Landholder Flood Recovery Advice

We help grow and protect
1300 795 299
Introduction

NSW Department of Primary Industries, Local Land Services and other agencies provide a vital support service in emergencies where agriculture and animals are impacted.

Operating under a joint Emergency Management Strategic Plan, North Coast Local Land Services assists Department of Primary Industries across a wide range of emergencies, including natural disasters such as flood, storms and bushfire, and biosecurity events involving plants and animals.

Responding to a flood emergency

NSW Department of Primary Industries and North Coast Local Land Services are key links in the development of resilience to emergencies. We provide useful information and advice to landholders about property planning and preparedness for an emergency.

There is a wide range of resources available on the internet on how to be prepared for and respond to emergencies such as floods, including many on the North Coast Local Land Services and Department of Primary Industries websites.

With water lying about there are heightened animal health risks. Floods always move weeds across the landscape, including new or invasive species. Inundation and flooding creates a range of pasture management issues. Mosquito numbers will be high, and general health and well-being of farming families needs to be at the top of the list to think about.

This Landholder Flood Recovery Advice provides some useful information to assist in recovering from the flood event. The contributors, North Coast Local Land Services, NSW Department of Primary Industries and the NSW Rural Financial Counselling Service, can be contacted for further assistance.

Pasture health and survival after flooding

Brendan O'Brien and Nathan Jennings, Senior Land Services Officers (Agricultural Advisory)
North Coast Local Land Services

Flooding will affect pastures in different ways depending on:

- The time of year the flood occurred
- Length of time pasture was under water
- The flow rate of the water
- The amount of silt and debris covering the pasture
- Pasture species and the soil type
- Therefore, an assessment of pasture after floods needs to be considered on a paddock-by-paddock basis to determine the most appropriate recovery strategy
**Time of year the flood occurred**

**Summer Flood**
Can cause the most significant damage to the tropical pasture species most commonly grown on the north coast. Some of the worst pasture losses occur when there is water lying across paddocks and the ambient temperatures are high. January 2008 & 2011, saw large areas of rhodes grass, kikuyu and panic pasture killed around Casino from 2 – 3 days of these conditions. Species most tolerant to summer flooding are Setaria, paspalum, couch and carpet grass provided they are not completely inundated, Setaria survived shallow flooding for up to 5 days in the 2008 and 2011 summer floods. Providing the pasture hasn’t been killed completely with good management recovery can be reasonably quick.

**Autumn Flood**
Depending on the timing of the autumn flood losses can be similar to a summer flood or a winter flood if the flood was late autumn. The main issue here is that tropical pasture species such as Kikuyu, Setaria, rhodes grass, couch and carpet grass etc. are near the end of their growing season. Depending on the level of damage the pastures have suffered there is very little time for these species to recover prior to becoming dormant over winter so volume of standing feed will be decreased or non-existent in the coming winter. However if these species have survived the flood they will provide the quickest recovery to a grazing. The Tweed Lismore flood in late March 2017 saw a mixture of slight pasture damage with rapid recovery for those who had water move off the farm fast, through to total pasture kills of even setaria and couch where the water lay for 14+ days combined with warm temperatures. As autumn is normally the main season for sowing pastures on the north coast (both tropical and temperate species), replanting is much easier, so follow normal autumn sowing guidelines in terms of species and seeding rates.

**Winter Flood**
Pastures inundated for a short period during winter are often unharmed provided they aren’t covered with excessive silt. Many pastures survived the June floods near Lismore in 2016 satisfactorily after 10 days of shallow waterlogging. Tropical species that are dormant will experience a further rapid decline in feed quality, and may be refused by grazing stock until some green leaf begins to re-grow. Setaria appeared to recover the quickest of all the tropical species as its also one of the more cold tolerant tropical grasses, however recovery was still slow as plant growth rates are for all tropical species during winter. Ryegrass is moderately tolerant to flooding with speed of recovery often a function of soil fertility. The issue with a winter flood is that replanting options are limited to temperate species, the low temperatures will also mean that any planted temperate species may take up to 12 weeks before grazing is possibly and this may be well into spring.

