Strategic wind breaks for erosion control

This project is supported by Wheatbelt NRM, through funding from the Australian Government’s Caring for our Country.

Project Snapshot

Names: Simon Cugley – including brother Matt (and his wife Melissa), and parents Jeff and Rosemary
Farm names: Anchorage and Caringa
Location: Lake Bryde/Holland’s Rock
Catchment Group: No longer a catchment group in the area
Rainfall: 350mm but autumn rainfall becoming less reliable
Soil types: Everything from gravels to clay
Enterprise mix: Grain and sheep (Marinos and SAMMs)
Species planted: Biodiverse mix, mallees and sandalwood
Been planting for: Over 40 years but tree crops since 2000 (parents have always planted)
Soil types: 50,000 biodiverse species, 70,000 mallees, 25,000 sandalwood hosts
Overall success/survival rate: Around 90%

Simon is a young second generation farmer. His parents came to the property in 1967 from Perth, because his father wanted to be a farmer and was allocated a block. While Simon does have interests in the family farm of Caringa, he has his own farm nearby, Anchorage.

The trigger - why did he start planting in the first place?

Lake Bryde was going saline so Simon became involved with the Department of Environment and Conservation (DEC) through a native bush project. Soon after that, opportunities came up to plant oil mallees. ‘Part of this farm was definitely over cleared so I started looking at tree crops’.

There was a problem with wind erosion and chemical drift. Simon’s initial aim is to plant all his fencelines with 20m wide belts that will also act as wildlife corridors, linking the remnant vegetation on the farms. He feels that this will help Lake Bryde, the environment and the whole farm. Simon feels that this style of planting on his farm will help arrest wind erosion and prevent spray drift in the future.
There are some smaller areas of remnant vegetation on his farm which on their own may not be providing much habitat value, but by realigning fences and linking with wide corridors, Simon feels he will have a healthy combination that will suit his farming practices while providing environmental benefits.

Simon’s father, Jeff, said ‘being a sheep farmer, any type of trees give good protection. We have noticed that lambing or grazing ewes tend to stay on the leeward side of the windbreaks. They keep the ewes warm and protect them.’ Jeff has also noticed that they eat less and achieve better lambing when the ewes are protected. ‘I have noticed trees protecting an area more than 10metres out and stop what I call avalanching – that is when the soil starts tumbling and picks up momentum as it blows away’. The Cugleys have also noticed the difference the trees make to their wheat crop ‘the trees stop the crop getting sand blasted’.

Simon has put in the tree lines using guidance to suit the paddocks ‘so that the trees do not get in the way’. Simon would like to see more farmers involved in similar activities.

‘Not one farmer will make a difference, it needs a few more’.

Ultimately Simon has not planted the mallee with harvesting or carbon in mind ‘but at the back of our minds if we could harvest, that would be a bonus’.

Critical success factors:

- Weed control
- Need to prepare the site 2 years before
- Use a tree planter and plant deep
- Follow up rain
- Tree planter with press wheels to really press the seedling in tight to get rid of air pockets
- Ripping thyne to harvest rain.

Future of tree crops: Simon is hopeful that there will be a return from tree crops down the track but in the mean time they are doing a good job for the farm.

The following information has been provided courtesy of the Department of Environment and Conservation:

**Lake Bryde Natural Diversity Recovery Catchment**

The Lake Bryde area was declared a Recovery Catchment for natural diversity in July 1999 (under the State Salinity Action Plan). This was due to a number of factors:

- It is an area of outstanding ornithological importance (23 waterbird species (7 breeding), plus 60 other bird species). It is also a habitat for the declared threatened Freckled Duck.
- Contains a Threatened Ecological Community (TEC) (Unwooded freshwater wetlands of the southern Wheatbelt of Western Australia, dominated by Meuhlenbeckia horrida subsp. abdita and Tecticornia verrucosa across the lake floor.)
- Remains relatively fresh in an increasing saline landscape.

Lake Bryde and East Lake Bryde are two fresh water wetlands - located in a water and a nature reserve respectively in the shire of Kent – whose catchments are part of the Swan Avon system. The Lake Bryde Recovery Catchment covers an area of approximately 140000ha.

Lake Bryde and East Lake Bryde are regionally ecologically significant, particularly because most fresh water wetlands in the Wheatbelt are suffering secondary salinisation and excessive inundation as a result of large-scale clearing of their catchments. Clearing of the Kent Shire began in the 1960’s and presently, sixty-six percent of the Lake Bryde catchment and fifty percent of the East Lake Bryde catchment are cleared.

Of one hundred and six wetlands in nature reserves of the south-west of Western Australia, Lakes Bryde and Bryde East were found to be the only wetlands with beds dominated by shrubs (Halse et al. 1993). They are, in fact, the only known occurrences of the community ‘Unwooded fresh water wetlands of the southern Wheatbelt of Western Australia, dominated by *Meuhlenbeckia horrida* subsp. *abdita* and *Tecticornia verrucosa* across the lake floor’. (Threatened Ecological community).

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Mallee belts linking remnant vegetation around the farm