

# Grazing the coastal floodplain



**Floodplain**  
GRAZING PROJECT



Meet the graziers who are farming the floodplain sustainably



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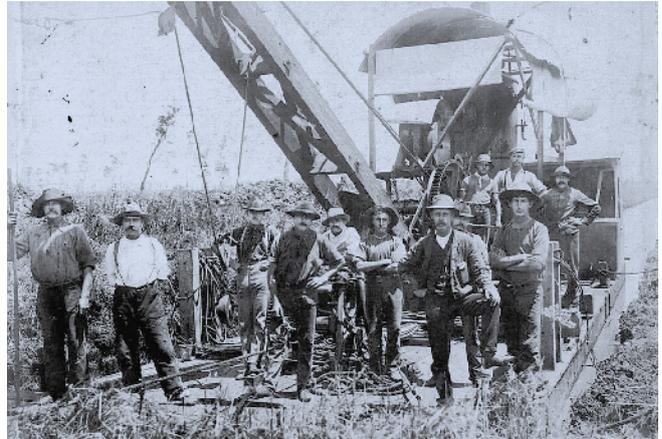
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Brett Bowling and Roy Bowling (p13) by Julie Mousley, Clarence Valley Landcare  
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# Farming on the floodplain

Historically, farming on floodplains was a risky business. They were prone to frequent flooding, which damaged crops and made land inaccessible for long periods. Many believed that floodplains had the potential to become rich agricultural land, if only floods could be controlled. This is illustrated in the Department of Public Works 1906 annual report:

*On the coastal rivers, there are thousands of acres of swamp lands of the richest character which only need proper drainage to make them very valuable. The drainage of these lands appears to be one of the surest and most profitable investments on which money can be employed.*



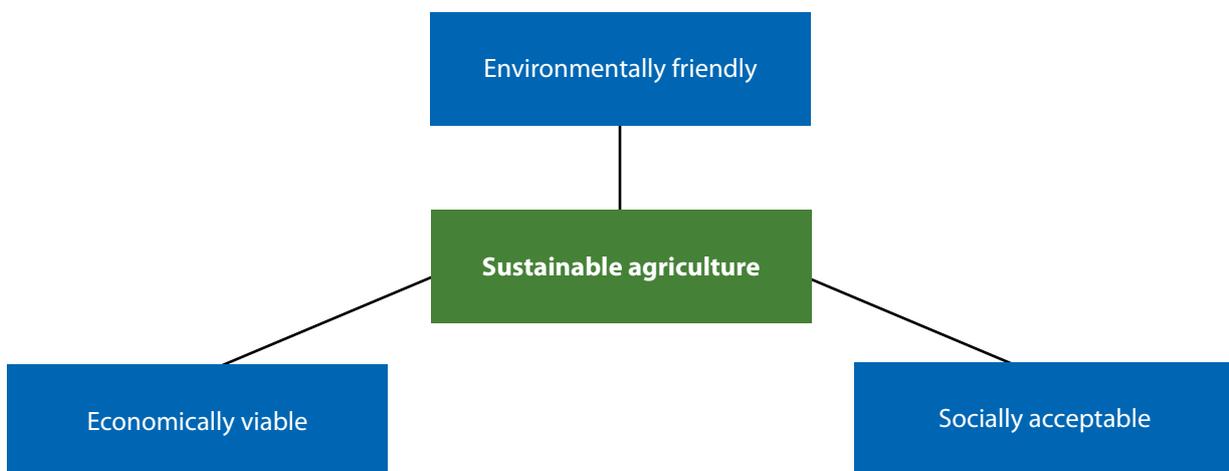
Since the early 1900s, floodplains have been drained and cleared for agriculture. Flood mitigation activity peaked on the north coast after the region experienced a series of large floods in the 1960s. Levees were built, drains dug and floodgates fitted to reduce the frequency and duration of floods. This resulted in more reliable production and closer settlement to the coast.

The discovery of acid sulfate soils in the late 1980s and a growing appreciation of the environment have again focussed public attention on the floodplains. Drainage brought many positive benefits, but also unrecognised negative impacts on the environment. Now there is an expectation that farmers will not only produce agricultural products, but also do it in a way that minimises impact on natural resources.

## **The concept of sustainable agriculture**

'Sustainable agriculture' emphasises socially acceptable farming methods that conserve the natural resources, such as soil and water, as well as the surrounding environment. The concept of sustainable agriculture is an 'intergenerational' one in which natural resources are protected or improved for the next generation rather than depleted or polluted.

Many of the issues floodplain farmers face were caused by historic practices which did not conserve natural resources or protect them for future generations. Now that our knowledge of the negative impacts of these practices has improved, farmers are in the position to meet the challenge of farming the floodplain sustainably.



