

2nd Reinstating appropriate vegetation and snags in & around the water course itself, once stock have been excluded

The water course has distinct zones, corresponding to water depth and permanence, where specific plants will grow. These zones are:

- The bed zone of the watercourse - the central key to the functioning of the water body;
- The toe and batter zone - the low water mark to the high water mark, often called the bank, that maintains the security of the watercourse; and
- The buffer or riparian zone - from the top of the bank and moving out into drier soil.

Maintaining beds of fringing reeds, rushes and sedges along the toe of the bank will hold the soil, even in quite heavy flows, without being destroyed themselves, as well as multi-stemmed thickets of shrubs such as river tea-trees, bottle-brushes and paperbarks.

In deeply eroded systems, it is perhaps best not to plant trees along the toe of the bank initially, but rather to try and slow down the water flow here with reeds, rushes and sedges, and the appropriate placement of 'snags'. This will enable the system to gradually re-establish an interconnected flow of deep pools and shallow riffles, so critical for good quality water, reduced erosion and fish habitat.

In the past, to make rivers flow more quickly, vegetation and snags, such as fallen trees, were systematically removed from the bed and banks of our watercourses. Water certainly flowed faster!! Ironically, today we are now putting these impediments back into the water courses to slow water flow, improve water quality, reduce erosion, and provide critical habitat for native fish and other fauna.

3rd Revegetate the 'break of slope' to reduce runoff velocity

Hillsides cleared for grazing often have few impediments to runoff water except fences and scattered trees. After the floods, innumerable fences erected at 'break of slope' were destroyed from the weight of paddock litter carried downslope by the flowing water. However, if this fence had instead housed a dense shelterbelt of grasses, multi-stemmed shrubs and some trees three to five rows wide, this would have put an excellent brake on the velocity of the uphill runoff, and provided much needed shelter for stock. Slowed flows here will help to rehydrate soils in these paddocks, and reduce water velocity downslope.

In summary

Overall, judicious stock management and exclusion from water courses, coupled with dense ground-covering vegetation in and around bodies of water, will greatly reduce the impacts of high water flows on your business, water quality, topsoil retention and biodiversity.

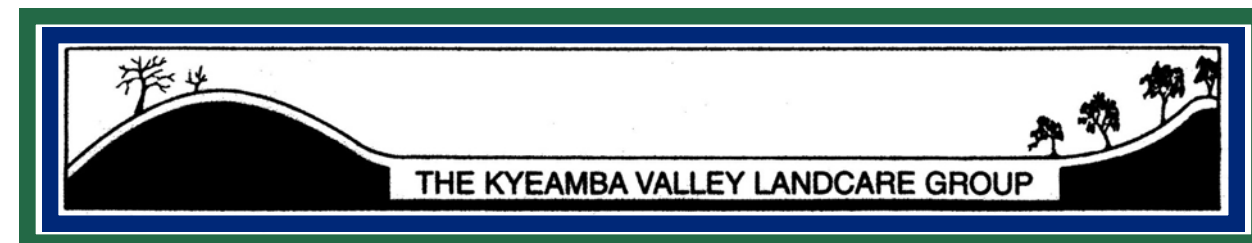
Excellent references:

- **"Water plants in Australia: A field guide"**, by Sainty & Jacobs. 4th edition. Published by Sainty & Assoc.
- **"Planting wetlands and dams"**, by Nick Romanowski. Published by Landlinks Press, 2009
- **Rivers and water quality publications by Land & Water Australia** (see: www.lwa.gov.au)

CONTACT DETAILS FOR ALISON ELVIN—
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Alison Elvin, presenting at a recent workshop



KYEAMBA VALLEY LANDCARE NEWSLETTER - Autumn 2013

Message from the Chairman

Peter Lawson - Chairman KVLG

Coming up later this month is our AGM which I am sure that you will be keen to get to. Our speaker this year is Rob Fenton who is the manager of the National Environment Centre (NEC) which is based at Thurgoona near Albury. It is part of the Thurgoona TAFE. He has designed a 182 Ha Organic farm as an educational facility run in conjunction with their courses. He will be giving us an outline of what processes he went through throughout the design phase and why he came to some of the decisions he did. He will also be talking to us about marketing of their products, how they go about it and what is involved. Regardless of your interest in organic farming, Rob's thought process as to how the farm is set up, their marketing methodology and his energy rating on actions taken on the farm are very interesting and I would encourage you to consider making the evening.

