

Integration in the Regional Context — A Sussan's Approach

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INTRODUCTION

I have been working in the Goulburn Broken Catchment in Natural Resource Management since 1986. The Goulburn Broken Catchment was chosen as the Pilot region to help determine and demonstrate the most cost effective by which a fully integrated salinity control program could be established within a region.

This paper draws on my experience in implementing integrated projects at a catchment scale. It focuses on the practice of integration from the perspective of someone who has worked at the interface of the community and government.

CONTEXT — OUR MANDATE

After World War II, catchments were in poor condition due to drought, rabbits and over grazing. There was also a legacy from the gold mining era. The Government of the day responded to this crisis by establishing the Soil Conservation Authority and River Trusts.

This approach continued until 1997 when CMAs were formed under two Acts, the Water Act 1989 and the CALP Act 1994. The Establishment of the CMAs brought together for the first time in Victoria, land and water management. If nothing else, the formation of CMAs was a victory for common sense and reflected the vision of Minister Coleman and the Chair of the review, Jeremy Gaylard.

The GBCMA is responsible for the implementation of the Regional Catchment Strategy. This is a requirement under Section 13 (a) of the CALP Act. This strategy has been signed off by the community, state and federal Governments



Implementing the Regional Catchment Strategy is a dirty business. Our job is to patch up catchments many decades after the damage has been done. Our problems are associated with the unintended consequences of inappropriate allocation of land and water for agriculture, inappropriate land use, government sanctioned clearing, poorly sited irrigation areas, and the list goes on. In many cases the horse has bolted.

CONTEXT — GEOGRAPHICAL

The Goulburn Broken Catchment stretches from Marysville on the outskirts of Melbourne in southern Victoria, north to the Murray River that is the border between Victoria and New South Wales. The name of our catchment comes from the two major rivers the Goulburn and Broken and is certainly not a report card on the health of the catchment.

The Goulburn Broken Catchment Management Authority is the peak natural resource management organisation responsible for land and water management in a catchment that covers 17 per cent of Victoria. Of the 2.4M ha, about one third is public land, 500,000ha is in the Shepparton Irrigation Region with the rest used for cropping and grazing.

Almost 200,000 people live in the catchment that includes seven municipalities.

Although only 2 per cent of the Murray Darling Basin by area, the catchment contributes 11% of the massive Murray Darling Basin's water resource.

Land use in the catchment is as diverse as the terrain. The famous high country is valued by recreational users for its snow, pristine mountain streams and spectacular scenery. Logging and grazing and increasingly viticulture are the main agricultural enterprises of the high country.

The plains and foothills support productive cropping and grazing industries.

The rich irrigated land at the bottom of the catchment is one of the most intensive agricultural areas in Australia.

Dairy farming and horticulture are the main enterprises and they support a massive raft of agribusiness and food processing industries. SPC Ardmona Foods, Campbells Food, Heinz, Smuckers, Kraft, Bonlac, Murray Goulburn, Nestle are among the national and international food processors that have made large investments in food processing in the region.

In fact, over \$1 billion has been invested in food processing in the region over the past decade. It may come as a surprise to many, that the irrigation part of our catchment contributes 26 per cent of Victoria's rural export earnings.

INTEGRATION — AT THE CATCHMENT SCALE

In the Goulburn Broken Catchment, we have adopted an integrated approach to land and water management. It began with the salinity program in the mid 1980s and was expanded to embrace Water Quality in the early 1990s and the complete suite of NRM in 1997.

There is not much point discussing salinity as a stand-alone problem because what is good for salinity is often good for biodiversity water quality and productivity. The other reason is that outside the irrigation region, it is very difficult to get a B/C ratio > 1 on salinity alone.

Unless an integrated approach is taken, it is hard to justify catchment management in economic terms.

Our strategic and holistic approach delivers multiple benefits such as water quality, biodiversity, salinity mitigation and increased productivity. This approach must make sense at the farm scale as well as the catchment scale.

This is achieved by integrating the way we do business with our partners and the community.

In the Goulburn Broken there are 128 Landcare Groups comprising about 3000 active members and another couple of thousand sleepers. At night meetings that could be taken literally.

There are a raft of other community groups including environmental groups, water services committees and recreation groups who we work and consult closely with.

Rather than duplicate the capacity of existing organisations, Goulburn Broken CMA deliberately chose to work in partnership with them.

The Authority is operational in waterway and floodplain management. Our RCS works program is largely delivered by rural and urban water authorities, government agencies, particularly Department of Primary Industry and Department of Sustainability and Environment and Local Government. Most major projects have benefit cost analysis and all have been subjected to a comprehensive technical review.

Our community network has been an essential part of the Goulburn Broken CMA's success in delivering cost-effective practical solutions to complex natural resources issues. Our structures and processes not only involve the community they empower them.

I can remember Joan Kirner saying in the mid 80s that if we were going to change the way private land is managed, landholders will have to be involved in the decision making process. This comment is as valid now as it was almost 20 years ago.

INTEGRATION — MANAGING SILOS

We have learnt to manage the reality that funding is usually associated with a silo approach to investment. While this has some merit in terms of setting investment criteria, it makes it difficult for those who practice integrated catchment management.

Our investment dilemma has two dimensions—the allocation of resources to planning, investigation, community capacity building and implementation. This in fact varies over time and is probably one of the most difficult concepts funding bodies need to come to grips with to make sensible investment decisions.

This stylised graph illustrates this point beautifully. You can see the different investment mixes required when we began the process in the late 80's to what is required now.

Some silos are issue based like salinity, water quality pest plant and animals. Others are by activity e.g. research, infrastructure, capacity building. They go in and out of fashion. Two years ago it was capacity building and biodiversity. Now it is works on the ground and “brown Projects”. In periods of budget growth, works are very popular while in periods of decline, organisation capability becomes the key—living to fight another day.

