Biosecurity Handbook

A guide to managing your biosecurity responsibilities in Greater Sydney
Forward

Terry Charlton, Chair

We are pleased to present the Greater Sydney Local Land Services Biosecurity Handbook to landholders in our region.

Greater Sydney includes an extraordinary diversity of landscapes and communities. With a population of five million people in an area of 12,474 square kilometres, our region includes metropolitan Sydney, the Blue Mountains, Wollondilly, Hawkesbury, Macarthur and the Central Coast. Importantly Greater Sydney is the main point of entry into NSW by international sea and air transport where we assist NSW DPI in minimising the biosecurity risks associated with exotic pests and diseases entering our state.

With more than 100,000 container arrivals a month through Sydney ports, 41.9 million passenger arrivals and 500,000 tonnes of air freight arriving each year into Sydney Airport, the risk to our agricultural community, the economy and our way of life is significant. As such, biosecurity must be closely managed and all landholders need to do their part. This guide will assist you with your biosecurity responsibility.

David Hogan, General Manager

Biosecurity is essential to keeping our agricultural industry and economy safe from the threat of new pests and diseases. Local Land Services’ rates directly support the work we do with landholders and the broader community to minimise the impact of pest animals and disease threats.

Our region contains the largest urban areas in the state as well as intensive agricultural production. Pest control is critical for farmers and for protecting Greater Sydney’s many important natural landscapes.

This handbook provides you with a guide on how you as a land manager in our region can protect your investment and ultimately keep our agricultural markets and the community safe from the threat of new pests and diseases.

If you are interested in finding out more about biosecurity and how our experts in the field can help you, I encourage you to get in touch.
Greater Sydney Local Land Services

Greater Sydney Local Land Services works with land managers and the community to improve primary production within healthy landscapes. We help people make better decisions about the land they manage and assist communities and agricultural industries to be productive and sustainable into the future. We connect people with groups, information, support and funding to improve agricultural productivity and better manage our natural resources.

The Greater Sydney region accounts for 5 percent of the state’s agricultural production, even though we only cover 1.5 percent of NSW land area. The total gross value of our agricultural production is estimated at $648 million per annum. Greater Sydney Local Land Services works with landholders across the region to control the threat of pests and disease through coordinated campaigns and compliance activities. These are essential to protect both our agricultural industries and natural environment. We focus on sustainable land management that enhances productivity while reducing impacts on soil and water resources.

Office Locations

Penrith
Level 4, 2-6 Station St
PO Box 4515
Penrith Westfield 2750
Ph: (02) 4724 2100

Wyong
3/34-36 Pacific Hwy
PO Box 600
Wyong NSW 2259
Ph: (02) 4355 8200

Camden Saleyard
Sale days only (Tues / Weds) from 8 -11am.
Located at 30 Edward St, Camden.
NSW Biosecurity Act

The NSW Biosecurity Act 2015 is built around shared responsibility between government, industry and the people of NSW working together to protect the economy, environment and community from the negative impacts of animal and plant pests and diseases, weeds and contaminants.

The Act came into effect on 1 July 2017 giving NSW the essential tools and powers to manage pests, diseases, weeds and contaminants and minimise biosecurity threats. It aims to ensure we can respond efficiently and flexibly to biosecurity risks.

The Biosecurity Act 2015 includes

› a general biosecurity duty that requires people who deal with biosecurity risks to take reasonable steps to manage them
› emergency powers allowing authorised officers to respond to biosecurity threats immediately, regardless of whether it is known or newly emerging, or where the risk is occurring

While there are offence provisions with significant penalties for individuals who do the wrong thing, the focus of the Act is on educating people so that they know what to do.


Sydney gateway biosecurity risks

Greater Sydney Local Land Services’ biosecurity experts have assisted NSW DPI on the frontline of several recent incursions, highlighting the reality of our increased risk as the gateway region. The economic impact of the arrival of foot and mouth disease into Australia would be measured in the tens of billions. Similarly an outbreak of avian flu in poultry could cost hundreds of millions.

Recent examples of biosecurity incursions in Sydney

Red imported fire ants were detected at Port Botany in 2014 posing a major threat to the public safety of Sydney residents. Swift action led to successful containment. By comparison QLD authorities have spent more than $400 million to date. The annual cost to the USA exceeds $7 billion with more than 100 deaths.

The Asian black-spined toad is considered the cooler-climate version of the cane toad, with poisonous glands and a voracious appetite. A toad was detected in Belrose in 2015, thought to have arrived in a shipping container that sat in a yard on the northern beaches. There have been three similar incidents since 2007.