**Spring Flood**
If tropical pastures such as kikuyu, paspalum or setaria have survived the flood, allowing them to regrow will provide the quickest recovery option. This is because it is the start of their normal growing season, so as temperatures increase, combined with the available moisture, these species will recover quickly. A topdressing with a nitrogen fertiliser after the area has drained and is no longer waterlogged will promote faster regrowth.

The length of time pasture was under water is not the only factor to consider when assessing the degree of pasture damage. A combination of factors including soil type, speed of water flow, the water quality, and water depth all contribute to varying levels of pasture damage. However, the longer the pasture is under water the greater the potential for severe pasture damage /losses.

Light free draining soils will allow a quicker pasture recovery. Heavy soils and soils with poor structure such as slaking, dispersion, hard setting or compaction will be impacted the most. It is not the flood but the waterlogged soil that impacts plant survival.

Waterlogging conditions produce an anaerobic root environment that changes the soil chemistry, releasing toxic levels of manganese, aluminium and hydrogen sulphide, causing root death. Waterlogging also reduces the availability of key soil nutrients for pasture growth such as nitrogen and phosphorus this further increases the chance of pasture losses and/or slow recovery.
Depending on your location in the catchment area, the speed the flood water moved over your land can also effect pasture recovery potential, providing the soil has not eroded, the quicker the water moved over the farm, the better the pasture recovery. The slower the water moved (the longer it lays over pasture,) the more silt and mud is likely to be deposited on the pasture and the slower the pasture recovery will be.

The taller the pasture was when it was flooded the slower recovery is likely to be, this is due to the taller material catching more sediment, which then falls over and smothers new emerging shoots. This material is seldom palatable to cattle.

Assessing pasture damage

Damage to pastures can range from minor sediment deposition, through to deep sedimentation of silt, sand or gravel deposits on pastures, erosion of topsoil, scalding and total loss of existing pasture.

Of the number of aspects to consider, first is an assessment of how many of the desired plant species have survived. For some this simply involves making a visual assessment, but for others it may require a count of desired plants still alive per square metre.

Timing of the assessments may need to be staggered over a number of weeks, as pasture growth can be depressed for several weeks as plant roots re-establish.

Recovery options in general suitable for all seasons

Often the first step and many have already undertaken this as a result of the actual flood, is to reduce grazing pressure/remove stock. Stock will chase green material and constantly take new shoots in preference to silt covered older vegetation and cattle can cause significant damage from pugging up the ground due to their weight.

The taller the pasture was when it was flooded the slower recovery is likely to be. One option is to consider slashing/mulching this material as soon as machinery can access the paddock without causing excessive disturbance. However as temperatures cool down pasture growth rates for tropical species also slow, therefore a slashed/mulched paddock will still take some time to recover. It will however recover quicker than leaving very tall silt covered vegetation smothering new shoots.

Flooding usually causes significant loss of nitrogen from the soil. Most grass dominant pastures will be nitrogen deficient after a flood. Broadcast applications of Nitrogen based fertilisers will assist in speed of recovery.

Following a flood the main soil nutrients to be concerned about are nitrogen and phosphorus. Heavy rainfall and waterlogging causes nitrogen to be lost from soil due to a combination of runoff, leaching and denitrification and this will limit growth from grass pastures which survive the flood. Topdressing forage crops or actively growing pastures with a nitrogen fertiliser such as urea will give the best response. Phosphorus (P) undergoes a range of reactions in waterlogged soil, so depending on your soil P status pastures may also benefit from some additional P fertiliser. Take time to consider the time of the year and pasture species the fertiliser is intended for. Dormant tropical species in winter will seldom benefit in a large way from a winter fertiliser application, it will be more beneficial to hold this fertiliser application until conditions warm up and the species are more actively growing to make better use of the additional fertiliser.

What if I do nothing?