# Sustainable floodplain grazing – a guide



## ***Use different parts of the landscape within their natural capacity***

Sustainable floodplain grazing is based on using your land within its capacity and knowing where your efforts are best placed. Levees rarely flood, contain the most fertile soil and can support a range of pasture species. Swamps regularly flood and can stay inundated. These conditions suit some native wet pasture species.

## ***Select a suitable grazing regime***

There are a number of different grazing regimes you can use on the floodplain, including: continuous, rotational, tactical, strip or cell grazing. Over-grazing or heavy continuous grazing can reduce soil health, reduce pasture competitiveness, increase weeds and less desirable species, reduce biodiversity and, in some cases, create acid scalds. Graziers report much better control of these impacts using rotational grazing systems, resulting in healthier, more robust pastures.

## ***Maintain soil health***

Common soil problems include compaction, pugging and lack of organic matter. Many of these can be addressed using grazing regimes, stocking rates and good soil management practices, such as minimising cultivation and maintaining groundcover. Graziers who adopt rotational grazing systems find their soil organic matter increases and the soil becomes less compacted. A rotational grazing regime also helps to maintain 100% groundcover, which is a good rule of thumb for enhancing soil health.

## ***Manage acid sulfate soils***

Reducing drainage is the key to managing acid sulfate soils. Drains can be re-designed so they are wide and shallow, or dropboard weir structures can be installed to hold water on low-lying areas.

## ***Manage weeds***

Many different weeds occur on the floodplain. These can be controlled by maintaining competitive pastures, manual removal and spot spraying. Aquatic weeds can be harder to manage. Maintaining good water quality and habitat features will help, but you may need to consult a local weed authority for further information.

### ***Consider floodplain animal health issues***

The most common animal health issues are related to poor nutrition. Establishing wet pastures based on species best suited to the growing conditions on your property will provide your cattle with some of the most nutritious pasture available on the floodplain. Maintaining a regular program of vaccinations and supplements, using rotational grazing and matching stock numbers to pasture availability will enable you to manage most problems associated with wet grazing.

### ***Enhance and protect biodiversity***

The first step to identify whether biodiversity is an important issue for management is to identify if threatened species, regional corridors and key habitats are located on or near your property. Enhancing or protecting biodiversity on your farm may require controlling pests, leaving some areas in as natural state as possible, controlling cattle access and returning swamps to a more natural water regime.

### ***Adopt fish friendly farms principles***

Floodplain agriculture can have both direct and indirect impacts on fish and fish habitat. Increasing native vegetation on river and creek banks, leaving snags in waterways, installing fish friendly crossings across creeks and providing off-stream watering points for stock can greatly enhance fish habitat. Agriculture can also affect fish downstream if the quality of water leaving the farm is poor. Managing acid sulfate soils, returning low-lying areas to a more natural water regime and establishing wet pasture species can reduce the occurrence of 'blackwater' events.



# Unique opportunities and constraints

Ten large coastal rivers and their extensive alluvial floodplains dominate the north coast of New South Wales between Tweed Heads and Taree. For farmers, these areas present many opportunities as well as significant constraints.

## Constraints

- Regular floods.
- Many low-lying areas which, despite historic drainage, remain inundated or saturated for long periods.
- Frosts occur and can be quite severe in low-lying areas.
- Much of the water in nearby rivers and creeks is tidal and can be too salty for agricultural use.
- Most low-lying areas are underlain by acid sulfate soils.



*Pugging in dried acid sulfate soil.*

*Photo: NSW DPI*

## Opportunities

- High, reliable watertable. Compared to properties in the upper catchments, floodplain farms fare better in droughts.
- Large areas of fertile alluvial sediment.
- Generally good access to water and most floodplain farms contain natural freshwater lagoons, wetlands or creeks.
- Low-lying freshwater wetlands provide ideal areas for establishing nutritious, native, wet pasture systems.



*Wet pasture in association with swamp.*

*Photo: NSW DPI*

These constraints and opportunities will influence a farmer's grazing regime, pasture selection and the location of farm infrastructure such as fences and troughs.

Farming practices on the floodplain can affect a range of community and natural resources. Other issues faced by floodplain farmers include:

- managing acid sulfate soils
- improving the quality of water leaving their farms
- maintaining and enhancing fish habitat
- maintaining and enhancing soil health
- managing weeds, including aquatic species
- enhancing biodiversity and habitat.

Community expectations about how these impacts are managed have changed. The common expectation now is that farmers are not only aware of issues but also managing them actively.



*Fencing saltwater wetlands from pasture can be a solution to managing some impacts.*

# Stories from floodplain graziers

The stories that follow tell of how graziers in the Clarence, Richmond and Macleay floodplains have overcome the challenges and taken advantage of the opportunities that are part of farming on the floodplain. Each story focuses on a different aspect; together they paint a picture of how floodplain grazing can be sustained into the future.