Equine influenza escaped from a quarantine station in Western Sydney in 2007, spreading rapidly across large areas of NSW and Queensland before it was contained. The direct cost to the horse industry and government was estimated to exceed $350 million, with indirect costs running to billions of dollars.

Myrtle rust was detected on diseased plants in Sydney and Central Coast nurseries in 2010. It has now spread to native forests making eradication impossible and threatening many forest ecosystems.

The above examples show the biosecurity risks in Greater Sydney are real and all landholders must remain vigilant.
1. Farm biosecurity plan

Why you need a plan

A farm biosecurity plan will help prevent biosecurity issues on your property. If you do have an issue however, your plan will assist you in your response, minimising the impact and getting you back into production as soon as possible.

If something happens that could destroy your livelihood or that of your friends and neighbours, you need to know how to act immediately.

Having a plan in the event of a biosecurity emergency is the best way to keep you and your community safe.

Your plan should consider

› your equipment and facilities (such as fences, yards, water, shelter)
› contact details for vets, agents, saleyards, your Local Land Services office and the NSW DPI biosecurity hotlines
› a list of secure places to store feed and equipment
› details of locations and times to buy and/or sell plants or animals if necessary
› having a biosecurity checkpoint for new stock and visitors
› identified farm management procedures
› care for your plants, animals and landscapes
› a timeline of regular inspections of your farm, plants, animals, soils and equipment
› coordinated pest and weed control campaigns with your neighbours
› signage to manage access onto your land.

This handbook is a good starting point for your biosecurity plan. Use the space provided at the back of the handbook to record the contact numbers and information you need to have at hand.

Useful links to help you develop your plan


![Image of a large number of events and workshops including farm walks being held at the Greater Sydney Local Land Services Demonstration Farm in Richmond (pictured). Adherence to the biosecurity plan, including measures such as a biosecurity check point where shoes are disinfected are crucial to prevent biosecurity issues such as soil contamination.](image_url)
2. Buying and selling livestock

Before purchasing stock you must apply for a Property Identification Code (PIC). Any NSW property carrying livestock (one or more cow, sheep, goat, horse, pig, alpaca, llama, deer, bison, buffalo, 100 or more poultry or 10 or more emus) is required by law to have a PIC.

A PIC is a unique identifier for land used for keeping livestock. It identifies a property for the purposes of livestock trading, disease control, chemical and antibiotic residue monitoring and trace back, as well as emergency response. This system is fundamental for the maintenance of international market access worth billions of dollars annually to NSW and Australia.

You can obtain a PIC by contacting Local Land Services on 1300 795 299.

Before you buy livestock, make sure you ask about the health of the stock. Check with saleyard agents, Local Land Services or your vet for information on any local disease issues. When purchasing stock you should

› ensure you receive a National Vendor Declaration (NVD) from the seller. This will either be Livestock Assurance Program (LPA) NVD for cattle, sheep and goats or a PigPass NVD for pigs. An NVD provides a history of the animals and their health. It also allows you to legally transport them to a new property.

› register the movement of the stock on the National Livestock Identification System (NLIS) database www.nlis.com.au. You will need to create an account if you do not have one already.

Selling stock


All stock leaving your property must be correctly identified under the NLIS.

› Cattle require an electronic ear tag
› Sheep and goats require a plastic ear tag
› Pigs* greater than 25 kg liveweight require a tattoo brand on their shoulder. If you do not have one, contact Local Land Services to arrange a “Crown” brand.

*Changes to pig identification requirements will come into effect in early 2018.

Visit www.dpi.nsw.gov.au/animals-and-livestock/nlis for more information about NLIS tag requirements or contact Local Land Services on 1300 795 299.

If you are transporting livestock that are not for sale (i.e without a National Vendor Declaration), you will need a Transported Stock Statement (TSS) in most instances. A TSS can be purchased from Local Land Services.

Introducing new stock

There are some simple steps you can take to help protect your herd or flock, such as

› quarantine introduced animals for 21-28 days and monitor them for any signs of disease (including restricting to stock yards for the first 24 hours to allow weed seeds that animals may be carrying in their gut to pass)
› check stock under your care daily. Separate sick animals from the group and tend to these animals last to prevent disease spread
› report any suspicious diseases/deaths to Local Land Services
› if you notice anything unusual in your stock, call the 24-hour Emergency Animal Disease Watch Hotline on 1800 675 888.
3. General animal management

With owning animals comes responsibility. It is important you know how to care for your animals, how to recognise the signs of disease and ill health and what to do if something goes wrong. If you are new to animal ownership or production, here are some important tips.

