



Photos: Georgina Wilson

Win-win from water harvesting

By Georgina Wilson

Take a group of five farmers with adjoining properties, all concerned about salinity and it makes good sense to join forces. After all, humans may observe a farm boundary and choose to begin or end an activity at the fenceline, but creeks, water tables and salinity show no such respect.

So it was that Farms with a Future Vision began formally in 2001, incorporating five like-minded families. The total domain is roughly five kilometres by 15 km and includes about five major water systems. Apart from focusing the minds about

Case study: Farms with a Future Vision Inc.

Location: Wagin, 220 km south-east of Perth, WA

Property area: Five adjoining farms totalling 5200 ha

Rainfall average: 450 mm

Enterprises: Traditional sheep, crops and new ventures



cooperation instead of working independently, an incorporated body can also make the group eligible for funding schemes.

Chairman Ian Pederick has lived at ‘Yalabringa’ for nearly 40 years. Over that time he has seen water quality decline and water tables rise despite conventional landcare activity. In the late 1990s he saw successful water harvesting at Ron Watkin’s property at Frankland, further south, and decided to try the technique.

While most farm dams aim to provide water for stock or irrigation, water harvesting relies on large dams built primarily to capture the water high in the landscape before it can contribute to recharge or mobilise salt in the ground. A secondary benefit is that good water is available for many uses during the dry months – growing lucerne, aquaculture, vines, cut flowers, jojoba, trees or whatever niche industry appeals.

For the Pedericks marron alone provides

very useful extra income, when a single pond can provide \$15,000 from a ready market.

Ian Pederick and wife Liz have four water-harvesting dams from the current group total of seven. One dam alone holds up to 30,000 cubic metres. During the summer, water is piped out to flood irrigate lucerne, and for marron and yabby ponds. Part of the deal is that all of the water must be used over the summer to ensure dams are ready to capture excess water from the following winter rains.

About 50 km of interceptor banks channel water across the paddocks and into the dams, each bank supported by four rows of trees and shrubs on the downhill side. So if water does escape the banks, it is unlikely to get far. A mix of 16 varieties avoids the dangers of monoculture and provides a feathering effect to wind eddies - two rows of commercial varieties, aesthetically attractive street trees and finally shrubs such as bottlebrushes – great



for attracting the birds and less likely to rob the ground from adjoining crops. Electric fencing keeps sheep out, making the areas a haven for small birds, which is another bonus.

“Some estimates suggest that to prevent the progress of salt we need to sow 60 per cent of the land to trees,” Ian says. “But with the combination of engineering and trees, we are shooting for 20 per cent. And even with 20 per cent of the land out of normal production we are increasing yields due to the lack of waterlogging.”

Sheep numbers have remained similar to before, but management has become more intense – verging on a cell grazing system where larger paddocks are now intersected by banks and trees.

“Another major advantage is the windbreak shelter for sheep, where we have seen lambing percentage rise from around 75 per cent to the high 90s.”

All up, Ian and Liz reckon they’ve probably planted more than 200,000 trees of different varieties. Some drowned, but a Master Treegrower course for Ian has helped ensure that they are in the right locations with a long-term view to commercial harvest. Block plantings of maritime pine and sandalwood are included and even salt-tolerant sheoaks (*Casuarina obesa*) are pruned to ensure better long-term value for commercial use.

In all, the group has seven water-harvesting dams and a long-term plan to double that number. Combined with another 43 km of interceptor grade banks, perennial vegetation and fencing, the goal is to harvest an additional 803 megalitres of water each year, reducing flood flows and



Above: A solar-powered aerator (invented by Ian Pederick) increases the efficiency of marron ponds, a profitable sideline to water harvesting.



Left: Ian Pederick with young sandalwood tree and host jam.

Opposite page (top): Maritime pine and sandalwood planted on the flats help to use excess water.

Opposite page (bottom): Bottlebrushes grown below banks help attract birds while reducing adverse effects on adjoining crops and pastures.

salt loads into downstream waterways.

And if you are anywhere downstream, that news can't be bad!

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Toxic trenches to green grass

Stud breeder Peter Scanlon is equally enthusiastic about the success of water harvesting with dams, banks and trees. In a few years, he has seen white salt crystals on the creeks running through his farm replaced by near-potable water.

“Never in my wildest dreams, did I believe I would be treading on grass here,” he enthuses. “From toxic trenches, we now have good quality water with shrubs and trees regenerating, and large numbers of birds.

“It doesn't happen overnight – about five years at least before you really see results.

“On pure economics, I should have just bought

extra land and walked away, but turning the country around is really rewarding – a real buzz.”

Peter's salinity meter is never far away, and he has seen levels in the house creek fall from more than 1600 parts per million a decade ago to about 600 ppm today.

He believes that about 100 hectares of land has been brought back into pasture production, and further improvement should soon make it ready to crop in a few years.

Paddock management for salt is a waste of time, Peter argues. It must be landscape management; otherwise you merely move the problem from one area to another.



Peter Scanlon checks salinity levels in a creek that was previously encrusted with salt.