Before deciding to do nothing, consider the longer term effects, in that if you do nothing to flooded pastures you will likely find that in time, tolerant species such as couch grass will come back first. Annual grasses and broadleaf weeds will establish from self-sown seed. This may mean that the longer term carrying capacity of the paddock/s will be lower than when they had more productive pasture species dominating.
Replanting options

Replanting options – Summer
If the flood is early in summer consider spring planting options with shirohie millet which is often a cheap quick option, but is only a short term forage crop. If the flood is later in summer then it is best to wait and undertake normal autumn options. Most tropical pasture species such as seteria, rhodes grass, panic pasture, paspalum, creeping blue grass can be planted if forecast day temperatures are not likely to exceed 35 degrees while the young seedlings are germinating.

Replanting options – Autumn
Autumn is normally the main season for sowing pastures (both tropical and temperate species,) so follow normal autumn sowing guidelines in terms of species and seeding rates. Soft, wet ground will present challenges for some in using traditional seeding equipment, consider broadcasting seed, with suitable machinery especially if there is still soft mud/silt present and no crust has formed on the surface.

Tropical pasture species planted at this time of year should be considered more of a renovation option and not likely to provide significant winter feed for this year. Treat these as an option for paddocks you feel have a low population of desirable species, and you plan to have these available for the coming summer.

For those who feel they will require some winter feed, a temperate pasture species e.g. ryegrass, oats, chicory and forage brassicas, will provide the best opportunity to achieve this. Forage brassicas will provide very quick feed, and can be over-sown with ryegrass after the first grazing. With ryegrass, the larger seeded tetraploid types will produce feed faster than long season types. Long-season varieties can be slower to produce feed but may last longer into the spring (with irrigation), consider the price difference, especially beef producers who may need to plant large areas.

Planting can commence as soon as there is no water lying on the ground, and only if stock can be removed for at least six to eight weeks to allow these species to germinate & grow. Forage brassicas, rye-grass, chicory, and clover can be established by broadcasting. Oats, barley and forage triticale will provide slightly quicker feed than rye-grass but the larger seeds are less suited to broadcasting and are more susceptible to water logging. When broadcast seeding increase planting rates for most species about 20% above direct drilled rates.

Replanting options – Winter
The main options are the temperate species such as ryegrass, oats, barley and some brassicas. The problem is that with low temperatures these new-sown pastures are unlikely to provide significant grazing for 8–12 weeks, i.e. not until August/September, and then continued spring growth will depend on pasture variety and continued spring rain. Ryegrass is the main option for sowing before the end of July. Seed could be broadcast into flood mud; expect to wait at least 8 weeks before full grazing (3 leaf stage). A light grazing could be possible earlier but this will affect overall establishment and re-growth potential. Oats and barley would provide quicker feed than ryegrass (possibly 6 weeks) but they are a larger seed and less suitable for broadcast seeding and they are both sensitive to water logging.

Replanting options – Spring
If the flood has killed existing pastures or crops then shirohie millet is the first of the spring/summer crops to be sown. Shirohie can be sown when 9 am soil temperatures rise to 14°C, usually in September. Shirohie seed is usually cheap and could be broadcast if the weather is mild. Broadcasting seed is more risky in warmer conditions as the soil or flood mud will dry and crust quicker with increasing temperatures. When morning soil temperatures exceed 16°C forage sorghums may be sown. Being a larger seed they should be drilled 1 to 3 cm into the soil. Cowpeas and other summer forage legumes including lab lab or soybean can be sown when morning soil temperatures are 20°C. They also have large seeds and are generally sensitive to waterlogging. Cowpea is the most sensitive and soybean more tolerant of waterlogging.
Act quickly to control weeds

Julie Dart, Nathan Jennings and Brendan O’Brien – Senior Land Services Officers (Agricultural Advisory), North Coast Local Land Services

Floods are often followed by outbreaks of both new and common weeds. Seeds and regenerative weed pieces can spread across the landscape in floodwaters.

Stock that has spent time off the farm on flood refuges may have been exposed to new weeds. Weed seeds may also be present in purchased hay and silage.

It is good biosecurity practice to isolate returning stock in a quarantine paddock for up to 7 days so they can shed any weed seeds, and feed out any purchased forages in a set paddock to minimise the spread of any seeds. Regular checks and follow up weed control in the quarantine zone is important.

Bare eroded soil and areas of deposited silt are also at significant risk of weed invasion. Depending on the time of year, these can be renovated by broadcasting pasture seed into the moist soil.

