

Landscapes on Tocal - 360

Hello, I'm Delphine Puxty, I'm involved with the Diploma of Agriculture and Conservation and Land Management at Tocal College. We're here today to have a look at how we read the landscape, and at Tocal College we spend a lot of time understanding our landscape so that we can better allocate our resources and grazing pressure to different parts of the landscape. So when we are reading this landscape, we do so 'cause we can understand where we can put the different enterprises on Tocal.

So on Tocal we run a beef cattle enterprise where we produce calves for beef production. So most of that happens in these rugged hills and lower slopes areas - so further out to the west here - where it's good for breeding animals, we don't have to, it's not highly productive and we can use that sustainably for breeding beef cattle.

Then we use the more productive areas and where we've got access to good water and the roads for the dairy. So we have to have a truck that comes in to collect milk everyday - or every few days to collect the milk and so it's important we're near the main road. They're really highly productive soils, we've got access to water in the river to irrigate as well so that's why we allocate that area of the property to dairy production.

We also have a sheep enterprise which is also down on these old river terraces and lower slopes and that's because we need to have access to those sheep to protect them from predation from wild dogs and keep a close eye on them.

Tocal College also runs a free range egg production system which is over in the corner, you can just see the sheds and the area of land that's allocated to is less dependant on the landscape as the other production systems. It's important to have good drainage to ensure that the areas don't become waterlogged. They have access to, the chickens have access to trees for shelter and that's - it was purchased as a separate enterprise after the main Tocal farm.

[02:16] Rugged Hills - Here we are now in the rugged hills landscape we are surrounded by trees, these are mainly spotted gums. And you can see that it's quite a steep slope here and that means that we can really only use this for light grazing. It's really important that we protect the soil surface by keeping the grass cover and the vegetation cover here and that stops the soil from eroding down into the more productive areas where we could have problems with silting of dams and water courses.

This is a really important part of the landscape because it provides us with lots of biodiversity. It's really nice to look at. It's obviously good to have a place where we can appreciate the biodiversity and the native wildlife and trees and plants that are here. It also allows us to do some light grazing as I've described and provides an important function in being a watershed, providing clean water for our lakes and dams and lagoons.

We can see some regeneration of the native trees, the native gum trees which is great. Unfortunately we do get some weed problems in these areas mainly lantana and african olive and they usually get dropped by birds and other animals that drop their seeds. And they can be hard to access and control weeds in this sort of area.

There's pretty unique patches in this landscape, this rugged hills landscape in protected pockets with a certain aspect we can get some interesting dry rainforest areas - little pockets in protected gullies. And they are really important because they have some really unique species that live in there.

[03:58] Gentle slopes - These are the lower slopes where we're coming off the rugged hills and we've got the drainage lines that slowly grade down into our lower terraces. These are very productive areas of land for grazing. We use them for our breeding herd - for beef cattle. And they have much deeper soils than we did have on the rugged hills, and that allows us to sow some improved pastures. And we can also put in some areas of cropping for some more intensive production. Mainly for forage crops, so crops that we can cut either for hay or for silage or to feed directly.

Again we end up with issues associated with some weeds - more pasture based weeds. So mainly fireweed and thistles as you can see around but

overall we aim to maintain that ground cover with our perennial pasture species so that they can outcompete some of the weed species that we end up with.

Still playing an important part in drainage, and we have some small dams that we use for water sources for the cattle and those drainage lines are important that we maintain clear access for the water to flow through from the rugged hills.

The herd here is Brangus cattle - so a cross between Brahman and Angus. And they've been selected for their meat eating qualities, that's from the Angus and their production traits and the Angus, sorry the Brahman has good adaptability to our sub-tropical climate here and it enables them to graze long distances walking and also tick resistance and also some other breed resistance that's inherent in the Brahman cattle.