Feeding animals

- All animals need to be fed and given clean water each day
- Grazing animals need good quality pasture or feed. A cow needs grass no less than about 10 cms long and a sheep needs grass at least 3-4 cms long. Its protein and energy content must meet their needs (i.e. not old dry grass)
- Ensure you provide enough feed for your animal. The table below provides an outline of feed requirements
- You may need to get expert nutritional advice - your livestock agent may be able to help with this or direct you to other experts
- Feeding leftovers to pigs and poultry is a risk. It may not meet their dietary needs and could transmit diseases
- You must not SWILL feed (see page 17 for more information).

<table>
<thead>
<tr>
<th>Livestock</th>
<th>Feed requirements</th>
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<tbody>
<tr>
<td>Cattle</td>
<td>2-3% of their body weight per day in feed (dry matter) For a 500 kg cow this is 10-15 kg of feed per day</td>
</tr>
<tr>
<td>Sheep</td>
<td>2-3% of their body weight per day in feed (dry matter) For a 50 kg sheep this is 1-1.5 kg of feed per day</td>
</tr>
<tr>
<td>Pigs</td>
<td>2-3 kg of feed per day for an adult pig</td>
</tr>
<tr>
<td>Horses</td>
<td>1.5-2% of bodyweight per day in feed</td>
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</table>

- Horses and cattle digestion is designed for roughage such as hay or grass. Care needs to be taken with feeding grain/high energy food
- Grass grows very slowly in the winter - ensure it does not run out
- If supplementary feed is required you need a place to store it which is dry, secure and vermin proof. It must not get mouldy.
- If you buy hay ensure it is good quality and does not have weeds in it
- If you run out of feed you may need to consider selling some stock until conditions improve

Not taking care of your stock makes them more susceptible to disease, can limit your ability to sell them and may result in action by the RSPCA.

Animal facilities and shelter

Grazing animals do not generally require built shelters. However they need places to shelter from the sun and places where they are protected from cold, wet and windy weather, like tree shelter belts. Most other animals need a built shelter.

Handling animals

Large livestock can be dangerous. You need fences and yards that let you handle them safely and give you escape routes. You also need to ensure they do not enter neighbouring properties or get out onto roads.

Care of newborn animals

Young animals have a limited ability to control their body temperature. They can easily become chilled in cold or rain, or overheat on hot days. They are also vulnerable to predators like foxes or dogs. Ensure they have protected, safe, warm, and dry places to rest. They also need to feed on their mother in the initial few hours of life to get her first milk (colostrum) which protects them against many diseases until they build their own immunity. Young animals have low body reserves and can get sick and die quickly.

Reporting and seeking help

If you need help call your local vet. If you suspect a disease or need advice on biosecurity management call Local Land Services on 1300 795 299 or the 24-hour Emergency Animal Disease Watch Hotline on 1800 675 888.
4. Keeping cattle

The basics
Cattle are animals in the ruminant family. This gives them a complex digestive system that allows them to eat food such as grass and hay which is unsuitable for other animals. The bacteria in their stomachs break this food down into digestible components that the animal can then use. An average adult cow weighs around 4-500 kg, a bull significantly more and a baby calf around 40 kg at birth. A cow’s pregnancy lasts about nine months.

Health and disease
Australia is currently free from many devastating cattle diseases such as foot and mouth and mad cow disease, which are found elsewhere in the world. Local Land Services’ District Vets and Biosecurity Officers are trained to respond to animal disease emergencies and can provide advice on disease threats and worming and vaccination programs. We are especially keen to know about

- sudden deaths
- neurological signs
- abortion storms
- blisters around the mouth and feet
- red urine
- yellow membranes

Animal Welfare
Livestock owners have a duty of care to their animals which includes treatment for parasites, diseases and injuries, providing sufficient food and water, shelter and adequate fencing.

Stock Feed
It is illegal to feed animal material such as meat and bone meal, fish meal and feather meal to ruminants (cattle, sheep, goats or deer). Doing this could cause mad cow disease.

Internal Parasites
Many worms affect cattle including gastrointestinal worms and liver fluke. Chemical options to control worms use drenches. Non-chemical options include improved nutrition and worm-safe pastures for young cattle. Well-fed animals develop better immunity to resist the effects of worms. Young cattle are most at risk. Other at-risk animals include bulls, first-calf heifers and sick or severely-stressed animals.

Vaccinations
Prevention is better than cure. Recommended vaccines include

- 5 in 1 vaccine - is essential, inexpensive and protects against many causes of sudden death (e.g. blackleg and pulpy kidney)
- 7 in 1 vaccine - is strongly recommended as it also protects against leptospira bacteria (which can infect humans).

