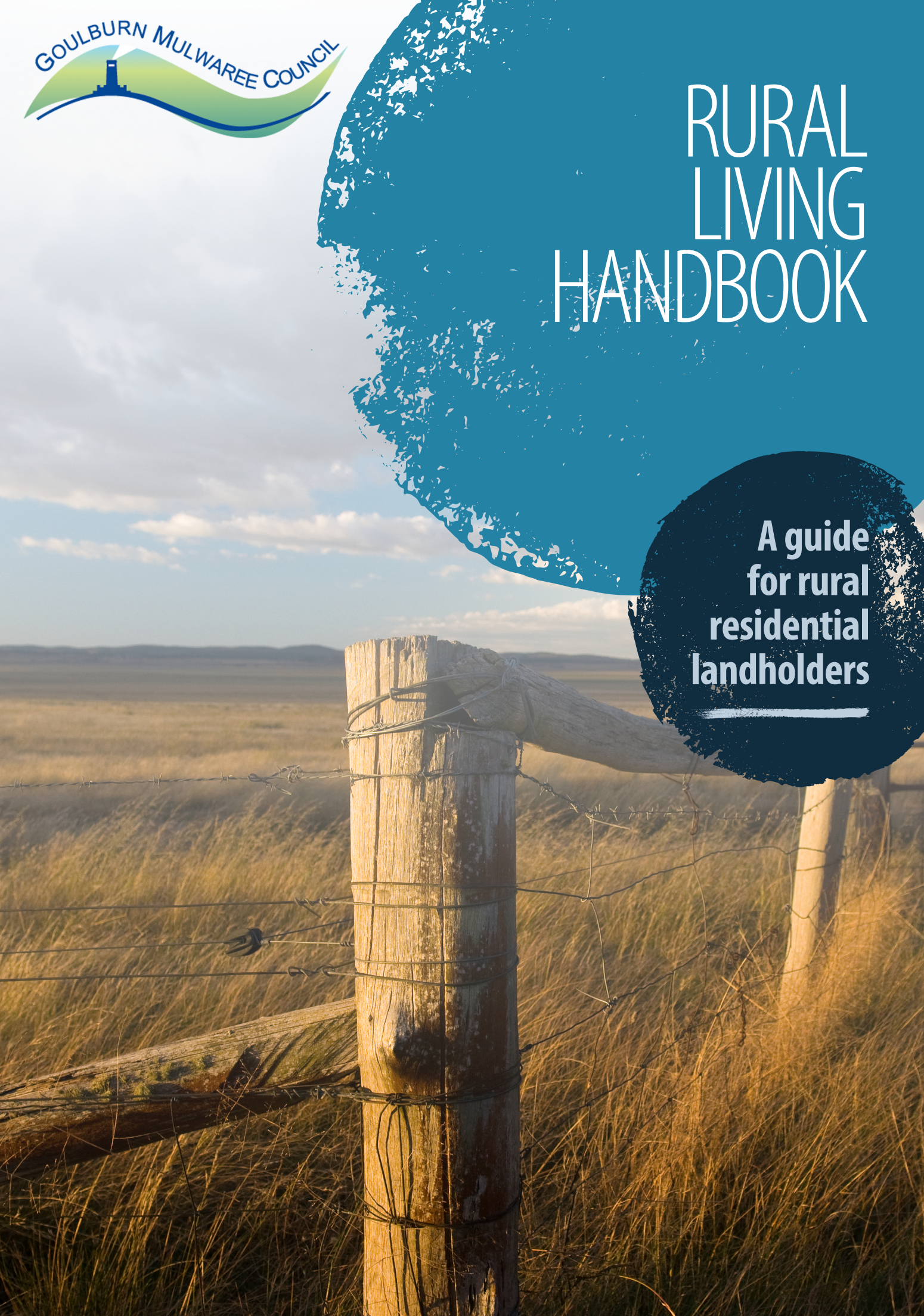
GOULBURN MULWAREE COUNCIL

RURAL LIVING HANDBOOK

A guide for rural residential landholders



Disclaimer

This handbook is not a comprehensive guide to managing your land. It is intended to help you find good advice. No legal liability is accepted for the information presented in this booklet.

Acknowledgements

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Office of Environment and Heritage
NSW Office of Water
South East Local Land Service
Greater Sydney Local Land Service
Water NSW
NSW Farmers Association
Rural Fire Service
NSW Department of Primary Industries
TAFE NSW Illawarra
WIRES
Department of Lands
Farmsafe

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LOCAL INFORMATION

ACRONYMS

Mayor's message

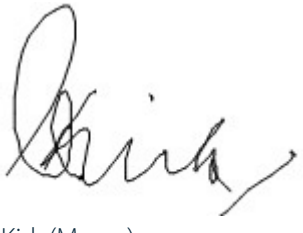
Thank you for taking the time to look at the Rural Living Handbook. Whether you have recently moved to the Goulburn Mulwaree region or lived in our district for some time, the Rural Living Handbook is designed to help you protect and enhance the wonderful lifestyle we all enjoy.

Goulburn Mulwaree's enviable location, wonderful environment, welcoming community and country lifestyle with city conveniences have led many seeking a 'tree change' to discover this area.

Becoming a rural resident - even a part time one - can bring much enjoyment. But equally it creates many responsibilities, which inevitably raise many questions. Even the smallest of rural blocks can provide a challenge if you have never before encountered noxious weeds, prepared for bushfire season or managed a septic system.

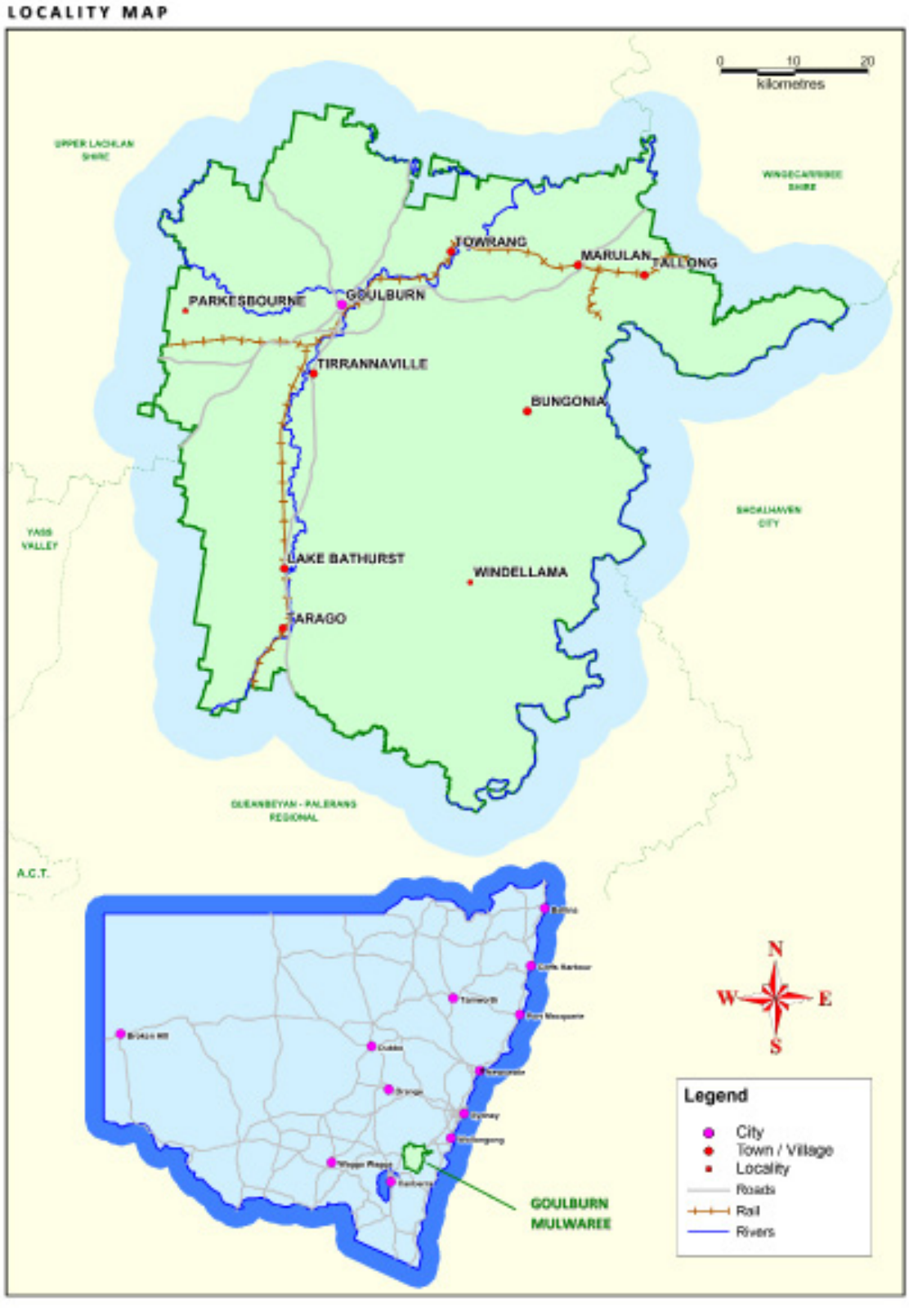
In providing this handbook, Goulburn Mulwaree Council aims to assist and inform land owners of the many resources available to them, as well as their requirements and responsibilities.

You are invited to keep this guide as a helpful reference which hopefully you will refer to time and time again. And remember Council's staff is always available to provide advice and assistance which will help you to enjoy your rural way of life.



Cr. Bob Kirk (Mayor)

Local map


LOCALITY MAP
0
10
20
kilometres
UPPER LACHLAN SHIRE
WINGECARRIBEE SHIRE
TOWRANG
MARULAN
TALLONG
PARKESBOURNE
GOULBURN
TIRRANNAVILLE
BUNGONIA
SHOALHAVEN CITY
YASS VALLEY
LAKE BATHURST
WINDELLAMA
SARAGO
QUEANBEYAN - PALERANG REGIONAL
A.C.T.
N
W
E
S
GOULBURN MULWAREE
Legend
City
Town / Village
Locality
Roads
Rail
Rivers

Introduction to rural living

'Getting away from it all' is an Australian dream. In our area, getting away from it all often involves buying a rural block. Rural blocks can be productive farmland, a bush block or a combination of both.

For some, getting away from it all means finding a healthy environment to raise children, or a place to retire away from the stress of the city. Others want to commune with nature or find a weekend escape.

The environment is under pressure from our collective lifestyles. All levels of government are pursuing sustainable development to protect our environment for the future.

Local activities have a significant effect on water quality and catchment health. We have a responsibility to ensure that we care for and maintain healthy rivers, streams and bushland.

We also need to get along well with our neighbours so that we can all achieve our individual goals without affecting the pleasure of others. However, the rural landscape is a productive farming and resource area, and some of the legitimate activities carried out in the area may have unavoidable impacts.

Be aware that some rural activities might affect you, and the level of services here may not be the same as in more built up areas. Your activities, in turn, may affect others.

Different people will want to manage their land in different ways. Some will want to keep and enhance the existing bush. Others will want to run stock and cultivate crops. Whatever your goals as a landowner or manager, you need to be aware of your rights and responsibilities, and the capacity of your land to support your endeavour.

The Rural Living Handbook brings together some of the significant issues that you will face as a rural landowner or land manager in our community. It also provides contact details of people and organisations who provide support to rural landowners.

We hope this handbook helps you get the most out of your rural property, so that you can improve your land's productivity, protect the health of your animals and the environment, contribute to your local community – and above all, enjoy your rural block.

BUYING YOUR PROPERTY

Moving out of the city

Before you decide to buy a rural property, consider the following questions. You should also get legal advice before buying any property.

- Do you know the history of the property? Request a property search from Local Land Services to ensure there are no outstanding rates, levies, known chemical residues or animal health issues on the property.
- What stock did the previous owner have? Did they sow pastures and use fertilisers? Are there any rubbish dumps on the property that you will need to remediate? Are there pest animals such as rabbits and foxes?
- Is the activity that you plan for the property suited to the landscape and capability of the land?
- Is there enough water to carry out the activity that you have in mind and is it of suitable quality?
- Are all required services provided to the property? If not, can they be provided economically? Or is it an area that will always have limited services? Services include phone, gas, water, sewer and electricity.
- Do you know what the regulations and conditions are for building dams or sinking bores? Do you know that digging near a watercourse requires a permit?
- Are you aware that in most instances you require approval to remove native vegetation? How might this affect your activities?
- Does the zoning of the land allow your proposed use, or will you need to apply for a change of land use or any other permit?
- Are there good quality pastures? Are they dominated by native or introduced species?

- What weeds are on the property? Are any of them declared as noxious weeds? Is there a Noxious Weed Notice (Section 18) on the property?
- Is there soil erosion on the property that may need to be remediated and which might be time consuming and expensive to fix?
- Is the soil fertile and the pH appropriate for the pasture, crops and any other produce that you want to grow?
- Are the fences in good repair and suitable for confining stock and the grazing management of the property?
- Are there mining leases over the property?
- Are there any derelict mine shafts on the property? If so, are they fenced to ensure your safety?
- If there is no existing dwelling and you want one, does the land have a building entitlement?
- Are there existing or proposed adjacent land uses that will affect your enjoyment of the property? For example, are there legitimate rural uses nearby such as agriculture, quarries, mines and forestry that produce dust, odours or noise?
- Is there a property vegetation plan (PVP) agreement over part of the property that requires you to undertake specified management actions, and limits the land uses on part of the property?
- Will the amount of time and money required to control weeds, erosion and pest animals be excessive?
- Ask your local Council if there are:
  - any development applications current for the nearby area
  - other developments that have been approved but not commenced
  - any restrictions on developing certain desired land uses.
- Have you examined the Section 149 planning certificate from Council closely and discussed any potential constraints with Council and your conveyancer or solicitor? (See page 58 for more information.)
- Is the land prone to flood or bushfire? Will you need to undertake any management activities to minimise these impacts?
- Are there any rights-of-carriageway or other easements on the property that need to be maintained or which may allow neighbours access?
- Are there any covenants or agreements on the property that protect certain areas?
- Is there enough shade and water for stock?
- Are any threatened species of plants and animals known to live on the property?

After considering all these questions, will the property provide the rural lifestyle that you are looking for?

Living in the region

The Goulburn Mulwaree Local Government Area (LGA) straddles the Great Dividing Range north of Canberra. There is a map of the LGA on page 3.

The Goulburn Mulwaree LGA covers an area of 323,180 hectares. About 29,550 people live in the LGA, with about 24,000 living in Goulburn itself.

Most of the region is characterised by rich rolling agricultural lands. The eastern part of the region features rugged, dissected plateaus in the Shoalhaven catchment.

The region experiences cold winters with an average winter temperature of 11 degrees Celsius. On average, there are 24 days a year when temperatures drop below zero degrees Celsius. Summers are warm with an average temperature of 27 degrees Celsius. The average annual rainfall for the region is 620 millimetres.

More than half of the land area is used for agriculture, particularly for meat and wool growing. A further 40 percent is bushland, with 43 vegetation communities recorded in the region. Urban land covers only about two percent, comprising the city of Goulburn and villages such as Marulan, Tarago, Lake Bathurst, Bungonia and Tallong.

A growing number of tourism-based industries now support traditional manufacturing and processing industries.

Playing your part in the region

Good practices on your rural residential property will benefit you, the environment and the prosperity of the region. By looking after water, soil, plants and animals you will benefit not only the natural environment, but also your stock, other agricultural activities and other landholders in the local area and downstream. Good practices will also help to ensure your safety.

Living in the region brings with it a responsibility to play your part in keeping the local environment and waterways healthy.

This handbook will help you find out about good environmental and safety practices. Neighbours and other landholders in the region can also help you. Contact local authorities such as Council and state government agencies for advice. Get to know the local agricultural, business, tourism and industry activities. These activities combine to support the society and economy of the region. Look for and join local branches of organisations such as the Rural Fire Service and Landcare. Volunteering with these groups will be a good introduction to the local community and provide benefits to your property and the wider environment.

You can play your part in the local region as a rural landholder.

Planning and managing your rural property

Property plans can help you to achieve your rural living goals by setting up the basis for efficient and sustainable property management. This will help you to play a part in supporting a healthy landscape and prosperous region.

Property plans take a whole-of-property approach and are useful for both farmers and rural residential landholders.

Beginning your property plan

There are a number of methods and documents or, if you prefer, property planning consultancies that can help you to develop a property plan. The basic property plan guide below may help get you started.

Property plan guide

1. What to do you want to achieve on your property? What is your vision?

2. Obtain a good map of your property. Aerial photographs are very useful, as well as surveyor's boundary plans, topographic and cadastral plans. The map will need to be to a metric scale of a large enough size to clearly show the features of the property.

3. You will need to identify the following:

- soil types and soil characteristics (pH, salinity, erodibility, phosphorus, nitrogen and mineral content)
- slope
- extent of native vegetation and vegetation community type
- streams, gullies, drainage lines and dams
- flood liable land
- erosion and salinity prone areas
- water and shade areas for stock
- rock outcrops
- water supply
- climate, rainfall and seasonality
- landscape types and physical features
- current land uses, and
- property infrastructure such as fences, tracks, sheds and services such as phone lines and electricity).

4. Carry out a SWOT analysis of the property's capabilities:

- What **Strengths** does the property have that you can take advantage of? (Such as areas of high quality soils.)
- What **Weaknesses** will need attention before they cause problems? (Such as existing weed infested areas.)
- What **Opportunities** are there to develop your resources further? (Such as moving fence lines to improve management.)
- What **Threats** exist that could affect the property? (Such as potential erosion areas.)

5. On an overlay of the map, illustrate the permanent features such as the property boundary, waterways, bushland, structures and land types (the most productive soils to the least), and contours.

