

NATIONAL RIPARIAN LAND BANK

Imagine. You look down on Australian landscapes from a plane. You see vast areas of farmland criss-crossed with millions of native trees and shrubs. You can't see the wildlife and native flora but you know these tracts of vegetated land must be home to many living things. You see a lot more green, even during the hottest, driest times. With more shade and less erosion, the landscape is now more cared for and more natural. It is more like the landscape that indigenous peoples knew over millennia and our settler ancestors experienced during one generation only.

The publication of *Our Water Mark* (2007) enabled us to come to this vision. A long-term vision like this has a simple starting point - moving existing boundary fence lines between rivers and adjoining farmland. This is the necessary trigger for a massive revegetation of crucial parts of the Australian landscape.

But first, some background on the *Watermark* Australia Project. Beginning in 2001 as an initiative of the Victorian Women's Trust, it was financed with two early grants from The Myer Foundation followed by substantial contributions from a small group of private donors. The project culminated in the production of a public document *Our Water Mark* which was released in July 2007. Since then, with further private donor support, 37,000 copies of this document are being distributed free of charge.

The *Watermark* Australia project is a world first in the way that people across the broader community have been able to engage and consider a major national resource issue that must be responded to and very soon.

Watermark Australia involved several thousand people coming together in small groups from all walks of life and in various locations around Australia in a process of community engagement aimed at raising water literacy. These groups met several times, usually in someone's home. They drew on discussion materials prepared by the *Watermark* Australia secretariat. Each group's deliberations were summarised and reported back to the secretariat. Their experiences, views and ideas were integrated with input from a small number of eminent scientists as well as wide-ranging information and data in various government, scientific and other published reports. This uniquely-blended body of knowledge and a framework for action was then published as *Our Water Mark*.

Our Water Mark describes the water situation that is facing many parts of Australia as a "crisis" that must be responded to by governments and citizens. *Our Water Mark* identifies various factors that are at work here and which collectively are underwriting this water crisis. It proposes as a national goal, water efficiency in every action and activity that is undertaken. After achieving this, we would then move towards "super efficiency".

Our Water Mark outlines a set of principles that should underpin a reform process. It details actions that can be taken now and as well, it identifies some of the major issues that the nation must respond to, if we are to move towards becoming genuinely water efficient.

A key part of the move to water efficiency lies in the relationships between water, land and food and fibre production.

Steady and unchecked degradation of farm land, for example salinity and soil erosion and compaction from livestock, ultimately leads to declining yields. Maintaining yields then requires increased compensatory farm inputs (such as fertilisers and agricultural chemicals). On a whole catchment basis these opportunity costs can be profound.

Increasing tree cover is critical to environmental repair of land and reversal of this decline in environmental benefits. Over the past decade, the main approaches by governments have been the encouragement, through tax incentives, of extensive agroforestry and legislated controls on land clearing. This has taken the pressure off native forest harvesting and begun to reverse some forms of land degradation. However, with plantations, the commercial production cycle causes water demand to remain high and constant.

Increased tree cover can come about by another way - one that will ensure greater and permanent overall environmental benefits. Sufficient riparian vegetation, i.e., native trees and other plants that grow beside rivers and streams plays a crucial role in maintaining a wide range of environmental benefits:

- major improvements in water quality resulting from the capture of nitrogen and phosphorous coming off the land and in shading streams
- establishment of a major sink to trap atmospheric carbon dioxide. Australia is blessed with many long-living tree species that are very resilient and will sequester vast amounts of carbon both above and below ground.
- reduced chemical loads and salt leaching into rivers and streams
- reduced salinity risk close to many rivers and streams
- significant increases in vegetation cover across rural Australia
- creation of major wildlife corridors, providing residential habitat as well as protected pathways for native animals to move and re-distribute as local climate zones are re-set
- major improvements in the distribution and abundance of a wide range of native fauna, the diversity of which is richer than in surrounding ecosystems, and
- increases in farm property values

Furthermore, once established, the water demand from these naturally-growing trees begins to decline. The water yield from more stabilised catchments can be expected to increase and be maintained for the long term.

A huge opportunity before us: establish a National Riparian Land Bank

***Our Water Mark* proposes a national program to re-establish by 2050, native riparian vegetation to a width of 50m and preferably 100m, on both sides of every river and stream passing across agricultural land (private and Crown Land) in Australia.**

Some would argue that even 50m will be hard to achieve. We say the national horizon has been too low for too long. This shortcoming, coupled with our reluctance to understand key ecological dictums, has caught up with us and we have to find a new level of commitment to deal with the environmental repair that is necessary to maintain our ability to live in this ancient, dry and fragile continent.

The Program would focus upon the thousand of kilometres of stream and riverside frontages that are presently incorporated into privately owned and/or leased farmland. The present status of this land varies in different jurisdictions. While much of this land is privately owned, some of it is not. It is in fact Crown Land that is allowed to be used under lease, by the agricultural enterprise. In Victoria alone, there are 49 000 kms of river and streamside Crown Reserves. It is estimated that about 20 000 km traverse existing farm land.

