

## The Journey to Sustainable Natural Resources Management

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I have been asked to reflect on my personal experience of our global journey towards sustainable natural resources management – the things that occurred “on my watch”, and to also outline the specific Victorian journey, the road I have travelled on for the past 30 years.

All journeys have a number of common elements:

- A goal
- A map, milestones
- Travelling companions
- Travelling conditions, challenges and perils

The goal, sustainable natural resources management was always there but just what that meant has changed considerably over time. The milestones of my journey were recognition that our natural resources were being degraded by human activity, importance of the involvement of the community, and recognition that “sustainable” had an economic component and that economic tools could help to make everyone a part of the solution.

When did this journey start? We can go back centuries to discover forerunners of our present system. Spain and China were probably world leaders. In Valencia, Spain, multistakeholder, participatory water tribunals have operated at least since the tenth Century and Spain was probably the first country to organise water management on the basis of river basins in 1926. Major regular flooding was the stimulus for

the organisation of cooperative groups to protect life and assets long before Chairman Mao started the Long March.

In Australia, the Federation Drought encouraged a major step forward in 1915 when three states and the Commonwealth agreed to coordinate the management of the River Murray and its tributaries through the establishment of the River Murray Commission. This famous photo of **Sir Ronald East** was taken in 1923 astride the Murray River at Nyah highlights the natural variability of flow in the river which was principally used for navigation and then later irrigation. At this stage sustainable resource management meant harnessing the river to nurture a developing nation

Perhaps the best known model of integrating water and related resources is the **Tennessee** Valley Authority in the United States. Here is the President of the United States with these earnest gentlemen establishing the Authority in 1933. The TVA was created to provide electricity from hydroelectric generation to control flooding and to provide for transportation of goods and became involved in such diverse activities as rural planning, provision of housing, health care, libraries and recreation. Its approach right from the start was to consider each issue in the broadest context and how it related to other issues, that is, integrated resource management.

After the Second World War and the ravages of three major droughts and a depression we became conscious that our rivers and our soils needed attention. The River Improvement Act and The Soil Conservation Authority Act put in place mechanisms to undertake remedial work. In introducing the latter, the then Premier of Victoria, Sir Henry Bolte, said " We could not have made a bigger mess of the soil

of the country if its destruction had been carried out under supervision” .

TVA and other activities in the United States inspired early advocates of catchment management in Australia. In 1963 the Dandenong Valley Authority and, later, the Hunter Valley Authority grew out of visits to the US when the man who inspired many of my generation, Ernest “Watershed” Jackson brought back the message and spent the rest of his life trying to encourage us to move more quickly towards sustainable use of our nature resources on a catchment basis.

At that time water management practices sought to solve single, localised problems without taking account of the impacts of those actions on the biophysical, economic, and social elements of the larger catchment system. Over the past twenty years, throughout the world there has been a growing consensus that the catchment is the best unit for the management of water resources.

Rachel Carson's publication of *Silent Spring* in 1962 was a turning point in public views about the environment in general and water in particular. The book drew attention to the rapid deterioration of water quality and the role of industrial polluters in that decline. Over the next decade governments around the world strove first to understand, and then to limit, misuse of water, establishing stronger environmental-protection legislation (Clean Water Act in US and establishment of the EPA in Victoria), more efficient administrative structures, and better oversight of public and private water users

I read *Silent Spring* in the late sixties when I came to natural resources management through the water quality door in the Northern Territory

and water stood out as the natural resource desperately in need of a new approach to management. As a water chemist and microbiologist with the Northern Territory Administration I was lucky enough to be working on a broad range of water pollution problems. Darwin Harbour pollution with raw sewage, Rum Jungle Uranium mine pollution of the Finniss River and human health problems in the aboriginal missions and settlements. It was about that time that I had one of those "aha!" experiences, bemoaning that "they" should do something about water quality, then realising that I was "they".

It was also about this time we got our first pictures of earth from the **Apollo mission**. It gave us a different perspective of this tiny spot in the universe which has provided us with the resources to develop and grow.

The Australian Government established the Senate Select Committee on Water Pollution which reported in 1970 and set in train a number of national initiatives including the establishment of a Technical Committee on Water Quality of the Australian Water Resources Council. So I packed my Territory bags, bought some warm clothing and set out for Canberra in 1971.

The Whitlam Government was elected at the end of 1972 and there began a roller coaster ride to implement the environmental agenda. My first task was to be part of the River Murray taskforce – we were locked up over Christmas 1972, producing a report by the end of January which is long forgotten but was to lay the groundwork for the River Murray Working Party and the recommended expansion to the River Murray Waters Agreement to include water quality and eventually the whole of catchment management of the basin..

One of the lessons I have learned on this journey is that it takes a long time for a good idea to mature and become part of our institutional structures. The original River Murray waters Agreement was signed in 1915 after more than 15 years of negotiation between the States and the newly fledged Commonwealth Government. Comprehensive changes to that Agreement to include whole of catchment impacts on the river took about the same amount of time.

At the beginning of February 1973 I was appointed as Secretary of the Lake Pedder Inquiry. Australia's first public environmental enquiry, slightly hampered by the fact that the Lake was already under 50 feet of water. A national soil inquiry was established which finally led to the National Soil Conservation program. We were starting to acknowledge that our quest for development was having some impact.