There is an excellent web-based index that can help you to identify noxious and environmental weeds in NSW. The website also lists current chemical control options for each weed weeds.dpi.nsw.gov.au/. “NSW WeedWise” is also available as a free smartphone app for both Apple and Android operating systems-perfect for the paddock!

Some major weeds to look out in our region follows.

Tropical Soda Apple - *Solanum viarum*

Also known as “the weed from hell" this member of the Solanaceae family is a state prohibited weed that occurs along several major rivers in our region.

If this plant is suspected on your property or you observe it elsewhere, you must notify your local weed control authority within 24 hours. They can help you with identification and a plan to control the weed.

The weed is spread when cattle eat the fruit and by movement in water. The sticky seeds can also be introduced in baled fodder and on the coats of stock and feral animals. Seed germination is enhanced by ruminant digestion and seedlings are often found growing in manure.

It is difficult to control and can rapidly spread into dense, prickly thickets that make pastures inaccessible, reducing pasture productivity by up to 90%.

Avoid introducing TSA by using quarantine zones for stock and purchased feed and regularly checking flooded areas for seedlings.

Colombian Waxweed - *Cuphea carthagenesis*

Colombian waxweed is a common weed in the Northern Rivers, and is found on the floodplain in moist areas. It is a problem because it overgrows pastures and is not eaten by stock. It is easily spread via floodwaters, and the sticky seeds are easily spread on the coats of grazing stock and on farm vehicles.

Body condition loss is common in cattle grazing on heavily infested pastures, as they will avoid eating the weed.

An AVPMA minor use permit (PER82650) can be used to control the weed using herbicides.
Smartweeds/Water Pepper – *Persicaria spp*

Most are native plants that naturally occur in damp areas of soil on the margins of streams, farm dams and low lying areas. They are important wetland species that help to stabilize soil and will often come up after flood disturbance.

Local farmers have long suspected smartweeds as the cause for photosensitization of cattle when pasture is in limited supply. On the Northern rivers *P. hydropiper* has been observed to cause grazing animals distress with initial symptoms including head twitching/throwing with the neck fully extended, feet stamping & tail swishing with animals trying to lick their nose repeatedly. 3-5 days later skin lesions appear on the nose, ears and udder. Young cattle are commonly affected. Severely affected stock can slough off large areas of white coloured hide.

See the North Coast Beef Health & Husbandry book for more information on managing affected animals. Avoid grazing hungry stock on paddocks with large patches of the weed. Known hotspots can be temporarily fenced off, slashed, or sprayed with an approved group B or I herbicide according to label directions.

**Tree of Heaven - *Alianthus altissima***

Tree of Heaven is an environmental weed tree on the north coast. It is often spread in floods. If it is not controlled it can grow into dense thickets. It should not be slashed, as this encourages more suckers to grow from the roots.

It is toxic and the sap irritating to humans. Care should be taken to protect the skin and eyes when undertaking weed control activities.

If you see any new plants that may be weeds, you can seek assistance through your local council weeds officer or Local Land Services office for identification and control advice.

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**ALWAYS READ THE LABEL**

*Users of agricultural (or veterinary) chemical products must always read the label and any Permit, before using the product, and strictly comply with the directions on the label and the conditions of any Permit. Users are not absolved from compliance with the directions on the label or the conditions of the Permit by reason of any statement made or omitted in this advisory material.*

*Users of agricultural (or veterinary) chemical products in NSW are required to be trained in their use in accordance with the Pesticides Regulation 2009.*
Caring for livestock in times of flood

Sarah Bolton, District Veterinarian, North Coast Local Land Services

A flood and its aftermath can pose a unique set of challenges for livestock owners. Initially, it is vital that producers prioritize their immediate animal welfare responsibilities by ensuring stock have adequate access to food, water and shelter.

Prolonged wet conditions can lead to significant feed shortages, higher stocking densities and intermingling of groups of animals that would not normally be kept together. Animals are often physiologically stressed, leading to reduced immune system function and have softened feet and skin as a result of prolonged wetting. This combined with better survival conditions for bacteria, biting insects and worm eggs and larvae results in a far higher risk of disease in flood affected stock.

