Flood ready ... flood safe!

NATURAL ASSETS

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- Key assets
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- Vegetation
- Wildlife

Sometimes nature needs a hand; sometimes it doesn't.

NATURAL ASSETS

Planning

The foundation of your flood preparedness and recovery should be a written plan, ideally as part of a wider property plan (see Beige - Planning).

Your land and water are the key natural assets on which your enterprise is built and the health of your land will dictate how well it stands up to a flood event, and how vigorously it recovers to full production.

Understanding ecosystems, and the roles and interactions of various plants and animals, is the key to a healthy landscape. For instance: weeds in a creek might be hidden from daily view, but they displace soil-binding native vegetation, leading to erosion; retained stubble may look untidy, but it binds otherwise bare soil; and while neatly trimmed and cleared stream banks might look attractive, a natural tangle of trees, shrubs and grasses is critical in stabilising soil and reducing water velocity. For a very good, but uncomplicated, explanation of ecosystems and ecosystem health, web search for 'what defines an ecosystem for dummies'.

Identify the risks to your natural assets - these are likely to be erosion and loss of riparian (stream line) vegetation, leading to a decline in water quality. Understand your risk profile (see Beige - Planning factsheet for more information), as this will dictate what actions you might take, and when.

Flooding can affect the whole of the catchment through:

- reduced water quality
- loss and damage to terrestrial and riparian ecosystems
- deposition of sediment and nutrients in water courses
- loss of riverine habitat and biodiversity
- spread of weeds

Planning, therefore, is best done on a catchment basis, so talk to your neighbours and your local NRM body. You can find your local NRM body by web searching for 'Regional Groups Collective'.

Your land and water are your key natural assets; protecting them should be at the core of your flood preparedness and recovery.

Mitigation

Just as there is a huge range of different land use situations potentially impacted by flooding, there is a vast difference in the risks to natural assets, and what can reasonably be done to mitigate them.

Whether you manage extensive grazing lands, intensive cropping, small scale grazing or recreational lands, there are a number of key actions to minimise the adverse effects of flooding on your natural assets. These include:

- maintaining healthy and natural riparian vegetation cover;
- controlling weeds - this not only reduces the risks of erosion, but helps prevent the downstream spread of weed seed;
- controlling stock - create artificial stock watering points away from streams and, where possible, fence off your riparian zones to control stock access and maintain ground cover;
- strategically locating infrastructure (see Yellow - Infrastructure)
- maintaining cropping land groundcover according to the relevant risk profile (see Brown - Production)
- managing debris - retain advantageous; remove detrimental (see Blue - Rubbish and Debris)

In most cases, the biggest single impact on your natural assets from flooding will be erosion, and the biggest single mitigator is riparian vegetation. Floodplains are usually farmed or grazed: if farmed, you should have an erosion-resistant crop in the ground during the flood season; if grazed, you should maintain adequate ground cover.

Farmed floodplains are particularly susceptible to erosion because the soil is often left exposed in the normal course of operations. There are many strategies and techniques to help minimise soil loss, including how, when and what you plant, as well as working in concert with your neighbours and removing physical impediments to water movement. For more information of these subjects, see the Brown series of factsheets on Production.

The banks and beds of streams are usually either grazed or unused. In both cases, it is desirable to maintain healthy native vegetation and ground cover to bind the soil and slow water flows. These areas can often become havens for weeds, which can choke out other vegetation and leave the soil exposed and vulnerable to erosion.

Excluding livestock may be the best way to allow vegetation to regenerate, it will also prevent the formation of cattle pads down banks which can channel water and lead to serious soil loss. Long-term access by livestock can trample ground cover, 'walk' soil down slope, and diminish water quality through pugging and defecation.

What you do, or don't do, can impact on those living downstream. Erosion is a natural part of streams - it's how they are formed, and continue to evolve - but excessive erosion can lead to loss of land and infrastructure, as well as declining water quality.

Recovery

Time is a great natural healer, and that may be all that is needed for your natural assets to recover from a flood event. However, we should be prepared to lend a hand where necessary.

All streams are different, and how they respond to any stabilisation efforts may be highly unpredictable. If you think you have an in-stream erosion problem, seek specialist advice before undertaking any remedial work - your local NRM body is a good starting point.

Deposits of debris, commonly along fence lines, can act as barriers or diversions to the free flow of water with the potential to cause serious erosion. If not removed, subsequent flood can strip away productive floodplain soil.

Like debris, flood damaged riparian vegetation may need to be removed, but sometimes it can be beneficial in protecting the soil from erosion or as habitat. Again, if you are unsure whether it should stay or go, seek advice. Sometimes, even severely damaged trees can be saved, but you may require advice from an experienced arborist. Additionally, a permit may be required to interfere with riparian vegetation, so check with your local DNRM office.

Always exercise caution and adhere to safe work practices when working with fallen timber, on stream banks, with machinery and in damp or overgrown conditions - debris, fallen timber and grass can hide hazards, and saturated stream banks can be prone to slumping or collapse.

Land and water are the obvious natural assets that underpin a productive landscape, but biodiversity (biological diversity) plays an equally vital, but largely overlooked role in the health of that landscape. Biodiversity is the variety of plant and animal life - most of it unseen - in a particular habitat, and the higher the level of biodiversity, the healthier that habitat or landscape.

While most landholders know how to deal with plants and sick, injured or orphaned domestic animals, native fauna often require specialist care. When injured or distressed, wild animals can be unpredictable and aggressive, so seek expert advice from your local vet, wildlife carer, council, or National Parks and Wildlife Service office. Always exercise care when working with distressed animals.

Qld Regional NRM GROUPS COLLECTIVE

This Flood Preparedness and Recovery factsheet was prepared by the Regional NRM Groups Collective for the Queensland Government.

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