

## Step 4

### Assess vegetation condition

The variety and distribution of plants can be used to indicate the levels of disturbance in a site and consequently, the vegetation condition of that site.

Plants that are indicators of conservation significance can be used to understand the condition of native vegetation on the site.

Studies undertaken in grassy ecosystems show that plant species respond differently to disturbance. Some native species tolerate heavy grazing, soil disturbance or multiple applications of fertiliser. Other plants respond poorly under similar conditions. Consequently, while some native species may be relatively common in more disturbed sites, many species have either been lost, or are rare in all but the least disturbed sites.

Studying plant species in a site can reveal the level of disturbance that has occurred there over a long time. Disturbance tolerant species include those that remain in similar abundance under a range of disturbance levels, or others that actually increase in abundance. They are often the only natives that remain in severely degraded sites. Disturbance sensitive species are only found in those sites that have been subject to low levels of disturbance. Less disturbed sites typically contain both disturbance sensitive and disturbance tolerant species. The presence of disturbance tolerant and disturbance sensitive species can then be used as indicators to rank the sites according to their vegetation condition.

If in Step 3 the plants were not identified by name, but have been grouped by origin (native and introduced) and growth form (grass, wildflower, shrub or tree), Step 4 is omitted.

#### Aims

- Identify a range of plant species that respond in varying ways to disturbance.
- Assess the relative condition of each of the management units based on the presence of these species.
- Identify management units with conservation significance based on the quality of the native vegetation in them.

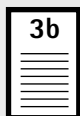


*Hardenbergia violacea*

#### Materials

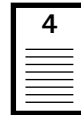
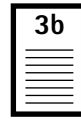
Sheet 3b

Sheet 4



## Method

1. **Identify the presence and abundance** of indicator groundlayer plants that reflect the vegetation condition in each management unit.
  - Refer to the species list developed on Sheet 3b and a field guide if necessary.
  - Use Table E to identify species that indicate high or low conservation significance.
  - Write the scores for the indicator species on Sheet 4.
  - Add the score for each management unit.
2. **Record the vegetation condition ranking.** The total score corresponds to a vegetation condition ranking shown in Table F on Sheet 4.



**Table F: Conversion of vegetation scores to rankings**

Vegetation Condition Score	Vegetation Condition Ranking
16–22	Very high (VH)
13–16	High (H)
8–12	Moderate (M)
4–7	Low (L)
0–3	Very low (VL)

## Example

### Step 4: Groundlayer vegetation condition assessment

	Mgmt units
	<b>A</b>
Introduced perennial grasses	0
Introduced annual grasses	1
Introduced disturbance specialists	0
Introduced perennial weeds	1
More disturbance tolerant wildflowers	0
More disturbance tolerant grasses	1
Disturbance sensitive daisies	0
Disturbance sensitive orchids or lilies	0
Other disturbance sensitive native wildflowers	0
Lichen and Fungi	0
Disturbance sensitive native grasses	1
<b>Total vegetation score</b>	<b>4</b>
<b>Total groundlayer vegetation condition ranking</b>	<b>L</b>



*Wurmbea dioica*

**Table E: Groups of plants that indicate the condition of vegetation on the site**

Page numbers refer to *Grassland flora – a field guide for the Southern Tablelands*.