KVLG recently hosted another healthy dams and Frog day care of the Cross property planning project, with Alison Elvin and David Hunter doing the presenting. Those who were able to attend had a very informative and interesting

day.

The next round of the Cross Property Planning project has received a lot of interest which is great news, so hopefully those who did express an interest will be rewarded with a very fulfilling project. As far as other project news goes we are still waiting to hear as to whether we have been successful in our application for a 3 year funding project to do lots of small scale, low cost, erosion control works. I would think everyone would be eligible for this project. This will be in line with the field day held at Talland late last year with Cam Wilson. We are planning on having another one of these during the winter months this year regardless of whether the funding application is successful or not. We hope the season goes with you from here on in and we see you at the AGM and /or any other events that are to be on later in the year.

Regards,
Peter Lawson

**KVLG Annual General Meeting Tuesday 14th May 2013 @ 6.30pm
 ROB FENTON AS GUEST SPEAKER AT THE THOMAS BLAMEY TAVERN**

Rob Fenton is head teacher at the National Environment Centre (NEC), a specialist campus of the Riverina Institute of TAFE, located at Albury NSW. Rob established and runs the certified organic farm at the NEC and the organic farming teaching program. The NEC farm is a 180 ha certified (with ACO) organic farm producing organic lamb, organic free range pork, organic free range chicken and eggs, organic olives, organic vegetable and herbs and honey. Rob is also a committee member of the local Landcare group, a director and vice chair of the Albury Conservation Company supporting protection of local endangered species, and treasurer of the Hume Murray Food bowl, a producers group running the local farmer's market.



AGM Meeting starts 6.30pm/Dinner starts 7.00pm

A delicious two course meal will be included on the night ... **KVLG members—\$15 Non members—\$25**
RSVP by Friday 10th May to Mardi Pillow 69281321 or mpillow@bigpond.com

If undeliverable return to:
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VALUE-ADDING LAMB PUTS LADYSMITH ON THE MAP

By Bundle Lawson. Photos by Peter Cregan

In the spring of 2005, Peter and Heather Cregan made the bold move to start marketing their Ladysmith Lamb to a wider audience.

Having previously sold cooked gourmet lamb rolls at various local functions and the monthly Rotary markets, the Cregans began taking their freshly packed raw lamb to the Sydney markets at Pyrmont (SMH Good Food Markets) and the North Sydney Community Markets each month.

According to Peter, they started to direct market their lamb products to maximize the return from their lambs.

“Direct marketing allowed us to retain the wholesale and retail margins, which are typically lost when you sell a commodity such as lamb through the saleyards,” Peter said.

“It also allowed us to value-add, by changing the nature of a basic product into something that is more valuable. By selling our lamb mince patties infused with rosemary, honey and mint, we can command a significant price premium over standard lamb mince. We use similar value adding techniques to other our other lamb products.”

Name says it all

The Cregans say that in the direct marketing business, brand recognition is obviously very important. “Our customers know Ladysmith Lamb and that it is a reliable and quality product,” Peter said.

“They therefore seek it out at markets, allowing us to charge a premium price for the product. We also offer customer support including recipes, advice on cooking, personal service and the use of our cool room while our customers are at the markets.

“Once we achieved brand recognition, we found that simply increasing our product range could also increase our sales. We now sell up to 16 different lamb products at the markets, which is a far greater range than any butcher in Sydney. In this way we can satisfy a wider range of tastes.”



Peter and Heather Cregan use face-to-face marketing to sell their value-added lamb products to loyal Sydney customers.

Production base
Prime lamb production is just one of three enterprises the Cregans run on

Teneriffe, their 344 hectare property near Ladysmith where they have farmed for the past 34 years. A small flock of Merino ewes produce wool and beef cattle are fattened and traded. But it is the 700 composite ewes that form the backbone of Ladysmith Lamb, producing lambs suitable for the Sydney retail and local wholesale markets.

