

Vegetation Quality Assessment using the
Habitat Hectares Method
Meeting lead by Sheri McFarlane on Thurs 17th June 2004

At a very informative **meeting** Sheri showed The Botany Group that the Habitat Hectares Method is a tool for the objective assessment of remnant vegetation quality. The Method was designed as a tool for making environmentally sensitive **planning** and **management decisions** by persons without an intimate botanical knowledge. The assessment is based on a **Benchmark** that represents the vegetation of a **mature stand** of the same Bioregional EVC **prior to European** settlement. (see references below).

The **habitat score** is calculated using a series of **components** that are important to the ecological health of the site (see Table 1).

Table 1. Components and weightings of the habitat score

COMPONENTS	Max. %
Site condition	
Large trees	10
Tree (canopy) cover	5
Understorey (non-tree)	25
Lack of weeds	15
Recruitment	10
Organic litter	5
Logs	5
Landscape context	
Patch size*	10
Neighbourhood*	10
Distance to core area*	5

The method has **limitations** so users should be aware of the basis of the assessment and care taken if used for a different purpose. In particular comparing the site components with a single benchmark will not take account of disturbance regimes as quality is **assessed on what is currently present** and not what may be present in the future. This means a pristine immature stand may score less than mature stand in a disturbed condition. Similarly the method is not suitable for wetlands due to the changes associated with wetting and drying cycles.

Excursion to Rifle Range Reserve Smith's Gully Sat 19th

About 10 members enthusiastically braved the predicted cold, wet weather to learn how to apply the Method and socialize by the fire at the local pub.

To conduct the site's vegetation assessment we asked:

What EVC should we use for the site? Ecological Vegetation Classes (EVC) is the principal unit for vegetation description and mapping for land-use planning and management. An EVC has a characteristic assemblage of plant species and typical structure. Sheri came prepared with an EVC map of the area and Benchmark information for some of the areas EVC's.

Is the patch homogeneous enough to be described as a) one vegetation type or b) having a similar disturbance, management and or land tenure history? If not, individual assessments will be required for the different stands of vegetation.

Then we worked through the **Vegetation Quality Field Assessment Sheet** (see web site), assigning an appropriate category & description rating for the sites **10 key components** below.

Large Trees/Ha.

Large trees defined by **diameter at breast height** (d.b.h). Scoring includes both living and dead large trees. It is easy to overestimate the number of trees when there are a few and underestimate numbers when there are lots.

Tree Canopy Cover,

Projective foliage cover templates were used to determine the % Tree Canopy Cover. Trees greater than 5 m tall but less than 80% of their mature height are included within the understory assessment. Tree death, decline or mistletoe infestation is indicated by the difference between existing and expected canopy cover.

Understory Life Forms & Cover

Note the **range** of life forms present compared to those on the Benchmark and consider the **diversity** and **cover** within each life form. Include dead material if part of the natural seasonal cycle. A benchmark includes annual or seasonal species/life forms: If it is the wrong season for the life form to be present, assume that the life form is present (precautionary).

Lack of Weeds & Cover,

Benchmarks categorize weeds as having low, moderate or high threat on the basis of invasiveness and direct physical impact in each EVC.

Recruitment

Adequate recruitment is defined as 10% of all adult plants. Recruits have no fruit or buds. Note: Is recruitment in this EVC driven by episodic events or not? Is there evidence of appropriate episodic event?

Cohort' refers to a group of woody plants established in a single episode.

Organic Litter,

Litter includes plant debris less than 10 cm diameter. Benchmark values of litter levels for different vegetation types requires a knowledge of fire frequencies and litter accumulation rates and these data are poorly known for most vegetation communities.

Logs

Combined length of all fallen timber with a diameter greater or equal to 0.5 of the Benchmark for large tree dbh within a 1000-m² sample including dead cut stumps of a height less than 0.5 m.

Patch size

For this assessment, a patch can contain several stands and/or several types of vegetation, providing they are contiguous.

Neighbourhood

A total of three 'neighbourhoods' within nested radii (i.e. 100 m, 1 km, 5 km) are scored and summed. What proportion (0%, 20%, 40%, etc.) of the area within each radius is covered by locally indigenous vegetation?

Distance to Core Area.

A 'core area' is defined as a block of native vegetation greater than 50 ha.

Final habitat score

The habitat score for the stand is determined by tallying the scores from all **site condition** and **landscape context** components. Multiplying the habitat score by the area of the stand produces the 'habitat hectare' value. For example, 10 hectares of mature, fully natural Wet Heathland could be counted as 10 'habitat hectares', whereas 10 hectares of this EVC with a 'habitat score' of 50% would be scored as five 'habitat hectares'. A score of 100 points would require excellent site condition and for the stand to effectively be part of a 'wilderness' area. In trials conducted to date, high-quality remnants have occasionally scored higher than 80 points, while stands of native vegetation in very poor condition rarely scored lower than 10 points.

Conclusion

Sheri's intimate knowledge of the Habitat Hectares Method enabled her to teach us to understand the method and learn more about the use of EVCs.

References & further information

ECOLOGICAL MANAGEMENT & RESTORATION VOL 4 SUPPLEMENT

FEBRUARY 2003 S29 Assessing the quality of native vegetation: The 'habitat hectares' approach By David Parkes Graeme Newwill & David Cheal.

<http://www.deh.gov.au/biodiversity/toolbox/templates/pubs/habitat-hectares.pdf>

www.dpi.vic.gov.au/dse and search for: Benchmarks by Bioregion or Vegetation Quality Assessment Manual or Vegetation Quality Assessment Sheet.