Delivered in a planned, systematic and properly resourced way, a National Riparian Land Bank would introduce a new and positive chapter in our settler history – reversing much land, river and stream degradation on a national scale, guaranteeing a level of environmental benefit for the long term, and taking us closer to land and water sustainability.

Key features

The National Riparian Land Bank (NRLB) would have, at the very least, the following features:

Planned – There would be a staged introduction beginning with Crown Land as well as private landholders who are already interested;

Systematic – Rates of implementation would vary across Australia, depending on predicted local climate change, drought history and type of farm enterprise, adjustment pressures and the state of rivers and streams;

Nationally co-ordinated – Ideally the NRLB would become a standing item on the agenda of COAG. Scientific and technical resources available to governments would be accessed as required;

Community involvement – Broad community education and involvement underpins the roll-out of the program. It would build upon existing successful programs including LandCare and activities of Catchment Management Authorities. Importantly, it would strive to act as a bridge between rural and urban communities so that urban populations come to understand that successful environmental repair is in their direct interest, and that some of their tax base should be directed to this purpose.

Properly resourced – The NRLB is an important investment would be needed and would also have to be properly directed. The investment turns into a national asset, represented by a vast stock of standing native trees, vast carbon sink, wide-ranging environmental restoration and repair.

There are huge and on-going employment opportunities across rural Australia with such a national program. In the early years of starting the roll-out, there would local jobs associated with fencing, weed removal, vermin control and tree planting. This would be followed by decades of productive maintenance to ensure that the re-vegetation is optimized and not waylaid by damaging lapses.

The re-entry of livestock can quickly destroy a re-vegetating riparian strip. This is what scientists call the hysteresis of restoration – quick to destroy slow to restore.

Demonstration and benchmarking – There are already some smaller-scale, excellent examples of this re-vegetation process. For instance, there are five study sites in the Murray Darling Basin that are engendering great local interest even from those who don't like it. Communities and interested parties will need to be able to see how the NRLB is working and changing local landscapes for the better.

Monitoring, evaluation and reporting – There would be proper and independent monitoring, evaluation and reporting to COAG, including rates of participation, areas of land being regenerated, indicators and rates of environmental improvement, and calculations of greenhouse gas abatement.

Implementation of a National Riparian Land Bank

In the case of private land, farmers would be encouraged to move their fence lines to accommodate the proposed re-vegetation on both sides of rivers and streams. There is scope for financial incentives here, including carbon sequestration payments or business sponsorships that might provide fencing and other materials. The riparian strip would be allowed to re-vegetate naturally and/or by tree planting.

The Land

On Crown Land, the lessees would be informed that the existing Crown Reserves are to be incorporated into the NRLB. Boundary fences would be re-established and/or repaired and the land allowed to re-vegetate. In many locations the process will require active intervention, for example, to remove willows and other exotic vegetation. In some cases, the soil will need to be deep-ripped before tree planting. At some future date, negotiations could start with adjoining landholders to extend the width of the reserve.

State governments would play an important role in getting the National Program started by agreeing to change lease conditions for Crown Land from the current “leased for agricultural purposes” only, to *leased for environmental purposes*. This change would require amendments to existing legislation and such new arrangements would come into effect at the time of lease renewal.

Private landholders would agree to “place” their riparian land into the National Riparian Land Bank for 100 years. Once livestock were fenced out and trees began to grow (either natural re-vegetation or tree planting), financial benefits would begin to flow to the participant and to the National Program.

Meeting the costs

Costs for re-fencing, vermin and noxious control and removal of exotic trees would be met in whole or part from the National Program which would have a range of revenue sources available to it.

In the longer term, private landholders would be acting collectively to optimize the returns from sale of environmental services and greenhouse gas abatement.

The National Program would be founded on a set of principles and these would require negotiation and agreements being reached between the Australian government and state jurisdictions. As the Program was implemented, further agreements would be negotiated with peak landholder and farming organisations and with participating land owners.

Greenhouse opportunity

Involvement of the Australian Greenhouse Office will be important to the development, implementation and success of the proposed Program. Preliminary work would need to be done in relation to the National Carbon Assessment Toolbox and in particular the carbon accounting for “environmental plantings”. Work would also need to be done across jurisdictions in respect of the nature of covenants and “land in trust” which might be exposed to fire risk.

Australia is blessed with many long-living tree species (river red gum, red box, black box, casuarinas, water gum, swamp gum and coolabah) that are very resilient and will sequester vast amounts of carbon during their lifetime both above and below ground.

Analysis and planning would also need to be carried out to look at the benefits and opportunities that could accrue in terms of adaptation and mitigation over parts of Australia where farmland is going to be forced out of production by changing adverse climate parameters.

A component within the National Program would involve carrying out works on the ground.

As the re-vegetation progresses, a significant increase in tree cover will result and this will provide major opportunities in regard to proposed carbon dioxide emissions trading.

A National Riparian Land Bank is a big idea for a big continent. We need to invest in environmental repair. We can afford it. The dividends will be there for generations to come.

Mary Crooks and Dr. Wayne Chamley
Watermark Australia
Co-authors *Our Water Mark*

March 2008

We thank Professor Sam Lake for his valuable comments in developing this proposal.