Vibriosis is one of the most significant infectious venereal diseases affecting cattle in Australia, causing infertility and abortion. All bulls should be vaccinated against this disease.

Poisonous Plants
Many plants are toxic to stock. Generally cattle will not eat poisonous plants unless there is insufficient pasture. However cattle grazed on unfamiliar plants are at high risk. Common poisonous pasture species include

- nightshades
- fireweed
- bracken Fern
- St. John’s Wort
- green cestrum
- poison peach
- mother-of-millions
- lantana
- kikuyu
- Brassica species

Some pastures such as kikuyu and Brassica species cause problems if dominant. Contact your Local Land Services office on 1300 795 299 for more information about plants poisonous to cattle.
5. Keeping sheep and goats

The basics
Like cattle, sheep are ruminants with a similar ability to use low quality feed. An average female sheep weights around 50-70 kg (varies with breed). Rams will be significantly heavier. Lambs mostly weigh 3-5 kg at birth. The gestation period is about five months. Goat biology is generally similar to that of sheep though they often prefer to browse shrubby plants rather than graze and are much more mobile and harder to contain with fencing.

Health and disease

Internal parasites
If you own sheep, worms are your biggest and most expensive disease risk. The barber’s pole worm (Haemonchus contortus) is the most dangerous internal parasite. It sucks blood and can kill your sheep. Worm infection is a significant animal welfare issue.

Drench resistance in worms is also a problem. Resistant worms are caused by “breeding your own” through overuse of drenches or via stock transfer. To combat the risk of buying in resistant worms use a quarantine drench (given when the animals first arrive on your farm) with a combination of three to four unrelated active drench groups.

Young sheep and sheep under stress (e.g during late pregnancy, lactation, drought or with winter feed shortages) are most susceptible to worms.

Four components of an effective worm control program are
› drenching (including regular monitoring with WormTest and DrenchTest)
› nutrition
› grazing management
› breeding worm-resistant sheep.

Vaccinations
The 5 in 1 vaccine protects against Clostridial diseases (see section on cattle) the most important being Enterotoxaemia (pulpy kidney) which can cause death particularly if on lush or supplementary feed. Greater Sydney is a high-risk region so boosters should be given every six months.

The 6 in 1 vaccine also protects against Caseous Lymphadenitis (CLA or cheesy gland) which causes abscesses.

Goats can have severely adverse reactions to some vaccines used for sheep so be sure to only use vaccines registered for goats.

Poisonous plants
The types of plants toxic to sheep and goats differ from cattle. They have different grazing habits and may be more resistant to toxic plants (e.g sheep and goats are often used to control fireweed as they are less susceptible to its toxin).

Other diseases
Lameness in sheep could be a sign of footrot which is a bacterial disease. Lice are another common problem and typically cause chronic rubbing and itching. If you see signs of either of these diseases you must report them immediately.
6. Keeping pigs

The basics
Pigs are monogastric animals and although they are excellent feed converters, they require good quality, fresh food appropriate for their age. It is important to feed pigs food that is ‘clean’, not mouldy or contaminated with any antibiotic or pesticide residues.

SWILL Feeding
It is illegal to feed pigs food scraps (“swill”), meat, meat products or anything that has been in contact with meat (including discarded cooking oils, meat trays and take-away food containers). Feeding infected food scraps could cause foot and mouth disease, African swine fever, classical swine fever and swine vesicular disease.

Health and disease
Disease prevention requires daily inspection of all animals, by walking into the pen and standing the animals up to identify lame or sick animals.

Common health problems include

› diarrhoea, commonly caused by bacteria such as E. coli, particularly if pigs are too cold or too hot and in draughty/wet conditions
› injuries such as skin lesions may act as an entry point for diseases and cause infection (e.g. erysipelas) or inflammation
› lameness which may be due to inadequate flooring or be a symptom of infectious disease (e.g. Streptococcus)
› claws that are too long
› parasites can affect pig welfare causing discomfort, pain, poor feed conversion and economic loss, including external parasites such as mange (mites) and lice and Internal parasites such as roundworms and tapeworms.

Disease transmission
Pigs can transmit zoonotic diseases such as viruses to humans and vice versa. Simple biosecurity measures such as wearing protective gear and good hand washing practices can minimise your risk. Avoid close contact with pigs that appear unwell and avoid contact with pigs if you are experiencing flu-like symptoms.

Reproduction
Using your own stock for breeding is recommended. However if you are borrowing a boar from a friend or neighbour, remember to quarantine all new stock for 21-28 days before introducing them to your herd. This means knowing when your gilt or sow will be on heat and planning ahead.