“The composite ewes are home-bred, derived from crosses involving Merino, White Suffolk, East Friesian, and Poll Dorset,” Peter said.

“They are mated to Teneriffe White Suffolk cross Poll Dorset rams, which we have bred using artificial insemination.

“We select our replacement ewes based on growth rate, clean legs and faces, absence of fleece rot, udder, conformation and fertility. Our rams, including Merino rams are selected on growth rate, eye muscle diameter, ease of lambing, absence of horns and worm resistance.”

Regular supply

To ensure a continuity of lamb supply for the two markets, the Cregans have lambed up to four times a year. Over the past 12 months however, they have had only a spring and autumn lambing.

“We get about 120% and 130% weaning respectively for our autumn and spring lambings,” Peter said.

“Last year from one small mob of 100 ewes, we achieved 150% which indicates there is significant room for improvement.

“All our lambs are grown out and fattened on Teneriffe. While 35 hectares of Teneriffe has been planted to trees to provide shelter and improve biodiversity, there is around 40ha of native pasture and 269ha of sown, improved pastures.

“The sown pastures are based on phalaris, sub clover, and lucerne. Our lambs are predominantly pasture fed but we will supplement them with grain (usually oats) if pasture availability is low and growth rates drop. We aim to maintain a minimum lamb growth rate for sale lambs of 150gms/day, but we usually have a number of mobs of lambs drafted for age and weight so we can give them priority feed as they get close to being marketed.

“The lambs are usually sold at about 20-22kg and fat score 3. However, about 20% are 24-27kg as some customers prefer the larger portions. The lambs are generally 4-6 months of age when they are sold, but can be as young as 14 weeks in a good spring.”

“Our customers know Ladysmith Lamb and that it is a reliable and quality product,”



SIMPLE STRATEGIES TO SLOW DOWN RUNOFF INTO CREEKS AND RIVERS

By Alison Elvin, Natural Capital

While no amount of preventative action can fully control the damaging impacts of very heavy rainfall, it is quite feasible to reduce the severity of these impacts by making simple changes to the management of your water courses and associated riparian zones. Changes that reduce both the velocity and the volume of runoff water pouring into your water courses will allow more water to spread out and soak into your paddocks and replenish the subsoil moisture stores. When the runoff water is slowed and filtered, so too are the processes of erosion, bank-slumping, and channel change. The concentration of pollutants carried into the water course is reduced, and you build more resilience into your farming system.

What are the simple on-ground and cost-effective actions can you do to achieve this?

1st Exclude livestock initially and revegetate your riparian zones

The riparian or buffer zone surrounds every body of water, running from the high-water mark outward into the drier soil, and naturally ends wherever the deepest-rooted plants have no access to the subsoil moisture provided by the water body. This zone buffers the water body from the erosive and damaging effects of fast flowing surface runoff water.

When the catchment and buffer zones consist only of grazed and/or cropped paddocks, and the stock have continual access to the adjacent water body, there is no density of filtering, ground-covering vegetation in the buffer zone to capture, slow and spread the runoff water. Stock tracks further bare-out and compact the banks, compounding the problem, and accelerating the water flow.

Excluding stock from all or most of any body of water is the simplest strategy a farmer can adopt to restoring this critical buffer zone. It can be surprising how quickly vegetation will re-establish itself once the stock have gone - in most cases within three years. Once re-vegetated, this

zone can then become an integral part of your farming system, a ‘long paddock’ to be grazed for short periods of time, when appropriate.

Past riparian protection practices often fenced-out the water course as close as possible to the high-water mark, ensuring the smallest area of productive pastures and crops were excluded, and then planted it out with riparian tree species. However, floodwaters often ripped out these fences, toppled many trees and slumped the banks.

It is now known that to be most effective, the riparian zone should be quite wide - at least 35 metres out from the high water mark, and 50 metres if possible. This may sound like a lot of productive land to ‘give-up’, but remember it is not lost to your productivity overall, only during it’s establishment phase.

Planting riparian tree species without accompanying shrubs and grasses does little to slow down the runoff water - the single, inflexible tree trunks won’t slow and filter the runoff water as efficiently as the great variety of native plants once growing in riparian zones - the grasses, reeds, sedges and rushes, and multi-stemmed shrubs such as tea-trees (*Leptospermum* species), paperbarks (*Melaleuca* species), wattles (*Acacia* species) and bottlebrushes (*Callistemon* species). All these plants are flexible in high flows and withstand most floods.

