



# Letting down the marshes

The demise of the Macquarie Marshes in NSW, an internationally significant wetland, highlights a critical breakdown in habitat management across vested interests and the price of prioritising water extraction for commercial use above environmental allocations. **Gail Liston-Burgess** investigates.

As part of the Macquarie River system, rising above Bathurst and the Central Tablelands of north-west NSW, there was a time when the vast 220 000 hectare expanse of the Macquarie Marshes was home to Australia's greatest diversity of waterbirds and a wide range of other flora and fauna, including stands of stately river red gums.

In 1986, this vibrant, semi-permanent habitat was registered to the List of Wetlands of International Importance (commonly known as the Ramsar Convention), as a site of global ecological significance under Australia's stewardship.

Today, the northern Macquarie Marshes are struggling to survive and the southern Macquarie Marshes are all but gone – a wasteland of cracked and broken earth, littered with the blanched shells of freshwater mussels and bordered by the skeletons of river red gums whose dead branches no longer support the nests of migrating birds or shelter native fish.

What has happened to this once-vigorous landscape?

Ray Jones has witnessed the myriad of changes in management and the physical face of the Macquarie Marshes during his 18-year tenure as Senior Field Officer for National Parks and Wildlife under the NSW Department of Environment and Conservation and Climate Change (DECC).

'I wish I could be positive,' he said with arms outstretched, gesturing to a desolate tract that once supported massive reed beds and was home to waterbirds, frogs, red-bellied black snakes and an

**An aerial view of the northern Macquarie Marshes taken in 1996. Water in this region is now severely reduced.**

Grenville Turner

ecological system unique in Australia. 'But we are on a downhill slope now. This marsh cannot exist without water.'

His job this particular day was to assist photographer Grenville Turner to recapture a sequence of images of the marshland shot during an earlier campaign in 1996. Both men were silent as the camera was positioned to focus on the forest of dead river red gums, a stand Jones told us was more than 100 years old. In 1996 it was alive and flourishing.

'When you have seen the changes I have seen,' he said shaking his head, 'it's upsetting. We have to halt the decline, but to do that we have to see a complete change of thinking.'

Former NSW Minister for the Environment, Bob Debus, reflected the same concern. During his eight years in the NSW State Government, he had championed the cause of this habitat whose water has served multiple competing interests.

'The marshes for me were always the canary in the coal mine for environmental protection. The thing is that the signs of the problem were there a long time ago.'

He pointed out that the NSW Wetland Recovery Program, established in 2005 by NSW Premier Morris Iemma with a budget of \$13.4 million to improve wetland management, has been followed by the wider NSW RiverBank Program, an innovative scheme that pledges funding of \$105 million over five years to buy back water licences, for the environment, from irrigators, farmers and industry.





**Above right:** Senior Field Officer Ray Jones, of NSW DECC, in the northern marshes with one of the last remaining stands of reeds. Grenville Turner

**Left:** The dry bed of Macquarie River, in the southern marshes, hosts weeds and dead and dying river gums. Grenville Turner

‘This has precipitated a substantial change in policy throughout the country. Is it enough to save the marshes? Who knows?’

No one agrees with this sentiment more than Bill Johnson, Senior Scientific Officer for Wetlands and Rivers at DECC, who has been working in the Macquarie Marshes since 1985.

‘The first warning that I know of was in a Royal Commission document in 1902 when landholders in the marshes expressed concerns about a proposed dam, saying that if water was taken away from the marshes it would render them valueless.’

Johnson said there were more protests in 1908 when the Burrendong Dam site was selected. Further concerns erupted in the 1930s and 1950s over the issue of removing the water from the Macquarie River.

‘In the 1970s there were comments that natural flooding was not always good for the environment. In general, society believed we could make the desert bloom and there was a strong push towards irrigation development.’

The legacy of this early view has influenced water management across the marshes since. Every issue

relating to this marshland region, including even the size of the wetland, has been a cause for debate. Of the 220 000 ha area, only about 10 per cent is designated Nature Reserves. The remainder is in private sector hands, something that is causing various agriculturalists, whose livelihoods are reliant on water allocations from the region, to dispute the actual hectare area of this wetland classification. Some claim only 170 000 ha exist in a major flood and therefore allocations should be monitored accordingly.

Johnson is pragmatic about the issues, recognising that there are many vested interests in this region and there has been a range of impacts over time.