Feral pigs - beware!
It is illegal to keep or transport live feral pigs. A feral pig is generally defined as a pig that has lived in the wild. They often demonstrate wild and erratic behaviour, as distinct from domesticated pigs, and will usually have some or all of the following morphological features; long coarse hair, elongated snout, sloping hindquarters.

Land managers have a responsibility to control feral pigs on their property. Greater Sydney Local Land Services can help with feral pig management. Report sightings to Greater Sydney Local Land Services on 1300 795 299.
7. Keeping horses

In September 2012 it became a legal requirement in NSW for any property on which a horse is kept to have a Property Identification Code (PIC). It helps our staff assist you and your stock during natural disasters and disease outbreaks such as the equine influenza outbreak that occurred in 2007. You can obtain a PIC application by contacting Local Land Services or download one from our website at www.greatersydney.lls.nsw.gov.au/livestock/pics

Health and disease

Vaccinations
All horses in the Greater Sydney region should be vaccinated against tetanus and Hendra virus. Other vaccinations such as strangles and equine herpes virus are recommended in certain situations.

Hendra virus
Hendra virus can spread from flying foxes to horses. On rare occasions, it has spread from infected horses to people. While there have currently been no cases of Hendra virus in horses in Greater Sydney, flying foxes found in the region have been infected. Horses should not be fed or have water supplied under trees where flying foxes roost. Vaccination is the best way to reduce the risk of Hendra virus infection in horses and people.

Introducing horses
There are many diseases that can be introduced to a property with the arrival of a new horse. Always

› consider a pre-purchase examination by a veterinarian
› isolate new arrivals from resident animals for 28 days and during this time check new arrivals twice daily for signs of disease
› treat introduced horses during the quarantine period for worms and external parasites if required and handle, feed and water them last using separate equipment.

Horses entering from Queensland are subject to entry restrictions due to cattle tick.

Equine Landcare
Greater Sydney Local Land Services supports horse owners in the region through our Equine Landcare program. The program includes training and resources to help you maximise the health of your land and your horses. Find out more on our website www.greatersydney.lls.nsw.gov.au/our-region/community-groups

Going to events
Events such as shows, campdrafts and pony clubs where a large number of horses from many different properties come together, have the potential to spread infectious diseases. There are some simple steps you can take to reduce the risks

› monitor your horse’s health prior to the event and do not take any horses showing signs of illness
› do not share feed and water containers or gear
› avoid nose-to-nose contact with horses from other locations.

Pictured: Attendees at a horse event.
8. Keeping poultry

The basics
Poultry are birds farmed for meat, eggs or feathers. Most are members of the Galliformes group (chickens and turkeys). There are many breeds of egg laying chickens in Australia. Some include Australorp, Ancona, Silkies, Orpington, Rhode Island Red and Sussex.

Housing
A quality coop (shed) is essential to backyard chicken production. Layers need nest boxes – one per 4-5 birds. Have a minimum 3-5 square feet per bird including outdoor space. Their main predators are foxes and cats. An enclosed space for them to stay at night is essential for their protection.

Egg production
Hens begin laying around six months of age, this can continue for 5-10 years. Peak production occurs in the first two years. Hens need 12-14 hours of daylight to continue laying.

Vaccination
Vaccination is essential for keeping poultry. Following is the recommended vaccination program. Small doses of vaccines available.

<table>
<thead>
<tr>
<th>Age</th>
<th>Vaccine / disease</th>
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<tbody>
<tr>
<td>1 day</td>
<td>Marek’s disease; Live Newcastle disease</td>
</tr>
<tr>
<td>Within 1 week</td>
<td>IB (Infectious Bursal Disease)</td>
</tr>
<tr>
<td>2 weeks</td>
<td>Fowl pox; Infectious Laryngotracheitis (ILT)</td>
</tr>
<tr>
<td>3 weeks</td>
<td>Live Newcastle disease</td>
</tr>
<tr>
<td>5 weeks</td>
<td>IB</td>
</tr>
<tr>
<td>8 weeks</td>
<td>Fowl pox</td>
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<tr>
<td>9-10 weeks</td>
<td>ILT</td>
</tr>
<tr>
<td>11-12 weeks</td>
<td>IB</td>
</tr>
<tr>
<td>14-16 weeks</td>
<td>Live Newcastle disease (replacement birds)</td>
</tr>
</tbody>
</table>

Regulations
Raising backyard chickens may require a permit from council. If you have more than 100 chickens you require a Property Identification Code issued by Local Land Services. If you sell eggs or meat there are additional regulations which can be found on the Food Authority NSW website. www.foodauthority.nsw.gov.au/industry/

Health and disease
Healthy birds are active and alert with bright eyes. They move around – pecking, scratching and dusting – except on hot days when they seek shade. There are many poultry diseases in Australia. Some of the most common are Marek’s disease, Fowl pox, parasites such as mite, stickfast flea, worms (ascarids) and coccidia. Exotic diseases such as avian influenza and Newcastle disease are notifiable and must be reported.