Some of the plants best-suited to slow down and filter the water are native grasses - for example:

- *Poa labillardieri* (River tussock)
- *Carex* and *Gahnia* species (sedges)
- *Juncus* and *Lomandra* species (rushes).

On the drier soil:

- *Microlaena stipoides* (Weeping grass)
- *Themeda australis* (Kangaroo grass)
- *Austrodanthonia* species (Wallaby grasses)
- *Austrostipa* species (Corkscrew grasses).

Soil-binding grasses such as *Polygonum* species (Knotweeds), and *Cynodon dactylon* and *Paspalum distichum* (Couch grasses) are another valuable addition to the suite of riparian grass species.

Whilst the palatability ratings for each of these grasses varies, overall they offer nutritional feed value to livestock and are valuable for use in a rotational grazing system that will include this riparian ‘long paddock’.



CROSS PROPERTY PLANNING— Funding Available for Landholders



Over the past three years groups of farmers have been working together using a “cross property planning” model to work to protect and reconnect native vegetation across a fragmented landscape. This has huge benefits for native flora and fauna, protecting and improving crucial habitat and biodiversity. It also has benefits for production including weed and pest control, beneficial insects and significant improvement in soil and water quality.

In a 5 year project, funded by the Australian Government Biodiversity Fund and NSW Environmental Trust, Murrumbidgee Landcare has received funding to continue to support farmers in this work and also to *encourage new landholders* to become involved. Training and planning support, field days and funds for on-ground works and weed control are available for farmers participating in cross-property planning.

Work with the current cross property group members around Humula has continued with landholders working with Alison Elvin, from Natural Capital, to develop an integrated weed management plan. Funds to implement their plans are now available for eligible landholders. Over the next 5 years further funds will be available to assist with on-ground work in the following areas: biodiverse

plantings, protecting and enhancing existing native vegetation and managing threats to biodiversity (see article on key critical threats to biodiversity and actions)

We are keen to add to the current cross property planning groups. We are also keen to look at supporting new groups of landholders to work together on these projects. If you are interested the management and enhancement of your native vegetation, wish to improve connectivity and biodiversity at home and across the landscape, and would like some assistance through training opportunities and funding, please contact Sam Shannon on 0487 953 776 or Jacinta Christie on 0431 953 778.

Maintaining Biodiversity in Native Vegetation: Critical Threats & Management Actions

The cross-property planning project has funds available for landholders to assist with the management of threats to biodiversity. To assist with the identification and the management of some of these threats, Toni McLeish, from the Conservation Management Network, has identified 10 critical threats to biodiversity and provided suggested management actions that could be used.

Critical Threats

- Clearing, degradation and fragmentation of remnants for agricultural, forestry, infrastructure and residential development.
- Continuous heavy grazing and trampling of remnants by grazing stock, resulting in losses of plant species (simplification of the understorey and ground layer and suppression of over storey), erosion and other soil changes (including increased nutrient status).
- Untimely grazing that does not allow plants to complete their lifecycle and set seed.
- Invasion of remnants by non-native plant species, including noxious weeds, pasture species and environmental weeds.
- Invasion of remnants by feral animals resulting in the loss or modification of habitat.
- Disturbance of remnants during road, rail and infrastructure maintenance and upgrades.
- Removal of timber both dead & alive.
- Collection of on-ground woody debris in the guise of a 'clean-up'.
- Nutrient increases on the site.
- Bush rock removal.

FROGS OF THE RIVERINA

Following on from our Frogs on Farms workshop, here is some information on a few frogs found in our area. This information has kindly been supplied by the ARC (Amphibian Research Centre).

The **POBBLEBONK (*Limnodynastes dumerilii*)** is a common and widespread burrowing frog which may often be found in large numbers at night, particularly after rain. **Adults** frequent all habitats with the exception of alpine areas, rainforest, and extremely arid zones. **Eggs** and **tadpoles** inhabit still water in swamps, streams, dams, and lakes.



