Healthy Country
managing the land for healthy waterways
Lockyer Newsletter 3 – March 2010

Property management planning for sediment control

Management of overland flow

Recent rain events have been most welcome for landholders but overland flows have also dumped loads of sediment into cultivation paddocks. This has led some landholders to instigate earthworks for sediment control and integrate management of their overland flows across neighbouring boundaries.

While these works provide paddock drainage, they also reduce sediment from entering the waterway and so satisfy criteria for full Healthy Country incentives.

Above left: Continued overland flows and transported sediment have made this paddock unusable until completion of sediment control earthworks.

Science modeling

Recent works for sediment control are being informed by science modeling of natural drainage patterns and soil movement across the landscape.

Maps can be developed at the property scale and are proving to be useful property management planning tools. Contact Fiona Bengtsson for assessment of your property for sediment control works suitable and your property drainage map, phone 0417 764 754.

Blackfellow Creek action plan

Proposed priority works for sediment and erosion control in the focal area surrounding Blackfellow Creek have been outlined in the Blackfellow Creek action plan, informed by scientific data and local landholder knowledge.

Activities within the action plan specifically target 'high sediment contributor' areas and have been approved by the local advisory committee. Works have been considered in relation to priorities identified by the local community, as well as scientific and environmental factors.

Second stage works as guided by this plan are now underway and landholders in the focal area are invited to participate. Works include contouring and drainage, internal fencing and weed management for improved groundcover, and installation of watering points.

Incentives are also provided for further training and instigation of best management practices on farm.

Above right: February flood event, Blackfellow Creek, Image courtesy Julia Crust, Mount Sylvia Fresh Vegetables

Groundcover management across the landscape

Cover trials in horticulture

A sediment monitoring trial was set up in December 2009 to monitor soil losses from a horticultural field.

This involved placing collection troughs at the end of a commercial field to collect water and soil running off the field. The aim of this trial was to assess the loss of soil from bare fallow and the potential for living ground cover to minimise the amount of soil loss.

The field was split into two sections. Lablab was broadcast planted in one section to provide a cover crop and to assess the nutrient budget of using a legume green manure crop.

The other section of the field was left as bare fallow with beds formed ready for planting. The slope on this field is typical of that in the Blackfellow Creek focal area.

There have been several rainfall events throughout January and February of varying amounts and intensities. In each event the bare fallow blocks lost significant amounts of soil relative to the lablab block.

Above: Left, lablab, and right, bare fallow blocks following 22mm rainfall

Above left: Lablab and bare fallow blocks during rainfall event.

The lablab was only just out of the ground at the time of the first rainfall event yet it was sufficient to significantly reduce soil loss. The established lablab has prevented any further sediment loss from this block. It is likely that the lablab was able to protect the soil from raindrop impact and also to stabilise soil in the furrow and on the beds through its roots. Maintaining cover in a field is the most effective way to minimise soil loss from cropping lands.

The fallow block was sprayed for weeds following the first rainfall event. Dead weeds left on the soil surface did not provide sufficient cover to minimise soil loss in subsequent rainfall events.

This demonstration indicates that providing cover effectively minimises soil loss due to surface erosion.

Significant amounts of soil can be moved off bare fallow fields during rainfall events. Additional sediment controls capture this soil and retain it on farm. This grower also has in place sediment traps, thickly grassed drains and grassed buffer

Above right: Sediment collection in trough following rainfall event

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Management of grass cover

Finally some good rain has fallen across the Lockyer Valley and graziers are starting to see significant grass growth.

What grass grows, however, can depend on the management of your grazing system.

This time of year is the perfect time to have a look at the species of grasses that are appearing after rain as they will have seed heads and are much easier to identify.

So what grasses should we want to see?

Any grass that follows the 3P rule:

- PRODUCTIVE, meaning that it grows a large amount of forage
- PERENNIAL, meaning that is will be present all year, and the same plant will grow again next year. The opposite is an annual grass that must grow from seed each year.
- PALATABLE, meaning that livestock like to eat it.