[05:48} Lagoons - These are the lagoons that were the reason why Tocal was first settled by Europeans. So the Europeans came along and discovered the water supply here and considered that to be important to establishing their homestead here and their agricultural activities. Obviously Aboriginal people had been here for a lot longer and the name Tocal is considered to mean an area of plenty and obviously of plenty of water. So the lagoons are obviously very important for biodiversity and in providing water habitat and in providing water for a range, wide range of birds and animals and reptile species. We have lots of birds here we can see today, quite possibly you can hear them, and they rely on this water source for food, habitat and nesting spots. Over the years we've spent a fair bit of effort to protect these lagoons and wetlands by fencing them and restricting livestock access. And that's encouraged the biodiversity and conservation of these areas.

We are very careful about using the soils around here. They're prone to water-logging and if we have a lot of livestock or traffic - tractors and heavy machinery - that can cause the soil to get very compacted so it's important that we are quite careful with the amount of pressure we put on these soils particularly when they're wet.

And the other consideration for us is making sure we don't expose some of the soils that are at depth because they can be prone to acid sulfate soils which can greatly affect the environmental conditions for the wildlife around here.

[07:34] Wetlands - This is one of the wetlands that forms a series of little lagoons and creeks and wetlands just below the Homestead. And this area is fenced off and was part of a rehabilitation project including some planting of trees and fencing in the last 20-30 years. The result is we've got a really mature stand now of these casuarina trees and they're really important because they're a native species that are part of this local ecosystem and they can utilise the water at depth and provide a really important habitat for a number of bird and animal species.

We manage this wetland as part of the greater water course management and that includes weed control and managing our grazing pressure appropriately in these areas. So this area we don't graze at all but some of the surrounding areas we do lightly graze when the conditions are right.

[08:34] Rounded Hills - This is the rounded hills landscape we saw from across on the other side of the valley. And these derive from basalt soils which originally would have been from lava flows from a volcano. So very deep rich soils that are highly productive. They have a good clay content that means that they freely drain - they drain well but they also retain nutrients and moisture as well. They are very productive soils, they're steep unfortunately which means they're difficult to put into cropping or improved pasture but otherwise they are very productive for grazing.

Below us you can see the Webbers Creek and that's a tributary of the Paterson River and we are slowly working our way along Webbers Creek doing rehabilitation and fencing off areas, restoring it to how it would have been original. And so importantly we have to aim to reduce some of those invasive species such as the giant reed and willows that are along the stream banks. You can see also the series of wetlands and water courses that run into the lagoon that we were at earlier on.

[09:46] Old terraces - We're now on the old terraces that would have formed part of the original floodplain for the Paterson River and over time the Paterson River's changed course and as it moves it leaves these old terraces. So these are all alluvial soils they're deep rich soils and they're quite fertile and they retain their moisture well. They can be susceptible to compaction and water-logging so it's important we manage these carefully by preventing too much over-grazing when it's really wet or over-use of machinery.

In the background you can see the sheep herd and there's a maremma guard dog who's keep close eye on us and there's also some dairy heifers grazing in these pastures as they grow out. Behind us is the Webber's Creek and there's an area there you can see there is some revegetation and it's been quite successful - we just need to keep up with some ongoing weed control in that area.

[10:48] River flats - These are the more recent flood plains of the Paterson River. They're really highly productive soils, we use them for cropping. We've just recently sown this to lucerne which we'll use to bale to make hay and silage. Here we have the Paterson River which joins up with the Webbers Creek just behind us. And that's an important connection that we maintain through our careful management of this area. This is a very small strip but highly productive.

[11:21] Rivers and creeks - This is part of the Webbers' Creek floodplain. They are small pockets of land that we use intermittently for cropping or cutting hay. We don't allow access to stock to these water courses because they tend to trample the banks and that causes just further erosion and degradation of those water courses. So we are aiming to fence and control or limit stock access to those water courses and just use them intermittently as required.

[11:51] That's the end of our trip around Tocal looking at the landscape. You can see we started off in the rugged hills up the top here, we slowly travelled down through the lower landscape, the lower slopes into the wetlands and lagoons and then across to those rugged hills - I mean sorry rounded hills in the distance you might be able to pick up just behind the Homestead buildings. These drainage lines run into the Webbers' Creek and then ultimately the Paterson River where we saw the alluvial terraces and the more productive parts of the property.

You might be able to pick up the Tocal campus behind us and then also the Homestead buildings, some of the HOMestead buildings here. Thanks!