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# landscape management

## Issues

Tony Meston's dad always said 'you make more money in a wet season'. He knew that even a few inches of water kept the water couch growing, giving fresh green feed during winter frosts. Nevertheless, drainage of the wetland increased over time. Productivity declined as the landscape got drier. This was made worse by a lack of water level controls in the wetland, and in dry winters all water couch was lost to minor frosts.

The varied landscape also presented management issues. One was uneven pasture utilisation, where higher quality pastures were over-grazed, while poorer ones were under-utilised and became rank.

## Solutions

- Fence according to elevation and pasture type.
- Install more water troughs.
- Install an adjustable weir in the main drain.
- Attend workshops on managing floodplains.
- Work with other landholders to raise government awareness of drainage problems.
- Obtain funding to help address drainage problems.

## Benefits

Tony says, 'the adjustable weir means we can reduce the water level in the summer to maximise production. In winter, we'll keep water over the swamp. This will prolong growth, prevent frosting and minimise losses.' Other benefits include:

- ✓ controlled grazing of pasture at peak nutritional time
- ✓ increased pasture production and utilisation
- ✓ less time slashing unpalatable mature grasses
- ✓ stock travel less to water
- ✓ reduced soil compaction, tracking and erosion.

**'there is no one model that works the best for all floodplain grazing'**

Tony Meston

Grazier	Meston family
Location	Rocky Mouth Creek
Enterprise	Beef cattle, growing out replacement heifers
Size	237 ha
Family ownership	Part of original 1800's selection

## Future plans

Tony plans to increase fencing, move to a rotational grazing system and continue to monitor and improve water management.

## Most influential advice

The best advice the Mestons have heard is that there is no one model that works best for all floodplain grazing. Tony says, 'Just pick those things that lend themselves to your own operation.' Tony has found that talking to others has meant he can learn more in an hour than in years of trial and error.



Meston's farm covers both swamp and hill country.



Managing water into and out of the wetland is an important part of managing the farm.

# pasture selection

## Issues

Much of Robyn Mathers's property on the floodplain undergoes prolonged flooding and wet periods. This has led to months of unproductive pastures and the loss of improved pasture species. Grubs often attacked the pastures when they were starting to regrow after inundation and the cows would not eat waterlogged improved pastures.

## Solutions

- Keep the water in low areas rather than trying to drain and plant.
- Use minimum tillage in high areas.
- Recognise the benefits of water couch and conserve surplus water couch/paspalum.
- Allow cows access to the wet areas in wet periods.
- Switch from chemical intensive farming to low input farming using natural lower cost alternatives, achieving an 80% cost reduction.

## Benefits

Robyn lists some of the benefits as:

- ✓ increased water couch growth, often enough to graze one week after rain
- ✓ reduced seasonal pasture shortages
- ✓ increased milk production on water couch (by 1 litre per cow per day)
- ✓ spread of water couch by the cows (broken off bits are carried into new areas on the cows' legs)
- ✓ less money spent on fertilizer - around \$16,000, instead of \$90,000, per year.

***'the plant my cows loved and that actually thrived in the wet was water couch'***

Robyn Mathers

Grazier	Robyn Mathers
Location	Ruthven
Enterprise	dairying
Size	150 ha
Family ownership	19 years

## Future plans

Robyn plans to keep an open mind, farming within conditions and landscape limitations while encouraging water couch to spread over lower areas.

## Most influential advice

At a floodplain grazing course Robyn learnt that the plant her cows loved and that actually thrived in the wet was water couch. She also learnt more about its benefits. It is highly suited to the conditions on Robyn's farm and, at times, its nutritional value can be equivalent to rye grass.



*The results of good pasture management.*



*Robyn's dairy cows produce an extra litre a day on water couch.*

# grazing for good pastures

## Issues

When Neil Elphick purchased his property 6 years ago, his aim was to breed all his own stock and increase carrying capacity significantly. At the time, there was only one internal fence and the property was carrying 80 head of poor quality cattle. The property was covered in weeds, lacked groundcover and had poor pasture production. The alluvial soils had low levels of organic matter and were badly pugged. Neil could see that the property needed managing!

## Solutions

- Reduce weeds and introduce a maintenance program to keep them under control.
- Subdivide the paddocks.
- Use a rotational grazing system.
- Re-establish pastures by not over-grazing and managing pastures more sustainably.
- Grow a small area of crops, such as corn, for supplementary feeding.
- Provide cattle licks of coarse salt, sulphur and copper sulfate (bluestone).
- Install extra troughs connected to town water and surround them with concrete pads.