6. Use this information as a base. On another layer, sketch where you want features such as fences, productive paddocks, shelterbelts, woodlots, dams, troughs, lanes and gates. Rearranging fences according to land features can help you to use your land more efficiently. Work out where planting needs to go to achieve maximum effectiveness for windbreaks, erosion control and repair, shelter, salinity reduction, and to provide habitat for native birds and animals.

7. Write notes about:

- proposed land use
- planning for houses, sheds, stockyards, windbreaks, dams, roads and fence alignments
- methods to control and prevent weeds and pest animals
- methods to sustain or improve water quality for stock and downstream users
- methods to control stormwater movement and prevent erosion
- reducing bushfire hazard, conserving soil, preserving trees
- treating and disposing of effluent and rural rubbish
- legal and planning requirements
- methods to improve stock or alternative water sources for stock
- methods and timing for proposed revegetation of disturbed areas.

Use the information in this handbook to help you understand issues and best practices in these areas.

8. Use the map, your notes, and information in this handbook, to set goals and actions. Make a plan for how you can achieve these goals.

9. Prioritise your actions and then do them. Remember that certain activities (such as tree planting) should be timed to take into account seasonal conditions.

10. Constantly monitor, improve and reshape your goals as necessary along the way.

11. Make sure you regularly monitor and maintain the areas where you have worked to address any issues quickly.

More information

To purchase or view aerial photographs of your property, contact NSW Land and Property Information at **www.lpi.nsw.gov.au**.

For more information about property planning, contact Local Land Services at **www.lls.nsw.gov.au**.

Further information about planning and managing your rural property can be found in the Property Management section of this handbook.

Case Study

John Weatherstone's account of managing his local property 'Lyndfield Park' is a good example of what successful property planning can achieve. Here is an extract from his book*:

"Traditional farming practices have placed stress on the land limiting its ability to cope with environmental stress such as drought. We wanted to reduce the pressure we were placing on the land so that it would become more resilient to stress, while at the same time caring more for the assets of the farm upon which our enterprises were based: the soil, the nutrients it contained, the vegetation that held it in place and the native life that was part of its natural cycle.

Our major changes included:

- reducing the stocking rates to allow the land to heal following drought
- managing the level of grazing to increase soil organic matter
- initiating a tree planting program to protect both livestock and soils
- reducing the amount of cropping
- reducing the amount of cultivation during crop and pasture establishment
- retaining (ie not burning) crop stubble and finding ways to incorporate them back into the soil
- planting a diversity of trees and shrubs to encourage the return of as many native birds as possible
- reducing the use of toxic chemicals wherever practical
- continuing to treat existing erosion areas and prevent further erosion
- increasing the establishment and use of perennial pasture for better water use, soil protection and livestock productivity
- seeking ways to replace livestock income with income from trees and shrubs.

Not only did we believe that these steps would help make the farm a healthier place to work and live, we also hoped it would improve the long-term productivity of the property as well as increase its capital value. I may have looked like a 'greenie' to some people but at heart I was still a farmer looking to work the land.

The benefit of all our strategies over time, however, has been a significant lifting in the carrying capacity of the land. Indeed, our stocking rate is now nearly double what it was 20 years ago.

Advice from a local real estate agent is that the property, "…could realistically make a 25–50 percent more at auction", as a result of the tree planting and other Landcare changes we've undertaken. Although we didn't undertake our changes because we thought we could sell the property at a higher price, it is nice to know that our efforts to care for the land, to improve things for ourselves and our children, are also being rewarded through a substantial increase in capital value.

In these times when we all face many stresses, having a home positive feeling of achievement and wellbeing, can be a worthwhile antidote in at auction", undertake our efforts to care for increase in counteract environment that those stresses."

John Weatherstone, *Lyndfield Park – Looking back moving forward*, 2003

NATURAL RESOURCES

Water

Managing water is a vital part of successfully managing your property. Your aim is to use water efficiently to minimise costs and maximise water quality and quantity to benefit you, your property, and downstream users.

Water users are also subject to the provisions of the *Water Management Act 2000*, which aims to provide for the sustainable management of water for the benefit of both present and future generations.

Drinking water catchments and Water NSW

As a rural landholder you should be familiar with whether your property lies in the drinking water catchment. The following councils lie wholly or partially within the drinking water catchment of Sydney: Blue Mountains, Campbelltown, Cooma Monaro, Eurobodalla, Goulburn Mulwaree, Kiama, Lithgow, Oberon, Palerang, Shoalhaven, Sutherland, Upper Lachlan, Wollondilly, Wingecarribee, and Wollongong.

Water NSW (the merger of the Sydney Catchment Authority and State Water Corporation) manages raw water supply in Sydney's drinking water catchment and elsewhere across the State. In the Sydney drinking water catchment Water NSW manages a network of dams, storages and pipelines, which capture and transport the raw water for distribution to customers, such as Sydney Water and a number of local councils, who then provide drinking water to consumers.

More information about Sydney's drinking water catchment is available at **www.sca.nsw.gov.au**

Water law

The NSW Office of Water manages surface and groundwater in NSW.

Unless a basic landholder right applies, landholders generally require a water licence or other approval from the NSW Office of Water to access and extract water from surface or groundwater or to carry out certain activities that affect water quantity or flows.

NSW is currently operating under two pieces of legislation relevant to these licences and approvals:

- The *Water Management Act 2000* governs the granting of **new water licences** and the trade of shares in water access licences and water allocations where water sharing plans have commenced.

  Water sharing plans establish rules for sharing water between the environmental needs of the river or aquifer and water users, and also between different types of water use such as town supply, rural domestic supply, stock watering, industry and irrigation.

  This act also governs the granting of approvals at specific locations to:

  - **construct and use a specified water supply work** (for example, a pump, bore, spearpoint or well) at a particular location
  - **use water for a particular purpose** (such as irrigation) at a particular location.
  - **carry out a controlled activity** (such as erecting a building or other structure, river crossings, excavating or depositing material or carrying out activities that affect water quantity or flows) on waterfront land.
- The *Water Act 1912* governs the issue of water licences in areas where water sharing plans have not commenced.

More information on water licences and approvals is available from the NSW Office of Water on 1800 353 104 or at **www.water.nsw.gov.au/water-licensing**.

Basic landholder rights

The *Water Management Act 2000* defines three types of basic landholder water rights in NSW:

- Domestic and stock rights

  Owners or occupiers of land which is overlaying an aquifer or has a river, estuary or lake frontage can take water without a licence for domestic (household) purposes or to water stock.

  Note that while owners and occupiers of landholdings do not need a water access licence to take water under a domestic and stock right, they still need to obtain a water supply work approval to construct a dam or a water bore.

- **Native title rights**

  Anyone who holds native title with respect to water, as determined under the *Commonwealth Native Title Act 1993*, can take and use water for a range of personal, domestic and non-commercial purposes.

- **Harvestable rights – dams**

  The harvestable right allows landholders to collect a proportion of the rainfall runoff on their property and store it in one or more farm dams up to a certain volume.

Water licences and approvals to construct a bore

Groundwater sources (also known as aquifers) can be accessed by different works such as a bore, well, spearpoint or excavation. An approval or a *Water Act 1912* licence must be held to construct any of these works.

If you are engaging a driller, you are responsible for ensuring that the bore is drilled by a person who holds a current NSW driller's licence. Additionally, the licence class must be appropriate for the type of drilling to be undertaken.

Farm dams and licensing

Several categories of farm dams do not require a licence. These include:

- **Harvestable right dams**

  Under a harvestable right (refer to information on basic landholder rights), landholders are allowed to collect a proportion of the rainfall runoff on their property and store it in one or more dams up to a certain volume. Harvestable rights dams cannot be constructed on third or higher order streams and must be constructed according to other requirements of the Harvestable Rights orders.

  This means rural landholders can build farm dams that capture up to 10 per cent of the average regional rainfall run-off for their property without requiring a licence in the Central and Eastern Divisions and up to 100 per cent in the Western Division.

  The total dam capacity allowed under the harvestable right for your property is the **Maximum Harvestable Right Dam Capacity**. To calculate your maximum harvestable right dam capacity go to the new improved calculator at **www.water.nsw.gov.au** > Water licensing > Basic water rights > Harvesting runoff.

- **Dams built before 1999 used only for stock and domestic purposes**

  Farm dams (larger than the harvestable right capacity) built before 1999, when the harvestable right was introduced, do not require a licence provided they are only used for stock and domestic purposes. However, these dams are included when assessing your right to build additional harvestable right dams.

- **Dams up to one megalitre on small properties**

  Licences are not required for farm dams with a volume of up to one megalitre on lots in subdivisions where the subdivisions were approved by Councils before 1 January 1999, even if the maximum harvestable right dam capacity is less than one megalitre.

  No further harvestable right dams may be constructed. Any new dams above this allowance must be licensed.

A water access licence and approval are usually required if you are building a new farm dam in excess of the maximum harvestable right dam capacity or the dam is located on a larger stream (third order or higher). Dams built on first or second order streams only need a licence if the streams are perennially flowing or if the dams are in excess of the maximum harvestable right dam capacity.

(Any watercourse that has no other watercourses flowing into it is classed as a first order watercourse. Where two first order watercourses join, the watercourse becomes a second order watercourse. When two or more second order watercourses join, they form a third order watercourse). A diagram to explain first, second and third order watercourses is available at the NSW Office of Water website.

More details about farm dams are available from the NSW Office of Water on 1800 353 104 or at **www.water.nsw.gov.au/water-licensing**.

Managing farm dams

Uncontrolled stock access can damage farm dams by polluting water with dung and urine, disturbing the soil, and damaging vegetation causing erosion and sedimentation. Pesticide and herbicide runoff can also affect water quality, as can the location of farm infrastructure such as roads and stock yards. Poor water quality can harm stock growth, lactation and reproduction.

Maintaining a healthy dam with clean water can improve the health of your animals, and increase the productivity and value of your land. However, this requires not just managing the farm dam but also its catchment. This includes the land, drainage lines and drainage depressions that carry water which flows into the dam. By managing the catchment area as a whole, the dam will be healthier and have flow on benefits for stock health and farm productivity.

Having well vegetated banks and preventing or limiting stock access through fencing is the best management practice for the immediate dam environment. The catchment areas should be well vegetated with 80 percent groundcover and 100 percent groundcover in drainage lines and depressions that flow into the dam. Pastures with deep-rooted perennial grasses help reduce soil loss, slow water runoff, and filter nutrients. This means that valuable topsoil and nutrients stay on your pastures and are not washed into the dam.

To keep your dams healthy:

- Wherever possible, use fencing to limit stock to one or two locations at the dam. Better still, fence stock out of dams, and use troughs to water them. This prevents stock from fouling the water and minimises erosion to maximise water quality and the longevity of the dam.
- Encourage native plants to grow in the dam and along the water's edge – reeds, sedges and rushes at the water's edge and grasses and shrubs on the banks. Vegetation filters out sediments and nutrients. This will help minimise the chances of blue-green algae.
- Avoid using fertilisers, herbicides and pesticides near dams and waterways.
- Plant reeds and rushes around dam inflows to help filter out sediments and nutrients before they enter the dam.
- Limit stock access to and encourage grass to grow on the spillway to prevent erosion of this area as it is crucial for the long-term stability of the dam wall.
- Don't plant trees along the dam wall as their roots may weaken it. Trees can also drop leaves in the water and release tannins that degrade water quality.
- Plant native shade trees, but plant them away from dams so that stock do not rely on dam water to keep cool in summer.

More information

More information on how to manage farm dams is available in 'The Farm Dam Handbook' from Water NSW at **www.sca.nsw.gov.au** or Local Land Services at **www.lls.nsw.gov.au**.

Riparian zones

The riparian zone is the area directly influenced by a river, creek, watercourse or drainage line. The zone generally extends from the normal water level to the floodplain.

Healthy riparian vegetation – native trees, shrubs and groundcovers – along waterways will make your creek banks more stable and help prevent erosion. The vegetation will also filter out nutrients from surrounding paddocks, and support and create habitat for native wildlife.

Native riparian vegetation is declining, leaving some stream and river banks vulnerable to erosion and weed infestation. This can affect your property. Where stock rely on streams and rivers to access water, disturbance to the soil and vegetation can be avoided by actions such as limiting stock access areas with fencing and pumping water to troughs.

Causes of riparian zone degradation include:

- recreational activities
- invasion and competition from pest species such as rabbits, and weed species such as willows and blackberries
- land management practices such as grazing and cropping
- erosion channel realignment.

One of the ways the NSW Office of Water manages potential impacts from activities in riparian land is through controlled activity approvals. For more information, contact the Office of Water on 1800 353 104 or refer to the section on approvals at **www.water.nsw.gov.au/water-licensing**

Effects of riparian zone degradation include:

- flow restriction
- weed invasion
- loss of soil
- reduced water quality
- changed direction of water flow
- reduced biodiversity, both aquatic and terrestrial flora and fauna
- reduced aesthetic value
- loss of windbreak and shelter
- unstable banks.

The potential outcomes of riparian zone degradation are flooding from blocked watercourses, loss of land and loss of productivity from weed invasion. There are also negative impacts for those relying on the water downstream such as polluted water from sediments.

Some methods to control degradation and loss of riparian vegetation are the same as those outlined below for farm dams. Other methods include:

- Encouraging the growth of a native vegetation buffer along the riparian zone by fencing off watercourse banks and planting or seeding suitable native species.
- Reducing the number of tracks and trails leading to the riparian area by fencing.
- Reducing ground disturbance during weed removal activities in the riparian zone by restricting the use of machinery.
- Minimising herbicide and pesticide use in the riparian zone. Ensure that pesticides and herbicides are registered for use in these areas. The approved way of spraying watercourse vegetation is by boat from the water and spraying back toward the bank. Stem injection of tree species such as willow and privet reduces the possibility of chemical spills. Consult your Council's weed inspector for information.
- Protecting riparian areas from stock by fencing and providing alternative water sources and shade areas.
- Revegetating degraded and eroded riparian areas with native vegetation or allowing large woody debris to build up within and across the bed and banks to reduce erosion.

You need approval to clear native vegetation in riparian zones. In urban areas contact your local Council and in rural areas contact your Local Land Services office. Clearing exotic trees within 20 metres of major streams and rivers may also require approval. The Office of Environment and Heritage is the consent authority to clear exotic or native vegetation on State protected riparian land.

Reducing household water use

Saving water in and around your home saves you money and helps the environment. There are many ways to use less water at home. People who live in rural areas have developed water saving methods through necessity and experience. Some methods require a development application consent if you are building a new house or commercial venture.

You can use the following tips to use less water in existing houses.

- Install dual flush toilets with a high star rating.
- Use water saving shower heads with a high star rating.
- Only use washing machines and dishwashers when full or if they can be adjusted for part loads.
- Buy water efficient washing machines and dishwashers with a high star rating.
- Ensure that there are no leaks in your plumbing system and repair any dripping taps promptly.
- Install water efficient taps and tap aerators.

Outside water use

Outside water use for gardens, lawn and stock for an average rural residential block (two hectares) can be 125,000–250,000 litres a year. Before you purchase stock, it is important to know how much water they will need, and to ensure that you have appropriate water sources in place so that your stock does not suffer from dehydration.

Stock requirements

If you are thinking of running stock on your property it is important to know how much water you have, its reliability, and how much water your stock will need to access.

The Department of Primary Industries provides a Prime Fact brochure on stock water, which includes information on the water requirement of various classes of stock. This information is available at: **www.dpi.nsw.gov.au/agriculture/livestock/beef/feed/publications/stockwater-limited-resource**

Landholders need to be aware that these amounts may vary depending on factors such as the life stage of the animal, time of the year, moisture in the pasture, and water quality (animals drink more water if it is salty). For example, a lactating cow on grass may need up to 100 litres per day, three times the amount of beef cattle.

Garden requirements

Gardens can potentially use a lot of water. There are many ways to conserve water in the garden.

- Mulch gardens to a depth of 75 millimetres. However, be mindful of the increased fire risk of mulch close to your house.
- Compost household and garden waste and use it to improve soil fertility.
- Keep garden and lawn areas to a minimum.
- Consider allowing lawn to brown off in summer. However, this needs to be considered in association with your fire protection regime.
- Lawn kept at around five centimetres in height reduces evaporation as the blades shade each other.
- Plant drought tolerant species – use local natives where possible.
- When watering improve the drought resistance of your plants by encouraging deep roots – to do this, water less often, but for longer periods at slow rates.
- Install a drip irrigation system.
- Install a rainwater tank.
- Use greywater in the garden. Greywater is wastewater from baths, showers, hand basins and the final rinse from washing machines. Do not use water from toilets or kitchen wastewater. Use greywater in a controlled manner to avoid adverse health impacts. For example, greywater should not be stored for more than 24 hours. Contact your local Council for guidelines on the use of greywater.

More information

For more information about water law, farm dams and licensing, contact the NSW Office of Water at **www.water.nsw.gov.au**.

For more information on saving water, contact Sydney Water at **www.sydneywater.com.au**.

For information and advice on funding available to landholders for river restoration work and on seeking approval to clear riparian vegetation, contact Local Land Services at **www.lls.nsw.gov.au**.

Soil

Your top soil is a valuable resource containing nutrients for your pastures, crops, and for the growth of native species. Soil erosion caused by wind and water can be exacerbated by animals, vehicles and vegetation removal. Erosion removes valuable top soil from your property. It reduces the productivity of your land, and pollutes creeks and dams with muddy water that is full of nutrients. The rate of erosion often far exceeds the rate of soil formation, creating a net loss of fertile soil over time.

The best protection against erosion is adequate groundcover vegetation. You want to aim for the maximum amount of groundcover for the longest periods of time. Perennial grass species such as native grasses often provide the most durable protection for your soil. Ideally, you want to aim for 80 percent groundcover and 100 percent groundcover in drainage depressions (flow lines) and in areas close to creeks.

