

# BIODIVERSITY PROPERTY PLANS

## Nature Conservation Information Sheet



## Planning to protect biodiversity

This Information Sheet provides an overview of how to develop a plan to manage the bushland, waterways, wetlands and dams on your property to protect and enhance their biodiversity values

### Step 1: Start with an aerial photo of your property

An aerial photograph makes a good base map and greatly assists in this planning process. You can build up information on this base map drawing on the photo or using overlays. Alternatively, you can use a computer-based mapping program. A GPS can be a useful tool for accurately locating property features. Mark property features on your map including:

- Property boundaries and fences.
- Natural features such as streams, wetland areas, dams.
- Access and walking tracks.

Use an aerial photo to look at your property within a *landscape context*. How does your remnant vegetation and creeklines fit in to the broader view? Is your remnant vegetation part of a larger area of vegetation across properties? Does it provide linkages between other bushland or wetland areas? Are there large remnants on adjoining properties that could be linked by revegetation to improve their habitat values? When developing management actions think about the landscape context and what you can do on both on your property and in collaboration with neighbours to protect and improve biodiversity.

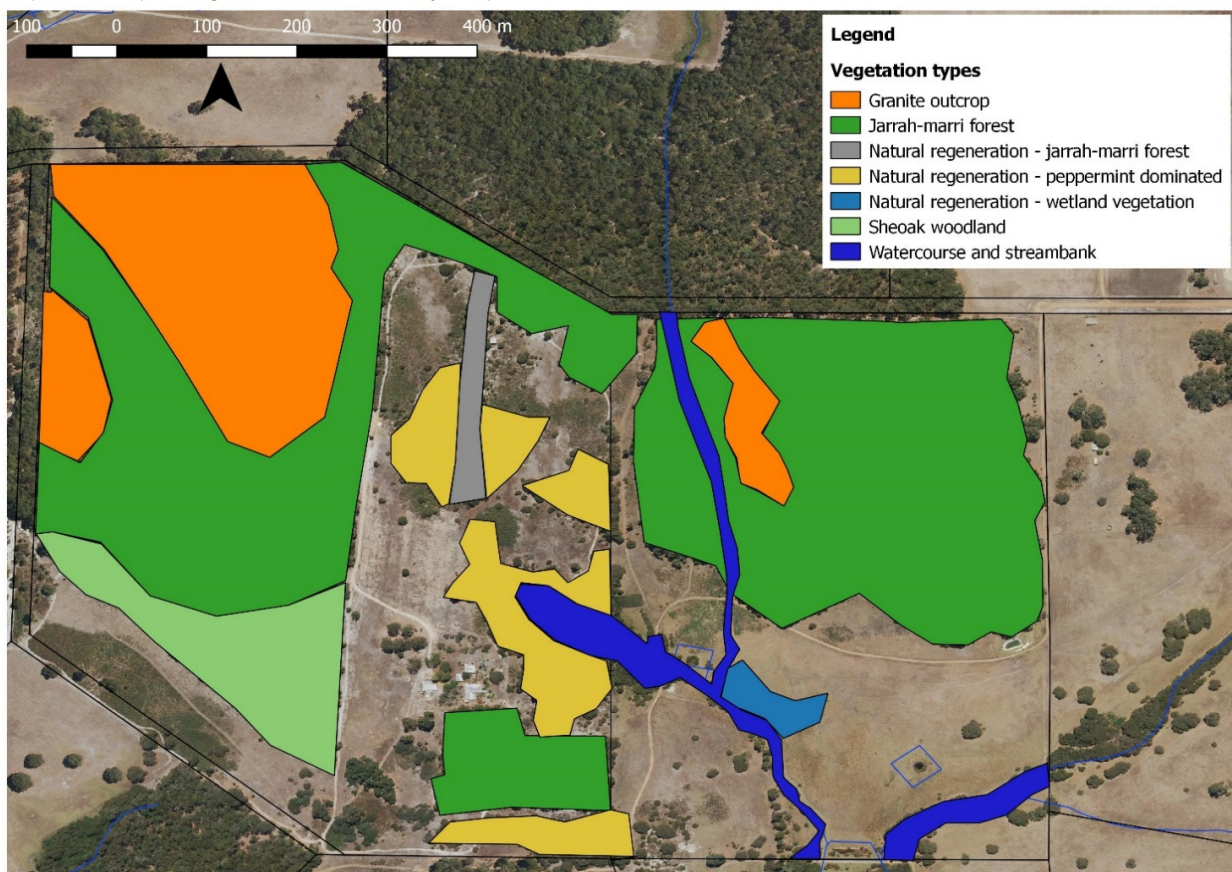
### Step 2: Map remnant vegetation communities