Water was on the international agenda in the seventies, I attended the UNECOSOC conference in Tokyo, where our experience in establishing multi state arrangements for water resources management was regarded as a model. This was a time that my husband learned to plait my daughters' hair and the family lived on Spaghetti Bolognese for 3 weeks. My children have never forgiven me. The UN conference on water in Mar del Plata Argentina in 1977 was an important milestone, recommending integrated water resources management as the way forward.

Meanwhile, back home in Victoria water reform was on the agenda following the Public Bodies Review Committee inquiry into the water industry when we recognised that some significant changes to our natural resources institutions were needed. John Patterson came back to Victoria and inspired a whole generation of water reformers who are still hard at work today to make sure we have a robust water resources

framework to help us manage the challenges ahead.. The Murray Darling Basin agreement, institutionalising a whole of catchment approach, was signed in 1988. Together with many others, I was involved with sustainable management of rural water supplies in Victoria as Chair and a Board member of the Rural Water Commission.

The catchment management journey was gathering speed. Another, more visual set of milestones are the various natural resources crises since the beginning of the last century which has accelerated our pace. There is nothing like a crisis to stimulate action and the **1982/83 drought** and the consequent dust storm which enveloped Melbourne did that. The 1980's was a time of great activity. Joan Kirner, as Minister for Conservation and Environment, encouraged the establishment of Shepparton Pilot Program on irrigation salinity and, with Heather Mitchell, President of the Victorian Farmers Federation, promoted the Landcare movement. Joan's long experience with community groups drafted the template of community based natural resources management in this State. The River Basin Management Society was formed at this time and it was in 1988 that we held the first Integrated Catchment Management Conference and Bruce Mitchell was in Australia from Canada, encouraging us to take on the challenge of whole of catchment management. Incidentally 1988 was the year I attended my first climate change conference.

The development of the Landcare movement in Victoria came as governments were recognising that there was a people element in the task of managing our natural resources sustainably. It could not be achieved without the ownership and cooperation of landholders and the community. The second milestone was passed. We had recognised that there was a social element. People manage natural resources. As a board member of the Rural Water Corporation I was a

member of the State Landcare Committee. We started work on Regional Landcare Plans

On the international stage, the World Commission on Environment and Development reported on Our Common Future, bringing the concept of sustainability to the fore with Bruntland's famous definition

**Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.** In 1992 the Intergovernmental Agreement on the Environment and, at home, the National Strategy for Ecologically Sustainable Development developed the charter. The urgency of the task was emphasised by the **1992 algal bloom** on the Darling River which captured the nation's attention.

Meanwhile, across the Tasman our cousins in New Zealand moved to manage their natural resources on a catchment basis and adopted an integrated catchment management approach. We have looked enviously at their legislation which is made easier by the fact that, in New Zealand their mountains and valleys are much more clearly defined while in Australia, towns like Ballarat sit stride the mountain tops and you would hardly know when you have crossed into another catchment.

The **recent journey** in Victoria can be summarised thus. The early threads of soil conservation and tree growing coming together in the beginning of the landcare movement and joining with the threads of pests and weeds and salinity management in the passing of the CaLP Act with further integration in 1997 and formation of the Catchment Management Authorities, bringing drainage and waterway management authorities and sustainable development into the framework. More recently the Catchment Management Authorities

have been given the role of the manager of the Environmental water reserve. All we need now is some environmental flows to manage.

Travelling conditions have changed markedly during my part of the journey, the population of the planet will have expanded fourfold during my lifetime making a greater demand on the natural capital of the earth and climate, rainfall and runoff have significantly changed. The Millennium Ecosystem Assessment of the world's ecosystems demonstrated that they are struggling to continue to provide the services that have supported life on this planet. We have heard that our climate seems to be changing, presenting another set of challenges for sustainable natural resources management and the agricultural land uses that depend on natural resources to provide for the human race. The disastrous **bushfires** of 2003 and the Grampians fire this year are a dramatic reminder that our natural resources are very susceptible to climate change.

There are enormous challenges ahead and if we are to achieve our goal of sustainable management of natural resources we will need to put in place the last leg of the stool. We need to factor into our economic framework the value of the services provided, clean air clean water and biodiversity. In Victoria we have started down this track which some excellent work by Gary Stoneham and others providing a basis to calculate the value of ecosystems services. We already have an international value for carbon and have done some calculations on the value of the water quality services provided by Melbourne's protected catchments. When we have made significant progress in this area we will have achieved another important milestone on our journey to sustainable natural resources management.

I would like to thank Marian Pernat and David Cummings for help in outlining this journey. Marian did some valuable research for me, putting some substance to my anecdotal memories and David has recently completed a comprehensive Almanac of natural resources management activities in Victoria and this is available on the VCMC website

I suspect that our journey is far from over and what we are doing here at this Conference is sitting down and taking a break to recharge our batteries. Enjoy the break because there are many more legs to this journey towards sustainable natural resources management. We need to make integrated catchment management work, we need to engage the whole community in this task and we must put a true value on the ecosystem services that provide the right environment for us to thrive.