Carefully consider the need for cultivation and pasture improvement that can permanently kill areas of native grasses. Herbicides can be used to control weeds and maintain grass cover. To best manage your soils, you need to consider the soil types and landscape of your area, the types of grasses present, and the grazing management strategies you wish to employ.

Erosion

There are various forms of erosion including wind, sheet, rill, gully, stream bank and stream bed erosion. The main forms of erosion on your property are likely to be sheet and wind erosion, gully erosion and stream bank erosion.

Some soil types are very susceptible to erosion. Factors such as slope, rainfall intensity and natural groundcover influence natural erosion rates. Over-stocking or over-cultivating paddocks also leads to erosion.

You can help to minimise erosion and retain topsoil on your property by using the following good land management practices:

- Retain adequate vegetation cover, particularly at ground level. Ground vegetation should provide at least 80 percent groundcover.
- Rotate your activities to spell the land, and maintain continuous grass cover in grazing paddocks.
- Plant windbreaks and establish native plants along creeks and farm roads to help filter out sediment and nutrients.
- Protect and enhance existing native bushland. When choosing plants, consider species that are native to your area. It is worth joining the local Landcare, Bushcare or environment group to find out more local information about land management. Propagate plants from locally collected seed.
- Cultivate and plant along contour lines, not up and down slopes. Don't cultivate steeply sloping land.
- Construct access roads along the contour on gentle slopes wherever possible and avoid wet areas.
- Find out about your land capability. There are eight classes defined by the NSW Office of Environment and Heritage that outline the capability of the land to undertake particular activities. It is recommended that you don't plough land that is in Classes 5–8. Land capability maps are available at **www.environment.nsw.gov.au/soils**.

You can also prevent soil loss and erosion by controlling water runoff with devices such as contour banks, sediment traps, flumes, straw bales and mulches.

It is important to obtain technical advice from the relevant authorities before constructing any works. There may be erosion control structures already on your property. If so, these structures should be maintained and not disturbed to ensure their continuing operation. For advice, contact Local Land Services at **www.lls.nsw.gov.au** or the Soil Conservation Service at **www.scs.nsw.gov.au**.

Soil acidity

Many of the soils in Sydney's drinking water catchments are highly weathered and naturally acidic, with a pH of less than 5.5. (The pH of soil is a measure of its relative acidity or alkalinity. Acid soil has a pH of less than 7.0.)

While different plants have different tolerances to acidity, most agricultural plants do best when the soil pH is between 5.0 and 6.5. However when the pH drops below 5.0, plants that are very sensitive to acidity, such as barley and lucerne, become adversely affected.

Some effects of soil acidity are:

- reduced agricultural viability and production rates
- increased production costs, such as the need to add lime to the soil
- groundcover decline, increasing the likelihood of erosion and declining water quality
- reduced water use by vegetation contributing to salinity.

Some causes of soil acidity include:

- natural pH decline through leaching
- past and present land use
- removal of alkaline plant and animal produce and waste products off site
- nitrate leaching – lack of deep rooted grasses to utilise the nitrogen before it leaches
- continuous or excessive application of ammonium fertilisers.

There are three basic strategies to manage acid soils:

1. Use deep-rooted perennial pastures to improve nitrogen recycling and slow the rate of acidification.
2. Use lime to raise soil pH (most useful if only the topsoil is acid).
3. Use plants that are tolerant of acid soil conditions.

It is important to get technical advice from the relevant authorities such as the NSW Department of Primary Industries or your Local Land Services office before treating your soil.

Dryland salinity

Dryland salinity is the build-up of salt in surface soil in non-irrigated areas, usually because of rising groundwater tables. Groundwater seeps to the surface, bringing salt with it. As the soil surface dries out, salt is left behind.

When the water balance is disturbed by the removal of deep-rooted perennial vegetation, dryland salinity is accelerated. Dryland salinity can cause vegetation loss and stream salinisation and can be a precursor to soil erosion.

Dryland salinity is a problem for farmers because salt makes it harder for plants to extract water from soil. The result is loss of pasture and groundcover, and eventually soil erosion, which affect the productivity and sustainability of your land.

In the last 40 years, the area in Sydney's drinking water catchments affected by dryland salinity has increased rapidly.

Some properties are particularly prone due to natural factors such as:

- rock/sediments containing high levels of salt
- salt in rainfall
- landform and hydrogeology characteristics.

Causes of dryland salinity in these areas include:

- removing deep-rooted perennial vegetation and replacing it with shallow rooted pastures and crops – this raises the water table, which brings salt to the surface
- blocking natural groundwater flow, such as by building roads, levees or dams.

Some effects of dryland salinity include:

- loss of desirable vegetation
- growth of salt-tolerant species
- reduced crop and pasture production
- water-logged soil
- soil erosion
- increased salt loads in rivers and streams
- reduced surface and groundwater quality
- declining soil structure
- damage to buildings, roads, septic tanks and pipes.

When considering methods to manage dryland salinity, it is important to get advice from the relevant authorities, such as your Local Land Services office or the NSW Department of Primary Industries.

Sodicity

Sodicity is a major cause of land degradation in the Sydney drinking water catchment. It is caused by high concentrations of sodium which is generally attached to clay particles of the soil. As a result, clay particles in the soil lose their tendency to stick together when wet. This leads to unstable soils that may erode or become impermeable to water and plant roots. Local landholders sometimes use the terms 'spewy' or 'wormy' to describe sodic soils.

Signs of sodic soil are poor water infiltration, surface crusting, waterlogging, collapsing areas which appear to result from underground tunnelling and piping, and cloudy water in dams and creeks that never settles out.

Sodicity is most common in the subsoil. Soil structural problems from sodicity increase when soil organic matter is low. Having a good ground cover helps stabilise the topsoil and retain its organic matter content. In this way, the risk of sodic subsoils becoming exposed to run-off and erosion is reduced.

Applying gypsum (calcium sulfate) to the affected soil can treat sodicity of topsoil. You may need large quantities of gypsum to have more than a short-term affect. The best way to treat sodic subsoil is to stop the subsoil from being exposed.

Before treating your soil, it is important to get advice from the relevant authorities, such as your Local Land Services office or the NSW Department of Primary Industries.

More information

For more information on the funding available to landholders for erosion control work, contact your Local Land Services office at **www.lls.nsw.gov.au**

For more information on soil management, contact the NSW Department of Primary Industries at **www.dpi.nsw.gov.au**, the Soil Conservation Service at **www.scs.nsw.gov.au** and the NSW Office of Environment and Heritage at **www.environment.nsw.gov.au**.

The NSW Department of Primary Industries also conducts a workshop series LANDSCAN (Landscape and Soil Test Interpretation for Sustainable Farm Management) on how to understand soil tests, landscape limitations, soil fertility, acidity, salinity, and to match livestock and animal husbandry to landscape classes.

Native plants and animals

Remnant native vegetation

Remnant native vegetation is the area's remaining indigenous vegetation, including forests, woodlands and native grasslands. During the past two centuries, much of the original native vegetation in the local area was cleared for agriculture. In some cases, this has resulted in problems such as soil erosion, loss of soil structure, weed invasion, salinity, reduced water quality, and loss of biodiversity.

Native vegetation can enhance the value of your farm and increase productivity by stabilising soils to reduce erosion and providing shade and shelter for stock, windbreaks for crops and pasture, and a habitat for native wildlife. Thick strips of native trees and shrubs can also improve the survival of lambs and ewes, protect against drying winds, moderate temperature extremes, prevent pollution of streams by nutrient runoff, and provide effective barriers against windblown weed seeds such as those of serrated tussock.

Remnant vegetation can protect an area from rising water tables and salinity, and provide a home for native animals, including threatened species. Native trees, shrubs and most native grasses are deep-rooted perennials that keep saline groundwater well below the surface. They provide a source of seed for revegetation and offer a landscape that is pleasing to many people.

Your rural block may still be entirely forested or still have areas of remnant woodland or forest, isolated paddock trees and native grasslands. This vegetation should be left intact as it may be part of a vegetation community that is now extensively cleared, and be part of a corridor connecting two larger areas of native vegetation. It may be also holding the soil together preventing erosion and the potential sedimentation of your farm dams and waterways.

Re-establishing native vegetation helps to restore and link remnant patches of native vegetation on private and public lands, enhancing their value as wildlife corridors and biological reserves. Fence the remnants to protect them from livestock grazing.

Set aside a section or sections of your property for native plant regeneration.

When planning a re-planting program, always try to:

- use seed that is sourced locally wherever possible
- use plants that have been grown locally to ensure they acclimatise to local conditions
- choose species that reflect the vegetation community or communities at the site.

The Local Information section of this handbook includes planting lists as a starting point.

The main options for revegetation are:

- encouraging natural regeneration
- planting seedlings
- direct seeding.

Join your local Landcare group, or if there isn't one talk to your neighbours about forming one to tackle vegetation and soil management issues.

How good is that piece of bush?

As a rule of thumb any patch of native vegetation is valuable. Across a rural residential development or farm, aim for at least 30 percent cover of native vegetation to improve productivity and maintain ecosystems. Together with your neighbour's bushland, you may be able to create or maintain a corridor of vegetation for native animals, including threatened species.

Trees and shrubs make the greatest visual impact on the landscape however most native plant diversity is in the groundcover layer. All three layers play an important role in providing habitat for our fauna and insects. Spring is the best time to appreciate the diversity of native wildflowers that may be dormant for much of the year.

Remember to:

- Avoid fragmenting existing areas of native vegetation, including remnant grasslands. If you are building new fences, roads or services, build them around areas of native vegetation rather than through them.
- Ensure that plant species are correctly identified when spraying weeds (many native grasses such as Poa species are easily confused with noxious weeds such as Serrated Tussock).

What laws apply to native vegetation?

Remnant native vegetation is protected by the *Native Vegetation Act 2003*. The legislation balances the needs of farmers and the environment, and is responsive to local conditions. The Act's regulations put an end to clearing native vegetation unless the overall effect is to improve or maintain the environment.

Rural landholders need to be aware of the following:

- Regrowth (other than protected regrowth) that has grown since 1990 can be cleared without approval.
- Landholders may have a range of routine agricultural management activities (RAMAs) under which you can clear without approval. You may only undertake clearing associated with the RAMAs to the minimum extent or within prescribed limits for carrying out the activity.
- Most other clearing on land covered by the Act needs assessment and approval through a property vegetation plan (PVP) process.
- Subdivision of land will also require Council consent and so any clearing associated with the subdivision will also have to be approved by Council.

The *Native Vegetation Act 2003* does not apply to land zoned as urban or industrial. Clearing vegetation in rural and urban areas may also require Council approval.

Once landholders have been issued with a property vegetation plan, you will not need to obtain further threatened species approvals for activities you want to undertake on your land, as long as the activity is in keeping with the specifications of the property vegetation plan. Contact your Local Land Services office before clearing any native vegetation to determine what approvals may be required.

Native animals

The enjoyment of Australian native animals is one of the many reasons for moving to a rural area. Some rural residents are so keen to protect wildlife and to provide them a safe environment that they enter into conservation agreements with various government and non-government organisations.

All native animals in NSW are protected under the under the *National Parks and Wildlife Act 1974*. This means that it is illegal to trap, kill or harm them unless licensed to do otherwise. The goal is to live in harmony with native animals, however sometimes they can pose a threat to our safety or activities. It is important to understand how to manage these situations on your property.

A few native animals can cause problems if not managed appropriately. For instance, swamp wallabies can often show a strong liking for garden plants. In rural areas it is wise to fence off prized plants, such as roses and vegetables.

Brush-tail possums can sometimes get into roofs. In such cases, it is best to provide nest boxes for the possums away from the house, remove them from the roof and seal possible entrance holes. Possums are strongly territorial. Removing them from your property can result in death of the possum and injury to others. In any case, new possums may take their place.

Several species of venomous snake may live in your area. Most snake bites recorded in NSW happen to people who try to catch or kill them. Give snakes some space and they will generally leave the area.

The snake season usually lasts from about late October to early March. The following actions can reduce the chance of snake bite:

- Remove loose sheets of tin and other cover from around the house.
- Mow around buildings and other frequently trafficked areas.
- Wear enclosed leather shoes when walking in long grass or near creeks or farm dams.
- Do not walk outside in thongs or bare feet on warm nights.
- Let snakes pass through and away from your house or paddock, but if they decide to take up residence call WIRES (NSW Wildlife Information and Rescue Service) on 1300 094 737 to have them relocated.
- Avoid taking dogs for walks near long grass or rivers in the warmer months when snakes are likely to be breeding.

Providing a native animal friendly farm

If you would like to encourage small birds and other wildlife, such as sugar gliders, around your home there are some ways to attract them:

- Leave large trees with hollows intact.
- Plant a variety of local native shrubs, especially dense or prickly ones. Use mainly white, pink or yellow flowering shrubs and keep red flowering shrubs in smaller numbers. Large numbers of red flowering shrubs can attract noisy Mynah birds and larger honeyeaters that actively exclude other smaller birds from the area.
- Provide bird baths and other watering points.
- Build and maintain nest boxes where few hollow trees remain. Monitor the nest boxes to ensure they are not being taken up by pest species such as the Indian Mynah.
- Leave fallen timber and hollow logs where fire is not a major threat.
- Keep a belt of feathery wattles to connect bushland areas. These have major habitat and food value for small birds and sugar gliders.
- Do not remove mistletoes – they are an excellent source of food and habitat for a range of animals.

Feeding native birds can be an issue as it may make birds dependent on the local resident. If you decide that you would like to feed the native birds, it should only be as a supplement in small quantities. Better still, provide food plant species in strategic viewing spots that seasonally provide food.

Frogs are desirable animals to have living on your property. The following actions will encourage frogs to stay or colonise your property:

- Using ponds or pools as part of your garden landscaping.
- Placing large rocks or boulders around one end of a dam for shelter and over-wintering.
- Putting logs or other large section offcuts around the edge of a few dams with half in the water and half out.

- Planting some emergent vegetation like Eleocharis, Juncus, Baumea or Cyperus species in clumps around a section of a dam's margins (Typha, while attracting frogs, may cause problems around the dam and is less suitable).
- Planting tussock-forming vegetation like Lomandra or Ghania species at a short distance from the dam for sheltering and foraging.

Fish and other aquatic animals can be a desirable addition to rural living. If you are going to stock farm dams with fish, you need to carefully consider the following:

- Only native fish from the catchment area are generally permitted to be released. Depending on numbers and site specifics, you may need a permit from the NSW Department of Primary Industries – Fisheries.
- If your dam or pond is already infested with the introduced pest Plague Minnow Gambusia then it would be best to eradicate it. Contact the NSW Department of Primary Industries – Fisheries for assistance.
- Yabbies might be another desirable addition but can out-compete native crayfish. Suppliers or the NSW Department of Primary Industries – Fisheries can provide more information.
- Be aware that tortoises and platypus may be local residents and that yabbie traps are illegal in eastern flowing streams as they may drown these air breathing animals.
- Eels and aquatic insect life such as dragonflies and backswimmers will colonise on their own if a healthy pond, dam or creek system is established and maintained.
- Consider adding round river stones that attract aquatic life by creating riffles during flow periods and a variety of habitat values.

A pond, dam or creek full of life not only creates a healthy environment but may provide many peaceful hours for you and your family as you explore this fascinating environment and the animals seasonally attracted to it.

Contact WIRES on 1800 094 737 if you find sick or injured wildlife on your property.

What laws apply to native animals?

The *Threatened Species Conservation Act 1995* aims to prevent the extinction and promote the recovery of threatened species, populations and ecological communities in NSW. Damaging or harming listed native plants, animals and ecological communities, even on private property, is illegal.

If you are considering land clearing, subdivisions or other actions that may affect threatened species, you may require local Council approval, or, if not, approval from the NSW Office of Environment and Heritage and Local Land Services.

Threatened species may not be obvious to you on your property. If you are considering developing your property or land clearing, you may need to have a threatened species survey and an assessment of significance.

A list of some local threatened plants and animals is found in the Local Information section of this handbook.

More information

For more information on Landcare, funding available to protect and enhance remnant native vegetation, revegetation advice, and free site inspections by native vegetation professionals to help design a vegetation management program, contact your Local Land Services office at **www.lls.nsw.gov.au**.

For more information on the *Native Vegetation Act 2003* and regulations, including the routine agricultural management activities applicable to your area, contact your Local Land Services office at **www.lls.nsw.gov.au** or the NSW Office of Environment and Heritage at **www.environment.nsw.gov.au/vegetation**.

More information about threatened species is available from the NSW Office of Environment and Heritage at **www.environment.nsw.gov.au/threatenedspecies**.

Fire

Fire is a part of the Australian landscape, and bushfire management in NSW is a cooperative effort by the whole community. Not only does bushfire pose a risk to personal safety and property, it can also have major impacts on biodiversity and water quality.

Effective bushfire management involves fire authorities, landowners, land managers and planning authorities, Council and the local community. The work you do to prepare your own property is a critical part of bushfire management.

Bushfire management involves a risk planning process. You will need to:

- identify the location of bushfire hazards (such as high fuel loads)
- identify the location of community assets (buildings and environmental)
- assess the hazard as a threat to identified community and environmental assets.

As well as consulting publications from the Rural Fire Service, you should also consider joining the local rural fire brigade.

While most older farmhouses are built on cleared farmland there has been an increasing tendency to build on bush blocks, on land which is often too rugged for agricultural use. Probably the most important issue for a house on a bush block is to create an asset protection zone that breaks the continuous canopy of trees. This will probably mean removing some trees and reducing fuel loads of dry undergrowth and dead branches. This should be done with guidance from the local Rural Fire Service.

Since 2002, legal standards have been in place for the safe construction of buildings in bushfire prone areas of NSW.

Building standards in bushfire prone areas include:

- adequate setbacks from bushland
- reduced fuel areas (asset protection zones)
- correct siting
- good access roads for fire fighters and residents.