## Benefits

Neil has learnt that if he manages his pastures and stock well, his cattle are less stressed at market and he gets a greater return. Other benefits include:

- ✓ production has more than doubled, with up to 170 head including breeding of replacement stock
- ✓ the herd stays in good health, with much less three-day sickness
- ✓ weeds are now under control
- ✓ groundcover has increased with water couch in low-lying areas, and the rest a mix of buffalo, couch and kikuyu
- ✓ soil organic matter has increased and previously pugged or bare areas have revegetated.

***'spread the cattle out  
in as big an area as  
possible'***

Neil Elphick

Grazier	Neil Elphick
Location	Clybucca
Enterprise	Beef cattle
Size	48.3 ha
Family ownership	6 years

## Future plans

Neil's key aim is to maintain the property in the best condition possible. He'll continue to breed, rear and fatten his own cattle to provide a consistent turnover and reduce disease risk. Another fence in his breeder paddock is also planned, so that he can use rotational grazing there.

## Most influential advice

Neil was told, 'buy swamp country and you have to put up with swamp country.' This prompted him to do some research. The best advice he worked out for himself was, spread the cattle out in as big an area as possible during wet periods. This way, compaction and pugging of soil is minimised and a greater area of pasture is available for grazing.



*Neil now breeds his own stock. He has doubled his carrying capacity by pasture and stock management.*



*Quiet cattle are another benefit Neil is enjoying.*

# acid sulphate soils

## Issues

Des and Mitchell Hyde's farm has an area of acid sulfate soils which was heavily drained many years ago. The farm floods frequently, with over 2 metres of water lying on the lowest areas.

Over the years, the area of pasture has decreased and a monoculture of reeds has developed across the drained swamp. The water quality in the drains and leaving the property has often been poor and at times there have been acid sulfate and salt scalds.

## Solutions

- Install a weir, stock crossing and floodgates across the drain from the swamp area.
- Fence the swamp and hill areas and put in water troughs.
- Reduce the reeds with strategic wick wiping and slashing.

## Benefits

Some of the benefits Des points to include:

- ✓ the swamp is wetter for longer, the water table higher, acid outflow and scalding are reduced, fewer salt deposits occur and the quality of the water entering waterways is improved
- ✓ the cattle prefer to use the dedicated crossing
- ✓ there is less damage to banks from cattle crossing and no cattle are bogged in the drain
- ✓ cattle prefer to drink from troughs than from the drain
- ✓ animals seem healthier, with less scouring.
- ✓ the extra fences have enhanced cattle movement
- ✓ cattle access to swamp areas is controlled and pasture utilisation is better.
- ✓ the removal of the reeds has allowed grasses (water couch) to re-establish.

**'make small changes  
and improvements  
continually'**

Des Hyde

Grazier	Des & Mitchell Hyde
Location	West Coraki
Enterprise	Beef, vegetables & tea tree
Size	142 ha
Family ownership	22 years

## Future plans

Des wants to keep on improving his management, remove more reeds and add more fences.

## Most influential advice

When Des first purchased his land, he was told, 'Don't spend a lot of money on the swamp - put your money into the high country.' Des has tried to manage his land according to landscape and its potential, never trying to grow crops on the swamp.

Des believes that the way to progress is to make small changes and improvements continually. Don't try to fix the problem in one hit is his advice.



Water couch is returning when areas are left wet.



Fencing is part of Des's grazing management.

# drainage

## Issues

Roslyn and Milton Rowe's property is 8km long and very narrow, bisected by a deep union drain to the Belmore River. Farming cost-effectively presents unique management problems. The drain is very deep and dissects an acid sulfate soil area. It's costly to keep the drain fenced and cleared of vegetation. The water quality out of the drain is often poor.

To access high quality pasture the cows had to walk a long way from the dairy. This was a big issue, as every kilometre that a cow walks reduces milk production by 1 litre.

The Rowes were also concerned about the lack of shelterbelts and the reduced presence of native grasses.

## Solutions

- Reduce stocking rates.
- Use rotational grazing and feed conservation.
- Let the milkers graze closer to the dairy and have beef cattle use paddocks further away.
- Reserve the best feed for very young stock and heavy milkers.
- Allow native plants, such as water couch, rushes and reeds return rather than plant improved pasture species.
- Alter laneways and paddocks to avoid boggy areas.
- Install troughs in more paddocks.

## Benefits

- ✓ The management changes are cost effective. Cattle walk less and milk production is higher.
- ✓ Stock access is improved.
- ✓ Better quality water and fewer problems with bogging of pasture, cattle scouring and sore feet.
- ✓ Native grasses provide better grass coverage and cheap feed, with little reseeding needed.
- ✓ Soil health has improved.