Diet
Chickens are omnivores. They eat grain, fruits, vegetables and insects. Chickens should be fed a prepared feed, balanced for vitamins, minerals and protein. A laying hen diet also needs crushed oyster shell or a similar calcium source for egg production and grit for digestion.
9. Pest control

Many pest animals such as wild dogs, foxes, wild rabbits and feral pigs cause significant damage to crops, seriously affect our livestock industries and threaten the survival of many of our native plants and animals. The negative impacts of pest animals in Australia is estimated at more than $720 million each year.

Evidence of pests on your property includes livestock and wildlife predation, soil erosion such as rabbit warrens and scratchings, fox dens or feral pig wallows, middens (faecal mounds) and the spread of weeds.

Planning pest control

Pest animal control is most effective when done in collaboration with your neighbours - a coordinated approach will usually give the best results. Monitoring the presence of pest animals using trail cameras or via tracks, scats or reduced predation is also important to know if the program has achieved its intended outcomes.

Before you begin a pest control campaign you should

› report pest sightings to Local Land Services and find out if there are any programs planned or underway in the area
› check your supplies and ensure your chemical training is up to date. Our Biosecurity Officers regularly offer landholders an accredited training course to use bait products including 1080 and pindone
› check with neighbours and adjoining areas of vegetation for evidence of pests and diseases.

Stopping new pest species

If you become aware of unusual animals (such as non-Australian reptiles) living in the wild or being kept illegally please report this as soon as possible by calling 1800 680 244 or emailing nia.managemet@dpi.nsw.gov.au. Your input could help stop new pest animals being established and/or introducing diseases.

Control methods

Pest animal control methods vary depending on the target species, location, terrain and specific animal behaviour. Common methods include

› baiting (with 1080 or pindone)
› bio-controls (such as calicivirus)
› cage or leg-hold trapping
› shooting
› exclusion fencing
› guardian animals
› harbour removal and den/burrow destruction.

FeralScan

FeralScan is a ‘citizen science’ program designed to support landholders and community groups with feral or pest animal problems. The program allows pest animal observations to be mapped, as well as damage such as sheep or poultry attacks caused by pest animals to be recorded via a smart phone app or the website www.feralscan.org.au.

Orangeville resident Eric Rudd is one of 30 local landowners who regularly participates in our coordinated wild dog baiting campaign in the South West. “Without the ongoing support I truly believe wild dogs would have put me out of business by now,” he said. Eric is pictured (right) on his property with our Senior Biosecurity Officer Lee Parker.
10. Caring for your land

Good practices on your property will benefit you, the environment, the prosperity of our region and minimise the impact of biosecurity threats such as noxious weeds, pest animals and diseases.

Soil

Soil is a valuable resource. It supplies the nutrients for pastures, crops and the growth of native species. Degraded soils are more prone to weed invasion. To minimise erosion and retain topsoil

› maintain at least 70 percent ground cover at all times
› rotate stock between grazing paddocks and avoid over stocking
› cultivate along contour lines and avoid over cultivating
› retain crop stubble, grow green manures and mix in manure, mulch and compost.

Soil acidity, salinity and sodicity are other common soil problems that can be intensified by agricultural practices.

Maintaining healthy native vegetation along waterways and excluding stock from these sensitive areas will help stabilise banks, reduce fertiliser and soil loss, and lower the threat of weed invasion.

Native plants and animals

Greater Sydney contains a wide range of important native ecosystems, plants and animals in estuary, coastal valley, riverine and sandstone plateau environments. There are many threatened plant, animal and vegetation communities in our region.

Trees can increase productivity by providing shade and shelter for stock, windbreaks for crops and pasture, habitat for native wildlife and by stabilising soils. Areas of remnant vegetation should be left intact to protect these values. Native vegetation can be re-established to restore degraded properties. Planting local species which are already adapted to the local environment can provide habitat value for local wildlife. There are many other habitat elements you can install in your bushland, dams and waterways to provide fauna-friendly homes.

For more details information on sustainable land management in the Greater Sydney region contact Greater Sydney Local Land Services on 1300 795 299 or download our Rural Living Handbook via our website www.lls.nsw.gov.au/greatersydney/resource-hub

Funding Opportunities

Greater Sydney Local Land Services can assist landholders, land managers and community groups with funding to implement national resource management and sustainable agriculture projects that align with our Strategic Plan. Contact us on 1300 795 299 for more information.