Score	0	1	2
<b>SOME INDICATORS OF LOW CONSERVATION SIGNIFICANCE</b>			
<b>Introduced perennial grasses</b>			
Bulbous Bluegrass 44 Tall Fescue 44	Cocksfoot 44 Yorkshire Fog 43	Perennial Ryegrass 43 Phalaris 44	Sweet Vernal Grass 44 Common Occasional Uncommon
<b>Introduced annual grasses</b>			
Barley grass species 46 Shivery Grass 46	Brome grass species 46 Squirrel Tail Fescue 46	Hairgrass species, 46 Winter Grass 46 Quaking Grass 46	Common Common Occasional Uncommon
<b>Introduced disturbance specialists</b>			
Capeweed 88 Onion Grass 58 thistle species (e.g. Black, Saffron, Nodding, Scotch Thistles)	Catscar 86 Proliferous Pink 120 trefoil species 116	clover species 116 Ribwort Plantain, 128 Viper's Bugloss 106 Common Stork's Bill 104 Sheep's Burnett 136 Wild Sage 106	Common Common Occasional Uncommon or absent
<b>Introduced perennial weeds (including noxious species)</b>			
African Love Grass 42	Chilean Needle Grass 40	St Johns Wort 72 Serrated Tussock 40	Common Occasional Uncommon or absent
<b>SOME DISTURBANCE TOLERANT NATIVE PLANTS</b>			
<b>More disturbance tolerant native wildflowers</b>			
Austral Bindweed 120 Bluebell species 102 Common Woodruff 92 Lobe Seeded Daisy 96 Rock Fern 138 Stinking Pennywort 134 Variable Plantain 128	Austral Hound's Tongue 90 Clustered Everlasting 74 Golden Weather Glass 62 Many Flowered Knawel 132 Scaly Buttons 80 Swamp Raspwort 134 Yellow Rush Lily 62	Austral Sunray 80 Common Everlasting 74 Hairy Kidneyweed 134 Native Carrot 138 Slender Tick Trefoil 112 Twin Flowered Knawel 132	Australian Piert 136 Common Onion Orchid 64 Ivy Goodenia 70 Pale Everlasting 80 Small St John's Wort 72 Twining Glycine 112 Bidgee Widgee 136 Common Raspwort 124 Kidneyweed 134 Pale Sundew 92 Spoon Cudweed 130 Vanilla Glycine 100

<b>More disturbance tolerant native grasses</b>					
Hairy Panic 28 Spear grasses 14	Microlaena 22 Wallaby grasses 16	Poa Tussock 12 Wheat grasses 20	Purple Wiregrass 34	Redgrass 24	Uncommon Occasional or patchy Abundant
<b>SOME INDICATORS OF HIGH CONSERVATION SIGNIFICANCE</b>					
<b>Disturbance sensitive native daisies</b>					
Billy Buttons 82 Field Daisy 96 Leafy Daisy 96 Rough Burr Daisy 98 Yass Daisy 82	Button Everlasting 78 Grass Cushion 132 Lemon Beautyheads 77 Showy Copper Wire Daisy 84	Button Wrinklewort 78 Hairy Buttons 80 Monaro Golden Daisy 80 Spoon Daisy 96	Chamomile Burr-daisy 98 Hill Daisy 96 Maue Burr Daisy 98 Tall Ammobium 82	Chamomile Sunray 94 Hoary Sunray 94 Murnong 86 Tufted Daisy 96	Uncommon Absent Occasional or common
<b>Disturbance sensitive native orchids and lilies</b>					
Black Anthered Flax Lily 56 Golden Cowslips Orchid 68 Rock Lily 62 Tiger Orchid 68	Bulbine Lily 62 Golden Moths Orchid 68 Slender Sun Orchid 66 Twining Fringe Lily 56	Common Fringe Lily 56 Milkmaids 60 Small Vanilla Lily 58 Vanilla Lily 58	Donkey Ears Orchid 68 Nodding Chocolate Lily 58 Smooth Flax Lily 56	Early Nancy 60 Parson's Bands 66 Swan Greenhood 64	Absent Present
<b>Other disturbance sensitive native wildflowers</b>					
Adder's Tongue 138 Blue Devil 108 Curved Rice Flower 90 Narrow Plantain 128 Scrambled Eggs 70 Spur Velleia 70	Antrorse Geranium 118 Blue Pincushion 108 Emu Foot 114 Native Carraway 138 Shrubby Rice Flower 90	Austral Bugle 106 Common Buttercup 72 Grass Trigger Plant 122 Native Flax 104 Silky Swainson Pea 110	Austral Toadflax 126 Creamy Candles 90 Hairy Solenogyne 130 Notched Swainson Pea 110 Small Purple Pea 110	Behr's Swainson Pea 110 Creeping Hovea 114 Mountain Psoralea 114 Purple Violet 100 Smooth Solenogyne 130	Uncommon Occasional or common Absent Occasional or patchy Abundant
<b>More disturbance sensitive native grasses</b>					
Kangaroo Grass 10	Redanther Wallaby Grass 18	Plumegrasses 26	Wild Sorghum 38	Absent	Occasional or patchy Abundant

Uncommon : less than 5 in 100 steps; occasional: 5–20 in 100 steps; common: greater than 20 in 100 steps.