Strategically planned asset protection zones and regular maintenance to remove fuel greatly enhances the ability of your home to be protected in an emergency.

Wherever possible, new houses and sheds should be located in existing cleared areas to reduce the amount of clearing required for construction.

If you have stock, you should intensively graze pasture near your home during late spring and early summer to reduce fuel levels. Check with the Rural Fire Service.

Land clearing in NSW that is for bushfire hazard reduction and not agricultural purpose will usually require a Bushfire Hazard Reduction Certificate. This certificate is for activities such as burning, land clearing and slashing. The Rural Fire Service must also be notified depending on the season.

The Rural Fire Service makes these suggestions for fire protection measures around your home:

- Clear leaf litter from gutters.
- Firmly fix the roofing so there is less chance for hot embers to enter roof space.
- Install screens or shutters and enclose areas under the floor, if possible.
- Ensure vents into the roof space are screened with fine wire mesh.

- Remove all flammable items from around the house, including wood piles and obvious flammable materials such as paper, boxes, crates, hanging baskets and wooden garden furniture.
- Direct the relief valves on LPG tanks away from the house.
- Buy a portable pump to use water from dams and swimming pools.
- Fit a gate valve to water tanks – a 38-millimetre Storz coupling will assist the Rural Fire Service.
- Consider reserving water supplies from tanks, dams or swimming pools as mains water will be in high demand during bushfire.
- Write the emergency 000 telephone number next to the telephone.

The following actions in your garden can also help to protect your property:

- Clear away ground fuels around the house (remove long, dry grass, dead leaves and branches, thick undergrowth) with appropriate certification and notification.
- Take a trip to the tip with garden and general rubbish that could catch fire.
- Prune low tree branches two metres from the ground and separate tree crowns.
- Prepare firebreaks (a well-watered lawn can act as a firebreak).
- Ensure vegetation around the house does not provide a path for fire – plant or clear vegetation in clumps, rather than continuous rows.

The Rural Fire Service website has information on the following subjects to help you prepare for a bushfire:

- Family fire plan
- Protecting your house and garden
- Water supplies and equipment
- Preparing your property – farms and landholders
- Bushfire hazard reduction certificates
- Safe burning practices
- How the RFS can help
- How you can help.

More information

For more information on preparing for and responding to bushfires in rural areas, contact the Rural Fire Service at **www.rfs.nsw.gov.au** or the NSW Department of Primary Industries at **www.dpi.nsw.gov.au**.

Weeds

A weed is a plant in the wrong place at the wrong time. Plants are weeds if they harm the environment, choke out native vegetation, or harm agricultural production. Weeds often have a high level of seed production with easy dispersal and are highly competitive with a lack of natural controls.

Weeds can occur on land and in water. Some aquatic weeds reduce water quality by blanketing the entire surface of farm dams, or by blocking or reducing water inflows. On rural properties, it is important to check not only pastures, but also farm dams and waterways for weeds.

Weeds can be a major problem on rural land because of the impact they have on pastures, crops and stock. The importance of managing weeds in pastures is recognised across the catchments as an important way to improve land productivity and sustainability.

Weeds are generally a sign of pasture in decline and land degradation, not the cause. Determining the cause of pasture decline and taking action early is the best way to prevent further loss of desirable species and minimise weed invasion.

Weeds can be spread by:

- seed brought for sowing, stock feed, on stock, machinery, water, wind and garden escapees
- deliberate introduction, such as willows planted for bank stabilisation
- lack of awareness or ability to identify weeds
- poor land management, such as overgrazing and undergrazing
- herbicide resistance due to over-reliance on certain chemicals.

Landowners need to control declared noxious weeds on their property. Noxious weeds have been declared so by Council and have a detrimental effect on the environment and production.

Council is the local weed control authority and has the right to enter and inspect private properties and, if required, issue notices to carry out weed control work. Fines may also be applied.

You can apply to your local council to see if there are any outstanding weed notices on a property before buying. Council employs weed inspectors and inspections are available for a fee.

The aim of weed control is to remove the weed, deplete the weed seed reservoir, and prevent further replenishment of the seed store. You can control weed seed by stopping the weed from growing and removing vegetative plant parts including roots, stems, branches, stolons, tubers or other plant parts that may allow the plant to grow.

Most weeds were introduced from other countries – some arrived by accident while others were brought for various reasons. The natural enemies that kept the plants in control in their native countries are not present in Australia, and their spread has not been restricted by these natural means.

Some effects of poor weed management are:

- loss of native species and their habitat
- reduced land productivity
- increased control costs as weeds spread
- soil degradation and erosion.

Herbicides have added a new dimension to weed control. Herbicides are often an important part of an integrated plan to control weeds – not the sole control technique. An integrated approach to weed management may include strategic grazing, pasture improvement, herbicides, biological control agents, cultivation, slashing, mulching and hand pulling.

More information

For advice on how to manage weeds, contact the weeds officer at your local council.

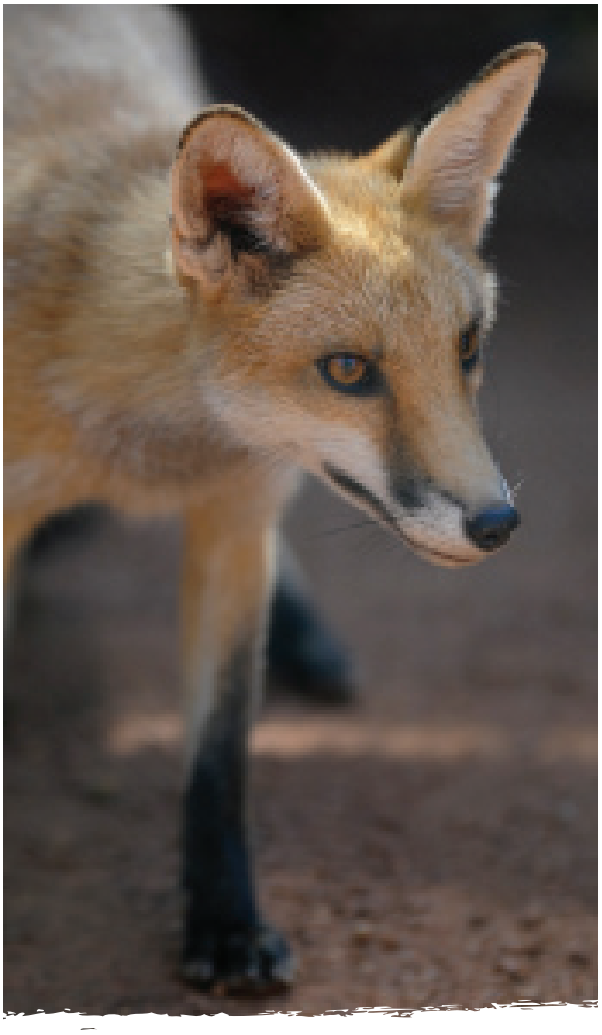
Information and weed control, training on pasture weed identification, and a noxious weed list for the local area is available from the NSW Department of Primary Industries at **www.dpi.nsw.gov.au**.

Pest animals

Pest animals and insects can cause serious economic losses to agricultural production on your property. Pest animals may present an unacceptable risk of exotic disease, threaten the survival of many native species, and cause environmental degradation including erosion.

Landholders have a legal responsibility under the *Rural Lands Protection Act 1998* to control and eradicate noxious pest animals on land they own, occupy or manage.

Pests such as wild dogs, rabbits, feral pigs, foxes, feral cats and feral goats can introduce disease and out-compete native animals for food and shelter, as well as injuring or killing livestock and damaging crops and pastures.



Your Local Land Services office can provide advice and help you to eradicate declared pest species from your property by providing poisoned baits, hiring equipment such as traps, and initiating education programs. They also work with private and government stakeholders to develop vertebrate pest management plans and co-operative management programs.

Current species declared as noxious pests in NSW include rabbits, feral pigs, wild dogs and a number of locust species. You have a legal obligation to control these pests. Foxes and mice are presently classed as nuisance animals in NSW and you are not obliged to control these species, although Local Land Services can provide advice and/or help to control them if required.

Contact your nearest Local Land Services office if there is any evidence of wild dog attacks on stock on your property or to report sightings of pest species.

Domestic dogs and cats

Domestic dogs and cats can also harm the environment and disrupt farming practices. Dogs and cats kill and maim many native animals, and dogs may injure or kill livestock. To reduce this risk, put a bell around your cat's neck and keep it indoors, and keep dogs chained up or within a secure yard.

You must register dogs and cats through your local council. Unwanted animals should not be dumped in the bush, but should be taken to the Royal Society for the Prevention of Cruelty to Animals (RSPCA) or your veterinarian.

Pets and other stock must be kept within your property boundaries. Wandering animals can cause conflict with neighbours and you are liable for any damage or stock losses they may cause. In public areas, dogs and cats must be kept on a leash. Bury dead animals promptly and away from watercourses so that they do not cause pollution.

More information

For more information about the control of pest animals, contact Local Land Services at **www.lls.nsw.gov.au**.

Local Land Services

Local Land Services was established in January 2014 and brings together agricultural production advice, biosecurity, natural resource management and emergency management into a single organisation. It incorporates services previously provided by Livestock Health and Pest Authority (LHPA), and catchment management authorities, as well as other services such as agricultural extension from NSW Department of Primary Industries.

Local Land Services delivers services to farmers, landholders and the community in 11 regions across rural and regional NSW. Each region employs local people such as vets, rangers, livestock, agronomy and natural resource management advisors, and focuses on local issues and delivery of quality services in your region.

Local Land Services levies rates on some rural holdings, to help pay for its services – in the same way local councils levy rates on residents. Local Land Services rate notices are sent to rural landholders of 10 or more hectares or those having an assessed carrying capacity upon the holding of 50 DSE (dry sheep equivalent) or more every year.

More information

For more information about your region, contact your Council and check the Local Information section of this handbook.

Locate your Local Land Services office at **www.lls.nsw.gov.au**

Notes

PROPERTY MANAGEMENT

Waste management

It is important to dispose of waste in an environmentally sustainable way. Dumping waste in eroded gullies is not acceptable. Rural properties produce a wide range and significant amount of waste and its successful and environmentally-friendly disposal requires good management.

Rural waste typically includes domestic waste, solid waste such as wire and old white goods, farm chemicals and dead stock.

Domestic waste

Details about local domestic waste removal arrangements are in the Local Information section of this handbook.

Composting

Almost half of our domestic waste consists of kitchen and garden waste. Most of this material can be composted. Composting returns nutrients to the soil that would otherwise be lost, improves soil structure, and increases the water holding capacity of the soil.

Composting is nature's recycling program. In time, organisms will break down the waste into a rich, dark, crumbly compost that is nature's own nutrient rich fertiliser.

Home composting generally takes two months or more. The more you turn and mix the contents, adding air in the process, the more rapidly the composting action will happen. The compost can then be added to the garden to increase productivity.

What can be composted?

- 'Greens' including grass cuttings, non-woody garden prunings, weeds that have not gone to seed, leaves, flowers and vegetable remains, kitchen wastes (including egg shells and bread), herbivore animal manure – horse, chicken and cow (avoid other animal droppings).
- 'Browns' including paper and cardboard, wood fire ash, sawdust and wood shavings, vacuum dust and hair.

You can make compost either in a heap or a bin, depending on quantity. Minimum dimensions for a heap are one metre by one metre by one metre. You can enclose the heap using bricks, timber or metal, such as corrugated iron. Cover with a lid or piece of carpet to retain heat and provide protection from rain.

A compost bin is better for small gardens. Your compost heap or bin should be placed in contact with the soil to allow worms and decomposing insects and micro-organisms to enter the compost.

More information

More information on composting is available from your local council or from the NSW Office of Environment and Heritage at **www.environment.nsw.gov.au**.

Recycling and reuse

Contact your local Council for details of recycling services. You can recycle a large number of materials, including:

- paper
- cardboard
- plastic bottles (types 1, 2, 3, 4 and 5)
- steel cans (including aerosol cans and paint tins)
- aluminium cans
- glass jars and bottles
- juice and milk cartons
- aluminium foil.

Constructive ideas for living with less waste include:

- Collect all liquid waste in your kitchen as well as your food scraps. Your compost 'soup' will provide some of the water necessary for the composting process. Rain will provide further water, so take the cover off your compost bin while it's raining. If you have a compost heap you may need to cover it during heavy rain to prevent it from being flooded.
- Be creative with juices and fruits and reduce your dependence on store bought alternatives.
- Much household waste begins at the shop. There has been a lot of promotion about taking your own carry bags to the shops. Now it's time to ask yourself what's in the bag'? Become a conscious consumer and only buy what you need.
- Repair and reuse items.
- Clean out your cupboards and gather all those things still in working condition that you no longer want or need. Take them to a local charity.
- Collect tea bags and coffee grains at work in a sealable plastic container and take them home to your compost heap. Share this resource (and the responsibility for collecting it) with your work colleagues.
- Replace plastic/foil-wrapped sweets with fruit. It's healthier and the waste can go into the compost.
- If you have enough yard space, keep chickens to eat food scraps and produce fresh eggs.
- Spend less time in the shower. Being conscious of the time will help you to save water, energy and money.
- Save coloured paper or children's drawings throughout the year and use them to wrap presents.
- Give your compost a read by putting food-soiled newspapers into the compost.

Landfill

A landfill site should be the last resort for waste disposal on rural properties. Waste management facilities should be used wherever possible. If you think a landfill site is appropriate, seek advice from your local Council or the NSW Office of Environment and Heritage.

If a landfill site is required, items that can be placed in a properly constructed site include domestic garbage, glass, plastic, metal, compostable material, tree loppings, small containers of acids or alkalis (one litre or less), and car bodies.

Your local Council can provide details of drumMUSTER and chemical collections.

Burning

Burning waste, such as household rubbish and garden clippings, causes air pollution. Measures have been introduced over time to control backyard burning and other open air burning. These have been successful in reducing average levels of particle pollution.

The laws are different for burning for fire hazard reduction and burning for the disposal of waste.

Burning is prohibited in and around towns in many areas (contact your local Council for details). The fire ban season generally runs from October to March but can vary according to conditions. You should carry out any burning in a way that prevents or minimises air pollution.

You need a permit from the Rural Fire Service for pile burning. You also need a permit from your local Council to light other household waste fires such as bonfires and incinerators.

Dead stock disposal

If the cause of death of an agricultural livestock animal is unknown, your Local Land Services office may be able to help to diagnose the carcass if you make contact in a reasonable timeframe.

Whether one or more animals are to be disposed of, disposing of dead stock carries the risk of polluting watercourses, producing odours, spreading disease and interfering with community amenity.

If possible, carcasses should be used or rendered. If the animals are to be slaughtered, local abattoirs and knackeries should be contacted to find out the cost of getting them to do the work.

If you have to dispose of carcasses on the farm it is important to do the job quickly and thoroughly. Burning is rarely satisfactory – burying is better. However, with certain exotic diseases burning may be mandatory. Contact your Local Land Services office if you are unsure what to do.

To reduce swelling during decomposition the abdomens and paunches of the carcasses should be opened to allow gases to escape. The carcasses should be sprayed with sump oil if immediate burial or burning is impractical. They should be heaped up in a secluded spot away from watercourses and sump oil should be spread liberally over the heap. The oil discourages flies and scavengers. The heap can then be buried or burned later.

More information

For information about the recommended method to dispose of dead stock, and details of the Protection of the Environment Operations (Control of Burning) Regulation 2000 and the *Rural Fires Act 1997*, contact the NSW Environment Protection Authority at **www.epa.nsw.gov.au**.

Information about animal health services provided by Local Land Services is available at **www.lls.nsw.gov.au**.

For advice about waste management on your property, contact your local Council.

Effluent management

Effluent is wastewater generated from the bathroom, toilet, kitchen and laundry. Many houses in rural areas are not connected to a sewage treatment plant and rely on onsite systems to treat wastewater (all the water used in your home) and then safely dispose of the effluent (treated wastewater) onto your property, without endangering the health of you and your neighbours, or harming animals or the environment.

Failing or inappropriately designed and constructed onsite wastewater management systems release dangerous levels of sewage pollution to the environment. Sewage pollution can contaminate water, spread disease, and harm the environment. There are approximately 300,000 onsite wastewater systems across NSW, and about 15,000 in Sydney's drinking water catchment. The cumulative impact of effluent from poorly maintained or inappropriately designed systems can be a significant problem. Sewage pollution is evident in different areas across the state, often near waterways and in drinking water catchments.

There are different types of onsite treatment and disposal systems. Septic tanks (with associated trenches) are still the most common type of treatment system, however they are increasingly being replaced by more advanced technologies including biological filter systems and aerated wastewater treatment systems. Effluent applied to a land area may be utilised (through irrigation) or disposed of (through soil absorption), depending on the type and level of treatment and effluent application system used.

Ensuring you have the right type of onsite wastewater system for your household size and land features is critical to protecting water quality in the drinking water catchment.

With advances in the performance of onsite wastewater systems, there is no reason for the community to accept failing systems. Research shows that many people don't know how to manage their systems and around 70 percent of systems fail to meet environmental and health protection standards.

Landholder responsibilities

The NSW Government has introduced local government reforms and guidelines for efficient management of onsite wastewater systems.

Regulations under the *Local Government Act 1993* specify performance standards and require councils to supervise the operation of onsite wastewater systems.

Under the Local Government (General) Regulation 2005, if you have an onsite wastewater system, in addition to gaining approval to install a system you must also obtain Council approval to operate. An approval to operate is a similar process to obtaining a pink slip each time you register your car. You must maintain and manage the system in accordance with health and environmental performance standards. A well maintained system can also reduce costly works needed by landholders to fix faulty systems or in extreme cases replace the entire system.