‘The decline of the system doesn’t happen instantly you take the water away,’ he said. ‘The irrigation development coincided with a wetter part of the century. Since the ’90s we have returned to a drier series of years and we are now seeing the effects of overallocation and overuse of water from the Macquarie River system.’

This is not a view shared by some of the agricultural entities operating along the Macquarie River and its tributaries. Chris Hogendyke, Chair of Macquarie Food and Fibre, a consortium of irrigation operators who disown sole responsibility for the Macquarie Marshes’ water and habitat crisis, is a vocal campaigner. ‘We really do want to save the Macquarie Marshes. We know that the environment has been degraded that far that you cannot sit back and let it repair itself.’

‘There is a need to start doing some active work in the area – to get rid of the weeds and cattle and get the native grasses back in,’ he said. ‘Grazing is one of the major impacts on the marshes.’

Johnson, however, observes that grazing leases in the Nature Reserves of the Macquarie Marshes were terminated by DECC a long time ago, and that what is required is more water for regular flows.

‘The southern marshes have been without livestock for nearly 20 years, except kangaroos and emus, but there





is now not even enough feed to sustain them,' he said.

'People who live in the area understand that without flooding the system dies – the system, the soil types, the vegetation types are all dependent on regular prolonged inundation.'

The graziers, too, heartily disagree that their activities are the root of the problem. 'This country comes back if there is water on it,' said Peter McLellan, a local grazier whose family has lived in the Macquarie Marshes for generations.

'My grandfather came here in 1911. This problem has nothing to do with the management of the land. The point is that these marshes were great for 150 years until they started irrigating. Even that was not a problem until they started taking more and more water.'

Eric Fisher, Chair of the Macquarie Marshes Environmental Landholders Association and the NSW Ramsar Managers Network, said that the most destruction to the area has occurred over the past 25 years. As a farmer whose family history on the land can be counted in generations, Fisher believes there is no doubt that regular flooding has been a key to the survival of the Macquarie Marshes and its special ecological system.

'These marshes have been here for thousands of years acting as a kidney to filter water that then moves into the Murray–Darling System,' he said. 'If non-grazing was going to fix things it would have happened by now.'

And herein lies the quandary: the matter of water allocation. An article in the *National Parks Journal* in June 2006 reflected that 'the current condition of the Macquarie Marshes is a symbol of the failure of the NSW water reform process.'

State Water is responsible for the water delivery operations for the Macquarie Cudgegong Rivers and the distribution is based on 'security' licences. These are divided into general security (mainly irrigation) licences; high security licences that pertain to towns, stock and domestic needs; basic rights and, lastly, the environment.

Under the Macquarie Cudgegong Water Sharing Plan, Sri Sritharan, Customer Service Manager,

**Above and right: Extended drought has exacerbated the decline of the marshes, restricting the allocation of occasional but vital environmental flows to the perennial marshes.** Grenville Turner

**Below: This bird viewing platform at Gibson Way in the northern marshes was opened by then Premier of NSW, Bob Carr, in 2001. Today the red gum forest is dead and the bird varieties displayed are absent.** Grenville Turner

Central Area, State Water, advised that there was an environmental water allowance of 10 per cent of the 160 000 Megalitres (ML) general security allocation. The resulting environmental portion would be 16 000 ML – barely enough to dampen the topsoil.

Water mitigation issues are complex and at the centre of controversy in the Macquarie Marshes region.

'In the '70s the river was calculated to yield between 400 000 and 475 000 ML of water in a normal year,' Johnson said. 'Now there is about 740 000 ML allocated to extractive use. So that's getting up to twice as much as the river was ever calculated to yield.'

Currently, the water yields mean nothing because there is no water to release. NSW has recently been in the grip of what is considered the worst ever drought, and Johnson's view of the water supply is that 'there is too much allocated and too much used.'

Mike Bennett, Chair of State Water's Customer Service Committee, agrees that the short-term problem is the drought, but sees handling of allocations as the deeper issue.



Note: *Ecos* was informed after publication that the trees in the photo at the bottom of p.22 include both coolibah and red gum; they died as a result of prolonged inundation, not lack of water.



‘One of my criticisms is there has been no management of the system. One of the major problems in the Macquarie Marshes is the continual draw from small flows. Larger amounts need to be released. It now takes much more water to flood the marshes than it ever did before.’

