

# Chapter 3

## Principles for Vegetation, Property and Regional Planning in Dryland and Irrigation Landscapes

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### Introduction

“Failing to plan is planning to fail”.

Planning at all levels (catchment, sub-catchment or property scale) should be an integral part of natural resource management. The basic principles of planning can be considered as:

1. determine the current situation (take stock of what you have got and what condition it is in);
2. develop strategies, proposals and actions to address problems and issues; and
3. monitor results of actions and adapt management to get the desired results.

### Vegetation management plans

The retention and management of native vegetation is a high priority in the Riverina region where vegetation cover varies between 4 to 16 percent. A vegetation management plan is an important first step in improving the quantity and quality of vegetation on your property. The steps in developing a property based vegetation plan are:

1. **Identify** areas of native vegetation on your property. This can be done by using an aerial photo of your property with a plastic overlay on which lines around areas of native vegetation can be drawn;

2. **Assess** the condition of the vegetation (see Native Vegetation Assessment sheet in this chapter) and identify what vegetation community is on each site (see Vegetation Profiles, Part 2);
3. **Prioritise** the areas that you are going to work on. Generally we want to get into the most degraded sites and make them better, but this is more expensive and time consuming. It is more realistic to work on those sites that are modified or slightly degraded (ie. the resilient sites) and with minimum input, improve their condition;
4. **Develop** management plans for each site. This could include a grazing strategy, possibly fencing, weed management, extending the remnant, enhancing the area with local shrubs and feral animal management;
5. **Monitor** changes in vegetation condition. At a basic level this involves setting up photo points (*ie.* taking yearly or half yearly photos from the same point in the site to monitor tree and shrub regeneration, weed/feral animal control); and
6. **Adapt** management to improve vegetation condition (eg. maybe occasionally “crash graze” sites to reduce fuel load or control weeds, possible patch burning to encourage regeneration).

## Native vegetation assessment sheet

For each of the native vegetation areas that you have mapped on your vegetation overlay answer true or false to the following 9 statements.

	Area 1	Area 2	Area 3	Area 4
1. There are large /mature trees maybe with hollows.				
2. Trees of all ages are present (ie. seedlings, saplings through to very old trees).				
3. Standing and/or fallen timber is common.				
4. Trees appear healthy, not showing signs of dieback.				
5. Native shrubs are present in the understorey, even if they don't form a dense layer				
6. Ground flora is mostly <u>native</u> herbs and grasses				
7. Few weeds are present (or are confined to the edge of the area).				
8. The area is connected to, or within 100m of, other areas of native vegetation.				
9. The area is larger than 5 hectares.				
Total number of "true" answers.				
Native Vegetation Condition (see table below).				

## Interpretation of native vegetation assessment scores

"True" scores	Vegetation Condition	Description
8-9	Near natural	Native vegetation in excellent condition. Good regeneration, lots of habitat for wildlife. Protect from future degradation.
6-8	Little disturbed	Some past disturbance has occurred, but still retains very high values. It is important to ensure that causes of disturbance are still not active on site.
4-6	Modified	The effects of past degradation are showing. Some habitat components are missing, there may be weed invasion and poor regeneration. However, the native vegetation present may have some capacity for recovery, and removing the causes of the degradation could show immediate beneficial effects.
3-4	Degraded	Past disturbance and degradation has severely affected the long term sustainability of the vegetation. Understorey species may have been lost, and ground cover may be dominated by weeds and introduced grasses. Urgent action needed to prevent further degradation. The removal of degrading influences is important, but some treatment to promote regeneration may also be needed.
0-3	Highly degraded	May have dead or dying trees, loss of understorey, ground cover composed of weeds and introduced grasses, no regeneration. The trees may die in the next 10-20 years, and not be replaced. The site cannot be easily regenerated, but this may be preferable to revegetation of a totally cleared site.

(From VegNotes: 1.3 Assessing native vegetation condition)

## Property planning - what does it really mean?

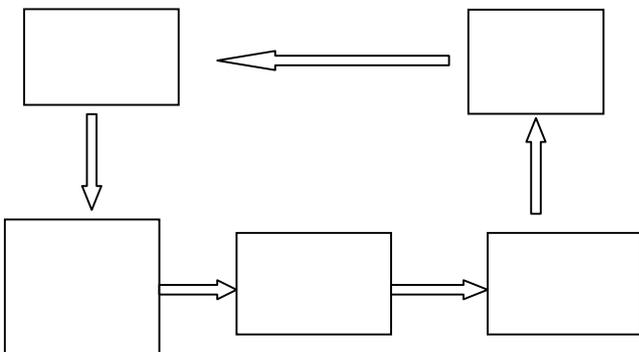
Property planning is generally accepted to mean planning for the property's **physical resources (soil, water and vegetation)**, detailing an inventory of the physical aspects of the property, how they are managed now and plans for future management.

This should not be confused with **Property Management Planning (PMP)** which not only takes into account the physical attributes of the property but also considers the financial and personal aspects of the farm business.

PMP takes landholders through a process (generally involving a series of group workshops) where they consider the full extent of their farm business. This may include enterprise planning, risk analysis, marketing, time management, estate transfer, goal setting and identifying training needs. Developing a physical property plan, considering enterprise change, development and changes to resource management is also part of this process.

In the past PMP has been delivered through the Farming For the Future program, but is now delivered through TAFE or private providers.

