



reef heroes



Drain transforms into Reef water filter

Reef Heroes Ray and Rosemary Vicarioli have transformed a deep, dangerous and eroded drain to ensure the water running from their cane paddocks is as clean and clear as possible before it flows into a natural creek and down towards the ocean.

It's not glamorous work but it's the kind of project farmers are tackling to do their bit to safeguard the future of the Great Barrier Reef.

With an average annual rainfall of around 7,000mm a year, managing water is a big part of farming in the foothills of Mount Bartle Frere in far north Queensland. Over time, flowing water had scoured a two-metre wide and two-metre deep channel carrying runoff from Ray and Rosemary's farm as well as neighbouring banana and cane farms.

Supported by a grant from the Australian Government Reef Programme, the couple has spent two weeks of solid work re-forming the 120m long drain.

Together they laid 24 big pipes to take most of the water flowing down the gully. These were covered with sand before narrower seepage pipes were laid over the top to take water from the adjacent cane fields.



Before the renovation



Ray and Rosemary Vicarioli with their water-filtering drainage line

Then the channel was filled with layers of gravel, sand and dirt – which all work to filter sediment from the water as it seeps through. The top has been planted with grass to prevent future erosion. A final, rocky silt trap catches any surface water that remains before the junction of the drain and Menzies Creek.

"If there's any silt coming through the pipes it'll be caught in the last bit behind a log before the water goes into the creek," Ray says.

The project extends work Ray did with his father further up the hill some years ago and builds on revegetation the family has done along the creeks which flow through their farm – the tree planting is now a habitat for wildlife and birds.

Paddock contouring designed to minimise water velocity and Ray's commitment to minimal tillage farming methods and cutting his cane green (with the leaves left on the paddock as a mulch blanket) also contribute to keeping soil and nutrients on the property.

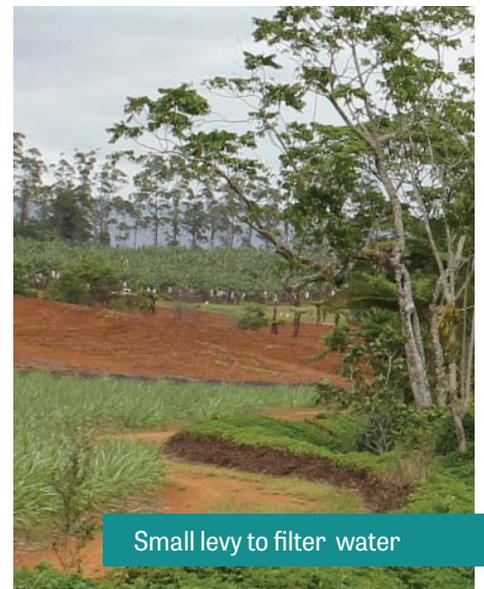
"When the rain comes down, it comes pretty quickly. We can get three or four inches (75-100mm) in an hour and if you get an accumulation of water, it picks up speed and causes erosion," Ray says.

"I've tried over the years, and spent a lot of money, to rebuild headlands to control each paddock's water within itself.

"I think that silt control and containment and relevant earthwork projects are very important because silt has been targeted for pesticide and nutrient run off in waterways."

Further downhill and along the tree-lined creek, Ray has built up a 50cm levy bank. His aim is to filter any water flowing from the lower cane blocks towards the creek.

"Any runoff from the paddocks basically sits there and slowly seeps through," he explains. "Trash blanketing too does a great job of holding the water back so very little silt is getting through now."



Small levy to filter water