

Landscape change: drivers and opportunities

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Summary of speech

The Goulburn–Broken Catchment is important for several reasons: water, food and fibre production, recreation and the environment. The vision for the Goulburn–Broken Catchment Strategy has been embodied in the catch cry 'Doubling production from half the land using less water more efficiently'.

The doubling of production is a relatively easily attained goal; reducing the footprint will be harder. Doing it on half the land will be the major challenge only because we have to find a better land use for the other half.

The drivers for landscape change fall into five major categories: rural living, forestry, water savings, reinstating floodplains, and infrastructure rationalisation. Landscape change is already well advanced in the south of the catchment. In areas close to Melbourne, large tracts of private land once used for commercial agriculture have been given over to lifestyle and recreation properties. Lifestyle farmers tend to be cash rich and time poor, which contrasts with traditional farmers. Unfortunately the result in terms of natural resource management works is the same.

An analysis of the Lower Goulburn Floodplain Rehabilitation Project indicates that there will be a positive economic gain, as well as significant environmental benefits.

The current problems are caused by current land uses, and will not be solved until better land uses are found.

Keywords

agriculture, flood control, land use change, rural lifestyle, subdivision

Before I address the topic of this paper, I would like to make a few observations. Ours is a dirty business. Our job is to patch up catchments many decades after the damage has been done. Our problems have been caused by inappropriate allocation of land and water for agriculture, government-sanctioned clearing, poorly sited irrigation areas . . . and the list goes on. In many cases the horse has bolted.

We are now in the process of reviewing our Regional Catchment Strategy. For the first time in our catchment we have acknowledged that we cannot meet our objectives and associated targets by just adopting best management practices in farming systems. In some places, land capabilities are so far out of whack with land use that fundamental change is required. The concept of landscape change has emerged out of this realisation.

Landscape change takes us away from the comfort of win–win approaches inherent in the adoption of best management practices, to the tensions involved in trading off individual rights and community good. This is uncharted waters for natural resource managers, but it is my belief that the rewards more than offset the risk. My opinion may change in the next couple of years, depending on how a couple of major projects turn out.

In resolving this tension between community good and private rights we must always respect property rights and strive for intergenerational equity . . . and avoid public meetings of over 200 people! As I said, ours is a dirty business . . . now, back to the topic.

Our catchment is important from a number of perspectives:

- **Water.** Although our catchment covers only 2% of the area of the Murray–Darling Basin, it generates 11% of the Basin's water resource. This resource has become even more important because environmental flows for the Murray can only realistically come from the Goulburn and Murrumbidgee systems.
- **Food and fibre production.** Our catchment has a farm gate production of \$1.8 billion, which underpins an \$8 billion regional economy. We generate over 26% of Victoria's rural export earnings, of which most comes from the Shepparton Irrigation Region. The area irrigated represents a little over 2% of Victoria's land area.
- **Recreation.** Because of its proximity to Melbourne, the southern part of our catchment has become Melbourne's playground. Melbourne closed its catchments to the extent that not even bushwalking is permitted. On our most important water storage, Eildon, we have 700 house boats, all disposing their sullage into the lake. As property values on the coast rise, our catchment will be not only Melbourne's playground but also its refuge.
- **Environmental.** Our catchment is blessed with a number of high-value environmental features. Heritage rivers traverse the catchment, and Barmah is one of the nation's most significant wetland systems. I in fact spent the first half of my life on the Boosey Creek!

The vision for our catchment strategy has been embodied in the catch cry 'Doubling production from half the land using less water more efficiently'.

The doubling of production is a relatively easily attainable goal. Since the Second World War we have doubled production every decade. Reducing the footprint will be harder. Doing it on half the land will be the major challenge only because we have to find a better land use for the other half.

The drivers for landscape change fall into five major categories:

- rural living
- forestry
- water savings
- re-instating floodplains
- infrastructure rationalisation.

I will confine my comments to three of these five because of time constraints.

Landscape change is already well advanced in the south of the catchment. In areas close to Melbourne, large tracts of private land are no longer used for commercial agriculture. They have been given over to lifestyle and recreation properties. Lifestyle farmers tend to be cash-rich and time-poor, which contrasts with traditional farmers. Unfortunately the result in terms of natural resource management works is the same.