Males usually call concealed in floating vegetation or less commonly from land at the water's edge. The call is a short musical, explosive note producing a resonant "bonk". The call is usually repeated every few seconds. Some individuals from eastern populations can produce a rapid series of "bonk bonk bonk bonk" lasting about one second.

Adult length: 50-85mm.

Up to 4000 pigmented **eggs** are enclosed in a large (1200 - 1800mm diameter) white frothy floating foam raft usually concealed in aquatic vegetation. **Tadpoles** are large, dark brown or black and the fins are dark grey/brown. The fins and sometimes body are flecked with darker spots or flecks. **Adults** have a prominent tibial gland, a fleshy metatarsal tubercle and a smooth white or mottled belly.



VALUE-ADDING LAMB PUTS LADYSMITH ON THE MAP—Continued

Supply chain

The Cregans try and keep the production of Ladysmith Lamb as local as possible, getting the lambs slaughtered at Cootamundra and butchered in Wagga. While a courier transports the carcasses from Cootamundra to Wagga, the Cregans have their own coolroom to transport the packaged lamb from Wagga to Sydney. However Peter commented that coolrooms can be a constant source of problems, and good equipment and a good refrigeration mechanic are essential.

“All our butchering and any processing are done by Grant Yeo at Country Fresh Meats in Blake Street, who does an excellent job,” Peter said.

“While our product has not changed substantially since we’ve been direct marketing, we have increased slightly the number of products we sell. We also vary the product range, and the balance between products, depending on the season. For example, shanks are very popular in winter but not summer, when cuts suitable for barbecues are good sellers.

“There are many steps in the supply chain and they all need to work well to be successful. For this to happen, you need to be constantly talking with the key players in your system. For us that means the customer and the butcher.”

Market considerations

By regularly re-evaluating their production system, the Cregans can adapt to changes as necessary.

“Our marketing has not changed much over time, being still mostly face-to-

face,” Peter said.

“While we are considering on-line selling options in the future, we have to address a few issues before we can move to this. One of the differences between our product and others who sell at markets and on-line is that ours is fresh packed not vacuum packed. Fresh packed looks much better but has a shorter shelf life.”

Potential problems

When it comes to production, the Cregans regularly face a number of issues which they must address to keep supply constant.

“When you have heavy milking ewes with multiple lambs, you must ensure they have unlimited high quality feed or the result will be poor ewes and light lambs,” Peter said.

“This is particularly the case with East Friesian cross ewes, which have low body fat reserves, and with ewe lambs that are lambing.

“Grass seeds are also an issue for us as we do not shear our lambs before they are slaughtered. If the skins can be kept seed-free, the price received for them can help offset the abattoir costs. But keeping lambs away from grass seed in late spring is always an issue.”

On the marketing side of things, rain in Sydney is a constant problem for the Cregans.

“It means you sell less, as conditions are more difficult, and you have to utilise unsold meat,” Peter said.

“Mathew Talbot Hostel has been the recipient of many unsold patties from



The Cregans use props such as ‘Lucy’ and ‘Matilda’ to attract interest at the front of their stall, and create that all-important brand recognition.

these days. We also wholesale unsold cuts, make pies and provide the family with a supply of quality lamb.”

Another potential problem can be the number of competing stalls at markets. As Peter points out, all market organisers want to have as many stalls as possible so they make more money.

“No matter how good your product is, the more stalls there are selling the product you sell, the more difficult it will be to be profitable. Being a genuine farm producer (and they are few at farmers markets) we are in a position to keep pressure on organisers to limit the number lamb stalls. The problem of extra sellers is not from genuine lamb producers but from butchers who want to cash in on the farmers market.”

More FROGS OF THE RIVERINA

The **SPOTTED MARSH FROG (*Limnodynastes tasmaniensis*)** is one of the most common frogs within its range. The frog is usually found in association with water, and in dry periods shelters in cracks in the ground, usually under large rocks. **Adults** are most often associated with wet areas, flood plains, and semi-permanent water in habitats ranging from open forests and woodlands through shrublands and grasslands and including open and disturbed areas. Often common on farms and in farms dams. **Eggs** and **tadpoles** can both be found in still water in dams, streamside ponds, lakes, swamps, and flooded grasslands.