Internal parasites

Exposure and susceptibility to worm eggs and their larvae are increased during flood times. On the North Coast, the majority of problems are caused by Barber’s Pole, Ostertagia, Cooperia, Lungworm and Liver Fluke. In dry times, most adult cattle have sufficient immunity to resist high worm burdens but high stress and other concurrent disease can suppress this. Young cattle are normally prone to high levels of infestation and therefore need to be paid particular attention in wet times.

Gastrointestinal worm infestations can cause scours, loss of condition, and poor growth rates. Barber’s Pole can also cause severe anaemia (pale mucous membranes such as gums, eyelids or vulva) whilst lungworm can cause respiratory disease in addition to reduced production.

Where possible, reducing stocking rates can help reduce the risk of disease whilst faecal and/or blood examinations can be performed to assess the level of infestation. Affected animals should be treated with commercial antiparasitic drugs according to the product label.

Yersiniosis (Flood mud scours)

Flood mud scours is an infection caused by the bacterium *Yersinia pseudotuberculosis*. Infections usually occur when the weather is cool and a large amount of mud covers dry feed. Outbreaks are therefore most commonly seen following a flood in Winter or early Spring. The disease is usually seen in adult cattle and can cause significant numbers of deaths when an outbreak occurs. When found early, affected cattle can be depressed, off their feed, scouring and have a fever. Often, animals are simply found dead.

Treatment of affected animals with antibiotics should be performed in consultation with your regular veterinarian. In the event of an outbreak, affected cattle should be moved to a fresh paddock if possible. The risk of disease can also be reduced by locating supplementary feed away from areas of high mud contamination where practical. Close observation of stock during and after a flood gives the best chance of early detection and treatment and therefore a better prognosis.
Blackleg

Blackleg is the most common Clostridial disease seen in cattle on the North Coast and poses an even higher threat during flood times as a result of increased numbers of infective spores in the environment. The disease is usually seen as sudden death in young cattle (usually between 4 months and 2 years of age). It occurs when bacterial spores from the environment enter the body via ingestion or wounds. The spores then localize in muscle tissue where they lay dormant until the tissue becomes bruised (e.g. from yarding or fighting). In bruised tissue, the bacteria multiply and produce toxins which lead to gas gangrene of the affected muscle, severe illness and rapid death.

Affected cattle may show lameness and depression but more often than not they are found dead. Animals that have died from Blackleg often have gas accumulation under the skin of the upper hind limbs or fore limbs, undergo rapid decomposition and bloating and are usually found lying on their side with the affected leg up. If found alive, treatment of affected animals can be attempted with antibiotics in consultation with your regular vet, however the prognosis is usually poor. Blackleg can be easily and effectively prevented by ensuring all stock are up to date with 5 in 1 or 7 in 1 vaccinations.

Botulism

Botulism is another Clostridial disease that poses a significant threat in the aftermath of a flood. The disease is caused by ingestion of Botulinum toxin that can be found in rotting plant and animal material where it is produced by the bacterium *Clostridium botulinum*. Bones, carcasses, rotting vegetation and silage can all pose a threat and the toxin can be ingested either inadvertently or, in the case of bone chewing, in an attempt to obtain phosphorous in times of deficiency. The toxin causes progressive paralysis which is usually fatal. When first affected, cattle may drool and show paralysis of the tongue. This quickly progresses to being unable to stand and eventually, paralysis of the respiratory muscles leads to death in 1 to 2 days.

There is no successful treatment for botulism but the risk can be reduced by avoiding access to rotting plant and animal material. Bone chewing can also be prevented by ensuring adequate dietary phosphorus. Vaccination against botulism offers reliable protection but it should be noted that this is a standalone vaccine and must be given in addition to the standard ‘5 in 1’ or ‘7 in 1’ vaccines.