Water

Managing water resources is important both on and off your property. Water efficiency is key to minimise costs and maximise water quality to benefit you, your property, stock and downstream users. Legislation, policies and licenses apply for constructing farm dams and pumping from streams and groundwater for irrigation. For more information visit www.water.nsw.gov.au

Central Coast landholder Alison Wade approached Greater Sydney Local Land Services for help with her property management. She received funding to protect 600m of steep creek banks to lower the risk of stock injury and siltation. She also received help to control lantana and other weeds that were threatening the bushland values on her property. Alison is pictured on her property with Senior Land Services Officer Dan Keating.
11. Controlling weeds

Weeds can have a devastating impact on agriculture and ecosystems. They can also cause severe illness in both people and animals. They smother native vegetation, outcompete native plants for space, light and water, alter fire patterns, water flow, nutrient cycling and fauna diversity. Aquatic weeds can kill marine life by depleting oxygen from water. Many weeds are highly invasive and can quickly overtake land.

Our Regional Strategic Weed Management Plan sets priorities for weed control in Greater Sydney. It lists state and regional priority weed species with actions including elimination, containment and asset protection as required on a weed and locality basis. Local councils lead on-ground weed control and are the first point of contact for landowners. Download our Regional Strategic Weed Management Plan at www.greatersydney.lls.nsw.gov.au/resource-hub/publications/

Weeds can be introduced or spread in many ways, including

› sowing seeds, stock feed, animals, machinery, water or wind
› deliberate introduction, e.g willows planted for bank stabilisation
› soil disturbances such as clearing native vegetation.

What should you do?

If you grow or distribute plants or have weeds on your land you have a duty to manage and minimise their spread. It is important to control weeds before they seed or spread. After rain and during spring are key times for weed control. If you notice weeds on your property or in your region

› check “weedwise” weeds.dpi.nsw.gov.au or “grow me instead” www.growmeinstead.com.au for tips on identification, weed management and alternative planting options
› consider integrated weed management options such as strategic grazing, pasture management, avoiding bare soil, herbicides, biological control agents, cultivation, slashing, mulching and hand pulling
› notify your local council weed officer if a new weed is detected or if control is not working

Tech assets for combating invasive weeds

Two apps have been designed specifically for weed management in the Greater Sydney region.

› Environmental Weeds of the Sydney Region is an off-line smartphone app designed to help users with weed identification and control. Special features to increase identification accuracy include a simple diagnostic key based on plant features and lists of native plant ‘look-alikes’. Available through the app store or google play.
› Sydney WeedAPP is a web-based tool that allows users to view maps of the known distributions of different weed species, thereby enhancing identification accuracy and allowing movement of invasive species to be tracked. Available on the Greater Sydney Local Land Services website at www.lls.nsw.gov.au/greatersydney/resource-hub/web-tools

These apps are designed to help with endemic weed management and promote early reporting of highly invasive weeds so containment and/or eradication work can be undertaken as soon as possible.
12. Protecting your plants

If you own a farm or nursery you play a key part in protecting your industry. Below are six simple, routine practices you can employ to reduce the threat of new pests entering and establishing on your property.

1. Be aware of biosecurity threats
Routinely monitor for pests and identify risks. It is important to be aware of the pests, diseases and weeds in your region and those found in and around your property. Conduct an induction to explain required hygiene practices for people, equipment and vehicles on your property. Information on high risk plant pests is available on the Plant Health Australia website www.planthealthaustralia.com.au.

2. Use only clean, pest-free and preferably certified materials
Ensure pests and other contaminants do not enter your property via soils, fertiliser, seeds and seedlings. Purchase only from reputable suppliers, preferably with industry certification. Keep records of your inputs and record the source, testing and treatments applied to all material including where it is deployed on your property.

3. Keep it clean
Practice good sanitation and hygiene to prevent entry and movement of pests onto your property. Workers, visitors, vehicles, raw material and equipment can spread pests. Make sure they are cleaned before entering and leaving your property. Provide vehicle and personal disinfecting facilities in a designated visitor’s area. Ensure you apply this to all visitors including contractors, utility staff and overseas travellers.

4. Routinely check your property for pests, diseases and weeds
Monitor your plants and raw materials frequently. Knowing the usual appearance of the plants on your property helps you recognise new or unusual events and pests. It helps to keep written and photographic records of all unusual observations.