***'it's critical to work within your land's capability'***

Roslyn and Milton Rowe

Grazier	Roslyn & Milton Rowe
Location	Kempsey
Enterprise	Organic dairy and beef cattle
Size	140.7 ha
Family ownership	Rowe family farm. Extra land purchased 7 years ago

## Future plans

Roslyn and Milton hope to work with their local council to change the drain to a shallow dish-drain. This will improve water quality in the drain and reduce maintenance. Better drains and raising the laneways will allow easier movement of the stock in wet times.

They also want to put in more water troughs and persevere with their efforts at creating shelterbelts.

## Most influential advice

Roslyn and Milton understand that droughts don't last forever, the wet will return, and one wet year can cause more setbacks than six years of drought to a lowland farmer. They know it's critical to work within your land's capability. Do not overstock in a good season as the extra grass will improve organic matter levels in the soil. Increased organic matter holds moisture in dry times and speeds drying out in wet periods.



Roslyn and the union drain that bisects the property.

# rotational grazing

## Issues

Over the years, Brett had seen a decrease in his property's productivity. Pasture species and pasture health had declined. Hundreds of hectares of valuable wet pastures, such as water couch, had almost disappeared.

Other problems were uneven pasture utilisation, low groundcover and soil organic matter levels, seasonal flooding and over-drainage.

## Solutions

- Fence the property into 22 smaller paddocks, using the landscape as a guide.
- Introduce 40 day rotational grazing cycle, with 2 days of grazing per paddock in summer and 3-6 days in winter.
- Plant trees for shelter belts.
- Be involved with the community consultation on how best to manage the drainage system on this wetland.
- Install a low-level water retention system to allow free drainage while maintaining an appropriate water level in the backswamp.

## Benefits

Brett has seen a large increase in pasture production and much better utilisation. His cattle do not have the opportunity to graze selectively. This has increased the number of plant species present and there is now water couch where it hasn't been seen before or had disappeared.

Brett has also seen:

- ✓ increased groundcover and organic matter
- ✓ revegetation of acid scalds
- ✓ quieter cattle and they are easier to work.

## Future plans

Brett plans to increase the number of paddocks; providing more options within the rotational grazing system.

To help cattle management, Brett will install a buffalo flytrap and stabilise the area around the water troughs to prevent bogging.

Long term, he also wants to move to organic beef production.

**'well managed soil will maintain deep root systems, dense pastures and abundant worms'**

Brett Bowling

Grazier	Brett Bowling
Location	Tucabia
Enterprise	Beef cattle
Size	384 ha
Family ownership	Over 150 years

## Most influential advice

Brett says two events influenced his decision to implement a rotational grazing system: a Landcare field day on cell grazing, and a NSW DPI Landscan™ course. The Landscan™ course included a soil test and the results weren't good. However, the property has been in the family for over 150 years and Brett knew its potential for excellent production. The two courses prompted Brett to look at why productivity had declined and to make management changes. He knew well managed soil will maintain deep root systems, dense pastures and abundant worms. His changes have increased productivity and improved the environment.



Brett, seen here with his father, Roy, is confident of his future as a floodplain grazier.



Brett can see how groundcover and pasture production have increased.

# grazing regimes

## Issues

Geoffrey and Rhonda Saul farm a number of properties that cover over 20 km and range from hills to swamps. Originally, the paddocks were large. Cattle walked long distances to water and grazed selectively, and calving percentages were not ideal. In addition, weeds were a problem, there were seasonal feed shortages, management was difficult and stock were sold at public sales.

## Solutions

- Develop their properties according to the natural landscape.
- Dedicate areas for each stage of cattle production.
- Manage six breeding herds independently using cross breeding to increase vigour.
- Use a rotational grazing regime.
- Install new fences and troughs.
- Slash or mulch pastures after cattle are moved out and cut some paddocks for silage.
- Market weaners all year round direct to a butcher.

## Benefits

With the changes they've made, Geoffrey and Rhonda experience many benefits, including:

- ✓ finding life easier, with workload and income spread over the year
- ✓ cattle have increased weight gains and calving percentage is up by 25%
- ✓ cattle have fewer worm problems, walk shorter distances and are easier to handle
- ✓ better pasture utilisation
- ✓ pasture production has increased with the quicker regrowth, and silage is used for seasonal feed shortages
- ✓ pastures have a greater diversity of species, denser groundcover, and fewer weeds.

**'understand your land  
and its capacity and do  
not overgraze'**

Geoffrey and Rhonda Saul

Grazier	Geoffrey & Rhonda Saul
Location	Bellimbopinni, near Kempsey
Enterprise	Grazing
Size	1500 ha
Family ownership	50 years

## Future plans

Following the success of their rotational grazing, Geoffrey and Rhonda intend to increase the area rotationally grazed by putting in more fences and troughs. They will continue with their new style of management and intend to take life easier.