The performance standards are necessary to:

- prevent the spread of disease by micro-organisms
- discourage insects and vermin
- prevent sewage contamination of waterways and groundwater
- prevent degradation of soil and vegetation
- prevent the spread of foul odours
- minimise adverse impacts on neighbours and the amenity of the land
- ensure good water conservation practice and appropriate re-use of natural resources (including nutrients, organic matter and water).

To support these performance standards landholders must ensure that:

- people do not come into contact with sewage or effluent (whether treated or not) in their ordinary activities on the premises concerned
- effluent is not discharged into any watercourse or onto any land other than a designated effluent application area
- effluent management areas are fenced off
- vehicles and stock are prevented from entering effluent management areas
- whatever system of effluent management is used, it is well maintained and operated in a sanitary condition
- your tank is desludged on average every five years
- landholders with aerated treatment systems (AWTS) engage the services of a technician on a quarterly basis to inspect their system and submit a report to Council
- relevant information is provided to the Council when requested
- you have lodged an application for approval to operate, and paid the scheduled fee for registration and assessment costs.

Government responsibilities

Under the *Local Government Act 1993*, councils are required to manage the cumulative impacts of sewage pollution in their local government area, which includes approving the installation and regulating the operation of onsite wastewater systems.

Councils may determine the most appropriate sewage management strategy for local circumstances, and will determine the level of supervision of onsite systems to accommodate variations between high, medium and low risk areas. Councils have been encouraged to develop onsite sewage management strategies in consultation with the community, which will include a regime of inspections of onsite systems.

In the drinking water catchment, it is a legal requirement that any development on your property that requires consent from your local Council, must have a neutral or beneficial effect on water quality, including how onsite wastewater is managed.

Within the drinking water catchments, Water NSW also requires effluent management areas to have buffer distances of 40 metres from a dam or drainage depression, 100 metres from a watercourse and 150 metres from the Wingecarribee, Nattai, Nepean, Coxs, Wollondilly, Kangaroo, Shoalhaven, Mongarlowe and Tarlo rivers. A drainage depression is a low point that carries water during rainfall events but dries out quickly once rainfall has ceased. A watercourse has beds or banks, or remains wet for considerable periods after rainfall, and so supports water tolerant vegetation.

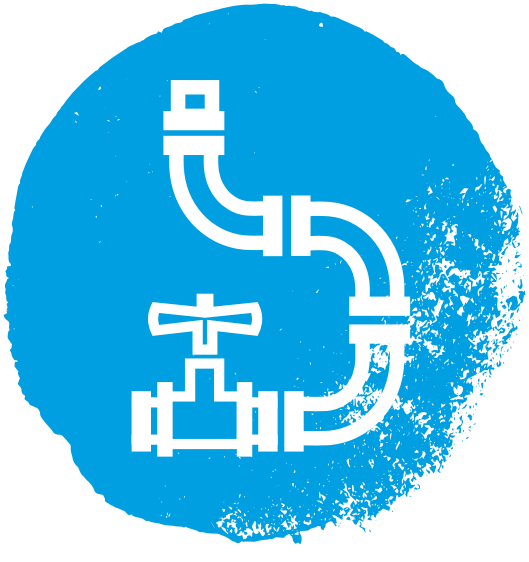
Water NSW has a current recommended practice 'Designing and Installing Onsite Wastewater Systems'. This document gives landowners additional information and requirements for designing and installing wastewater systems within the Sydney drinking water catchment.

Tips to maintain a healthy wastewater system

Many of the following suggestions will help reduce the volume of wastewater going into your onsite system and help avoid the use of chemicals that interfere with how well the system works.

- In the laundry, if you have a number of loads of washing spread them over a couple of days. This will avoid flooding the system with large amounts of water at one time.
- Use low phosphorous, or better still phosphorous-free, detergent. Phosphorous is a major pollutant of waterways and contributes to the growth of algal blooms.
- Repair leaking taps and cisterns and install a lint filter on the washing machine – a stocking over the outlet hose will do. Make sure to clean it regularly.
- If you've got a blocked drain, use boiling water or a drain eel to clear the line. Don't use caustic soda or drain cleaners in a septic tank.
- Use front loading washing machines because they use less water and detergent.
- In the kitchen, use a sink strainer. Food scraps slow down the digestion process and make solids build up more quickly. Don't pour oils and fats down the sink as they can block the system.
- In the bathroom, install a low-flow shower head to save water.
- Repair leaking taps and minimise the use of commercial cleaners and bleaches – these interfere with the bacterial breakdown in the tank. Try using baking soda, vinegar or a mild soap.
- Don't flush anything down the toilet that could block the system. Don't leave taps running unnecessarily, for instance when cleaning teeth. Install a dual flush toilet cistern.

- Keep water from the roof downpipes and paved areas away from the tank and effluent application areas.
- Have a plumber fit an effluent filter to the septic tank outlet to keep solids in the tank and extend the life of your trenches.
- Only plant grass near the absorption field – roots from larger plants such as trees and shrubs are likely to damage the trench. Mow regularly.
- Don't drive or park or allow stock access onto any part of the absorption area. This will compact the soil and may crush the pipes and trench domes.
- Grow plants with high nutrient requirements near the drain fields and irrigation areas.
- Check surface irrigation systems for broken or missing drip, trickle or spray points.
- Check for boggy patches near effluent disposal areas, which may indicate a problem.



Landscaping and irrigation

How the area around an effluent application area is managed is just as important as how the system itself is maintained. Planting the right kind of vegetation can help keep your effluent management system in top condition. Contact your local council's environmental health officer for advice before installing an irrigation system or doing landscaping around your trench area.

When choosing what to plant, consider which plants will do best in the local area and soil type, and which ones will best cope with regular doses of nutrient rich wastewater. The plants must be able to cope with nutrients such as sodium, chloride, nitrogen and phosphorous. Many Australian natives can't cope with high levels of these nutrients. Trees are not suitable as they provide shade and can damage trenches and pipes. Visit your local nursery for advice.

Generally speaking, it is best to grow a mix of summer and winter grasses on absorption areas. If treated effluent is being used to water landscaped areas, nutrient tolerant trees and shrubs should be planted. A list of locally suitable plants for effluent management areas is found in the Local Information section.

More information

For advice about how to install and maintain an onsite wastewater system, contact your local Council's environmental health officer.

The publication Designing and Installing Onsite Wastewater Systems is available from Water NSW at **www.sca.nsw.gov.au/catchment/living/wastewater**.

For a copy of The Easy Septic Guide, contact the NSW Division of Local Government at **www.dlg.nsw.gov.au**.

Stormwater

Stormwater is rainwater plus anything the rain water runoff carries along with it. As rainwater runs across different surfaces, it can pick up various types of pollutants – including sediment from exposed soil, oil and grease from driveways and roads, leaves and animals droppings that collect in gutters, nutrients (such as nitrogen and phosphorus) from cultivated paddocks, and chemicals from lawns and gardens.

Rain that falls on the house roof, or collects on paved areas like driveways, roads and footpaths, or flows from saturated gardens and grass fields, can be carried away through stormwater pipes and canals to the creeks and rivers that may flow into major drinking water supply dams. This makes stormwater pollution from rural properties and towns in the catchment a major risk to the quality of our drinking water – a risk that everyone living in Sydney's drinking water catchment can help reduce.

What are the impacts of stormwater?

Stormwater running over rural land or from our towns can pick up a range of pollutants – dissolved chemicals from pesticides and herbicides, livestock and pet waste, sewage overflows from onsite wastewater systems, and soil from ploughed paddocks, eroded land or construction sites.

Stormwater can also alter river flows, change flooding patterns, increase flow velocity, turbidity, erosion, and affect the availability of water for irrigation.

Even plant seeds can cause problems, particularly if the stormwater also contains high levels of nutrients. Weeds can be spread downstream to neighbouring properties, bushland areas and national parks.

Benefits of managing your stormwater well

Traditionally stormwater has not been treated, although sometimes coarser materials are caught through litter traps on the end of the pipes. However, there is a shift these days towards a greater level of treatment of stormwater to reduce the impact on the environment.

In the drinking water catchment, it is a legal requirement that any development on your property that requires consent from your local Council, must have a neutral or beneficial effect on water quality, including how stormwater is managed.

This requirement not only helps protect drinking water quality and create healthy local waterways, it can also benefit landholders by ensuring that stormwater (as well as wastewater) is well managed on your property.

Harvesting stormwater for reuse, such as through using/installing rainwater tanks, can save on your water bills.

By reducing stormwater flows and filtering stormwater through raingardens, lawns or pastures, you can reduce soil erosion and create attractive landscape features that may add value to your property.

Water sensitive design

Water sensitive design refers to the treatment measures landowners can adopt to reduce the volume and contamination of stormwater when you are planning and building new developments on your property.

The key principles of water sensitive design are:

- **Integrating stormwater treatment into the landscape** – by using the natural drainage lines on your property (with trees and plants to retain water and help remove pollutants).
- **Reducing runoff and peak flows from your property** – by using detention basins and retention areas (such as rainwater tanks), and minimising impervious surfaces (such as bitumen or concrete).
- **Adding value while minimising development costs** – by reducing downstream drainage infrastructure due to reduced peak flows and runoff.
- **Protecting water quality** – by ensuring the stormwater flowing into waterways from your land has a neutral or beneficial effect on water quality.

Examples of water sensitive design techniques include:

- rainwater tanks
- raingardens
- wetlands
- filtration trenches
- grass swales
- porous paving
- site layout and landscaping.

Many water sensitive design measures use biological activity by plants and trees to filter and treat stormwater. One example is raingardens, which have rainwater directed to them from a downpipe or paved area. Beneath the raingarden are layers of sandy soil which help to slow the rate of stormwater entering creeks and rivers. Along with the vegetation growing in the raingarden, these layers help remove pollutants, such as nitrogen and phosphorus, fertilisers, dust, leaves and animal droppings, which are washed off hard surfaces.

More information

For more information about stormwater and water sensitive design, contact the NSW Office of Environment and Heritage at **www.environment.nsw.gov.au**.

Chemicals

Chemicals such as fuel, fertiliser and pesticides are commonly used to help run rural properties. These chemicals are often dangerous, some are flammable, most are poisonous, and all can be harmful to the environment if used incorrectly. For example, they can pollute waterways, particularly if they are stored or used near creeks and rivers.

There is a legal requirement to read the label and follow all directions on the container for use, storage and disposal. This is necessary to ensure the safety of you, your family and your stock and ensure there is no contamination of waterways, wetlands and groundwater. This includes properly managing contractors using chemicals on your property.

Considerable fines can be imposed for failure to transport, store, apply and dispose of chemicals and containers properly. There are also requirements under the *Pesticides Act 1999* to keep records of pesticide use and for pesticide users to undergo training.

Advice and information is available from the NSW Environment Protection Authority (chemical use, transport, regulation, education and disposal), WorkCover (safe chemical use in the workplace), and your local Council (general information).

Storing chemicals

Keep all chemicals in an area specially designed for this purpose. Safe storage maximises the life of pesticides and protects people, animals and the environment. It is important to be aware of the compatibility of the chemicals you are storing. As a rule, unknown chemicals should be treated as if they are incompatible with every other chemical in storage.

A farm chemical store needs to have the following features:

- Separate, well-ventilated cupboard or building used only for this purpose – located away from houses, pumps, tanks, waterways, vegetation, rubbish and animals and preferably fireproof.
- Located above flood height.
- Cool dry place protected from direct sunlight, with a good access point and easy exit.
- Clear access to emergency response equipment such as fire extinguishers.
- Some form of spillage containment or bunding.
- Adequate racks or shelves made of impervious materials for separation of compatible chemicals. For small quantities of chemicals, place containers in drip trays.
- Liquids should not be stored above solids.
- Locked storage area to prevent unauthorized access.
- Clearly sign-posted storage area (Chemical Store – Keep Out) and a no smoking sign.
- A manifest, with copies of labels and material safety data sheets located on site.
- Adequately supplied with water for washing.

Transporting farm chemicals

Everyone transporting farm chemicals has a duty of care and a responsibility to carry out tasks in a manner that will not cause harm or injury to themselves, other people, their property, animals, and the environment.

Before moving chemicals, read information on the transport requirements of individual chemicals which are often found on the label or materials safety data sheet. When collecting new containers of chemicals, check them carefully for damage and tighten lids to prevent leaks.

Make sure your vehicle is roadworthy and can safely transport chemicals. Put chemicals inside a tray of some kind that will contain any spillage. Do not put chemicals in the same compartment as the driver and passengers, food, drinks, or animals. Vapours and spills can cause illness.

Do not transport items classified as dangerous goods in large quantities. Private vehicles should transport less than 100 kilograms or 100 litres of farm chemicals at a time. Pack the load securely so items can't move or fall over and store different classes of chemicals apart. Take the most direct route back.

If any spills occur, clear the vehicle immediately. The main steps for dealing with a spill are to isolate, contain, decontaminate and dispose. Make sure you use appropriate clothing and gear to protect your skin and face, and to avoid inhaling vapours.

On arrival, put the containers straight into the chemical store. Make sure containers are not damaged.

Safe disposal of non-returnable containers and on-farm chemicals

Disposal of non-returnable crop production and on-farm animal health chemical containers is a significant problem for farmers. If you use agricultural chemicals you are legally responsible for ensuring that empty containers and unwanted chemicals are disposed of safely.

National programs called drumMUSTER and ChemClear have been set up to help farmers safely manage their farm chemicals.

The drumMUSTER program collects and recycles cleaned eligible containers. Details of collection sites are available at **www.drummuster.com.au** or call 1800 008 707.

The ChemClear program collects and disposes of unwanted currently registered rural chemicals. You can book online at **www.chemclear.com.au** or call 1800 008 182.

Agsafe, a subsidiary of CropLife Australia, manages the drumMUSTER and ChemClear programs. These initiatives were developed by the National Farmers Federation, the agricultural industry peak body CropLife Australia, Animal Health Alliance (Australia), Veterinary Manufacturers and Distributors Association, and the Australian Local Government Association.

Cleaning containers for disposal

You should rinse containers on fallow ground away from drains and waterways. Always wear personal protective equipment as specified on the label for applying, mixing and loading the pesticide.

To ensure your containers are suitable for delivery to a collection centre always follow these procedures:

- Triple or pressure rinse your containers immediately after use and pour the rinse water back into the spray tank.
- Thoroughly clean the container thread and outside surfaces with a hose into the spray tank. Rinse all caps separately into a bucket of clean water and pour rinsate into the spray tank.
- Inspect the container, thread and screw neck to ensure all chemical residue has been removed.
- Puncture metal containers through the neck/pouring opening and through the base of the container.
- Allow containers to drain completely and air dry them over a number of days.

You should store rinsed containers in a safe location until the next drumMUSTER collection is advertised in your area. The rinsed containers can also be taken to participating collection agency delivery sites. A collection calendar and information on local collection sites is available at **www.drummuster.com.au**.

Disposal of pesticide rinsate or diluted chemicals

Rinsate is a mixture of pesticides diluted by water, solvents, oils, commercial rinsing agents or any other substances.

The NSW Environment Protection Authority has guidelines for managing the disposal of pesticide rinsate with the following key points:

- Avoid producing pesticide rinsate in the first place.
- If possible use commercial spray contractors who deal with waste disposal as part of their service.
- Re-use rinsate generated from cleaning containers by adding it to the spray tank.
- For boom sprays with a rinse tank, the main tank and spray lines can be flushed at the application site provided that label rates are not exceeded.
- If rinsate cannot be sprayed on the application site, store it in a holding tank and arrange for a licensed waste disposal contractor to collect it.
- Always follow the product label directions on the management and disposal of rinsate.

The full guidelines are available at **www.epa.nsw.gov.au**.

Labels and state environmental legislation prohibit disposing of chemical concentrate on site or on a farm. You need to dilute unused chemicals if you are able to dispose of them onsite following the instruction on the label. If you are not able to apply chemicals according to the label use pattern, you must dispose of them in an environmentally responsible manner.

An evaporation pit should be one metre deep and lined with plastic sheeting sprayed with hydrated lime. Any waste must be covered with at least half a metre of soil. Disposal pits are suited only to small volumes and diluted chemicals.

Evaporation pits should be located well away from drainage depressions, creeks and rivers. The same buffers for landfills and Water NSW buffers for effluent management areas should be applied.

It is important to consider the risks associated with disposing of chemicals on site, with regards to the potential for contamination of land and the potential for action to be taken by authorities under the *Contaminated Land Management Act 1997*. If you are unsure of the disposal options for a certain chemical, contact ChemClear to organise for the responsible disposal of unwanted chemicals, or the Environment Protection Authority for advice.

! **DO NOT DISPOSE OF CHEMICALS IN ANY FORM DOWN DRAINS, GULLIES OR WATERCOURSES.**

Training

Training courses are available through ChemCert NSW. For example, the two day Accreditation (AQF 3) course for farm chemical users covers topics such as integrated pest management, the product label, chemical formulations and residues, personal safety, transport, storage and handling, environmental safety, legislation, risk management and record keeping. More information is available at **www.chemcert.org.au** or 02 9380 7271. For enrolments and course enquiries, call 1800 444 228.

TAFE NSW offers Smartrain certification courses which cover storage, transportation, mixing and use of chemicals in accordance with the Code of Practice for the Safe Use and Storage of Chemicals in Agriculture (available at **www.workcover.nsw.gov.au**). More information and regional contact details is available at **www.tafensw.edu.au**. Information about training for the safe handling of chemicals is also available from the NSW Environment Protection Authority at **www.epa.nsw.gov.au**.

More information

The 'Spray Sense' series of leaflets, which provide advice on reading pesticide labels, transporting and storing chemicals, and disposing of empty containers, are available from the NSW Department of Primary Industries at **www.dpi.nsw.gov.au/agriculture/farm/chemicals**.

Wood smoke and heating

Smoke from wood heaters is a major cause of air pollution. During winter, wood heaters can produce up to seven times as much particulate pollution as cars. The Protection of the Environment Operations Act – Clean Air Regulation (2010) requires that all new solid fuel home heaters sold in NSW comply with emissions standards.