Leptospirosis

Leptospirosis is caused by Leptospira bacteria which favor warm, moist environments including water logged soil. Floods that occur in the warmer months are therefore a particular risk. Infection is spread via urine, placental fluid and milk and is contracted through ingestion or contact with wounds or mucosal surfaces including the eyes, mouth and nasal cavity. In young animals, Leptospirosis can present as illness with depression, fever, and bloody urine. Infected older animals can show no signs, but can also experience reduced fertility, late term abortions, still births or reduced milk production in the months following a flood.

Treatment of affected animals can be instituted with antibiotics under veterinary supervision. It is important to note that Leptospirosis is a zoonosis meaning that affected animals can spread the infection to humans. Leptospira infection in humans causes flu-like symptoms which can become life threatening. Vaccinating cattle with 7 in 1 greatly reduces the risk of disease in cattle and therefore the risk of exposure to humans.
**Lameness**

During flood times, persistent wetting of the feet can lead to softening of the hooves and therefore an increased risk of trauma such as bruising and penetration wounds. This can also lead to bacterial infections in the foot itself or the skin of the lower limbs. Where possible, efforts should be made to keep cattle on drier ground if available. Repairing track surfaces, preferencing drier ground, ensuring feed rations have adequate fibre content and that supplementary concentrates are introduced slowly can help to decrease the risk of lameness following a flood event. Lame cattle should be examined and treated by your regular veterinarian.

**Mastitis**

Dairy herds can experience significant outbreaks of mastitis during and after a flood. Often this is a combined result of increased environmental contamination of the teats as well as the physiological stress experienced during inclement weather, reduced feed intake and in some cases missed milkings. Where possible, attempts should be made to avoid using flooded or muddy laneways and paddocks, particularly in calving and freshly calved cows. Minimizing opportunities for cows to lay down in contaminated yards and laneways before and after milking will also reduce the incidence of mastitis.

Daily strip testing, whilst labor intensive, can allow early detection and treatment of clinical cases. Milk samples should be collected from all clinical cases at the time of detection and prior to any treatment. These can be frozen and submitted for microbiological testing at a later date if a poor response to treatment is noted. Dirty udders should be washed and dried thoroughly with a clean cloth or paper towel prior to the application of cups. It is also vital to maintain a diligent and effective teat disinfection regimen.

**Plant toxicities**

The aftermath of a flood can increase the risk of some plant toxicities. This can be due to reduced feed availability forcing grazing of less palatable toxic plants such as Green Cestrum. Toxicities can also be caused by increased prevalence of certain plants following wet weather, as can occur with Noogoora Burr or Smartweeds. It can also occur when cattle are moved to flood reserves or agistment properties and are exposed to weeds they have not previously had access to such as Lantana.

Fodder crops can also pose risks of bloat, grass tetany, cyanide poisoning or nitrate poisoning, particularly in cloudy weather. In the case of suspected plant toxicities it is advisable to move cattle to alternative pastures as soon as possible and seek veterinary assistance. Further information on specific plant toxicities can be found in *Beef Cattle Health and Husbandry for the NSW North Coast* manuals, available from your Local Land Services office.

**Vector transmitted diseases**

Populations of biting, flying insects such as Buffalo Flies, midges and mosquitoes can increase significantly following a flood, particularly in warmer weather. In high numbers, these insects can cause significant stress and irritation which can lead to reduced production. Management should be multifactorial and include both chemical and non-chemical control methods where required. Biting insects can also transmit significant diseases such as Three Day Sickness and Pink Eye, increasing the risk of outbreaks occurring during flood times.

**Three Day Sickness**

Also known as Bovine Ephemeral Fever, ‘Three Day’ is a viral disease of cattle that is spread from animal to animal by biting insects. Infection causes fever, lethargy, muscle soreness and lameness which can lead to recumbency. Most cattle recover uneventfully after approximately three days, hence the name. The impact of Three Day Sickness becomes significant when it causes reduced bull fertility, weight loss, decreased growth rates and milk production and occasionally abortions. In some cases, when cattle ‘go down’, they can suffer prolonged periods of recumbency or even permanent paralysis.

