Integrating wildlife conservation and farm management

This note describes some farm management practices and projects that benefit wildlife as well as farm health and productivity.

Wildlife conservation can be integrated with farm management in many ways and can provide numerous benefits. Resident and visiting wildlife on a farm is an asset to the property. For example, insects, birds and microbats are important for pest control and crop pollination, and trees and shrubs provide shelter for stock. Native pastures offer reliable, low-maintenance grazing. Native vegetation minimises erosion and soil loss — particularly on steep slopes, and around waterways. Healthy native ecosystems also make the property a more attractive and interesting place to live and work.

A useful first step in integrating wildlife conservation and farm management is to identify habitat features, and understand how they are used. They take many different forms but some of the most valuable are native vegetation of any kind (particularly large patches, areas with understorey, or corridors connecting larger areas of natural habitat), native pasture, large old trees, wetlands, rocky outcrops, and areas of fallen timber.

The next step is to develop a farm plan that allows for the long-term protection of as many of these assets as possible — and perhaps for their enhancement if required. The strategies described here are intended to help maintain and improve the value of a farm as wildlife habitat, and promote farm productivity and sustainability.

The most important strategy is to protect any native vegetation and other habitats already on the property — attempting to replant what has been lost is much more expensive and time consuming.

Many small insect eating birds, such as this buff-rumped thornbill, rely on dense woody vegetation to forage and shelter in. Retaining or re-establishing patches of understorey trees and shrubs is an excellent strategy for integrating wildlife and farm management. Photo: OEH/V Bear

Fence native vegetation and other habitats such as bushland, isolated trees, stream banks and rocky areas. On many properties, this is the most effective strategy for conserving wildlife, because it allows for livestock exclusion or managed grazing, so that vegetation can naturally regenerate. Consider including some adjacent cleared areas to allow native vegetation to expand.

Manage grazing. Managing the timing and intensity of grazing, and providing long rest periods can improve the density and diversity of native ground layer plants and encourage tree and shrub regeneration. This will allow native pastures and other vegetation to persist in healthy condition.

Minimise slashing and mowing of native vegetation, especially when ground shrubs and grasses are flowering and setting seed. This will also restrict the spread of weeds, as many weeds colonise cleared areas.

Avoid soil compaction by not moving heavy machinery and livestock about in native vegetation, especially during wet conditions. Excessive or too frequent trampling by hoofed animals, vehicles and/or people can compact soil, reduce productivity and limit the establishment of new plants. This effect will vary for different soil types.

Protect native vegetation from fertiliser. Avoid the use of fertiliser on native pasture, and other native vegetation, ensure native vegetation is protected from accidental application such as drift. Fertilisers raise nutrient levels, encouraging invasion by exotic species and also reducing the amount of native ground cover species, including valuable perennial native grasses. If fertiliser is going to be used for native pasture management, allow as much time as possible between applications.

Take care with pesticides. Try to reduce total pesticide use. Ensure as much of the property as possible remains pesticide free. Ensure pesticide does not drift or run-off into waterways, dams, or native vegetation.

Retain mature and standing dead trees. Mature native trees with hollows are a precious resource, as they provide valuable nesting, perching and roosting sites for native fauna. Old trees also help maintain the character of the natural landscape and can help prevent erosion. Any tree with hollows provides breeding habitat for gliders, possums, owls, parrots, wood ducks, and teal.

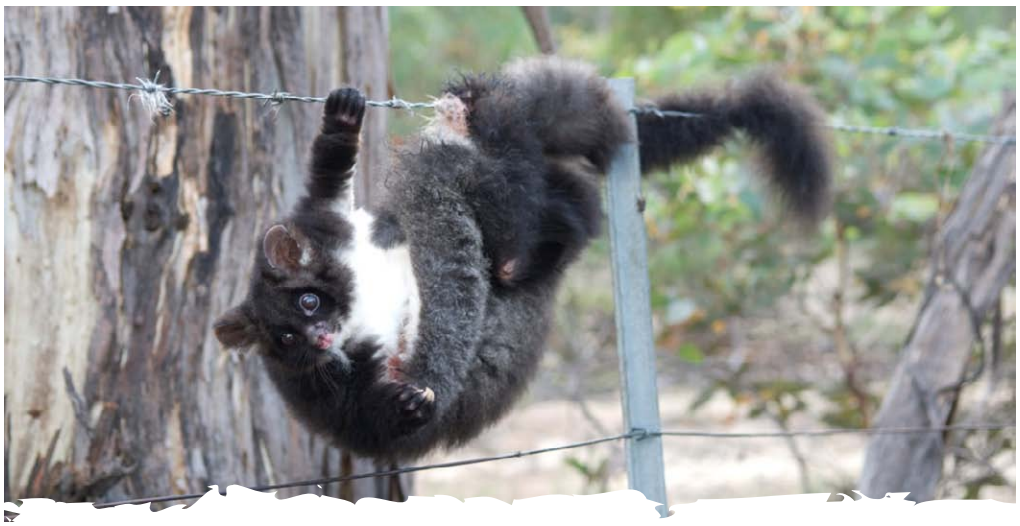
Control weeds carefully and strategically. A well planned strategy and the right techniques will provide value for effort with minimal damage to native ecosystems — for example, controlling infestations as soon as they are seen, or removing weeds before flowering and fruiting.

Weeds can also provide important wildlife habitat, particularly in areas with little natural vegetation, and this should be considered before a decision is made to clear. For example, lantana or a group of dense, spiky shrubs may offer vital protection and nest sites for small birds. Such patches could be retained but prevented from spreading.

Plant local native species. Plantings can greatly enhance a property's productivity and wildlife habitat value. Depending on their design and placement, they provide a range of services including:

- windbreaks, or shelterbelts protecting crops, pastures, livestock and farm buildings
- additional habitat area — potentially boosting numbers of native animals that pollinate plants, and control insect pests
- corridors to help increase connectivity between patches of habitat
- help in reducing water tables and control salinity
- erosion control
- supply timber and fodder
- improvement to water quality in wetlands, dams and watercourses

Control feral animals. Native animals have few defences against foxes, feral cats etc. No matter how 'healthy' the bushland appears, native animals need landholders and land management authorities to give them a break and control introduced predators (and minimise livestock losses in the process). Rabbits, goats and pigs etc, can cause extensive damage to production areas as well as to native vegetation.



This greater glider was one of the lucky ones — it had only minor injuries and was freed by wildlife carers. Many gliders, bats and owls are injured or killed on barbed wire fences each year. Photo: L. Turton

Use wildlife friendly fencing, and minimise barriers to wildlife. Many thousands of native animals die each year through entanglement in barbed wire fences, particularly the top two strands. Replace existing barbed wire fences with plain wire strands, or at least replace the top two strands, or cover the top strand with poly pipe in areas of high wildlife use such as around dams.

Leave a gap of 50 centimetres below the lowest strand to allow wallabies to pass underneath.

Place wombat gates in fence lines to allow access without damage, and place fish ladders beside dams if the dam is located on a natural watercourse. If you are lucky enough to have koala habitat on your land, consider making koala 'stiles' over your fences to enable them to cross.

Keep pets away from wildlife. Unrestrained cats and dogs can wreak havoc on local wildlife populations. If pets are kept in at night, this will help safeguard them as well as the wildlife. Ideally, cats should be confined to indoor areas at all times.

Look after wetlands and watercourses. The natural cycles of flood and drought are important in maintaining ecosystems and habitats. In wetland areas, floods rejuvenate the soil and create temporary habitat and breeding sites for waterbirds, tadpoles and fish. Waterbirds eat many crop damaging insects, and the common backswimmer and the nymphs of dragonflies and damselflies eat mosquito larvae. Adult dragonflies and damselflies also prey on mosquitoes and crop damaging insects such as aphids.

Well maintained waterways are also attractive and an asset to any property.

Manage stock access around dams and waterways. Trampling can cause pugging, erosion and elevated nutrient levels, resulting in reduced water quality. Consider fencing these areas, and providing off-stream watering points, or allow access to only one section. Retain or plant stands of shade trees so stock can gather under these instead.

Plant a buffer around the watercourse or dam. Stream banks are best surrounded by a buffer of natural vegetation, at least 20 metres wide is recommended. This will provide shelter and habitat for wildlife and assist in stabilising the banks. Avoid overgrazing which will reduce soil cover, and lead to erosion. Use low growing vegetation in some areas adjacent to the wetland to allow clear flight paths to the water.

Make a farm dam more wildlife friendly. A dam with a large surface area, variety of depths and gently sloping bank also provides different habitats for many vertebrate and insect species. Logs, rocks and boulders in and around the dam will provide homes many animals.

Leave river snags, submerged logs, branches and litter in place. If it looks messy, chances are it is great habitat! Snags, logs and litter provide habitat for fish, frogs and invertebrates. Half submerged logs also provide perching spots for birds and turtles. Hollow logs provide homes for many species. Logs from other areas can be used to re-snag watercourses and improve habitat values.

Protect ground layer habitats (fallen timber, leaf litter, native grasses). Allow leaf litter, fallen logs and branches to accumulate in all areas, including in and around farm dams. Resist the temptation to 'tidy up' these areas as they provide wildlife with food and shelter, release important nutrients into the soil, reduce soil erosion, and retain soil moisture. Old logs and fence posts can be placed on the ground to increase habitat. Minimise slashing and grazing in bushland areas, particularly when ground plants are flowering and setting seed.

Manage bushfire risk while maintaining wildlife habitat. Consult with local fire authorities and carefully plan where and when controlled burning should take place. Controlled burning at a frequency and intensity similar to the natural regime may help in maintaining healthy bushland. However fires which are too frequent reduce biodiversity and wildlife habitat. Plants need time between fires to produce seed and replenish soil seed stocks so that the existing vegetation type and species composition can be maintained.

Maintain asset protection zones to protect the homestead and farm buildings from wildfire. In other areas away from buildings, allow the natural debris such as fallen logs and branches, tree stumps, rocks and leaf litter to accumulate on the ground. These areas provide habitat for wildlife as well as controlling erosion and returning nutrients to the soil.

If clearing a firebreak, avoid disturbing native vegetation and fallen timber along fencelines, roadsides and travelling stock routes — these areas are usually valuable wildlife corridors. If possible create the break in the adjacent paddock.

If the property is affected by bushfire or a prescribed burn, the bush will recover. This can be a valuable opportunity for controlling weeds and kick-starting natural regeneration. Take extra care to manage impacts such as stock access to burnt areas.

Plant a woodlot of fast growing native species for timber and firewood (e.g. casuarinas and wattles), and avoid the need to harvest fallen timber and standing dead trees — these are important wildlife habitat. Harvest selectively by taking a range of species and age classes and avoid trees with hollows. This will ensure that the woodlot is economically viable over many years as well as encouraging a variety of native wildlife to the area.

Record all plant and animal species and the habitat they use. To enable informed farm planning, and management for wildlife it is important to keep a record of native, exotic, common, rare or threatened species on the property (e.g. keep a monthly notebook of observations). It can be fascinating to see how different species are present at different times of the year — this is also a great way to get kids involved in learning about wildlife.

Useful references

Related Conservation Management Notes:

- Assessing habitat value
- Wildlife corridors
- Watching and surveying wildlife

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