## Most influential advice

Geoffrey and Rhonda say that to be effective land managers, 'you need to use your intelligence and commonsense, understand your land and its capacity and do not overgraze so the land can re-establish itself more rapidly.'



Fencing, troughs and laneways are part of Geoffrey and Rhonda's successful use of rotational grazing.



The Sauls now have six herds, each managed independently.

## Issues

In the 1960s, watertable changes, caused by the earlier removal of trees, led to salt inundation on the floodplain and a decline in soil health and pasture production. This is the underlying issue Vic Boutell is dealing with as he tries to improve biodiversity, soil health and productivity. Other issues include the possible loss of wetland lagoon areas (which provide both bird habitat and wet pasture species such as water couch), the impacts of over-drainage on his acid sulfate soils and the impacts of floods and weeds.

## Solutions

- Never remove any riparian vegetation.
- Fence riparian areas to exclude stock.
- Fence off, and dedicate, two hectares next to the riverbank as bushland for wildlife.
- Plant more trees on the floodplain.
- Slash and targeted sprays to control weeds.
- Manage the high tide overflow into the lagoons to retain water in them.

## Benefits

By minimising riverbank disturbance, Vic has very little riverbank erosion, and riparian vegetation and biodiversity are flourishing. Other benefits include:

- ✓ improved soil health and less acid sulfate soil problems as the number of trees on the floodplain increases
- ✓ more water couch and increased birdlife as the lagoons are maintained. For example, the endangered black-necked stork is using the lagoons for nesting.

*'understand your land and the environment'*

Vic Boutell



Grazier	Vic Boutell
Location	Bora Ridge Bungawalbyn
Enterprise	Beef cattle
Size	345 ha
Family ownership	Over 100 years

## Future plans

Vic would like to retire and hand over to his son. He sees the future of the property in maintaining the biodiversity of the lagoons and riparian zones.

In addition, Vic is concerned about the recent uncontrolled spread of the native watergum (*Melaleuca bracteata*). It spreads rapidly on the floodplain and excludes the pasture.

Vic would like also to see local redgum trees planted over much of the floodplain especially in the acid sulfate soil areas.

## Most influential advice

The advice Vic follows and would pass on is to understand your land and the environment and manage the land accordingly. And always have a backup plan!

Vic believes in conserving the fragile floodplain and this means that stock need to be moved off the floodplain every flood or very wet period. Access to higher land as well as riverbank country is critical.



*Vic is proud of what he is achieving by protecting the biodiversity on his property.*

# bird & fish friendly

## Issues

Bob Ford and his father purchased their property at Jerseyville 40 years ago. He realised that fish nursery habitat was being destroyed and the land was not economically viable if farmed traditionally. Bob's primary aim was to preserve the 92 hectares of saltwater wetlands on the property.

## Solutions

- Reduce the dairy herd from 130 head to 80 head and at the same time reduce inputs and stop growing supplementary feed.
- Switch from dairy to beef cattle production (a recent change).
- Fence and exclude cattle from 6km of creeks and wetland areas.
- Remove weeds and allow natural revegetation.
- Improve soil fertility on the ridges.
- Create 10 ha of freshwater wetland.
- Preserve the saltwater wetlands.

## Benefits

- ✓ The 10 ha of freshwater wetlands is the most important piece of Bob's farm. It has drought-proofed the property. Keeping this area wet has also raised the watertable of the whole farm. Soil moisture is available for pasture growth in dry times and potential acid sulfate soil problems are minimised.
- ✓ Over the last 40 years, two-thirds of the farm has been returned to nature. Biodiversity has improved (over 200 bird species have been recorded and many more plant species have become established) and the fish nursery habitat is restored.
- ✓ Once the system was set up with less intensive farming and reduced inputs, Bob found he needed to work less and had a higher income.

**'Understand the ecosystems on your property'**

Bob Ford

Grazier	Bob & Ellen Ford
Location	Jerseyville
Enterprise	Dairy – beef cattle
Size	133 ha
Family ownership	40 years

## Future plans

Bob's main aim is to finalise the dedication of 92 hectares of wetlands as a nature reserve. He wants to retire from farming, return to commercial fishing and have more leisure time.

## Most influential advice

Bob says he's not really heard much good advice but knows that he's been able to farm the floodplain successfully and sustainably. Understanding the ecosystems on his property, farming close to nature and knowing the economic and environmental value of each, and every, input he puts into the system has enabled Bob to reach his goals.



Bob is justifiably proud of the wetlands he has protected on his property.



Fences separate the wetlands from pasture.

# planting trees

## Issues

Desley and Lance independently own properties and lease areas. In total, they manage 720 hectares, of which some areas have no trees at all.