Calling: Males call while floating in water, most often concealed in floating vegetation. The call has a short staccato call of three or four distinct notes repeated in long series - "kuk-kuk-kuk".



UNDER CONTROL – COST EFFECTIVE WAYS TO ADDRESS EROSION

The saying 'from little things, big things grow' is never more true than when spoken about erosion. But if the problem can be addressed when it is still small, it may prevent the need for much larger, more costly repairs down the track. Pamela Lawson looks at a number of simple, cost-effective ways of addressing common erosion issues.

The erosion of valuable land by running water is a common problem for producers Australia-wide. Unsightly gullies not only take land out of production and create hazards for humans and live-stock, but they can grow in size at an alarming rate if left unchecked. But according to private landscape rehydration consultant Cam Wilson, there are a number of simple structures and strategies producers can use in problem areas to gradually repair erosion and avoid more substantial and costly works in the future.

Small scale

"Gully erosion can start very quickly, from something as incongruous as a sheep track or spring," Cam said. "Often an event such as sudden, heavy rainfall after an extended dry period will cause a susceptible area to begin to erode, and this will continue each time it rains and water runs.

"For areas where the water flow is generally low-energy, such as across a gently sloping paddock, and the headwall cut of the erosion is still less than about half-a-metre, a log ramp rundown can be used. This was the case in the location shown in Photo 1.

"Logs are chosen as they are usually readily available on-farm. Rocks can also be used, but are more problematic in sodic conditions due to a higher likelihood of sinking.

Step by step

"The first step is to square off the headwall cut of the erosion site, and to create a location for the log ramp, with a batter of between 3:1 and 6:1, depending on the height and log length available.

"Once battered, if the soil on the site is dispersive (sodic), generously apply gypsum on the ramp and for about three meters around the site (as shown in Photo 2). This will stabilise the soil when the logs and lining eventually deteriorate.

"Next line the ramp site with tough plastic if the soil is sodic, to protect the soil

and let the gypsum work (see Photo 3). If the soils are non-dispersive, it would be preferable to use geotextile fabric instead.

"Then sink a horizontal footer log to level with the soil surface, to support the main ramp logs. To create the main ramp, lay the logs lengthwise snug against each other above the horizontal support, as shown in Photo 4. For this size ledge (under 0.5m), an even collection of logs with a diameter of 100–150mm are ideal. Trim off any large branch stubs as necessary.

"Weave wire under and over the logs, wrap it over the top and secure it with staples (Photo 5), before trimming any excess plastic or lining to the adjacent soil level.

"Finally, carefully fill any gaps beside the plastic with sods of soil and live grasses, particularly on the upper edge of the erosion where the running water will hit first. This is a key step for the overall success of the structure.

"Log diversions at the entry of the erosion area will gently steer water down over the log ramp structure rather than over the still-vulnerable gully sides.

Larger problems

"For erosion sites with a headwall cut greater than half a metre, a similar structure can be created using a series of log steps rather than a single ramp. "The back and edges of the headwall cut are again squared up (using machinery if particularly deep), with any topsoil and vegetation sods kept to one side for replacement later.

"Apply gypsum to the site if the soil is sodic, incorporating it deeper through shovel slits above the structure site if possible.

"Line the site with plastic or geotextile lining as appropriate and then bed down layers of 100-150mm logs, as shown in Figure 1. Each successive layer needs to be bedded tightly against the back wall, and wired and stapled together.

"Again, trim away any excess plastic or sods to fill in any gaps.



Applying gypsum



Laying down plastic



Placement of logs



Wiring in the logs



Wiring in the logs

COST EFFECTIVE WAYS TO ADDRESS EROSION—Continued

Ongoing management

"Over time, the plastic or geotextile lining will deteriorate under the long ramp or log steps. But by this time, the gypsum will have altered the soil chemistry and organic matter will have accumulated between and beneath the logs.

"Windblown and waterborne seed should result in good vegetation establishment over and around the structure. "Good grazing management that includes suitable rest periods for the site and surrounding area will improve overall soil health and reduce the amount and intensity of water runoff.

Hay and hooves

"In areas where there are multiple erosion headcuts creating very small gullies, during wet seasons the gullies can be pugged with old bales of hay or silage. Use livestock to mix the fodder with mud and trample it into the gullies, but move the stock away from the site if it becomes too pugged or they eat more than they trample!