## Developing a property plan



The basic steps in developing a property plan are:

1. **Develop a vision** for your property by deciding what is important for your property and why. This will help set your goals to reach your vision;
2. **Obtain the appropriate base map**, generally a recent aerial photo of the property at 1:2000-1:10,000 scale (contact the local office of DLWC). Approximate cost is \$200-\$500 depending on property size;
3. **Using individual plastic overlays** mark on the following:
  - *Permanent infrastructure*, include property boundary, homestead, public roads, etc;
  - *Current infrastructure and land use*, include features that can be changed, such as paddock boundaries, farm tracks, dams;
  - *Land capability*. This describes the potential for sustainable use of the land. It uses an eight class system where the higher the number then the more protection the land needs (Classes 1-3 are mainly cropping, Classes 4-6 are mainly grazing, Class 7 is tree cover and Class 8 is unsuitable for agriculture);
  - *Native vegetation*, including both remnant and planted vegetation;
  - *Soil types* using NSW Agriculture classifications (see SOILpak);
  - *Water supply and drainage*. The degree of detail will vary depending on the property being irrigated or dryland (see "Irrigated whole farm plans" below); and
  - *Cultural heritage*. This includes areas of both Aboriginal (eg. burial sites, middens, scar trees) and farming heritage (eg. where crops have been grown, sites of previous farm buildings).
4. **Consider management options for each of the resources** that you have assessed such as changes to vegetation management, grazing

management, cropping practices, treatment of major property issues that may include salinity, acid soils, drought management and infrastructure management;

5. **Set goals for your property.** Goals are the specific actions that enable you to realise the vision for the property. Goals can be short, medium or long term and can be oriented towards a range of outcomes such as production, management or the environment;
6. **Draw your ideal plan on an overlay** including all options (eg. changes to laneways, fences, pasture improvement, salinity and acid soil management, vegetation management options);
7. **Set priorities;**
8. **Cost out the plan and develop an action calendar;** and
9. **Monitor and review the plan.**

### **Whole farm planning on irrigated properties**

Property planning or whole farm planning on irrigated properties follows the principles outlined previously with a few additions, such as:

- benchmarks, including the Full Supply Level of the district supply;
- grid surveys preferably on a 30 metre grid;
- plan design covering the irrigation and dryland farm areas, to scale;
- separate farm sections/paddocks identified;
- proposed treelines and access tracks;
- volume of drainage/reuse channels/storage earthworks to be shown (soil testing of storage site to be assessed by accredited person);
- volume of storage/main drainage lines/main channel or sump to be indicated;
- all associated structures shown (culverts/crossings);

- groundwater pump site (if applicable); and
- point of access to regional drain (if applicable);

### **Regional planning**

Using the basic principles outlined above regional planning at a catchment level aims to:

- involve the whole community, not just individual properties;
- set achievable and measurable targets to manage natural resources across these areas (eg. Catchment Blueprint); and
- develop strategies and actions to meet the targets over specific timeframes.

Using this process, groups could develop their own sub catchment plans for managing remnant vegetation and strategic revegetation. The details of the process are:

1. **Vegetation survey.** Using an aerial photo, identify what native vegetation tree cover remains. Include roadsides, Travelling Stock Reserves, State Forest, National Parks, other areas of Crown Land and private land. Vegetation surveys have already been completed for some areas of the catchment by various organisations. This information can be accessed through Local Government offices (roadside surveys), Rural Lands Protection Board office (TSR surveys), DLWC (Broad Vegetation Types), Murray Irrigation and West Corrgan (vegetation cover in Land and Water Management Plan areas).
2. **Develop a community vision.** What would you like the catchment to look like in the future? Some issues to consider may be management of riparian areas (stream banks), management of remnants for specific threatened species, management of public land, development of seed

- production areas for future revegetation.
3. **Assess remnant vegetation quality/condition/conservation status.** Some of this information may already be available for some of the public land surveys (eg. TSR's). For private land encourage all group members to assess their vegetation using the assessment sheet provided in this chapter.
  4. **Prepare management plans for each remnant.** Issues to consider in this process would include recommendations for fencing, weed and vermin control, grazing and fire management, natural regeneration, wetland management, revegetation with understorey plants and developing linkages with existing remnants.
  5. **Set priorities for sites according to their conservation value.** This value needs to take account of the broader catchment priorities and the sites importance on a local scale, such as how much of this vegetation type is left in the catchment? How big is the site? Does it form important linkages with other sites? Is it habitat for a locally threatened species? Working on the higher value sites will deliver the greater gains for the inputs. Little disturbed or modified sites will show changes in quality and habitat value for a small change in management (eg. fencing to manage stock) and enhancing the area with clumps of locally native shrubs will improve habitat potential for birds.
  6. **Identify strategic revegetation sites.** Use this process to ensure revegetation has the maximum impact by
    - building on existing remnants,
    - planting blocks (greater than 2 ha) as “stepping stones” to existing remnants,
    - recharge control plantings on “break of slope”,
    - avoiding narrow wind break plantings, or
    - planting into discharge areas if biodiversity is your main focus.
  7. **Prepare action plans for revegetation.** Consider preparation of sites, pre ordering seedlings, collecting seed from locally native plants (most understorey species seed in spring/summer).
  8. **Monitor activities.** This may be as simple as setting up photo points in revegetation sites or could be more involved, setting up permanent quadrats to monitor weed spread/decline or tree/shrub regeneration. It could also involve seasonal bird monitoring of selected sites as a measure of changing habitat value.

## References and further reading

NSW Agriculture and Department of Land and Water Conservation (1999) *Physical Property Planning*. Farming For the Future.

Department of Land and Water Conservation (1997) *Sub-Catchment Planning for Groups*.

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Earl, G., Stelling, F., Titcumb, M. and Berwick, S. (2001) *Revegetation Guide for the Goulburn Broken Catchment*. Department of Natural Resources and the Environment.