Managing Wet Areas

A guide for managing wet areas for both productivity gains and environmental benefits

Stock exclusion from this farm dam at Greta resulted in the recolonisation of native rushes and sedges around the dam margins. These native perennials are excellent at filtering water entering the dam and help to improve water quality.

Wet areas on your property

It is not uncommon for farms to have areas that may be wet for periods of time. These can include soaks, shallow depressions, wetlands, floodplains, billabongs, seasonal drainage lines and dam margins. These features can be filled by direct rainfall, overland flow, springs and floodwater from nearby rivers.

These areas can remain wet for short periods or for long periods, depending on local conditions such as intensity of rain events, terrain, aspect, soil type, drainage, and so on. Proximity to standing water or permanently flowing water will also influence the extent to which an area is, and remains wet.

Different wet areas have different values and therefore the management of each site will be unique. Consider having your site(s) assessed to determine their values, understand their water regime and most appropriate options for management. Many of these features are valuable environmental assets in our landscape and therefore their protection and appropriate management may provide benefits to both farm productivity and our local biodiversity.

This guide offers some ideas on transforming wet areas into an area on the farm that provides both farm productivity gains and environmental benefits.

Impacts of poorly managed wet areas

- **Damage to native vegetation** – sensitive ground layer plants can be severely affected by trampling when wet. Particularly susceptible vegetation types are seasonally herbaceous wetlands and freshwater meadows.
- **Soil health** - wet areas that are grazed during periods of saturation suffer pugging and soil compaction, which adversely affects pasture quality in the long-term. Compaction can lead to a serious reduction in soil aeration, affecting soil microorganisms, soil structure and reducing root density, vigour and growth. Pugging can lead to increased nutrients being leached from the soil, increased weeds and delayed spring growth.
- **Impacts on stock** – the health of your stock can be affected when grazing wet areas, including through the spread of diseases and parasites and foot health issues such as scald and footrot.
- **Accessibility** – large areas of saturated soils can reduce your ability to easily get around your farm during wet times of the year. Areas that are extensively pugged may dry out to form uneven surfaces making vehicle and stock access difficult. In clay and clay loam soils, pugged paddocks may not fully recover unless renovated and over sown.
- **Water quality** – increased sediment and nutrient loads are generated when stock access wet areas, which will affect your property and can impact water quality in nearby waterways.

Options for managing wet areas

If an area remains saturated for short periods only, then it may simply be a case of excluding stock until the ground dries out sufficiently for stock to resume grazing. A temporary hot-wire fence is a useful means to keep stock out of an area for a short period.

If an area suffers waterlogging for long periods, then it will be more productive in the end to permanently fence this area to either totally exclude stock or allowing limited grazing at certain times of the year. Installing drainage may be an option in areas prone to waterlogging, but this can be expensive and problematic, particularly if the terrain or soil type renders the area prone to erosion.

If the most appropriate option is to permanently exclude stock from the site, further enhancement of the site through revegetation and other activities such as the placement of fallen timber and installation of nest boxes may be desirable. Such activities can jointly provide both farm productivity gains to the landholder and biodiversity gains to the environment.

Environmental and biodiversity benefits

Creating a healthy ecosystem at your wet area offers local wildlife not just a valuable place of habitat, but also a valuable place of refuge and source of food. Such sites will provide habitat for a range of species, including birds, mammals, reptiles, amphibians and insects, particularly if complementary revegetation is undertaken at the site.

Your fenced and revegetated wet area can act as a stepping stone for wildlife, by providing opportunities for resting and feeding as they move across our landscape during the hotter months (e.g. from the Futters and Warby Ranges east towards the King and Ovens Rivers).

A nest box at Greta West is being used, as indicated by the chew marks around the hole opening. These boxes have been installed as part of the Regent Honeyeater Project.

A site at Glenrowan, showing a wet area that was difficult to manage near the shed and water tank. This site was revegetated using direct seeding, and a mix of trees and shrubs are now successfully growing at the site.

Landholder and productivity benefits

- **Improved stock health** by mitigating the risks of stock becoming stuck in soft ground or picking up diseases/parasites from contaminated feed and water.
- **Provide shade and shelter** to stock, pastures and crops in adjacent paddocks from sun, wind and wind-driven rain. There have been numerous scientific studies conducted to quantify the productivity gains arising from providing shade and shelter.
- **Improved water quality** both onsite and downstream. Wet areas are typically characterised by a dominance of rushes and sedges and these species are well suited to seasonal and permanent inundation. Rushes and sedges are excellent at filtering nutrients and sediment from flowing and stationary waters and will improve the quality of water entering dams, billabongs and wetland features.
- **Promotes biological control** of damaging insects in your crops and pastures, by encouraging other beneficial predatory insects and birds into the site. This helps to keep the environmental system in balance.
- **Create a carbon store** as healthy vegetation is a natural carbon store; carbon is stored within the vegetation's bark, timber and foliage. Carbon is also stored in soil and the more organic matter, the more carbon is stored.
- **Improved amenity** on your property, and for the landscape as a whole. A well-managed wet area can become a great environmental asset on your property, which may be reflected in your properties re-sale value.
- **Provide a place of emergency refuge** for stock during adverse weather conditions for short periods if needed.

Steps for successfully managing wet areas on your property

The following steps are a series of recommendations for managing areas that are wet for longer periods and/or areas that would benefit from being managed differently. Areas that are wet for short periods maybe able to be rested from grazing. The key is knowing what sort of wet area you have. Get advice on what sort of wet area you have from your local Landcare Facilitator or Natural Resource Management (NRM) Officer.