Determine and map the native vegetation communities on your property. We recommend that you classify your vegetation using the communities described by Scott and Negus (2013) in *Wildflowers of Southwest Australia, Augusta-Margaret River Region* as outlined in Table 1. Map 1 provides an example vegetation type map.

**Table 1: Vegetation communities modified from Scott and Negus (2013) in *Wildflowers of Southwest Australia, Augusta-Margaret River Region***

Vegetation community	Description
Peppermint woodland	Dense or open woodland of <i>Agonis flexuosa</i> found on sandy limestone soils.
Banksia woodland	Woodlands dominated by <i>Banksia attenuata</i> or <i>Banksia ilicifolia</i> on deep sand.
Karri forest	Tall forest of <i>Eucalyptus diversicolor</i> often with a dense shrub understorey. Confined to river valleys and sandy loam soils over deep limestone.
Jarrah-marri forest	Our most common vegetation community with a very diverse range of understorey species depending on soil, hydrology, topography and fire and grazing history. Jarrah ( <i>Eucalyptus marginata</i> ) is more dominant in areas of thin lateritic, ironstone soils. On sandy soils the understorey is denser and marri ( <i>Corymbia calophylla</i> ) is often more common.
Sheoak woodland	Common sheoak ( <i>Allocasuarina fraseriana</i> ) is sometimes the dominant tree, or more often mixed with jarrah or banksia ( <i>Banksia grandis</i> ) on sandy soils over granite. The sheoak's needle-like leaves cover the ground and discourage seedlings, so the understorey is usually fairly open.
Granite community	Includes areas of protruding granite rocks as well as where there is thin soil over granite with rock visible on the surface in places. A unique suite of species suited to withstanding both inundation and extreme drying. Typical species include mosses and ferns, <i>Hakea trifurcata</i> , <i>Kunzea ciliata</i> , <i>Darwinia citriodora</i> , <i>Drosera</i> spp.,
Sandplains	These areas of sandy/ peaty soils over clay are often damp in winter and generally support low heathland vegetation with the occasional taller shrubs.
Coastal heath	Dense shrubland ranging up to 3m or more in height. The dense nature of this community can provide excellent habitat for a range of bird and mammal species.
Winter wet swamps and wetlands	These areas are typified by winter inundation but with minimal flow and are often dominated by a diverse range of sedges and rushes. Typical species may include <i>Taxandria linearifolia</i> , <i>T. parvipiceps</i> , <i>Melaleuca lateritia</i> , <i>M. presissiana</i> , <i>Leptocarpus</i> spp., <i>Meeboldina</i> spp., <i>Lepidosperma tetraquetrum</i> .
Watercourses and stream banks	Wet areas low in the landscape with flowing water (often dry in summer/autumn) and dense vegetation. Dominated by a diverse range of species that grow in association with water such as tea trees, rushes and sedges.
Coastal dunes	This dynamic and harsh coastal environment is dominated by low, spreading plants critical in stabilising mobile soils and reducing wind and wave erosion.

**Map 1: Example vegetation community map**

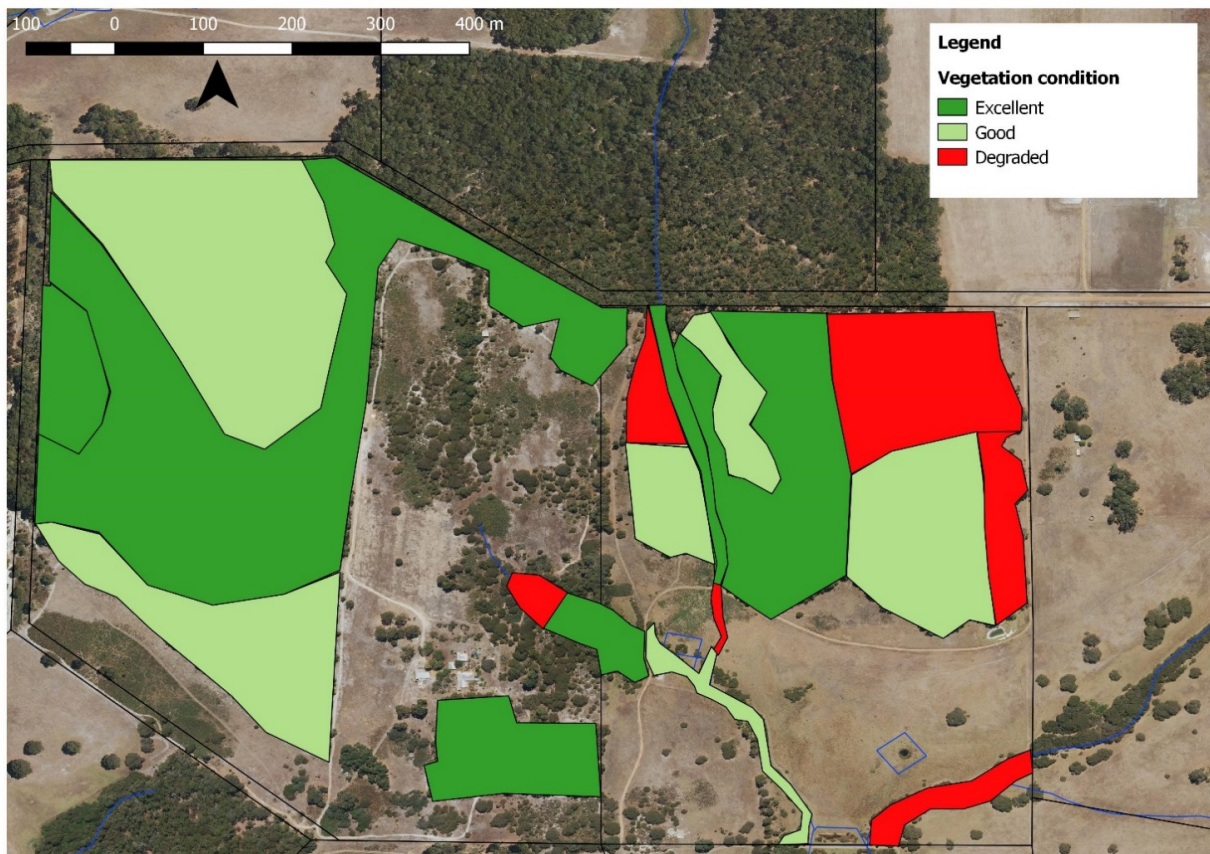


### Step 3: Assess and map condition of remnant vegetation, creeks and wetlands

Have a close look at your remnant vegetation, creeks and wetlands and use the information in Table 2 to help you determine their condition. It is unlikely that the area you are assessing will fit neatly into one of these categories. The lists provide factors for you to consider when assessing condition and you will need to decide which of the three conditions is the best fit. Example photos for each category are included below and Map 2 provides an example vegetation condition map.

Table 2: Factors to assist assessment and determination of vegetation condition		
Excellent	Good	Degraded
The native tree cover remains largely intact. Minimal signs of tree clearing and related damage	Some tree clearing has occurred – eg. trees logged for firewood, bush poles, fence posts, timber. Many native trees remain.	The tree cover is partly or completely cleared
The trees have a healthy foliage	Some trees are showing signs of dieback	The trees show signs of dieback
There is a reasonably diverse and abundant cover of native understorey plants	Understorey plants remain but are limited in number and diversity	Little to no understorey plants remain
Very few weeds and exotic grasses are present. If present, very localised only.	Weeds and/or exotic grasses are present but not dominant	Weeds and/or exotic grasses are the dominant understorey
Regeneration of trees and other plants is occurring	Some regeneration of young trees and other plants is evident	Little to no regeneration of young trees and other plants
There are old trees with hollows	There are obvious signs of disturbance from clearing, logging and grazing	Active erosion occurring
There are fallen logs and timber	There are old trees with hollows	Introduced tree species may be present
Leaf litter is present	Leaf litter is present	
There may be some small areas of localised disturbance where the soil is exposed and there are some weeds.	There are fallen logs and timber	

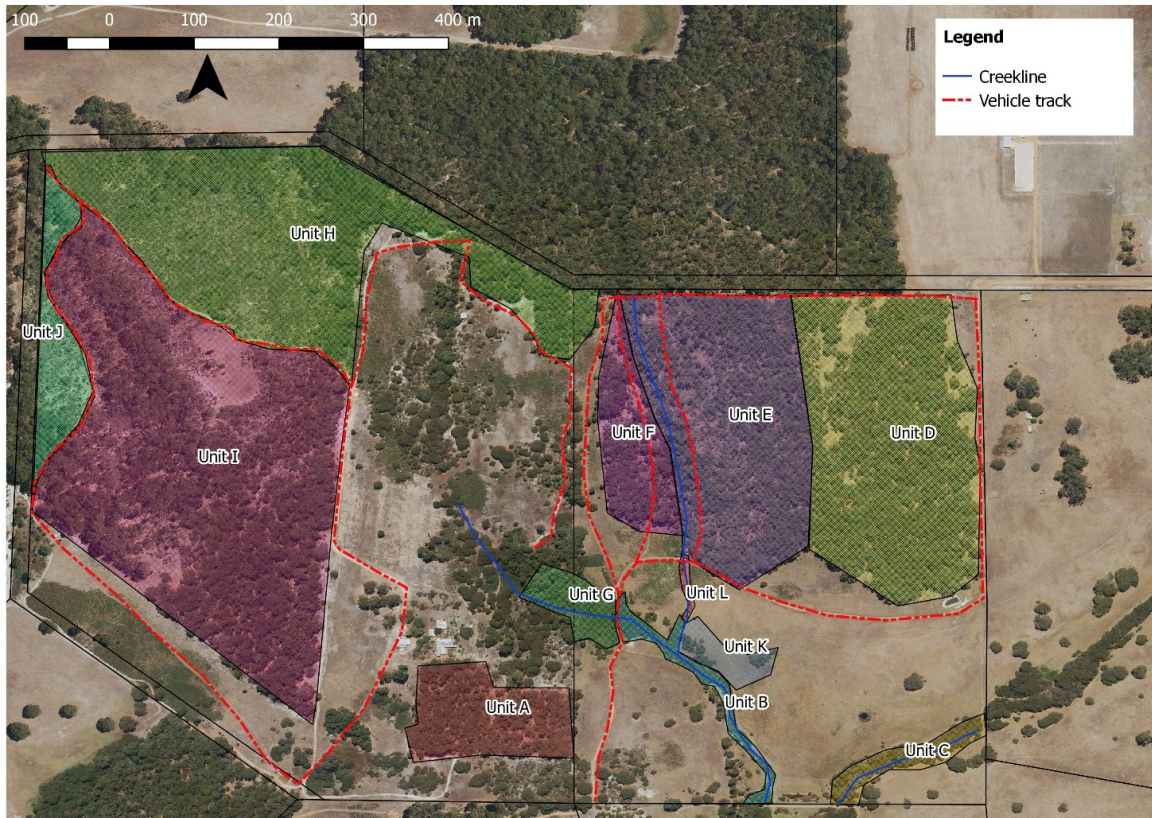
Map 2: Example vegetation condition map



## Step 4: Determining management units

You can now divide your property into smaller management units based on natural or man-made features such as access tracks, creeklines and areas of vegetation. If practical it would be helpful to have management units that are made up of the same vegetation community and condition as these areas are likely to have similar management needs. Mark each management unit on your property map.