"Again, try to rest the area from grazing then, to allow vegetation to become established.

Other tools

"To slow the flow of water down in existing seasonal watercourses and gullies, and reduce bank erosion, simple structures called fascines can be used.

"These are created using bundles of material such as woody weeds, saplings or logs, ranging from 25 – 150mm in individual diameter, depending on what is available.

"Bundle the material into manageable diameters of about 300-400mm, held temporarily with ratchet straps and then twitched with fencing wire.

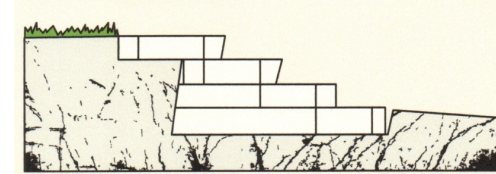
"A mixture of small and big diameter logs can be used in deep gullies, to encourage water to flow through the structure rather than just around it. "The bundles can also be covered with material such as old shade cloth. This lets water flow through but catches small material which then allows reeds

or rushes to be planted into the bundles.

Structure placement

"The safest, most effective place to locate grade control structures such as fascines is at the straight sections between bends in a stream. This is the place where riffles naturally develop, which is what we want to mimic with the fascines.

FIGURE 1 Cross-section of log steps

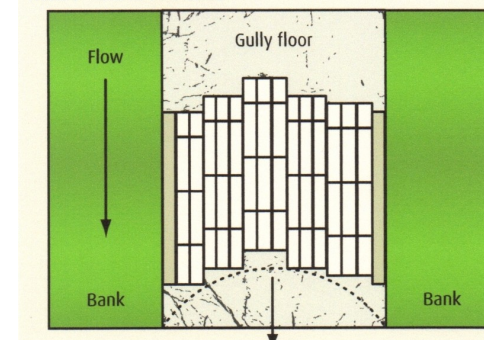


Source: Cam Wilson

"Build the bundles parallel to where they are to be used so they can be rolled into the stream or gully. "When placing the bundles, create a 'Double U' to minimise the risk of future erosion. This is done by positioning the bundles so an upside down 'U' is created at the toe of the structure to concentrate the water flow into the centre of the watercourse (see Figure 2). The second 'U' is created by raising the bundles slightly against the edges of the gully, mirroring the gully floor profile (see Figure 3). Use old steel posts to secure the bundles to the gully bed.

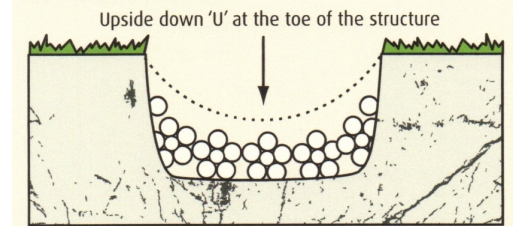
"Gully repair using fascines should occur in stages, one bundle high at a time, to minimise the risk of the surrounding banks eroding. Proceed with the next stage once vegetation has stabilised the previous work. Suitable vegetation can be planted into the bundles as soon as sediment starts to accumulate.

FIGURE 2 Aerial view of a fascine.



Source: Cam Wilson

FIGURE 3 Cross-section of a fascine.



Source: Cam Wilson

Growing material

"Another cost-effective idea is to grow future erosion repair material in situ. Poplar species are a suitable choice due to its ease of propagation, rapid growth rate, fodder value and coppicing ability, but casuarina, acacia and other fast growing species are also suitable.

"Establish plantations in July and August, using 2m long, 25-50mm poles cut from existing trees. Plant them about one metre apart on a contour, for 4-5m on either side of the gully.

"Protect the plantations from livestock and begin coppicing every second tree once their canopies start to touch.

"Fully coppice the trees once there is sufficient woody biomass, and allow livestock to strip the high protein foliage (cattle) and bark (sheep).

"Stack the woody biomass in tied bundles just upstream of any older structures, using the fascine design principles previously described."

For further information about using growing vegetation for in-stream erosion control, and other erosion control and landscape rehydration strategies, contact Cam Wilson.

Contact ▶

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