Local government has responsibility under the *Protection of the Environment Operations Act (1997)* to deal with complaints and excessive smoke emissions from wood heaters. Council officers use education as the primary tool to address complaints, and work with property owners to address issues with excessive smoke. If excessive smoke emissions continue, a smoke abatement notice can be issued to the occupier of the premises.

There are measures you can take to minimise pollution, improve local air quality, care for your health, and save money.

Tips for efficient wood burning and minimising pollution include the following:

- Always burn small logs of aged, dry hardwood. Unseasoned wood (green wood) has more moisture which makes a heater smoke.
- Store wood under cover in a dry ventilated area and away from buildings.
- Freshly cut wood needs to be stored for 8–12 months before burning.
- Never burn rubbish, driftwood or treated or painted wood – it can pollute the air and be poisonous.
- When lighting a cold heater, use plenty of dry kindling to establish a good fire quickly.

- Stack wood loosely in your firebox so air can circulate – don't cram the firebox full.
- Keep the flame lively and bright. Your fire should only smoke for a few minutes when you light it and when you add extra fuel. Open the air controls fully for five minutes before and 15–20 minutes after reloading.
- Do not let your heater smoulder overnight. Keep enough air in the fire to maintain a flame or let it go out overnight.
- Check your chimney regularly. If there is smoke coming from the chimney, increase the air supply to your fire.
- Clean the chimney, wood heater flue and baffle regularly to prevent creosote build-up.
- If you are buying a new heater check the compliance plate on the back to ensure that it meets the current Australian Standard AS/NZS 4013:1999.

The following tips may help reduce your heating bills and save you money:

- Insulate ceilings, walls and floors.
- Seal out drafts.
- Cover your windows with curtains or blinds, use double glazing and place pelmets above curtains.
- Install doors between different areas of the house so that sections can be closed off to retain heat.
- Open curtains on north facing windows on sunny winter days.
- Use ceiling fans to circulate heat that has risen to the ceiling.
- Wear warm clothing.
- Close off chimneys when not in use to stop heat escaping up the chimney.

You could also use solar power, green power (electricity produced from renewable energy sources) and gas, as they are cleaner alternatives to wood heating.

More information

For more information about wood smoke and cleaner heating, contact the NSW Office of Environment and Heritage at **www.environment.nsw.gov.au**

Stock

Stocking rates

Overstocking can be a quick route to destroying your pastures and bushland, and depleting the health of your own animals. When starting out, seek advice from the Local Land Services and consider the whole environment on your block.

Always keep at least 80 percent vegetation cover to avoid erosion and degradation. If feed is scarce then fence your trees so that stock don't ringbark them.

Stocking rates and carrying capacity of land is highly variable. This is due to a number of factors including:

- pasture type (native/ introduced)
- soils type and fertility
- rainfall.

For local advice about the carrying capacity of your property, contact your Local Land Services office or **www.lls.nsw.gov.au**.

Animal welfare

The RSPCA promotes the following five freedoms for animals:

- Freedom from hunger and thirst.
- Freedom from discomfort.
- Freedom from pain, injury or disease.
- Freedom to express normal behaviour.
- Freedom from fear and distress.

Owners can be prosecuted by the RSPCA if they don't meet the needs of their animals.

Local Land Services

Local Land Services is the front line in the management of animal health, noxious pest animal and insect control, travelling stock reserves, stock movement, stock identification, livestock disease management, impounding livestock on private rural land, and natural disaster relief. (Local Land Services was formerly known as Livestock Health & Pest Authority Department of Primary Industries and catchment management authorities.)

Rural landholders have responsibilities under both the *Rural Lands Protection Act 1998* and the *Stock Diseases Act 1923*.

It is your responsibility to:

- Apply for a Property Identification Code (PIC) from your Local Land Services office. A PIC is required to enable you to trade livestock and manage livestock movements to and from your property.
- Lodge a land and stock return by 31 July each year.
- Pay Local Land Services rates (separate to Council rates or zoning rates) which are levied on rural land over a certain number of prescribed hectares. These rates help pay for activities such as pest animal control work, animal health management, exotic disease monitoring and management, and travelling stock reserve management.
- Control pest animals and declared pest insects.
- Report notifiable livestock diseases.
- Control stock on roads.

Department of Primary Industries

The NSW Department of Primary Industries offers a range of agricultural short courses aimed at landholders. Some of the courses available through the PROfarm program include:

- Fencing
- Chainsaw operation
- Beef/sheep care and handling
- Horse care and handling
- SMARTtrain® chemical courses.

Local Land Services, in conjunction with the NSW Department of Primary Industries, offers a number of PROfarm courses including:

- Prograze
- LANDSCAN
- Paddock Plants (plant identification).

These courses are aimed at both new and experienced land managers and are extremely valuable in gaining a better understanding of how to manage livestock and your property.

Travelling stock reserves

Local Land Services manage parcels of Crown land known as travelling stock reserves. These reserves provide pasture reserves for travelling or grazing stock and cover more than 600,000 hectares of NSW. They are especially beneficial for stock in times of drought, bushfire or flood. They are also important for public recreation, conservation and as apiary sites.

You need to get a permit from your Local Land Services office for the following activities in travelling stock reserves:

- grazing and/or walking stock
- apiary sites
- collecting seeds
- accessing water
- collecting firewood
- camping overnight.

It is illegal to use a travelling stock reserve to:

- ride motorbikes
- dump rubbish
- shoot and/or hunt.

Straying stock

You need a permit from Local Land Services to move your stock along a public road, whether on foot or by transport. Straying stock on public roads may be dealt with by your local Council. Straying stock on private lands may be referred to your Local Land Services office.

More information

More information about the RSPCA is available at **www.rspca.org.au**.

More information about Local Land Services is available at **www.lls.nsw.org.au**.

Fences

Fences are vital to successfully manage your property. Fences have various functions on rural properties. You should consider the layout of fences in a whole-of-property approach in a property plan.

You can use fences to:

- define the boundaries of your property
- manage stock
- protect the environment (keeping stock out of native vegetation or away from rivers and streams)
- control pest animals
- increase property value (by improving its look)
- erosion and vegetation rehabilitation.

There are different fence construction methods depending on what you are building the fence for. For fences to do their job properly, you need to maintain them, and keep gates shut and locked.

Wildlife friendly fences

Fences are used not only for stock control, but also to protect vegetation and sensitive areas.

Here are some ways you can make your fences more wildlife and stock friendly:

- Use plain wires instead of ring lock or hinge joint.
- If possible use white horse sighter wire on the top strand and white caps on steel posts, or treated pine posts.
- Leave 30 centimetres between the top wire and the next one down. This is important to avoid kangaroos catching and trapping their legs between the two top wires.
- Don't use barbed wire. If existing fences have barbed wire, consider taking that wire out, particularly the top strand.
- Keep fences at a moderate height (about 1.2 metres).
- Keep the bottom wire 15 centimetres above the ground level.
- Avoid permanent electric fencing. It can form a significant barrier to wildlife movement, and electrocute native animals on low-level live wires.
- Structures such as wombat gates and pipe underpasses can help wildlife to pass without damaging fences.

More information

More information about wildlife friendly fencing is available at **www.wildlifefriendlyfencing.com**.

Stock control near creeks, rivers and streams

As far as possible, you should keep your livestock away from rivers and streams. You can pump water to troughs placed away from the stream to water stock. This will prevent erosion and degradation of the littoral (water's edge) zone vegetation and environment.

Stock should also be kept out of watercourses because they:

- eat, trample and destroy the vegetation that protects banks from erosion
- compact the soil making plant growth difficult
- push soil off steep banks
- make tracks that cause erosion
- stir up mud that can destroy aquatic habitat and reduce water quality
- add excess nutrients with manure
- scare away native fish.

Best practice to provide drinking water for stock involves using:

- a pump and trough in the paddock
- a dam in the paddock
- a bore and tanks in the paddock
- a paved ramp down to the water, preferably on the inside of a bend.

As a landholder you have a responsibility to control weeds along watercourses as in the surrounding paddocks.

Flood-prone fencing designs

In flood-prone areas, you should consider:

- designing paddocks to avoid fencing across waterways where possible
- placing fences above the floodplain and flood-prone areas
- using temporary electric fencing instead of permanent fencing
- minimising the use of vertical structures (plain wire fences tend to need less maintenance in flood-prone areas than ring lock (mesh) or hinge joint as debris is less likely to get caught).

Dividing fences

The *Dividing Fences Act 1991* sets out how the cost of a dividing fence is shared between adjoining landowners where an owner wants to erect a dividing fence or wants work done on an existing dividing fence.

The Act sets out minimum requirements, although owners may agree to arrangements exceeding these requirements. The Act also sets out the procedure to resolve disputes about the cost, type and position of a fence.

Land and Property Information, part of the NSW Department of Finance and Services, administers the *Dividing Fences Act 1991*. However, Land and Property Information do not provide advice about fencing disputes and do not provide specific legal advice about the provisions of the Act. You should seek advice about these matters from other sources including Legal Aid Services, the Chamber Magistrate at the local courthouse, LawAccess NSW, Community Justice Centres or private lawyers.

More information

For more information about grants that are available to help with providing off-stream water and fences, contact the following organisations:

- Water NSW at **www.sca.nsw.gov.au**.
- Local Land Services at **www.lls.nsw.gov.au**.
- Landcare NSW at **www.landcarensw.org.au**.
- Greening Australia at **www.greeningaustralia.org.au**.

For more information on dividing fences regulations, contact NSW Land and Property Information at **www.lpi.nsw.gov.au**.

For publications about fence building, contact Tocal College at **www.tocal.nsw.edu.au**. The National Heritage Trust publication 'Cost effective feral animal exclusion fencing for areas of high conservation value in Australia' is available from NSW Department of Primary Industries at **www.dpi.nsw.gov.au**.

Grazing management

Grazing management means managing what your animals graze, rather than your animals choosing what they will eat.

Leaving stock in a paddock too long may remove desirable species through selective grazing or overgrazing, and cause pasture degradation and erosion. Excessively long rest periods or undergrazing may lead to lower feed quality, excessive waste and a change in pasture composition.

Effective grazing management means managing:

- timing (when)
- frequency (how often)
- intensity (how hard) your pastures are grazed.

A grazing management plan will help you:

- Change your grazing regime from continuous to rotational grazing, prevent overgrazing and allow pasture recovery.
- Better assess pasture condition, height and groundcover to determine appropriate stocking rates and length of grazing periods.
- Use grazing animals to manipulate the species composition balance in favour of perennial grasses and to ensure 20–30 percent legume content for high quality pastures.
- Apply higher grazing pressure in late winter/early spring to prevent legumes and annual grasses from out-competing native perennial grasses.
- Avoid defoliation of perennial grasses when they are under stress and in danger of dying.

To maintain healthy pastures for your stock, you should:

- Graze to maintain a productive perennial pasture.
- Develop a grazing plan to manage seasonal plant growth.
- Match livestock requirements to pasture availability.

More information

For more information about grazing management, contact your Local Land Service office at **www.lls.nsw.gov.au**.

Farm safety

Rural properties can be dangerous places to live and work. Potential hazards include vehicles, tractors and attachments, motorcycles and all-terrain vehicles, working from heights and the potential for manual handling injuries.

Farming is the third most dangerous occupation in Australia. Nearly 150 adults die from farming related injuries each year. Non-fatal injuries are much greater, numbering several thousand.

Injuries to part-time farmers are a concern. Often these people do not have the skills or equipment of full-time farmers and can be injured as a result.

Children are particularly at risk on farms because of easy access to water, including dams and creeks, and vehicles, including motorbikes and tractors. On average, 30 children under 16 years die on Australian farms each year as a result of a farm accident. Many more children are injured.

Preventing rural injuries

Just like any work environment, there are legal requirements on a farm under the *Workplace Health Safety Act 2011* to ensure a safe workplace. Be aware that ordinary house and contents insurance does not cover public liability or workers compensation which is compulsory if you employ anyone to work on a property.

Rural injuries can be largely prevented by paying attention to major risk areas:

- tractor and machinery safety
- farm vehicle safety
- farm motorcycle safety (including ATVs)
- working from heights safety
- chemical safety
- manual handling safety and strain injury prevention
- farm animal handling.

WorkCover provides information on preventing injuries on rural properties. The following publications, available at **www.workcover.nsw.gov.au**, are useful for rural landholders:

- 'Farm Safety – Starter Guide'.
- '15-minute Farm Safety Checklist'.

Here are some of the tips from the 'Farm Safety – Starter Guide':

- Map the hazards on your property. This involves drawing an outline of your property and mapping features. You can use the map as an induction tool for new employees and casual workers or contractors who come to the property.
- Identify the dangers on your property. Use this four step approach:
  1. Identify the dangers (identifying the hazards).
  2. Work out what harm the hazard can cause (assess the risks).
  3. Get rid of the hazard or control it (control the risks).
  4. Review your risk assessment on a regular basis.

It is important that all workers and all family members are included in the process. When something changes on your property, repeat the four steps.

Is your farm safe for kids?

Farms are great places for kids when we create the right environment, but safety for children on farms is a major concern. On average, one child under 16 years is fatally injured on an Australian farm every 10 days and many more are injured across rural Australia. The major causes of child deaths and injuries on farms are dams, farm vehicles, machinery, motorcycles and horses.

You need to identify hazards and risks specific to the farm for children and visitors. As well as safety behaviours, you should reduce hazards and design for safety wherever possible.

Key recommendations for child safety on farms include:

- Create a securely fenced house yard for children to play.
- Have safety rules that everyone knows and follows.
- Children should stay in the safe play area unless an adult can closely supervise them on the farm.
- Wear seatbelts and restraints when in cars, utes and trucks.
- Children should not ride on tractors, all-terrain vehicles or in the back of utes.
- Always wear helmets when riding bikes and horses.

More information

For more information and resources about farm safety, contact Farmsafe NSW at **www.farmsafe.org.au** and the NSW Department of Primary Industries at **www.dpi.nsw.gov.au**.

Safety on rural roads

Road condition

Road surfaces in rural areas are often less predictable than highways and city streets. Be alert at all times as the road surface may change without warning, sharp corners may not always be sign-posted, and the crests of hills may reduce visibility. Always be on the look-out for stock and native animals.

Scan the road ahead. You are likely to have shorter lines of sight and therefore will require shorter reaction times to evade unexpected situations.

Be aware that the tyres of other vehicles may throw up stones that crack your windscreen.

Drivers need to use different skills on gravel and unsealed roads. Dust can reduce visibility and it takes longer to stop when braking. Bends and curves can have a build-up of loose dirt or stones, and roads are often narrow. Slow down and be on the lookout for other vehicles.

Anti-lock braking systems are not as effective on loose surfaces and it is recommended that on rural roads you turn off the cruise control, reduce your speed and give yourself a lot more stopping space.

Keep left, slow down, and take extra care on crests and corners to avoid collisions.

Other road users

School buses, cyclists, trucks, slow moving farm machinery and animals use rural roads. All are legitimate road users so be patient when you come across them. Most drivers will recognise when they are holding traffic up and pull over when safe to do so for vehicles to pass.

Take care when approaching rail crossings. Not all crossings are fitted with safety lights and boom gates.

Livestock on roads

It is legal with a permit for livestock to walk along roads and graze on roadside vegetation, provided they are not left unattended and there are signs at each end of the stretch of road where stock are grazing. Livestock needs to be moved, so you can expect to be sharing the road with farm animals from time to time.

All rural landowners who own even just a few livestock must ensure that their roadside fences are kept in good condition. Domestic livestock are not allowed to roam unattended. Straying stock on public roads may be dealt with by Council.

Roadside vegetation and wildlife

There are many large trees located close to rural roads, which are easily hit when drivers lose control of their vehicle. Remember to slow down and drive to the conditions – the speed limit is the maximum and not a must.

Native vegetation along many rural roads often acts as a wildlife habitat and refuge. This can be a problem for drivers from dusk to dawn when native animals, such as kangaroos and wombats, are out looking for food.

Remember, if you can't avoid a collision with an animal it is often safer to hit them than swerve and lose control of your vehicle. If you hit an animal, check if it is alive and if it has any young. Contact an animal care organisation such as WIRES if the animal can be rehabilitated or euthanised. If the animal is dead, move it to the side of the road if you can. Be careful of your own safety with traffic while moving the animal.

You need helmets and seatbelts in the bush – even if you are just going between paddocks. Remember to always wear a seatbelt in any vehicle and a helmet when riding a motorbike.

Alcohol – managing the morning after

There is no alternative transport in the bush, unless you're lucky enough to have a local publican with a mini-bus, so you will need to plan how you get home after a few alcoholic drinks. It is a good idea to take turns with family, friends or neighbours to stay sober and be the designated driver.

Your body needs time to get alcohol out of your system. Coffee, a big meal or cold showers will not reduce your blood alcohol content. If you have had a lot to drink, you may be over the limit for much of the next day and should not drive.

After a heavy night of drinking, it can take more than 18 hours for your blood alcohol concentration to get back to zero. Many people are booked for drink driving the next day.

More information

For more information on safe driving, contact the NSW Centre for Road Safety at **www.roadsafety.transport.nsw.gov.au**.

Rates

Rates are a tax levied on a community to meet the cost of services provided by your local Council. Rates are not a charge for individual services supplied. In this way they are similar to income tax, as well as in the way they are determined.

Income tax depends on how much you earn and on the tax rate per dollar set by the Federal Government in the annual budget. Council rates depend on the valuation assessed on your property and on the rate per dollar set by the Council when it finalises its annual budget. Tax and rates payments are not directly related to services that you may personally receive but instead to the needs of the whole community.

There are two big differences between income tax and rates. Income tax is usually taken from your salary each pay and you never see it – rate notices can arrive four times a year and so are more obvious. The other difference is that income tax is usually far greater than rates.

