: Remarks (otago) | Sampling point/ID: Site 22

Owner/address: DOC | Date: 1/04/25 | Land use: Conservation

Landform: hillslope | Local relief: 10m NE | Land cover: rock/fern/tussock

Is the land drained? YES___NO___UNKNOWN___ | Investigator(s): CSW, NM | Slope°: 20°

GPS (NZTM): 3441 (screenshot) | Altitude m: | Photo Nos: #3440

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. Tree Stratum (Plot size:_____)	Absolute % cover	Dominant Species?	Indicator Status	Pasture % cover
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. Blechnum P.M	20	Y	FAC	
2. chi mac	15	Y	n/a FACU	
3. vio cunn	1	N	N/a	
4. aci Kirk	3	N	N/a	
5. rock	60	N	N/a	
6. moss	5	N	N/a	
7. ourisia caes	1	N	N/a	
8. agr parv	3	N	FAC	
9. plantago lanigera	1	N	FAC	
10. lupt pect	1	N	N/a	
11. Poa col	1	N	N/a	
12. Dra mus	1	N	N/a	
13. lichen	2	N	N/a	
14. acaena sacc	1	N	FACN	
15.				
16.				
17.				
18.				
Total herb cover (TH) = 115 (55 not inc lichen)		50% 1	20% 1	
			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	24	x 3 =	72
FACU	16	x 4 =	64
UPL	20	x 5 =	100
Total	60 (A)		236 (B)

Prevalence Index (B/A) = 3.93

Hydrophytic vegetation indicators:
☐ Rapid Test
☒ Dominance Test is >50%
☐ Prevalence Index is ≤3.0[1]
☐ Morphological adaptations[1] (supporting data in Remarks)
☐ Problematic hydrophytic vegetation[1]
Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present?
YES ☐ NO ☐ UNCERTAIN ☒

Remarks: