Bushland Management Planning

What is a bushland management plan?

A Bushland Management Plan (BMP) can be used by landholders to document the natural resources of their property and how they plan to manage them. The broad aim of a BMP is to conserve and improve the biodiversity values of the bush, in harmony with the ways in which land is managed. It can be daunting to try and work out how to manage the natural areas on a property. This Note shows how a BMP can be developed by following a number of logical steps.

This revegetation along a gully will reinstate linkages between Nerang River and the foothills of Lamington National Park in the Gold Coast hinterland.

A BMP has a number of specific objectives, including:

- Identifying the ecological values of your bushland.
- Identifying threats to these values (e.g. weed infestation).
- Developing actions to deal with identified threats (e.g. weed control).
- Developing strategies to restore and conserve biodiversity on your property.
- Recording ecological and biodiversity changes and improvements over time.

Step 1. Landscape context

It's useful to take into consideration how your property fits within the landscape. For example, think about where other patches of native vegetation are in your local area, and whether they link with your patches. Ask yourself, do features on my property link with other aspects of the surrounding landscape; are there weeds or erosion impacting on my property from next door? Consider how your actions impact on your neighbours and vice versa. If your property has agricultural or grazing activities, you may wish to consider a whole property management plan (PMP).

Step 2. Creating a property map

Aerial photographs are useful for developing a base property map (or series of maps). They can be sourced through your Land for Wildlife Extension Officer, local Council, SUNMAP (ph 07 3896 3216) or websites such as Google maps. Other useful maps include:

Vegetation maps – available from the Department of Environment and Resource Management (DERM) www.derm.qld.gov.au (search for 'regional ecosystems'). *Land for Wildlife Note V1 – Regional Ecosystems* provides more information about these maps. Most Councils will also be able to provide vegetation maps.

Contour maps – may be sourced from your local Council or by enlarging the relevant section of your local topographical map sheet (available through SUNMAP and DERM offices).

Soil and geology maps – can also be obtained from some Councils or DERM. These maps can be useful, but their broad scale can limit their application at the property level.

Step 3. Build the layers of information

Map overlays (a transparency/overhead projector sheet is useful for this purpose) can be used to build up information layers on your base map. Alternatively, you may choose to utilise a computer-based mapping program to record your property features. A GPS can be a useful tool for accurately locating property features. Features that can be marked on maps include:

- Property boundaries and fences.
- Patches of native vegetation, their types (e.g. rainforest, eucalypt forest, paperbark wetland) and status (e.g. remnant/original, regrowth or cleared).
- Areas of natural regeneration and/or revegetation.
- Natural features such as ridges, rocky outcrops, watercourses, gullies and drainage lines.
- Major weed infestations.
- Access and walking tracks and fire trails.
- Buildings and other infrastructure.
- Dams and other water points.
- Indigenous and cultural heritage sites or features.

Later on you can add management details to your BMP, such as the location and target dates for future activities.

Step 4. Zoom in and break it down

You can now divide your property into smaller management units based on natural or man-made features such as a creek line, a ridge, sub-catchment boundary, a fire trail, areas of vegetation and walking tracks. Smaller management units will help to identify individual tasks and can assist in prioritising your goals, and make the task seem less daunting. When deciding on the boundaries between individual management units, consider factors in common such as access and management requirements.

Depending on the disturbance history and the current condition of each area, some management units may require very little work while other areas may require intensive management. Mark each management unit on your property map. It is also useful to identify appropriate fire regimes for each management unit - refer to the SEQ Fire and Biodiversity Consortium for more advice.

Step 5. Identify and rate ecological values

Each management unit can now be rated based on its ecological value (high, medium or low). The ecological value of an area can be influenced by many factors including:

- The amount and state of native vegetation.
- The presence of weeds and other threats.
- The presence of significant plant and animal species.
- Whether it links to other patches of vegetation in the landscape.
- The presence of unusual features such as ridgelines and caves.

For example, you may decide the creek-side vegetation has the highest ecological value and the neglected pasture regrowth has the lowest value. Your Land for Wildlife Officer can help you identify and rate your areas of ecological value.

Step 6. Identify and rate ecological threats

A crucial part of the BMP is to identify the threats and rate their level of seriousness to your property's biodiversity. When doing so take into consideration their potential impacts and the ecological value of the area they are in. By doing so, you will be able to prioritise your actions to determine which threats require urgent attention and which can be left until later.

For example, a small outbreak of Cat's Claw Creeper (a highly invasive weed) is a serious threat in a high ecological value area such as a creek system. A larger patch of a less invasive weed in a more degraded area poses less of a threat to ecological values and should therefore be a lower priority.

Threatening processes may include:

- Habitat fragmentation and isolation (see *Land for Wildlife Note G2 - Wildlife Corridors*).
- Weed invasions (see *Land for Wildlife Notes EW1 and EW2 - Weed Management Plan* and *Weed Control Methods*).
- Inappropriate fire regimes.
- Poor water quality e.g. nutrient rich runoff draining into your dam or watercourse (see *Land for Wildlife Note W2 - Healthy Dams*).
- Pest animals.
- Soil compaction and erosion (see *Land for Wildlife Note S1 - Healthy Soil and Leaf Litter Layers*).
- Salinity and acid sulfate soils.

Step 7. Determine priorities and actions

Your map will now be clearly marked with your management units. For each unit you will have assessed its ecological values, identified threats and rated the seriousness of those threats.

Using this information, actions can now be prioritised starting with the areas of highest ecological value suffering the most serious threat. However, some threats can be serious enough to warrant immediate action regardless of their location.

Creating a table is a useful way of listing your management areas in priority order noting key threats, desirable outcomes and potential management strategies and actions.

A simple property map that identifies management units. See Table 1 below for examples of management strategies and actions.

Table 1: Example of listing threats, actions and desirable outcomes.

Management unit	Ecological value	Threat	Desirable outcome	Management	Timing & Who
D	Riparian corridor connects to areas of remnant vegetation to north and south of property. *(High ecological value)*	Small infestation of Cat's Claw Creeper along the creek. *(High level of threat)*	Immediate containment and control of Cat's Claw Creeper. Area maintained free of weed regrowth, resulting in natural regeneration of native species and recovery of existing trees and shrubs.	• With assistance from your Land for Wildlife Officer, map the extent of the Cat's Claw Creeper infestation. • Choose most appropriate weed control method/s. • Talk to upstream landholders. • Recognise need for, and plan for follow-up maintenance of area.	Engage a weed contractor this year for Cat's Claw Creeper control. Ongoing maintenance by landholder.
B	Small isolated patch of non-remnant bushland. Some natural regeneration occurring. Contains large habitat trees. *(Medium ecological value)*	Grazing by livestock. Invasion by pasture grasses and woody weeds. *(Medium level of threat)*	Reconnect remnant riparian vegetation (Management Unit D) along property boundary to Management Unit A.	• Fence off vegetation patch from grazing activity. • Encourage natural regeneration to strengthen corridor along boundary fence. • Seek advice on species selection for planting. • Revegetate small bare area between Units A and B. • Investigate funding sources for plants, fencing and weed control of grasses.	Landholder to install fencing during this summer. Start revegetation work next spring.

Step 8. How much does it cost?

Preparing your own BMP enables you to develop a good understanding of your property's values and the actions required. A BMP need not involve significant financial cost, nor does it need to be professionally prepared. The identification of threats and appropriate management actions will help you to cost your proposed actions – both in terms of time and money. Developing and implementing a BMP will help in conserving and enhancing the biodiversity values of your property in a well-planned and timely manner. Your Land for Wildlife Officer will be able to assist you in sourcing necessary information to complete your Plan.

Depending on the significance of biodiversity values and the level of threats on your property, there may be assistance in the form of funding or other resources from your local council or Regional Natural Resource Management group. Your Land for Wildlife Extension Officer will be able to advise on possible funding sources.

Step 9. Evaluation and review

Evaluate the success of your actions. Was the outcome better, worse or as you expected? Do you need to adapt your approach or can it be improved?

Off-stream watering facilities can help protect riparian vegetation from livestock impacts. Determining the location of such infrastructure can be developed through doing a bushland management plan.

What you can do

- ✓ Prepare a property base map.
- ✓ Divide the property into management units.
- ✓ Identify habitat values and threats.
- ✓ Develop management strategies and actions.
- ✓ Determine priorities and time frames for actions.
- ✓ Undertake the on-ground works.
- ✓ Evaluate and review the success of your actions.

References and further reading

SEQ Catchments (2009) *Living in the Landscape: the Lockyer Valley*.

Department of Natural Resources and Water (2003) *Property Resource Management Planning: guidelines for landholders*.

SEQ Fire and Biodiversity Consortium (2004) *Fire in Bushland Conservation: the role of fire in the landscape and how we can manage it for biodiversity conservation*. www.fireandbiodiversity.org.au