Valuation process

The Valuer General regularly values all houses, shops, factories and rural properties in NSW. The basis for valuation is the same for all properties. The valuation is made at a common date, for instance 30 June 2014. This means that the values determined are based on prices, rents and conditions that prevail on that date.

The valuation does not create value and it does not create rates. The valuation is a way to equitably share Council's rate requirements among all ratepayers based on the value of their property. If all valuations were reduced by half, councils would have to double the rate per dollar to raise the same total rate income to pay for services.

Valuations are updated every four years. Other supplementary valuations take place between those dates where some change has occurred to the property that affects its value, such as extensions or subdivision of land.

On your rate notice you will see a valuation. The Valuer General supplies the valuation, and it is from this value that your rates are calculated. This happens regardless of whether the land is vacant or has a dwelling or improvements.

If you have any questions about what appears on your rate notice, contact your local Council. You also have the right to object to the valuation and ultimately appeal. Land and Property Information, the NSW government agency that manages the valuation system on behalf of the Valuer General, can explain this process to you.

Local Land Services rates

Besides Council rates, some owners of rural holdings must pay rates to Local Land Services.

A rate notice is sent every year to rural landholders of 10 or more hectares.

If you own or occupy rateable land you must advise the relevant Local Land Services office if you change your postal address. You must also lodge an annual land and stock return with Local Land Services in your area by 31 July every year.

More information

For more information about Council rates, contact your local Council.

For more information about land valuation, contact Land and Property Information at **www.lpi.nsw.gov.au**.

For more information about Local Land Services rates, contact your Local Land Services office at **www.lls.nsw.gov.au**.

Absentee landholders

Many rural properties do not have permanent residents. These properties may have been purchased as retreats for the owners to get away from the city and can be left vacant for much of the year.

If you are an absentee landholder, you are still responsible for looking after the environment of your property and making sure that you don't contribute to problems on your land and the land of others. There is a risk that people may come to rural properties not understanding what land management involves, and they may over-extend themselves and end up damaging the land and environment.

Absence raises potential management problems, including:

- weed and pest animal control
- erosion control
- boundary fencing maintenance
- failure of the effluent management system due to lack of use.

These problems can affect neighbouring properties and cause land degradation and tension between neighbours. Council may also place notices and fines on such properties.

To avoid these potential problems, absentee landlords should consider some of the following options:

- Regularly visit your property.
- Make arrangements with farm contractors.
- Make arrangements with a farm manager.
- Negotiate with surrounding landholders to carry out work on your property, perhaps in return for agistment rights.

More information

For more information about being an absentee landholder, contact your local Council.

Developing your property

The local area is facing development pressure due to its location near Sydney and other large centres. Development pressure affects urban and rural land. Rural land is increasingly being used for purposes other than traditional farming, such as rural residential developments, mining, intensive agriculture such as chicken and turkey farms, and even manufacturing. Conflicts can arise between adjacent land uses.

Development and planning issues such as development applications are considered by applying the controls set out in Council's Local Environmental Plans. More details about local planning strategies and Local Environmental Plans can be found in the Local Information section.

Heritage

Aboriginal heritage

Aboriginal heritage includes items that are both physical (places, sites and artefacts) and intangible (values, cultural practices, beliefs, spirituality, laws, traditions and knowledge). This heritage links generations of Aboriginal people over time.

The country in its entirety is the basis for Aboriginal people's spirituality, customary law and ways of living, including identity and the ethic for custodianship – caring for and protecting their country. Landscapes, sites, plants, animals and artefacts are all inherently linked to Aboriginal people and as such, all aspects of the natural environment may be important to Aboriginal people as part of their heritage.

Protecting and conserving Aboriginal heritage

Aboriginal heritage is unique, and an irreplaceable part of Australia's national cultural heritage. Protecting and conserving Aboriginal heritage values and places is an important part of the whole community's 'sense of place' and cultural identity. This applies to every current and future generation of Australians, and those who identify themselves as Aboriginal.

Many activities can unintentionally damage Aboriginal heritage, due to lack of awareness or understanding. The significance of some Aboriginal heritage sites may be partly that they are not openly known about and will only be disclosed under direct threat of damage or desecration. Uncertainty about Aboriginal heritage should not be used as justification for proceeding with activities that may cause damage. If you are unsure about the presence or significance of artefacts or sites, you should use a precautionary approach. That is, stop any activities that may cause damage until you are sure it is safe to proceed.

If you think places or items on your property may be considered Aboriginal heritage, seek advice from your Local Aboriginal Land Council office or the NSW Office of Environment and Heritage. Consultation and negotiation with Aboriginal stakeholders is the best way of protecting and conserving Aboriginal heritage. Adhering to cultural restrictions on information about an Aboriginal heritage place is also essential to protecting and conserving its heritage value. Protecting and conserving Aboriginal heritage must comply with customary law, relevant Federal and State laws, and relevant International treaties and covenants.

More information

Aboriginal people are the primary source of information on the value of their heritage and how it is best protected and conserved.

For more information contact an Aboriginal officer from one of the following organisations:

- NSW Aboriginal Land Council at **www.alc.org.au** and your local Aboriginal Land Council.
- NSW Office of Environment and Heritage (NSW National Parks and Wildlife Service) at **www.environment.nsw.gov.au**.
- Local Land Services at **www.lls.nsw.gov.au**.
- Heritage Council of NSW at **www.environment.nsw.gov.au/heritage**.
- NSW Department of Aboriginal Affairs at **www.aboriginalaffairs.nsw.gov.au**.
- National Native Title Tribunal at **www.nntt.gov.au**.

European heritage

Rural NSW has a rich and varied European heritage. From the earliest years of settlement regional NSW has been important in the development of Australia.

Along with remnant structures consideration needs to be given to the possibility of archaeological sites, or to places which might hold historical significance but that do not contain a historical building, structure or other physical remains.

Your property may contain remnants of European heritage. European heritage can take many forms, including

- archaeology
- ruins
- remnant buildings and structures that are still in use.

European exploration and the following settlement of areas outside Sydney began in earnest around 1800. Surveyors followed the explorers and convict gangs built roads with camps set up along the routes to house troops and convicts. Early settlers built simple housing at first and upgraded as resources allowed so that on rural properties there are often sequential buildings remaining in part or whole.

Remnants of farm life and management are also often found. Outbuildings, fence lines, troughs, machinery, holding yards, and sheering sheds are all part of the interpretation of a place. Convicts were placed on rural properties up to the 1850s and examples of their lives and work can be found on the earliest properties.

If you propose undertaking work that will have a heritage impact you may be required to take the significance of the heritage item into account.

More information

For more information contact your local Council, local historical society or the local history room in your library.

Council's role in development

Councils are responsible for determining land use zones, in consultation with government agencies and their communities. While not everyone might agree with the final outcome, everyone has the opportunity to have their say. There are rigorous procedures to evaluate land before approval is given to change land use.

When you purchase your rural block you should ask Council a number of questions about the land uses of your block and those surrounding it:

- Are there any development applications current for the nearby area?
- Have other developments been approved but not commenced?
- Are there any restrictions on obtaining approval to build a house or other buildings on your block, or to develop certain desired land uses?

You should also check with your Local Land Services office if there are any Property Vegetation Plans or Management Agreements for your land.

You have the right to view any current development applications at your local Council. Where an application is currently advertised you can make a submission to Council about your concerns.

While you might have purchased a block of land in a rural area, further subdivision of adjacent land could be possible. Your rural outlook could change if such subdivision is approved.

Detailed information about how a property can be used and restrictions on development is found in the Section 149 Planning Certificate for the property. When you buy or sell land, the *Conveyancing Act 1919* requires a Section 149 Planning Certificate to be attached to the contract of sale. You can apply for a Section 149 Planning Certificate by contacting your local Council.

Building

Council assesses building and development proposals against development regulations, including Local Environment Plans and Development Control Plans, the Building Code of Australia and relevant State Environmental Planning Policies (SEPPs), such as SEPP (Sydney Drinking Water Catchment) 2011.

Under the State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011, proposals need to undertake a simple assessment to identify potential risks to water quality (such as effluent disposal, erosion from land clearing and sediment from construction) and ways to avoid any adverse impacts from those risks (such as by applying current recommended practices and standards).

Landholders need to demonstrate a neutral of beneficial effect on water quality for new developments, expansions of existing developments, or any changes in activity on their land that require consent under a Council's Local Environmental Plan. The neutral or beneficial effect on water quality test does not apply to existing land uses.

If you are preparing a development application, contact your local Council to ensure that documentation meets Council's standards and for any other help.

Exempt development

Some types of low-impact development may be exempt from the need to obtain planning or construction approval.

If certain development standards are met, specific types of development can be built without needing to be approved by either your local Council or an accredited certifier. However, other legislation requirements for approvals, licences, permits and authorities may still apply.

State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 (Codes SEPP) specifies the type of development which are exempt development. It typically covers small-scale structures that will have minimal impact on the local environment.

Examples of work that may be exempt include:

- garden sheds
- rainwater tanks
- minor building alterations
- different use of a building.

Contact your local Council for more information about exempt developments.

Complying development

Complying development is development that is considered to be predictable in its environmental impact and is therefore of minor consequence. Complying development does not apply to all land and is subject to the application meeting pre-set development standards.

If your proposed development satisfies the complying development requirements of the State Environmental Planning Policy (Exempt and Complying Development Codes) 2008, you can apply for a complying development certificate from your local Council or a qualified professional in the private sector (known as a Private Certifying Authority).

Examples of work that may be complying development include:

- dwelling houses (new, alterations and additions), including structures such as carports and garages
- swimming pools
- industrial uses (change of use and internal alterations)
- commercial uses (change of use and internal alterations)
- bed and breakfast accommodation
- subdivision
- boundary adjustment
- temporary buildings.

Contact your local Council for more details about complying development.

Local development

If the work you wish to undertake is neither exempt nor complying development, your works will most likely be a local development. If this is the case, then you will need to lodge a development application (DA) with your local Council.

Why submit a development application?

You are legally bound to submit a development application to Council for any building, demolition and subdivision works and for any development requiring consent under the Local Environmental Plans.

Development applications are required so that Council can assess your plans and information, inspect your property and determine whether your proposal is appropriate. Remember – if you are in doubt, please ask Council as time spent early may avoid delays later.

Development steps

The following steps may be involved in lodging a development application (DA) with your local Council.

1. Establish what development is permissible on your property. Understand what potential constraints affect your property and what controls apply to your proposed development.

2. Talk to your local Council, who can provide valuable information and feedback on what you would like to do. Informal meetings can provide a general indication as to whether your proposal meets the objectives of relevant planning controls, and can identify issues that you will need to address in your DA. For larger proposals, it would be useful to have prior discussions with an assessing officer. An assessing officer will determine if a pre-lodgement meeting with senior staff is necessary.

3. Talk to your neighbours. Although you are not required to consult your neighbours when considering a proposal on your site, Council encourages you to discuss your development proposal with your neighbours. This can often overcome any concerns your neighbours may have with your plans. If your neighbours have an understanding of your proposal and any concerns are taken into account, it may reduce the number of objections that Council may receive when the DA is formally notified. You may also wish to talk to local community groups about your concept plans to assist them to understand your proposal. You can then consider their concerns and seek to compromise to achieve a satisfactory outcome.

4. Consider all design issues taking into account the site, its context, and specific development controls that apply to the proposal, together with any hazards that affect the land, and prepare concept plans.

5. Engage a suitable professional. When preparing a DA, you will generally need, at a minimum, to employ the services of a designer or draftsperson. Proposals that are more complicated may require the services of an architect and a qualified consultant town planner to prepare your statement of environmental effects. Your town planner will also be able to advise if you need to consider engaging other professionals such as a heritage professional, traffic planner, engineer or registered surveyor.

   Councils cannot make recommendations, however, if you need advice about a suitable consultant planner, you may contact the NSW Secretariat of the Planning Institute of Australia on (02) 8904 1011. Contact the Australian Institute of Architects on 1800 770 617 for details about local architects suitable for your proposed development.

6. Ensure that your application is adequate and correct to avoid delays in processing your application. Your local Council may provide a checklist to help you ensure all criteria is met before lodging your application.

7. Lodge your application with your local Council.

More information

For more information about developments on your property, contact your local Council.

For more information on development within the Sydney drinking water catchment, contact Water NSW at **www.sca.nsw.gov.au**.

Information on State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 and State Environmental Planning Policy (Exempt and Complying Development Codes) 2008, which may affect development on your property is available on the NSW Government's legislation website at **www.legislation.nsw.gov.au**.

Improving your skills

Knowledge about sustainable land management is growing rapidly. Getting up-to-date, accurate information will help you enjoy your land. Landcare and producer groups provide a good way of building knowledge and sharing experience, and there are many quality publications available. Government departments are also an excellent source of information.

Think about what training you need to manage your land appropriately. Many courses are available covering animal and horticultural production, farm and environment management, chemical use, property management planning and fencing techniques.

TAFE conducts many rural studies courses including:

- wool classing
- sheep shearing
- horticulture
- viticulture
- agriculture (crop and livestock management)
- aquaculture
- natural resources and environmental management
- forestry.

The NSW Department of Primary Industries and Local Land Services also provide a range of training, workshop and field day activities on a range of land and livestock management topics. Refer to the Property Management section of this handbook.

More information

For more information about courses, training and field days, contact one of the following organisations:

- TAFE NSW at **www.tafensw.edu.au**.
- NSW Department of Primary Industries at **www.dpi.nsw.gov.au**.
- Local Land Services at **www.lls.nsw.gov.au**.

Making a living

Rural landholders are, in some ways, guardians of productive land. There is great potential to manage natural resources wisely, enhance local biodiversity, be a great neighbour and at the same time produce food, fibre or other useful farm products for the community.

Shortening the distance between where our food and raw materials are produced, and where they are consumed, is vital in transitioning towards sustainability. From pastured poultry to herbs, local bush foods to honey, rural landholders are encouraged to become part of a vibrant and diversified local food system in their area – even in a small way.

Farmers markets can provide an outlet for local and emerging producers to directly market produce to consumers, gaining vital feedback and an immediate return.

Farm gate stalls are a popular feature of rural landscapes, and can help to provide an alternative point of sale/publicity outlet for your produce. Check with your local Council about regulations.

Community supported agriculture describes a direct relationship between consumers, who agree to a subscription model of upfront payment for produce, and growers who supply an agreed amount of produce on a regular basis.

Seek out local associations for insights into the local food system and potential niches. There may be associations for small farmers, community gardens, permaculture, food alliances, cooperatives, beekeepers or breeders of traditional varieties of animals or veggies, able to help you research ways in which your land may be able to become productive. Refer to the Regional Directory at the back of this handbook.

Further reading

Wildlife in the Home Paddock: nature conservation for Australian farmers, Breckwoldt, R. 1983, Angus & Robertson.

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Notes

LOCAL INFORMATION

Managing growth and protecting rural land

Pressure on agricultural land from continued subdivision for housing and rural residential development is a major concern to many people in the community. Council must provide for coordinated development and control of rural subdivision to protect rural industries and the area's natural and scenic resources.

Rural land is an important economic resource for the region and needs to be protected through minimum lot size provisions and other planning controls. Even with rural restructuring and drought pressures, Council needs to protect agricultural areas to sustain the long-term future of the area and protect the lifestyle values of the community.

Contacts

To find out more about Planning in Goulburn Mulwaree contact the Strategic Planning team on (02) 4823 4444 or email, planningenquiries@goulburn.nsw.gov.au.

Guide to eucalypts found in and around Goulburn

Endemic (local) species

Botanic name	Common name	Comments
Eucalyptus amplifolia	Cabbage Gum	Common
Eucalyptus blakelyI	Blakely's Red Gum	Very common
Eucalyptus bridgesiana	Apple Box	Common
Eucalyptus cinerea	Argyle Apple	Common
Eucalyptus dalrympleana	Mountain Gum	Uncommon
Eucalyptus dives	Broad-leafed Peppermint	Very common
Eucalyptus eugenioides	Thin-leafed Stringybark	Common
Eucalyptus globoidea	White Stringybark	Uncommon
Eucalyptus macrorhyncha	Red Stringybark	Very common
Eucalyptus mannifera	Red Spotted Gum	Very common
Eucalyptus melliodora	Yellow Box	Very common
Eucalyptus ovata	Swamp Gum	Uncommon
Eucalyptus pauciflora	Snow Gum	Common
Eucalyptus polyanthemos	Red Box	Common
Eucalyptus radiata	Narrow-leafed Peppermint	Uncommon
Eucalyptus rossii	Inland Scribbly Gum	Very common
Eucalyptus rubida	Candlebark	Common
Eucalyptus sieberi	Silver Top Ash	Very common
Eucalyptus stellulata	Black Sally	Uncommon
Eucalyptus viminalis	Ribbon Gum	Common

Common introduced Eucalyptus	
Eucalyptus bicostata*	Southern Blue Gum
Eucalyptus bosistonoa	Bangalay
Eucalyptus globulus*	Eurabbie, Blue Gum
Eucalyptus leucoxylon	Flowering Gum, S.A. Blue Gum
Eucalyptus macarthurii	Paddy River Box
Eucalyptus maidenii*	Maiden's Gum
Eucalyptus nicholii	Narrow-leafed Peppermint
Eucalyptus scoparia	Wallangarra White Gum
Eucalyptus sideroxylon	Red Ironbark

*Plant has tendency to become a weed, do not plant

Local native species for planting in the Goulburn district

The following plants are suitable for use in the garden and rural areas, and broader landscape-based revegetation activities.