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strips to filter sediment and minimise movement off farm.

Trough samplers were put in place prior to a 30mm rainfall event as part of the trial. Samples were sent for nutrient analysis to determine nutrients being lost from the field as well as how much soil of very fine particle size was suspended in the water.

Test results will be made available when completed.

The co-operation of this grower in allowing us to set up this monitoring site is very much appreciated.

Contact Julie O'Halloran, DPIF hoticultural extension officer, for more information, ph 0409 054 263.

Examples?

Some good examples in the Lockyer Valley include natives like Spear Grass, Kangaroo Grass, Forest Blue Grass and introduced species such as Panic, Rhodes Grass, and Kikuyu.

Other grasses like Couch or Wire Grass may be a sign of overgrazing. Overgrazing results in livestock continually grazing the preferred grasses in a pasture while they try and avoid the less palatable grasses. This can result in the less palatable grasses dominating the pasture.

What to do if you see wire grass or couch in areas of your paddock?

Less productive grasses such as Couch thrive in paddocks where the 3P grasses have been grazed too heavily as they can out-compete the weakened grasses.

Often the best and simplest thing to do is to rest the paddock. More often than not, the native 3P grasses will be present in the soil seed bank but are simply being eaten every time they try and grow.

By resting the pasture, these plants will be allowed to grow and set seed, ensuring they will be there the following seasons also.

In rare cases of land that has been degraded over a long time, the soil seed bank may be exhausted of 3P grass seed and pasture improvement may need to be undertaken.

What about winter forage?

This time of the year is also the perfect time to begin thinking about your winter forage budgets. Remember that the more grass you can allow to grow now, the more you will have come the end of winter!!

In April we will be running a course on pasture management systems and pasture ID.

If you are interested please phone Ian McConnel, DPIF grazing extension officer, on 0407 168 995.

Below right: Rhodes grass pasture...

Cultural heritage tool for management planning

Blackfellow Creek Predictive Landscape and Cultural Environmental Modelling Report

SEQTOA aims to demonstrate involvement of Traditional Owners in natural resource management, and has produced a pilot Aboriginal cultural heritage predictive model to aid with this involvement.

The predictive model, in the forms of a report and associated map, presents a reconstruction of traditional landscape and social life of the Lockyer pre-settlement. It includes non-visible sites, such as creation places, and visible sites, such as Bora rings.

The report is more than information resource and communication tool, however. The report will also be used to develop conservation and education strategies as well as management planning for government departments and landowners. By using a predictive model, cultural and resource planners may be in a better position to predict locations that have a higher probability of being culturally significant.

This cultural report centres on the immediate surrounds of the Blackfellow Creek focal area. We acknowledge the involvement of Jagera, Yuggera and Ugarapul Peoples who form the Jagera Native Title claim, in whose country this report is located.

A report launch and cultural information session is planned for the near future, along with guided tours covering some culturally significant areas highlighted in the report.

SEQTOA is also interested in visiting local landholders to share and gather further information regarding local history of the area.

Please phone Fiona Bengtsson on 5465 2011/ 0417 764 754 to organise a visit along with your copy of the report or for further details regarding events.

Copies are also available at the Gatton and Laidley public libraries and can be downloaded at http://www.healthywaterways.org/HealthyCountry/Resources/alOwnerEngagementResources.aspx.

Above: Gary Hahn, Landholder, and Vanessa Hounsell, SEQTOA partnerships coordinator, close to Aboriginal culturally significant sites

Below right: Stone implements looked after by a local landholder, part of sharing of cultural knowledge

What's coming up in Healthy Country...

- **30 March** Sediment control over-the-fence farm tour
- **15 April** Nutrient management field day
- Predictive cultural modeling report launch & traditional owner info session
- Cultural awareness tour
- Pasture management systems workshop
- Community meeting- science feedback & action plan presentation

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