An opportunity has been lost in the rezoning of agricultural land to rural residential. The rezoning process should have included environmental enhancement such as fencing of waterways and revegetation of recharge areas, and other conditions to offset the impact of subdivision. This form of land use change is driven by market pressures, suggesting that change will occur if we can secure markets for environmental outcomes. Understanding the ecosystems we need to sustain society will allow us to do this more efficiently.

The Lower Goulburn Floodplain Rehabilitation Project is another good example of landscape change. We recognised that decisions taken a century ago ignored the importance of the services provided by the floodplain.

The Goulburn River capacity funnels down as it nears the Murray. At Shepparton it has a capacity of 185 000 ML per day, but only 37 000 ML per day at the Yambuna Choke near where the Goulburn enters the Murray.

Our forebears' response was to build two levees on either side of the river and get really disappointed when they broke. Our models indicate that once we have a 10 year flood event or greater, levees will break. It is more than a coincidence that there have been 10 major breaches last century. The last one, in 1993, caused over \$20 million in flood damage. One of the lessons

we have learned is that people prefer floods caused by random levee failure than by structures that let the water into the floodplain in an orderly manner. 'With a bit of luck it won't happen to me.' Is it any wonder the Melbourne Cup is a handicap event over two miles?

The reality is the water cannot fit down the river — it must go out the deep creek directly to the Murray.

My predecessors have spent an absolute fortune on studies, which can be summed up by these two major findings:

- Water runs down hill.
- You cannot fit a 10 year flood event down the Goulburn.

Our studies have shown we have to acknowledge our mistakes and learn from them. The first rule of holes is: 'When you are in one . . . stop digging'. The only sensible solution is to let the floodplain operate naturally. This requires the acquisition and restoration of a 10 000 ha floodway. Of this 10 000 ha, about half will be managed for environmental outcomes because of the scarcity of the vegetation type and the quality of the remnants. The floodway is immediately adjacent to Barmah, a Ramsar wetland, and will provide a biolink between the Murray and the Goulburn floodplains.

Because floodways are all or nothing, compulsory acquisition is required. Some people believe compulsory acquisition is too hard. This is not a view shared by my Board. If we get the compensation right, we won't have many problems with the local landholders.

We have good data on flood damage and the economic analysis is very positive: a benefit-cost ratio of 1.78 : 1 and an internal rate of return of 6.83%. However, the ecosystem services benefits are enormous and were not included in the economic analysis. They include:

- improved water quality
- flora, fauna and fish benefits
- greenhouse gas reduction
- stream health.

Intuitively, these benefits must be in a similar order to the flood protection benefits.

For this project to get off the ground, we need state and federal capital investment of \$22 million. But getting \$22 million committed in one hit is very difficult, and this brings into play the second rule of holes: 'You cannot cross a deep hole in two strides'.

If you analyse the services provided by this floodplain, it is easy to come to the conclusion that this country is too good to farm. Unfortunately, this view is not shared by the local federal member. The state government has endorsed the project, but unfortunately the Commonwealth has insisted on another study.

The demand for water savings for environmental flows has led to a study on Lake Mokoan. The GBCMA is project managing this study. Lake Mokoan holds a bit over 350 GL, loses 50 GL in evaporation, goes green nine years out of ten, provides 22 GL of water to irrigators, recovers about a sixth of its operating cost from water sales, and has a profound impact on the turbidity of the Broken, Goulburn and Murray Rivers.

On the upside, it is an excellent recreational fishing spot, supports considerable passive and active recreational activities, and is downstream of the Barmah Choke. We know it should never have been built, but what we do with it now is not clear cut. Decommissioning the storage would generate net savings of about 42 GL, which could be used as environmental flows in the Broken, the Goulburn, the Murray and the Snowy.

The study that has just been commissioned will address the social, environmental and economic impacts of each of the three options identified in a previous study. The one thing that is certain is that there will be substantial community angst as landholders, lake users and environmentalists evaluate the impact each of the options will have on their enterprises, recreational activities and the environment. Again, note the tensions between the community good and private rights.

The message I hope you will take from this paper is simple: unless we can find better land uses than the one currently being employed, land use will not change. If the current land use is the cause of our problems, it will not go away until we find the better land use.