5. Abide by the law
Know and respect the laws designed to protect plant industries. The Biosecurity Act 2015 requires any person dealing with biosecurity matter (including plants) to ensure biosecurity risk is prevented, eliminated or minimised.

6. Report anything unusual
The vigilant eyes of Greater Sydney’s gardeners are needed to ensure our region stays free of the pests and diseases found in other countries. If you suspect something report it immediately. Call the Exotic Plant Pest Hotline on 1800 084 881.

Emergency plant pest alert

**Tomato potato psyllid**

Tomato potato psyllid (TPP) is a damaging pest first detected in Australia in 2017. Psyllids (jumping plant lice or lerp insects) are sap sucking insects that attack many crops (e.g. tomato, potato, eggplant, capsicum and chilli). They can also spread a bacterial disease called ‘zebra chip’.

NSW issued Control Orders to restrict importing TPP carrier plants. Growers need to assist in surveillance for TPP to keep it out. Nymphs or adults are often found in the middle of the plant. Eggs are likely to be found on the edges of young leaves at the top of the plant. Look carefully at the underside of the leaves. Honeydew (white crystals) and sooty mould may be seen. Signs in plants include wilting, yellowing of leaf margins and leaf rolling, fruit deformity and ants (foraging for honeydew).

Pictured below: Tomato crop harvest; Right (L-R): Eggs on underside of tomato leaf, plant infected with TPP.
13. Have a property emergency plan

Every year flood, fire and other natural disasters affect people’s lives and cause millions of dollars in property damage. Being prepared saves lives and helps you and your family make better decisions when disaster strikes. For information on how to get ready and to keep informed visit www.emergency.nsw.gov.au

Who does what in an emergency?

› NSW Rural Fire Service (RFS) is the lead agency for bushfires in NSW www.rfs.nsw.gov.au

› NSW State Emergency Service (SES) is the emergency and rescue service for responding to floods, storms and tsunami in NSW www.ses.nsw.gov.au

› NSW Police Force coordinates emergency and rescue operations www.police.nsw.gov.au


Before you start

Ensure you lodge your Annual Return of Land and Stock by 31 August each year. Having an accurate record of stock on your property is vital in assisting us and other authorities help you and your animals in the event of emergency.

Have you planned for your animals in an emergency situation?

If your property is flood prone, your emergency plan should include details of

› where you will move your stock - is there high ground?
› how and when to move your stock
› if you have to leave, how you will ensure your stock have food and water.

If your property is at risk from fire, your emergency plan should also detail

› the need to move stock to less fire prone paddocks on days of extreme fire danger
› the safest places to leave your stock if you have to vacate your property.

Your emergency plan should identify options for transporting animals off your property if you need to move them. You will need to consider the time, resources and equipment needed to do this as well as any equipment that may be required at the destination. Have a packed kit ready to go.

Do you have friends or family that could assist with agistment of your stock in an emergency? Consider that in a fire or flood event roads may be closed and/or property access limited, so plan ahead and act early.

For more information on how to get ready as well as smartphone apps visit www.emergency.nsw.gov.au/for-the-community/before-an-emergency

Be prepared!

Having a flood or fire plan ready before an event happens makes it much less stressful for both you and your animals.
My records

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<th>Details</th>
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Useful contacts

- **Rural Fire Service Information Line** (In an emergency call 000) 1800 679 737
- **SES** 132 500
- **RSPCA** (02) 9770 7555
- **Rural Assistance Authority** 1800 678 593

Image Acknowledgments
- Red imported fire ant (page 5) courtesy of QLD Department of Agriculture and Fisheries
- Asian black spiny toad (page 5) courtesy of Victorian Department of Economic Development, Jobs, Transport & Resources
- Equine influenza (page 5) courtesy of NSW Department of Primary Industries
- Myrtle rust (page 5) courtesy of NSW Department of Primary Industries
- Mother-of-millions (page 13) courtesy of NSW Department of Primary Industries
- Tomato potato psyllid (eggs) (page 29) courtesy of Western Australian Agriculture Authority (Department of Primary Industries and Regional Development)
- Tomato potato psyllid (leaf) (page 29) courtesy of Whitney Cranshaw, Colorado State University

Reporting

- 24-hour Emergency Animal Disease Watch Hotline (free local call) 1800 675 888
- Exotic Plant Pest Hotline for plant or honey bee pests and diseases (including new weeds) 1800 084 881
- Local Land Services 1300 795 299
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Penrith Westfield 2750
Ph: (02) 4724 2100

Email: gs.service@lls.nsw.gov.au  |  www.lls.nsw.gov.au/greatersydney

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Camden Saleyard
Sale days (Tues / Weds)
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30 Edward St, Camden.