Balancing landcare with agriculture

HYDILLOWAH is a 3060-hectare property in the eastern wheatbelt of Western Australia. It was cleared for farming in the 1960s. Regrettably, little consideration was given to retaining patches of virgin bush.

When the Mouritz family bought the property in 1978, there were paddocks of up to 500ha without a single tree. Gravel patches and rocky outcrops were lying bare, slowly eroding, and the beginnings of salt seepages were evident.

The Mouritz family had owned a large property next door since 1924. It had been selectively cleared, retaining large areas of natural bush. This is still home to several pairs of mallee fowl, racehorse goannas, thorny devils and the occasional echidna.

Even with regular cropping and a high stocking rate for sheep and cattle, land on this farm was in far better condition than Hydillowah, and with minimal erosion.

Throughout the 1980s, the two farms were farmed as one by Russel and Valerie Mouritz and their son Vernon. A number of practices were put in place to improve the soil structure on Hydillowah. These included fencing remnant vegetation, controlling rabbits and crop/pasture rotation.

However, the light to medium wadjil sand-plain, mallee gravel and loamy sands continued to show signs of erosion. These worsened in the drought years of 1980, 1984 and 1985, when dust storms caused further damage.

In 1991, Vern and his wife, Jane, began their own farming business on Hydillowah. They ran 4000 sheep, 100 Angus breeders and cropped about 2500ha. To make their new business viable, they needed to increase production.

But they realised productivity could not come at the expense of fragile soils. They invested as much as they could afford each year in contouring the property and re-fencing paddocks along contours into more manageable sizes (usually 200ha).

Vern and Jane Mouritz in their oaten hay crop.

Jane Mouritz planting seedlings at Hydillowah.

Lupins were introduced into the cropping rotation and some clover was sown. Dryland lucerne was trialed in several paddocks and has held soils together well over several summers.

About 2500 native tree seedlings were planted each year – initially as windbreaks in paddocks that had blown badly, and then on the top slope of several salt seepages. There were several sites at risk of the rising water-table.

Vern had these sites deep-ripped to create evaporation trenches. Jane followed up and planted 8000 trees

per site. The sites were then fenced off from stock.

The replanted sites have become havens for bird life, the seepages have largely disappeared, and the surrounding cleared land is once again producing healthy pastures and crops.

In 1995 Vern, Jane, and four neighbouring landholders became a Focus Catchment Group. This initiative, funded by the WA State Government, provided a landcare officer to co-ordinate the development of a whole-of-catchment strategic land management plan.

The landholders attended a series of on-site workshops with hydrologists and soil and plant technicians. They learnt more about their land and how farming practices up the catchment affected landcare and productivity down the catchment.

After two years in the Focus Catchment program, each farm had achieved its own strategic management plan and had extensive detailed maps. As funds have allowed, most of these farmers have since implemented improved revegetation, contouring, water harvesting and salinity management.

Back at Hydillowah, the strategic land management plan included a proposal to revegetate about 200ha to create a bush corridor to reduce potential salt seepages.

After a number of years' tree-planting experience, Vern and Jane recognised that trees cannot be expected to grow just on 'rubbishy' rocky patches: they need good soil. With this in mind, a large productive area was fenced in 1998 with a view to revegetating it back to its natural bush state.

Officers from Greening Australia, Bushcare, Department of Conservation and Land Management and the Oil Mallee Association all showed interest in this project and a number of trials were set up.

Regional bushcare officer Dallas Lynch suggested a broadacre seeding trial for locally collected seed. Wheat and barley crops are sown with a 56-foot (17-metre) span airseeder at Hydillowah.

The possibility of sowing trees this way rather than by individual seedlings from the back of the Chatfield tree planter in cold grey winter weather really appealed.

About 25 varieties of native seed were painstakingly collected from nearby remnant bush, then mixed with sand particles to give them sufficient bulk in the airseeder.

Photographs courtesy Jane and Vern Mouritz.

Hay crop growing alongside a revegetation project – balance between landcare and cropping.

RIGHT: Bushcare Officer, Dallas Lynch, and volunteer Mark, collect seed for the Bushcare direct seeding trials at Hydillowah.

After spraying for weed control, a 50ha patch was seeded into a shallow seed-bed in May 2000. There was great excitement when seedlings eventually sprouted by August 2000. Unfortunately, after a very dry spring and summer, almost all the seedlings shrivelled.

But the theory was sound, so the following year a successful grant application provided funding to re-sow and plant tube-stock alongside. However, this activity had to be deferred due to the lack of rain.

The 2002 drought year returned no crop at Hydillowah. Amazingly, though, 10,000 Oil Mallees planted in August that year on seven millimetres of rain had about 80% survival rate.

Last year, the remaining local seed collected in 2000 was propagated as tube-stock. The 15,000 seedlings planted by Jane are growing well.

In total, there have been about 50,000 plants sown and about 25 kilometres of contouring to support ongoing sustainability at Hydillowah. There is now evidence of an increase in other species, for example. rare barking owls, several pairs of mallee fowl and bush turkeys, as well as small marsupials in the recreated bush area.

Salt seepages have been returned to productive soils. Alongside this, 2000ha of annual crop, 700 Angus breeders and about 4500 weaner cattle (for their value-adding initiative, a beef cattle feedlot) are all part of increased productivity on the farm.

This is surely evidence that farms can achieve a healthy agriculture and landcare balance.

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