It is vital to both the prognosis and the welfare of the animal that recumbent cattle receive a high level of nursing care or are euthanized on humane grounds. Anti-inflammatory drugs can be helpful in clinical cases
of Three Day Sickness and should be administered in consultation with your regular veterinarian. A vaccine against Three Day Sickness is available to aid in prevention although cattle that have been infected and recovered from the disease will usually have lifelong immunity. The vaccine is often used on valuable bulls and other breeding stock.

**Pink Eye**

Following a flood event, increased fly infestations can contribute to a heightened risk of Pink Eye. The disease is caused by a bacterial infection of the surface of the eye and can result in reduced production, blindness and reduced sale value as well as posing welfare concerns. Affected eyes initially appear watery and may have blue or white discoloration to the cornea or surface of the eye. This can progress to large white to yellow ulcerated lesions into which new, red blood vessels grow, giving rise to the term ‘pink eye’.

Topical and injectable treatments are available and should be used in consultation with your regular veterinarian. It is important to bear in mind during a flood event that mustering, yarding or trucking animals results in close contact that can increase the spread of Pink Eye infections. A vaccine is available that can reduce the chances of contracting the disease.

**Reducing risks in times of flood**

In summary, adhering to the following points will help mitigate the risks of livestock disease during and after a major flood event, helping to ensure as positive an outcome as possible for all stock owners.

- Consider moving stock away from flood waters and pasture with heavy soil contamination where possible
- Ensure provision of adequate feed (energy, protein and fibre) and water and introduce any supplementary concentrate feeds slowly
- Minimize access to rotting carcasses, vegetation and contaminated water
- Drench for intestinal worms and Liver Fluke where required
- Vaccinate for Clostridial diseases and considering vaccinating against Leptospirosis, Botulism Pink Eye and/or Three Day Sickness
Taking care of yourself in hard times

Jen Haberect, Rural Resilience Officer, NSW Department of Primary Industries

The impact of natural disasters such as flood can affect producers beyond their own resilience levels. Many require assistance to recover both financially and personally.

If you are finding it difficult to cope in the aftermath to the recent floods in our area, it is important that you make the effort to look after your own well-being.

The following is a list of recommendations to enable you to begin and continue the recovery process. It is important to:

• Spend time with family and friends
• Try to get back to a routine
• Continue a healthy lifestyle (eating, sleeping, exercising)
• Take time out but don’t isolate yourself
• Write down your worries and concerns
• Express your feelings in your own time and way
• Accept help when it is offered
• Limit the amount of media coverage you are exposed to
• Don’t expect to have all the answers
• Understand you are not alone in your experience.
Professional assistance

There are also signs to be aware of that may mean you need professional assistance. They are:

- The level of distress feels extreme
- The emotional reactions are lasting too long (>4 weeks)
- The distress interferes with the ability to participate in day to day activities
- Withdrawing from usual relationships
- Feeling overwhelming fear for no apparent reason
- Experiencing panic symptoms
- Avoiding things that bring back memories to the point that day to day activities cannot be carried out
- Feeling excessive guilt
- Losing interest in the future
- Experiencing thoughts of self harm or suicide

Where you can find help

- **General practitioners (GPs)**
- **A range of specialised mental health clinicians and services (referral via GP):** psychologist, psychiatrist, social worker, mental health nurse.

**Online counselling and information services**

- Beyond Blue: [www.beyondblue.org](http://www.beyondblue.org)
- Centre for Post-traumatic Mental Health: [phoenixaustralia.org](http://phoenixaustralia.org)
- Red Cross: [www.redcross.org.au](http://www.redcross.org.au)
  - Headspace: [www.headspace.org.au](http://www.headspace.org.au)

**Telephone support services**

- NSW Mental Health Line: 1800 011 511
- Accessline (Murrumbidgee): 1800 800 944
- Lifeline Crisis Support: 13 11 14
- Alcohol and Other Drugs Information Service (ADIS): 1800 422 599
- MensLine: 1300 789 978
- Kids Helpline: 1800 55 1800
- Suicide Callback Service: 1300 659 467

**Emergency Services (if person or others in danger):** 000

Things to try and avoid:

- Using alcohol or other substances to cope
- Working too much
- Engaging in stressful situations
- Withdrawing from family and friends
- Avoiding pleasurable activities
- Talking about what happened if you are not ready
- Taking risks or making major life decisions.