Backed by a lengthy history of recording and researching activities in the Macquarie Marshes, NSW University’s renowned environmental scientist Professor Richard Kingsford reiterates there are two principles that relate to the Macquarie Marshes: bad management and poor science. ‘There has been a lot of research done, but not much “real” research ... I mean recognised research that has made its way into peer review journals. The rest is there to confuse.’

Kingsford believes a lot of this confusion comes from people not wanting to confront the issues because they are unpalatable. ‘There are tough decisions to be made and communities and governments do not like to make tough decisions,’ he said.

More importantly, he claimed that for the most part people still do not understand that water taken out of the catchment is water that would have ended up in the Macquarie Marshes.

Already questions are surfacing as to whether the two NSW water plans, the Wetland Recovery Program and RiverBank, will effectively help address the issue of water allocations. Factor into the mix the Federal Government’s National Water Initiative (NWI) that is designed to pump \$10 billion into active water management across the nation, and there is a lot of money, but not much direction. The squabbling has already started over how the plan should work on the ground, and concerns are being raised about how well this money and its directives will actually be actioned.

‘I don’t know if RiverBank is enough,’ Kingsford said. ‘I do know there are ways of being efficient with water, particularly in relation to evaporation from irrigation channels. My concern is that under the PM’s plan, taxpayers put in 89 per cent of the money but only get 50 per cent of the water. With rivers in such desperate

**‘One of the major problems in the Macquarie Marshes is the continual draw from small flows. Larger amounts need to be released. It now takes much more water to flood the marshes than it ever did before.’**

straights we should be retiring as much water back to the rivers as we can.’

Johnson stated, ‘There is now a very strong commitment to buy water from the irrigators and return it to the environment. It appears to be working successfully in NSW.’

However, in the real world you can only buy water that is available to buy, and there is concern from the irrigation sector that the purchasing of water is only a band-aid.

‘The 40 000 to 50 000 ha of the core marsh contains the reed beds and red river gums,’ Hogendyke said. ‘To buy back the land, rather than water, at a value of \$800 a hectare would cost \$26 million – a better deal than buying licences.’

But this is a non-negotiable discussion on the part of the graziers who would be disenfranchised from properties that have been held by their families for more than 100 years.

Noted freshwater ecologist, Professor Peter Cullen, from the Australian Government National Water Commission, has a substantial background in studying and understanding environmental flows, nutrients and wetland ecology. He is concerned about the central problem of competing interests.

‘You have to wonder whether the states have the technical capacity to work it all out. The communities involved will use every device to challenge, delay and cause problems to halt actions now. Putting it off for another five years will not only mean more money but more damage to this sensitive ecosystem.’

‘But I think the NWI does give us the framework to address the issues. It says that the environment comes first. Now the governments will have to determine what actions to take – the question is whether we have the governments able and prepared to stand up to those vested interests.’

Bennett said, ‘From my point of view we would like to see a far more cooperative effort. For a while we all got along quite well, but then the drought came along. But now each group is in their corner and not interacting.’

‘If there is going to be research then it needs to be done on how to manage the system effectively. Of course, a great solution would be a flood.’

But, with drought lingering, the prospective issues of climate change appear to be a new catalyst that could bring all parties together – including the irrigators, graziers, researchers, management authorities and wildlife experts – to review and negotiate how best to manage the Macquarie River System and perhaps salvage the integrity of the wetlands.

‘We have to start now, we don’t have time any more,’ Johnson argued. ‘We are not very far from a point where these ecosystems in the Macquarie Marshes cannot be restored and protected. It is vital that we move now – today.’

#### More information:

Overview: [www.macquariemarshes.com](http://www.macquariemarshes.com)

Australian Wetlands Database: [www.deh.gov.au/water/wetlands/database/index.html](http://www.deh.gov.au/water/wetlands/database/index.html)

NSW Wetlands Recovery Program: [www.dnr.nsw.gov.au/water/wetlands\\_recovery.shtml](http://www.dnr.nsw.gov.au/water/wetlands_recovery.shtml)

NSW RiverBank Program: [www.environment.nsw.gov.au/education/nswriverbank.htm](http://www.environment.nsw.gov.au/education/nswriverbank.htm)

NWI: [www.dpmc.gov.au/water\\_reform/nwi.cfm](http://www.dpmc.gov.au/water_reform/nwi.cfm)