Botanic Name	Common Name	Form	Size	Comments
Acacia parramattensis	Parramatta Green Wattle	Shrub	4-12m	Excellent habitat Flowers Dec-Feb
Acacia dealbata	Silver Wattle	Tree	2-10m	Alluvial soils with good drainage, frosty areas and it is fast growing
Acacia decurrens	Early Black Wattle	Tree	4-12m	Excellent habitat and fast growing
Acacia mearnsii	Downy Black Wattle	Tree	4-12m	Frosty areas, suckering. Good erosion protection
Acacia melanoxylon	Blackwood	Tree	6–30m	Deep soils
Allocasuarina littoralis	Black She-oak	Tree	6–12m	Moist, well drained areas
Allocasuarina luehmannii	Bull Oak	Tree	>10m	Prefers steep slopes
Allocasuarina verticillata	Drooping She-oak	Tree	10m	Steep slope, excellent drainage
Banksia ericifolia	Heath Banksia	Shrub	3 - 5 m	Up to 5m Excellent small mammal and honeyeater habitat
Banksia marginata	Silver Banksia	Shrub	Up to 4m	Excellent small mammal and honeyeater habitat
Banksia serrata	Saw Banksia	Shrub	10m	Not for very frosty areas
Banksia spinulosa	Hairpin Banksia	Shrub	Up to 3m	Excellent small mammal and honeyeater habitat
Brachychiton populneus	Kurrajong	Tree	>10m	
Bursaria spp	Blackthorn	Shrub	1–8m	Spiny plant with scented flowers
Casuarina cunninghamiana	River She-oak	Tree	Up to 30m	Plant downstream of Marulan

Botanic Name	Common Name	Form	Height(m)	Comments
Dianella revoluta	Flax Lily	Ground cover	Up to 0.5	Attractive flowers, drier sites
Eucalyptus agglomerata	Blue-leafed Stringybark	Tree	20–40	Drier sites
Eucalyptus blakelyi	Blakley's Red Gum	Tree	25	Rich loams, takes over from E. amplifolia in better drained areas
Eucalyptus bridgesiana	Apple Box	Tree	Up to 30	Plain hills and risers
Eucalyptus cinerea	Argyle Apple	Tree	7-15	North of Goulburn
Eucalyptus eugenioides/ globoidea	White Stringybark	Tree	15-30	Drier sites
Eucalyptus macarthurii	Paddy's River Box	Tree	Up to 25	Broad cold flats with grassy understorey
Eucalyptus macrorhyncha	Red Stringybark	Tree	12-35	Drier well-drained soils
Eucalyptus mannifera	Brittle Gum	Tree	6-25	Powdery white bark
Eucalyptus melliodora	Yellow Box	Tree	Up to 30	Rich loams
Eucalyptus pauciflora	Snow Gum	Tree	Up to 15	Well drained frosty terraces
Eucalyptus rossii	Scribbly Gum	Tree	8-25	Often poorer soils
Eucalyptus rubida	Candlebark	Tree	25	Deeper soils in frosty areas
Eucalyptus sclerophylla	Scribbly Gum	Tree	6-15	Downstream of Berrima
Eucalyptus sieberi	Silvertop Ash	Tree	25-45	On dry sites with excellent drainage
Eucalyptus stellulata	Black Sally	Tree	15-20	Poorly drained frosty sites
Eucalyptus viminalis	Ribbon/Manna Gum	Tree	Up to 20	Dominant species upstream of Marulan. Very fast growing, excellent habitat
Grevillea arenaria	Grey Grevillea	Shrub	2	Good drainage preferred
Hardenbergia violacea	Native Sarsaparilla	Creeper/ Creeper	Up to 0.3	Prolific flowers, excellent ground cover
Hakea dactyloides	Finger Hakea	Shrub	1-3	Good drainage preferred
Hibertia obtusifolia	Guinea Flower	Shrub	Up to 0.5	Yellow flowers
Indigofera australis	Austral Indigo	Shrub	1-2	Dry sites Mauve flowers
Kunzea spp	Burgan	Shrub	2-4m	Choose only local form as can be invasive
Leptospermum polygalifolium	River Tea-tree	Shrub	2-4	Can form dense thickets
Lomandra longifolia	Spiny Matt Rush	Ground cover	Up to 0.5	Hardy, excellent ground cover
Melaleuca parvistaminea	Rough-barked Honey- myrtle	Shrub	4	
Melaleuca styphyoides	Prickly Paperbark	Tree	10	Not for severe frosts
Poa labillarderi	River Tussock	Grass	1	Dominates frosty alluvial areas, hardy

Non-local native species, hybrids and exotics to plant in the Goulburn district

Restrict the use of these plants to gardens and for ornamental purposes only.

Botanic Name	Common Name
Groundcovers, grasses and hedges	
Correa decumbens	Correa
Dianella tasmanica	Flax lily
Grevillea Canterbury Gold	Spider flower
Grevillea juniperina	Broad-leafed, prostrate form
Grevillea lanigera Mt Tambourine	Grevillea
Grevillea Poorinda Royal Mantle	Grevillea
Myoporum parvifolium	Creeping Boobialla
Shrubs	
Acacia fimbriata	Wattle, dwarf form
Allocasuarina nana	Dwarf casuarina
Baeckea virgata	White heath myrtle, dwarf form
Bauera rubioides	Dog Rose
Callistemon Little john	Bottlebrush
Callistemon citrinus	Bottlebrush
Correa alba var. alba	White Correa
Correa 'Dusky Bells' Correa	Correa
Philotheca myoporoides	Long Leaf Wax Flower
Grevillea diminuta	Spider Flower
Grevillea 'Ivanhoe'	Ivanhoe Grevillea
Grevillea John Evans	Spider Flower
Melaleuca decussate	Paperbark
Melaleuca thymifolia	Paperbark
Sollya heterophylla	Native blue bell, shrub form

Small trees to 6.0 metres	
Baeckea virgata	White Heath Myrtle
Banksia ericifolia	Heath banksia
Callistemon salignus	Willow bottlebrush
Callistemon viminalis Dawson's River Weeper	Bottlebrush
Callistemon viminalis Hannah ray	Bottlebrush
Eucalyptus gregsoniana	Dwarf snow gum
Melaleuca bracteate	White cloud tree
Melaleuca linariifolia	Narrow-leafed paperbark
Medium trees to 10 metres	
Allocasuarina torulosa	Forest oak
Banksia integrifolia	Coast banksia
Banksia marginate	Silver banksia
Eucalyptus moorei	Narrow leafed-sally
Melaleuca linariifolia	Snow in summer
Climbers	
Clematis aristate	Old man's beard
Clematis glyciphylla	
Clematis microphylla	
Muehlenbeckia axillaris	Wire netting vine
Sollya heterophylla	Creeping blue bell
Feature Plants	
Banksia robur	Swamp banksia
Banksia paludosa	Local swamp Banksia
Dicksonia Antarctica	Rough barked tree fern
Xerochrysum species	Paper daisy

Note: Check the suitability of these plants for individual locations with your nursery.

Height estimates given are approximately only.

Medium size, evergreen hedge		
Botanic Name	**Common Name**	**Native or Exotic**
Atriplex nummularia	Oldman salt bush	N
Banksia marginata	Banksia	N
Callistemon citrinus	Many different cultivars	N
Camellia sasanqua	Many different varieties	E
Choisia ternata	Mexican orange blossum	E
Escallonia organinsus	Many other types of Escallonia	E
Grevillea arenaria	Spider flower	N
Grevillea Poorinda Blondie	Spider flower	N
Grevillea White wings	Spider flower	N
Melaleuca parvistaminea	Paperbark	N
Nandina domestica		E
Photinia glabra Rubens	Photinia	E
Photinia x fraseri Red Robin	Photinia	E
Photinia Robusta	Photinia	E
Pittosperum eugenioides	Variegatum is taller but can be kept pruned	E
Pittosperum tenifolium Screenmaster	Pittosperum	E
Pittosperum tenifolium James Stirling	Pittosperum	E
Pittosperum tenifolium James Stirling	Pittosperum variegated	E
Pittosperum tenifolium Green Pillar	Pittosperum	E
Pomaderris species		N
Viburnum tinus	Viburnum	E

NOTE - Check the suitability of these plants for individual locations with your nursery.

Plants for effluent management areas

Planting lawn, trees and shrubs around an effluent disposal area will greatly increase the systems efficiency. Using scoria, pebbles, pine bark mulch and plastic underlay is definately not recommended as they inhibit evaporation and air movement in the soil. Take care to located trees so that they do not shade the system. Place trees as far away from the system as necessary (at least two metres beyond the potential canopy) so that roots do not interfere with pipes and trenches.

Here are some of the recommended plants that are suitable to grow in effluent management areas:

Grasses and flowers

Botanical Name	Common Name	Native or Exotic	Height x Width (m)
Trifolium fragiferum	Strawberry Clover	E	Ground cover
Trifolium repens	White Clover	E	Ground cover
Pelargonium	Geraniums	E	Ground cover
Hydrangea macrophylla	Hydrangea	E	1 x 1
Puccinellia stricta	Saltmarsh Grass	N	
Eleocharis acuta	Common Spike Rush	N	

Shrubs

Botanical Name	Common Name	Native or Exotic	Height x Width (m)	Comment
Banksia robur	Swamp Banksia	N	2 x 2	Damp sites
Callistemon citrinus	Lemon Scented Bottlebrush	N	2 x 2	Many cultivars
Callistemon sieberi	River Bottlebrush	N	2 x 2	
Lonicera nitida	Box Honeysuckle	E	1.5 x 1	Dense bush
Melaleuca styphelioides	Paperbark	N	4 x 2	Most species suitable
Melaleuca parvistaminea	Paperbark	N	4 x 3	
Melaleuca thymifolia	Paperbark	N	1 x 1	
Veronica species	Hebe	E	2 x 2	Most species suitable

Trees

Botanical Name	Common Name	Native or Exotic	Height x Width (m)
Betula alba	Silver Birch	E	12 x 4
Casuarina cunninghamiana	River She-oak	N	20 x 6
Casuarina glauca	Swamp She-oak	N	6 x 4
Cornus capitata	Evergreen Dogwood	E	4 x 2
Eucalyptus amplifolia	Cabbage Gum	N	15 x 8
Eucalyptus blakelyi	Blakely's Red Gum	N	15 x 8
Eucalyptus ovata	Swamp Gum	N	15 x 8
Eucalyptus stellulata	Black Sally	N	12 x 6

Noxious weeds

Of the 42 species on Council's Noxious Weed list, the following 19 are considered a priority:

- African Boxthorn (Lycium ferocissimum)
- African Lovegrass (Eragrostis curvula)
- Bathurst/Noogoora/ Californian/ Cockle Burrs (Xanthium spp)
- Blackberry (Rubus fruticosus agg. spp)
- Fireweed (Senecio madagascariensis)
- Gorse (Ulex europaeus)
- Hemlock (Conium maculatum)
- Horehound (Marrubium vulgare)
- Nodding Thistle (Carduus nutans)
- Pampas Grass (Cortaderia spp)
- Paterson's Curse, Vipers/Italian Bugloss (Echium spp)
- Prickly Pear (Opuntia spp except O. ficus- indica)
- Scotch/English Broom (Cytisus scoparius)
- Scotch/Illyrian Stemless Thistles (Onopordum spp)
- Serrated Tussock (Nassella trichotoma)
- Sifton Bush (Cassinia arcuata)
- St John's Wort (Hypericum perforatum)
- Sweet Briar (Rosa rubiginosa)
- Willows (Salix spp except S. babylonica, S. reichardtii and S. calodendron).

Fauna in the Goulburn district

Many people enjoy the presence of native birds and other wildlife on their property. You should understand why native animals are present and how to manage them. Some local native animals have been wiped out or brought to the edge of extinction by the effects of habitat destruction, sheep grazing, hunting and foxes.

Native animals that are still common in the area include the Blotched Bluetongue, Eastern Bluetongue, Shingleback, Lace Monitor (Goanna), Eastern Grey Kangaroo, Common Wallaroo, Swamp Wallaby, Eastern Grey Kangaroo, Common Brush-tail Possum, Common Ringtail Possum, Eastern Water Rat, Echidna and Platypus.

The area is also home to medium-sized birds such as Wattle birds, Magpies, Rosellas, Magpie-larks (Peewees), Lapwings (Plovers), Wood Ducks and Ravens. Some native birds have moved in and are thriving in their expanded habitat. These birds include Topknot Pigeons, Galahs and Long-billed Corellas. Planting berry bushes such as Hawthorn, Firethorn and Privet has resulted in an imbalance in which some native birds, particularly Pied Currawongs, have thrived at the expense of smaller birds that become their prey in the breeding season.

Some migratory native birds are also found in the area. They rely on patches of bushland containing food plants and shelter to survive. These birds include Robins, Flycatchers, Little Ravens, Silvereyes, Friarbirds, Whistlers, Honeyeaters and Orioles. Some examples of threatened fauna in the area are included here:

Name	Description	Habitat
Striped Legless Lizard (Delmar impar)	Up to 30 cm long (mostly tail), grey-brown distinguished by dark lines running down the length of the body	May be found in natural grassland dominated by tussock forming species such as Kangaroo, Spear and Wallaby grasses
Speckled Warbler (Pyrrholaemus sagittatus)	Small, well-camouflaged, very heavily-streaked, ground-dwelling bird, reaching a length of 13 cm	Grassy Eucalypt communities with scattered native tussock grasses, a sparse shrub layer, some Eucalypt regrowth and an open canopy
Rosenbergs Monitor (Varanus rosenbergi)	Yellow and black Goanna up to two metres in length - distinguished from more common Lace Monitor by narrow bands across tail	Found in dry open forest and grassy woodland habitats - shelters in burrows, hollow logs and rock crevices - lays eggs in termite nests
Diamond Firetail (Stagonopleura guttata)	Striking Finch with a bright red bill, red eyes and rump - the white throat and lower breast are separated by a broad black breast band that extends into the white-spotted, black flanks	Grassy Eucalypt woodlands, including Box-Gum Woodlands and Snow Gum Eucalyptus pauciflora Woodlands
Eastern Bent Wing Bat (Miniopterus schreibersi oceanensis)	Black reddish-brown bat up to six centimetres in length	Found in well timbered valleys foraging on small insects above the tree canopy
Regent Honey Eater (Xanthomyza phrygia)	Medium-sized blackish bird boldly marked with yellow	Box/Gum woodland habitat - relies on opportunistic nectar sources
Freckled Duck (Stictonetta naevosa)	Dark, greyish-brown duck with a large head that is peaked at the rear, and a narrow, slightly upturned bill - their dark brownish-black plumage is evenly freckled all over with white or buff	Permanent freshwater swamps and creeks with heavy growth of Cumbungi or Tea-tree - in dry times, they move to lakes, reservoirs, farm dams and sewage ponds

Endangered flora in the Goulburn district

Several plant communities are listed as endangered ecological communities under various Commonwealth or State Acts. These include:

- Natural temperate grasslands of the Southern Tablelands. This is a diverse vegetation community where native grasses dominate. It contains a diversity of other non- grass species (forbs or wildflowers) and sometimes scattered trees or shrubs. Forbs are non-woody, broad- leafed flowering herbs that are not a grass.

- Box/Gum woodland (White Box, Yellow Box, Blakely's Red Gum Woodland). This is a vegetation community found in low lying situations or slopes (better soils) characterised by the tree species and often with a grassy understorey with a diversity of forbs. Box/Gum woodland now occupies only four percent of its pre-European distribution.

Some examples of threatened flora in the area are :

Name	Description	Habitat
Buttercup Double-tail (Diuris aequalis)	Terrestrial 'donkey' Orchid with golden-yellow to orange flowers - it differs from other Diuris species in not having markings (dots or stripes) on the flowers	Forest, low open woodland with grassy understorey and secondary grassland on the higher parts of the Southern and Central Tablelands (especially the Great Dividing Range)
Button Wrinklewort (Rutidosis leptorhynchoides)	Perennial, multi-stemmed herb, sometimes with narrow basal leaves and with leafy flower stems to 35cm tall - flower heads are bright yellow, slightly domed and button-like, to 2cm wide	Box-Gum Woodland, secondary grassland derived from Box-gum Woodland or in Natural Temperate Grassland, and often in the ecotone between the two communities
Delicate Pomaderris (Pomaderris delicata)	Shrub 1 – 2 metres tall with elliptical leaves to 3 cm long. The under surfaces of leaves are covered with grey star-shaped hairs and a few simple hairs on the veins - the spring flowers are golden yellow and have petals	Dry open forest dominated by Eucalyptus sieberi with a dense she-oak understory to the east of Goulburn - soils are shallow and derived from sandstone and siltstone
Tallong Midge Orchid		Tallong

More information

Further information about threatened species can be found on the threatened species website at www.threatenedspecies.environment.nsw.gov.au.

ACRONYMS

ATV	All-terrain vehicle
DNR	Department of Natural Resources
DPI	Department of Primary Industries
HRC	Hazard Reduction Certificate
LEP	Local Environmental Plan
LGA	Local Government Area
LHPA	Livestock Health and Pest Authority
LLS	Local Land Services
MHRDC	Maximum harvestable right dam capacity
NSW	New South Wales
OEH	Office of Environment and Heritage
PVP	Property Vegetation Plan
RAMA	Routine agricultural management activity
RFS	Rural Fire Service
RSPCA	Royal Society for the Prevention of Cruelty to Animals
TSR	Travelling stock reserve
WIRES	Wildlife Information and Rescue Service

Notes

Photography credits

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Rural Living Handbook

A guide for rural residential landholders

Becoming a rural resident – even a part-time one – can bring much enjoyment – but it also creates many responsibilities and inevitably raises many questions. Even the smallest rural blocks will provide a challenge if you have never before encountered noxious weeds, prepared for bushfire season or managed an effluent system. Goulburn Mulwaree Council is providing this handbook to let you know about the many resources available to you living here, as well as your responsibilities (particularly legislative requirements).

Keep this handbook as a helpful reference that you can refer to time and time again.

This handbook provides useful information about:

- Buying your property
- Natural resources
- Property management
- Local information

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