They saw the need to increase biodiversity, control weeds and regenerate wetlands. Doing these things would also help to improve water quality, provide shade and improve the health of their cattle. They also wanted to reduce chemical use and improve pasture utilisation.

## Solutions

- o Fence creek and wetland areas.
- o Plant riparian zones to link existing vegetation corridors.
- o Subdivide paddocks.
- o Control stock access to creeks and install off-stream troughs.
- o Use soil testing to guide decisions.
- o Mulch paddocks and monitor pasture quality.

## Benefits

Some of the benefits Lance and Desley see on their properties include:

- ✓ creek banks are no longer eroding
- ✓ improved water quality
- ✓ better utilisation of pastures
- ✓ better pasture growth and diversity, which allows pastures to out-compete weeds
- ✓ increased groundcover and soil organic matter.

## Future plans

Lance and Desley plan to build shade shelters for their cattle (while the trees mature) and increase the number of paddocks to improve their rotational grazing.

Extra fencing along waterways is planned. This will further control stock access and allow tree plantings to reduce erosion.

They also plan to remediate areas affected by Parramatta grass and water hyacinth.

***'Trees build the whole farm environment, including productivity'***

Desley Spencer

Graziers	Lance Timms and Desley Spencer
Location	Owned or leased in the Brushgrove/Calliope / Clarence
Enterprise	Beef cattle
Size	720 ha
Family ownership	Up to 25 years for some properties

## Most influential advice

Desley saw a documentary many years ago on the importance of trees and how they improve the whole farm environment, including productivity. Since then, her drive to build the farm environment has underpinned all land management decisions. She was also impressed by what she learnt (at a cell-grazing workshop) about monitoring your pastures and using rotational grazing. Lance's best advice is to understock and work hard.