*Map 3: Example management units map*



## Step 5: Identify threats to vegetation condition and biodiversity values

A crucial part of biodiversity management planning is to identify threats and rate their level of seriousness. Threats to biodiversity values include clearing, grazing, weeds, pest animals, inappropriate fire regimes, change to hydrology, poor water quality, Phytophthora dieback, tree decline, soil compaction and erosion.

See Map 4 for an example threats map.

## Step 6: Determine management actions and priorities

Use information on vegetation condition and threats in each of the management units to determine what actions are required and set priorities. When doing so take into consideration the biodiversity value of the area affected and the potential impact of the threat. This will help you prioritise actions.

For example, a small outbreak of an invasive weed in an area of good quality vegetation is a serious threat requiring urgent attention. A larger patch of a less invasive weed in a more degraded area poses less of a risk to biodiversity values and is a lower priority.

Table 3 provides an example.

Map 4: Example threats map

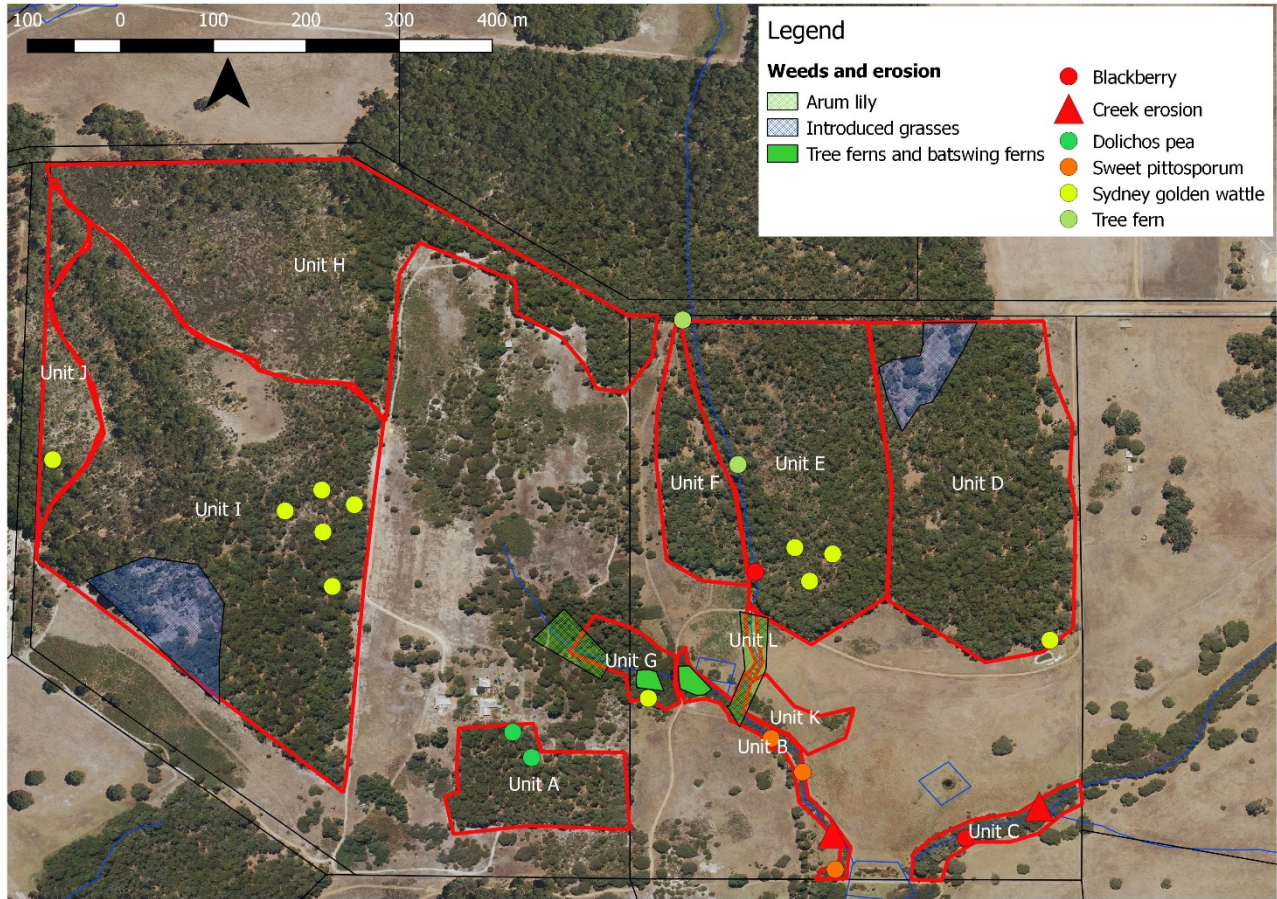


Table 3: Management actions

Management unit and vegetation community	Condition	Threats	Management action	Priority	Timing & Who
Unit J - Granite Unit I and E - Jarrah-marri forest	Excellent <i>(High value)</i>	Few Sydney golden wattle including some adult trees and a number of seedlings <i>(High level of threat)</i>	Cut and paint stump of mature trees, hand weed seedlings, monitor area for further seedlings for next 10 years.	Very high	All year  Landholder
Unit E - Jarrah-marri forest and creekline vegetation	Excellent <i>(High value)</i>	Tree ferns and small blackberry infestation on excellent condition creekline <i>(High level of threat)</i>	Remove tree ferns and spray blackberry	Very high	Blackberry control Dec-March Tree ferns – all year Landholder
Unit L - Watercourse and stream bank	Degraded Adjacent to excellent condition creekline to north	Arum lily infestation <i>(Moderate level of threat)</i>	Spray arum lily	High	Arum lily control Aug-Oct  Landholder