More information on Natural Disaster Recovery Assistance for Primary Producers may be found at: [www.dpi.nsw.gov.au](http://www.dpi.nsw.gov.au)
HEALTH & WELLBEING

Floodwaters come back to bite

This information has been sourced from the NS Health ‘Mosquito-borne infections’ factsheet.

Producers in mosquito-prone areas need to be mindful of mosquito-borne diseases. The recent flooding has created ideal conditions for mosquito breeding, and increased the likelihood of Ross River virus, Barmah Forest virus, Kunjin virus and Murray Valley encephalitis.

These diseases, while differing in some aspects, can cause flu-like and other symptoms for at least a week, and often up to 10 days. In the case of Murray Valley encephalitis, the symptoms can be more severe and potentially dangerous.

We urge you take precautions to avoid mosquito bites, including covering as much skin as possible with lightcoloured, loose-fitting clothing and covered footwear, and applying repellent regularly to exposed skin.

For more information on these conditions, and how to protect yourself from them, go to the NSW Health website - following are some relevant links:

Information on mosquitoes

Information on diseases
Flood recovery - creating a financial plan

Steve Sibley, Rural Financial Counsellor, Northern Region Rural Financial Counselling Service

The extent of damage on individual farms will determine the need to re-arrange the operating financial plan for the coming year.

The recovery plan will range from dealing with minor inconvenience through to wholesale disaster. In many cases there has been significant damage both to infrastructure and to cashflow through lost crops, stock and the need to repair damaged fences, roads culverts and levee banks. The hidden costs will be downgraded pastures, both in quantity and quality, and well as the impact of extended flooding on soil fertility and structure.

Before identifying the options available to fund the recovery the starting point is to create a recovery plan that identifies all the necessary work to be done and put a dollar value on it. The plan should also seek to create an order of importance to ensure the essential work is prioritised for early attention.

The real question then is ‘where does the money come from?’

The options include:

- Reserves in the form of farm management deposits, cash reserves or other liquid assets
- Using current working capital limits that may provide enough funds to repair or recover
- Use of the Natural Disaster Loan available from the NSW Rural Assistance Authority, or alternatively the Farm Innovation Fund may be useful in some circumstances. Go to www.raa.nsw.gov.au
- Deferring capital payments on loans or extending current limits may provide sufficient working capital to fund the recovery
In all these options, it is important to engage with your bank's relationship manager to determine your best strategy for short-term flexibility to get the business back on track.

Accessing support from Local Land Services or NSW Department of Primary Industries staff, together with a Rural Financial Counsellor, will enable you to work through your recovery plan and prepare your budgets to be presented to your lender in the best possible way. All of these organisations provide free and confidential support.

**Counsellors in North Coast**

Steve Sibley Rural Financial Counsellor, Casino  
Phone 6662 6191 or 0429 626 191  
Email [steve.sibley@rfcsnswnorthernregion.org](mailto:steve.sibley@rfcsnswnorthernregion.org)

Ross Turvey Rural Financial Counsellor, Casino  
Phone 6662 6191 or 0458 222 216  
Email [ross@rfcsnswnorthernregion.org](mailto:ross@rfcsnswnorthernregion.org)

**Damage reporting**

Landholders are encouraged to report agricultural losses, including fencing, farm infrastructure, crops, pasture, fodder and livestock. Any previous damage reports can be updated over time. Damage can be reported by contacting Local Land Services on 1300 795 299 or by email [admin.northcoast@lls.nsw.gov.au](mailto:admin.northcoast@lls.nsw.gov.au)
Acknowledgements & useful links

The advice contained in this document forms part of the flood recovery response driven by the NSW Government North Coast Region Recovery Committee.

The committee would like to acknowledge the contributions of:

- North Coast Local Land Services
- NSW Department of Primary Industries
- The NSW Rural Financial Counselling Service
- NSW Health

Useful links

The following links provide complementary information to the advice provided in this publication:

- [www.rfcsnsw-northernregion.org](http://www.rfcsnsw-northernregion.org)
Landholder Flood Recovery Advice