The steps:

1. The process of improving your wet area usually starts with controlling stock access to the site. Install a **permanent stock-proof fence,** with a gate to provide access for maintenance. Plan carefully where to put your fence and create buffers around wet areas if possible.
2. **Allow the site to recover** for at least a year with no stock access to see what native plants and weeds emerge. This gives you a much better idea of what remedial works you may need to do.
3. Options for **plant establishment** include natural regeneration, direct seeding and planting of seedlings. The type of wet area you have will determine what plants should be planted at your site. Some wet areas, such as seasonally herbaceous wetlands and freshwater meadows, mentioned earlier, are naturally treeless and only when wet, show their common species. Other wet areas may have been spring soaks or diverse billabongs and may require trees, shrubs and ground layer species.
4. Consider installing **nest boxes** in remnant trees to provide hollows for birds, bats and mammals. Nest boxes are designed to suite individual species - the size of the entry hole, the size and shape of the box and its installation location are important considerations when designing and positioning a box.
5. Leave or relocate **fallen timber** from elsewhere in your paddocks to your site to increase structure and habitat diversity for wildlife. Messy sites are healthy sites!
6. **Ground litter** is an important component of a healthy system. Litter includes leaves, twigs and bark that are left to accumulate on the ground over time, providing homes and food to a vast array of life. Leaf litter provides essential habitat and foraging areas, assists with controlling erosion and returns nutrients to the soil.
7. **Control problem weeds** which may include trees, shrubs or grasses. There are many different weeds that could cause problems in your wet area. Again, get advice from your Landcare Facilitator or local NRM Officer.
8. **Develop a grazing strategy** suitable for the type of wet area that you have. Some areas will need very little or no grazing, while other areas will need some grazing to stop grasses from dominating. Some sites will require crash grazing to prevent weeds from establishing and sometimes unwanted native trees and shrubs from taking over. The type of stock you have will also be important. Remember that all grazing should be done when the site is dry.

Options for plant establishment

Natural regeneration

Natural regeneration can occur when the ground contains a store of locally native (indigenous) seeds which have either lain there since land-clearing (Acacia seeds can lie dormant in the soil bed for over a hundred years!), or which have blown in over time and settled in, waiting for the right conditions for germination. Naturally, seeds will continue to blow in from any nearby remnant stands of native vegetation. Natural regeneration is cheap and easy and it is often worth removing stock and waiting to see what pops up before embarking on revegetation of the site. Waterbirds are also important for spreading wetland plants.

Revegetation

If regeneration does not occur, or occurs very slowly, then you may introduce indigenous plants to the site by revegetation, either by planting seedlings or by direct seeding. Revegetation is a good way to supplement the plant species appearing through natural regeneration, in order to not only achieve a rich mix of plant species at the site, but to return the natural species mix present prior to land-clearing. Shrubs can be planted in patches, rather than in regular spacings, to provide dense areas for wildlife refuge and open areas for foraging which suit different bird species. Sedges and rushes can be dug up from locations on your property where they won't cause erosion (and there are plenty of them), and very successfully divided and planted.

Because your site is a wet area, select species suited to soils that will experience periods of saturation, if not inundation. Your local Landcare group and your local nursery will be able to advise you on suitable plant species. There are also several appropriate guides that provide further information listed in the section of this guide.

A problem wet area at Greta West, showing part of a valley fill that receives water as subsurface flow off the distant hills during winter and spring months. The area to the left of the photo was stabilised 15 years ago by fencing and revegetation, whilst the area to the right is unfenced and lacking in vegetation.

Overflow from this dam at Hansonville provided a constantly wet patch in the paddock that was a hazard to cattle. The site was fenced below the dam (forming a logical divide for managing the lower paddock) and revegetated approximately 8 years ago.

Maintaining your site

Generally, some periodic maintenance is required to keep your managed wet area in good order. Things to consider:

- **Pest animals** - Increased cover can also create habitat for pest species such as foxes, rabbits, cats and Indian Mynas. Control programs may be required.
- **Weeds** - Keep an eye out for the appearance of new and existing weeds and control as required.
- **Fences** – Undertake regular fence inspections and complete maintenance as required.
- **Grazing** – Stock should be totally excluded from your site for the first year after fencing. If revegetation has been carried out, trees and shrubs will need 4-5 years to establish without grazing. Adjust your grazing strategy as you see how your site develops.
- **Fallen timber** – Leave fallen timber on the ground to increase structure and diversity of habitat for wildlife.
- **Replanting** – Over time, you may have plant losses at your site, or want to plant more species. Consider replanting both trees and shrubs as needed to maintain an appropriate density and diversity of plant species. You may want to plant more sensitive species, particularly groundlayer plants, once weeds are controlled and/or other plants are providing shade and protection.

References

Haughton, M (2011). Convert problem wet areas into valuable habitat: A guide for creating a place of valuable wildlife habitat in an unproductive area of your farm prone to water-logging. East Gippsland Landcare Network, Bairnsdale.

Other Resources

The following references provide additional information for plant selection, site preparation and planting techniques. These references are available electronically on **www.gretalandcare.org.au**

Cook, D and Bayes, E (2015). Seasonally Herbaceous Wetlands: Identification and Management handbook. Goulburn Broken Catchment Management Authority, Shepparton.

DSE (2007) North East Revegetation Guides. Victorian Government Department of Sustainability and Environment, Melbourne.

Greta Valley Landcare Group (2017). Protecting and enhancing remnant native vegetation. Wangaratta.

Greta Valley Landcare Group (2017). Revegetation Planner. Wangaratta.

Drumsticks (Pycnosorus globosus) naturally grow in swampy places.

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