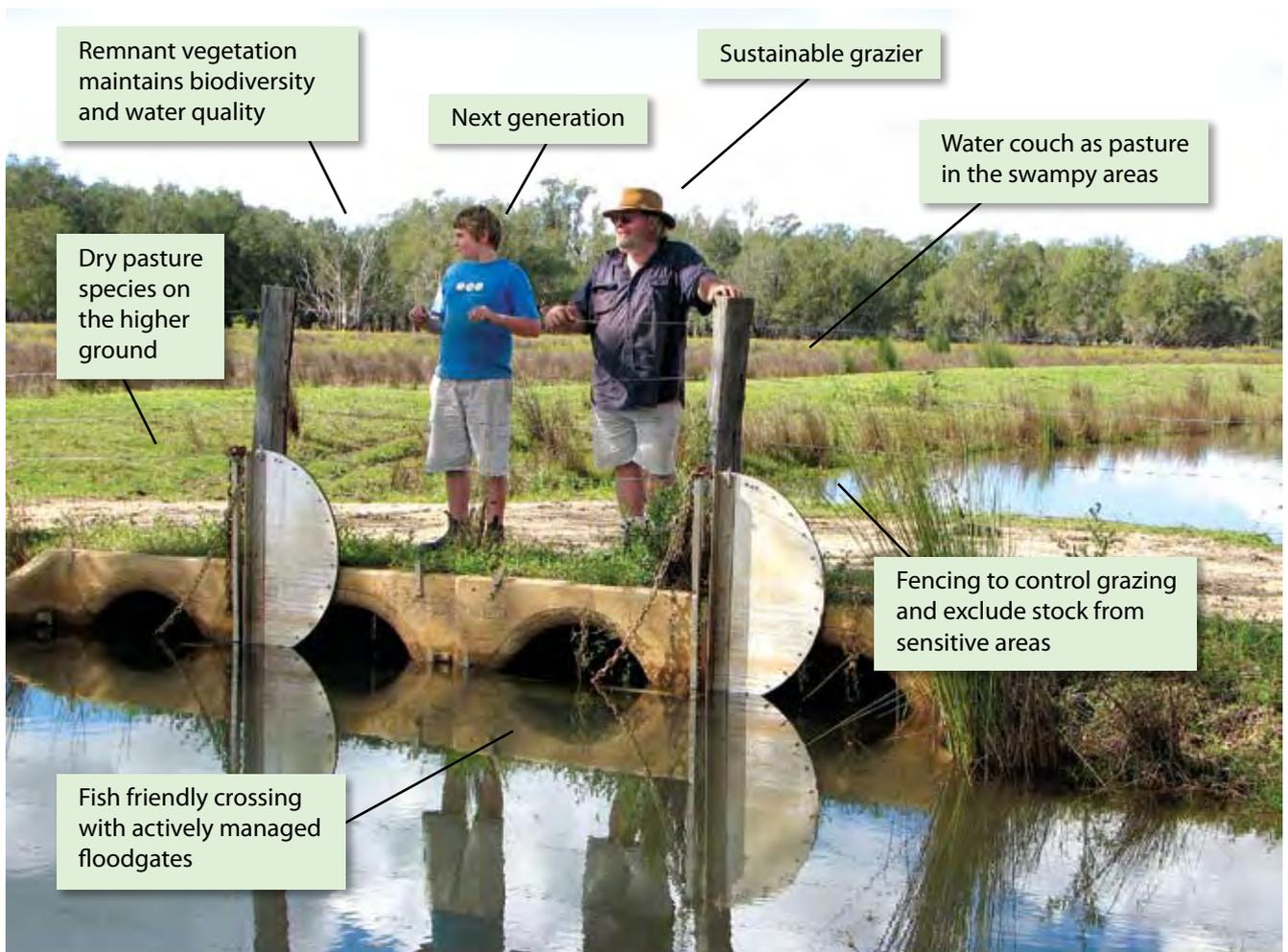


*Fencing and tree planting are central to Lesley and Lance's management.*



# Resources

- *Black water*, Floodplain Grazing Project information sheet, (2008) NSW Department of Primary Industries.
  - *Establishing a wet pasture system*, Floodplain Grazing Project information sheet, (2008) NSW Department of Primary Industries.
  - *Feed quality of coastal wet pastures*, Floodplain Grazing Project information sheet, (2008) NSW Department of Primary Industries.
  - *Grasses of the North Coast of NSW*, (2007) Rose, H., Rose, C., and Campbell, T., NSW Department of Primary Industries, Orange.
  - *Restoring the balance: guidelines for managing floodgates and drainage systems in coastal floodplains*, Johnston, S., Kroon, F., Slavich, P., Ciblic, A., and Bruce, A. (2003) NSW Agriculture, Wollongbar.
  - *Water couch*, Floodplain Grazing Project information sheet, (2008) NSW Department of Primary Industries.
  - *Water couch. growth and productivity*, Floodplain Grazing Project information sheet, (2008) NSW Department of Primary Industries.
  - *Waterplants in Australia: a field guide (4th ed)*. (2003). Sainty, G.R. and Jacobs, S.W.L, Sainty and Associates, Sydney.
- To obtain FGP publications, contact NSW Department of Primary Industries at Wollongbar by telephone (02) 6626 1200 or email [Wollongbar.office@dpi.nsw.gov.au](mailto:Wollongbar.office@dpi.nsw.gov.au). These and other resources can be viewed at [www.dpi.nsw.au](http://www.dpi.nsw.au)



# The Floodplain Grazing Project

## *The extension program*

The Floodplain Grazing Project is an extension program developed by the NSW Department of Primary Industries. It is specifically designed for graziers utilising low-lying floodplain areas and promotes the concept of sustainable agriculture, where impacts on the environment are reduced and productivity maintained or enhanced.

The extension program is a series of interlinked workshops, field days or bus trips. The program works progressively through the concept of sustainable agriculture, with each session focussing on a different aspect. Sessions cover diverse issues such as:

- landscape interpretation
- acid sulfate soils
- soil health
- pasture identification and nutrition
- floodplain animal health
- grazing regimes
- fish habitat on farms
- weeds and biodiversity
- climate forecasting.

Most sessions include a mapping exercise. Landowners have the opportunity to map the concepts presented on their own properties.

The last session focuses on recording and monitoring. Landowners benchmark their current management practices and identify priority issues and management strategies to address these. Landholders also meet local extension and project officers, from a range of organisations who can assist with any future inquiries and projects.

## *Funding incentives*

At the completion of the program, small grants for on-ground works are offered to participating landowners. Landowners competitively tender for the funding, by identifying what works they would do and what financial assistance they need. This allows landowners to implement works they have identified through the program, maintaining their momentum and motivation.

## *Landowner involvement and commitment*

To date the program has run in the Richmond, Clarence and Macleay Valleys with funding assistance from the Northern Rivers Catchment Management Authority, through the National Landcare Program.

In total 130 different landowners have participated in the Floodplain Grazing Project, between them owning 15,530ha of floodplain and 5,490ha of swamp. All the landowners who participated in the Floodplain Grazing Project are to be congratulated for their interest in adopting sustainable agricultural practices.

This booklet includes interviews with a range of landowners who participated in the extension program.

It highlights their experiences in meeting the challenges of farming the floodplain sustainably.



# Join the sustainable floodplain graziers!



- 1** Understand the soil, plant and animal resources you work with on your farm.
- 2** Manage your enterprises to maintain or enhance productivity, profitability and environmental values.
- 3** Continue to learn, adapt and apply what you learn.



**Floodplain**  
GRAZING PROJECT



Australian Government



Northern Rivers  
**CMA** CATCHMENT MANAGEMENT AUTHORITY



NSW DEPARTMENT OF  
PRIMARY INDUSTRIES