The environment I work in is very complex. We are dealing with Mother Nature in all her guises—floods, droughts, rising water tables and salinity, algal blooms and all forms of pest plants and animals. We are also dealing with complex institutional arrangements. We are a federation of states, the government departments are in a continuous restructure mode and the election cycle does not relate to the natural cycle.

To make it work, we have taken a pragmatic approach and have accepted we must integrate the funding silos at the catchment scale to deliver a sensible and efficient works program. *The greater the number of silos, the harder it is.*

INTEGRATION — AT THE FARM SCALE

In 1997, the CMAs were formed and resulted in the people concerned about stream stability, water quality, stream ecology and biodiversity being put in the one tent.

Riparian areas have been given a high priority for investment because of the water resource implications and their inherent biodiversity values.

For over 30 years, waterway managers have been fencing off streams to improve stream stability. It is not rocket science—the benefits of keeping stock off eroding stream banks are real but not always obvious to the landholder who receives almost no direct benefit.

In this environment, negotiations with landholders usually resulted in fences very close to the bank.

It became obvious that from a number of perspectives, the wider the fenced area, the better the result. Recent research indicates a minimum buffer of 11m is required for water quality. The cost of the fence actually reduces marginally as the buffer increases because it is usually straighter. In 1997, our grants reflected the cost of the fence not what the fence achieved.

Although farmers usually argued about loss of productive land, loss of stock water supply was probably the major impediment. For fencing of streams to be attractive, we had to address stock water supply.

Consequently, a review of our waterway incentives has led to significant changes to cost sharing. We are prepared to offer much higher rates for projects with high community benefit.

The level of incentive depends on:

1. The width of the area fenced
2. The importance of the area in terms of:
 - water quality
 - native vegetation
 - threatened species
 - aquatic habitat
 - adjacent land use
3. The robustness of the Management agreements

The incentives are now for fencing and alternative water supply.

Projects with cumulative benefits, or in terms of today's parlance, generate significant ecosystem services, receive much higher incentives. The market signals are now directing our limited resources into high priority sub-catchments. In fact, over 200% increase in uptake has been achieved since we implemented this approach.

We have taken the same approach to the protection and enhancement of off stream remnants and salinity control. Now it doesn't matter where in the catchment works are being done, public investment yields a similar result. However, because landholders have to contribute more in low priority areas, investment is now strongly skewed to high priority areas.

INTEGRATION — PROJECT LEVEL

After the 1993 Flood, Minister Coleman established the Lower Goulburn Waterway Authority (a fore runner to the CMA) to address flooding on the lower Goulburn and determine the best way of fixing this problem.

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

Our forebear's response was to build two levees on either side of the river and get really disappointed when they broke. Our calculations 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 in 1993 causing over \$20M in flood damage. The reality is the water cannot fit down the river—it must go out the deep creek direct to the Murray.

My predecessors have spent an absolute fortune on studies, which can be summed up with these two points:

- Water runs down hill
- You can't fit a 10 year flood event down the Goulburn.

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. 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 rehabilitation of a 10,000Ha floodway.

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.

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 bio-link between the Murray and the Goulburn floodplains.

We have good data on flood damage and the economic analysis is very positive.

Benefit Cost ratio of 1.78:1

Internal rate of return 6.83%

However, the ecosystem services benefits are enormous and were not included in the economic analysis.

Benefits include:

- Improved Water Quality
- Flora fauna and fish benefits

- Greenhouse
- Stream Health

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

We now have a calibrated model which our consultants tell us contains an order of magnitude more information than any equivalent Australian study. We have established that the original regulator was undersized and does not perform to the design standard. We have had trouble demonstrating the link between the reinstatement of a more normal flooding regime and ecological performance although CSIRO are in the process of finalizing a very exciting model which generates this information over time. We have also established the scheme will have a positive impact on the Barmah Milawa wetland and we have commissioned more work to establish the extent of these benefits,

For this project to get off the ground, we need state and federal capital investment of \$22M. It is time Governments make a decision on this project. Landholders need to know whether the land will be acquired so they can plan the rest of their lives. They are currently in no where land and there is nothing the CMA can do to expedite this.

INTEGRATION — A PLANNING APPROACH

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. They should have included environmental enhancement such as fencing of waterways and revegetation of recharge areas as part of the rezoning process and other conditions to offset the impact of subdivision.

The impact of the Melbourne influence is expanding and there is still an opportunity to achieve a considerable improvement in natural resource outcomes as part of the reconfiguration of the landscape. Once a development needs planning approval, conditions can be put on the development. This should not be a problem if the conditions improve the aesthetics of the area.

Although this is a reactive approach, it is very cost effective because all that is required is a bit of forethought and a good relationship with Local Government

An example of a more proactive approach is the Mangalore Food and Logistic precinct in the Stratbogies Shire. The precinct is bordered by the Goulburn Valley and Hume Highways and train lines, includes the Mangalore airport, is close to grain growing areas and has good access to water

The proposal is to utilize the area for intensive agriculture and associated industries because of its proximity to transport, markets and water. The workforce is to be housed in the neighbouring towns to avoid the problems on the Mornington Peninsula. The buffer zones areas are to be managed for ecological outcomes making the developments much more acceptable to the community.

CONCLUSION

Natural Resource Management is just like putting a wardrobe together. To be cost effective, we must embrace the “*this goes with this at Sussan's*” approach. Because we are usually retrofitting damaged systems (which is inherently expensive), not much will make sense if we only take a narrow view.

The worst thing that can happen is ending up with a very expensive pair of shoes that can only be worn with one outfit!