Unit A - Jarrah-marri forest	Excellent <i>(High value)</i>	Stock grazing and degrading remnant vegetation	Fencing	Very high	Fencing contractor

See below for a list of information resources to assist with management.

## Step 7: Monitoring, evaluation and review

Monitoring the changes that result from your management actions can be as simple or detailed as you wish. At a minimum take photos (from the same spot, at the same time of year and day). You could also keep records of vegetation condition, weed presence and extent, plant species, animal observations etc.

Evaluate the outcomes of the management actions and adapt your approach if necessary.

## Do you need assistance?

Nature Conservation can develop a bushland management plan for your property on a fee for service basis. If you would like to enquire about this service please email us at [info@natureconservation.org.au](mailto:info@natureconservation.org.au)

## References and further information

- Brown, K & Brooks, K (2002) *Bushland Weeds A practical guide to their management*. Environmental Weeds Action Network. Available at [https://www.natureconservation.org.au/wp-content/uploads/2019/03/Bushland\\_Weeds\\_Book.pdf](https://www.natureconservation.org.au/wp-content/uploads/2019/03/Bushland_Weeds_Book.pdf)
- [www.herbiguide.com.au](http://www.herbiguide.com.au) - Detailed information about weed species and control methods.
- Hussey, B.M.J. and Wallace, K.J. (1993) *Managing Your Bushland*. Department of Conservation and Land Management, Como, Western Australia.
- <https://florabase.dpaw.wa.gov.au/weeds/> - Detailed information about weed species and control methods
- <https://florabase.dpaw.wa.gov.au/> - Detailed information about native species
- Land for Wildlife Queensland Note G3, *Bushland Management Planning*
- Nature Conservation Information Sheets
- Moore, J & Wheeler, J (2008) *Southern Weeds and their control*. Department of Agriculture and Food WA.
- Scott, J and Negus P (2013) *Wildflowers of Southwest Australia, Augusta-Margaret River Region*. Cape to Cape Publishing, Fremantle, WA.