



I N L A N D  
R I V E R S  
N E T W O R K

January 2007

## **NSW WETLANDS IN CRISIS**

*'changes in river flows have resulted in the loss of 90% of floodplain wetlands in the Murray–Darling Basin'*



# **ENDANGERED**



*"Our over exploitation of water is fast becoming one of the worse environmental legacies for future generations"*

Floodplain wetlands are biodiversity hotspots, and when they receive flows they teem with life as rich and diverse as that supported by tropical rainforests.

Eastern Australia is blessed with many amazing and iconic wetlands, including many within the Murray-Darling Basin. They provide most of the food for our fish and birds and wetlands are the nurseries for their young.

These wetlands are critical refuges for our native fish during dry times. In wet years, hundreds of thousands of birds of many species rely on our wetlands for feeding and breeding habitat. Some birds may have travelled from as far as away as Japan and Siberia and are protected by international treaties.

However, most of these wetlands are in ecological freefall and some are on the brink of collapse – we have already lost 90% of these wetlands. This catastrophe is largely due to the overuse of water for irrigation which has artificially extended natural periods of drought. When as much as 80% of the water has been taken in preceding years, when a dry period really does hit the wetlands are literally dying for a drink.

Our birds and fish are being dragged down with them - bird numbers are in dramatic decline - average numbers have fallen by nearly 80% - and the NSW Fisheries Scientific Committee has recently made proposals to change the listing of numerous freshwater fish species to endangered and critically endangered. They have already listed three entire aquatic ecological communities that span river lengths and numerous wetlands as endangered.

We are failing our international obligations – it is clear that we are not wisely using or managing these wetlands, and internationally listed Ramsar wetlands are endangered.

Historically, wetlands supported the grazing industry, which carried Australia to prosperity. Overuse of water has all but destroyed the rich floodplain pastures and many graziers now face an uncertain future.

We are also failing many struggling landholders and regional communities whose livelihoods depend on healthy rivers and wetlands. If we want sustainable regional communities then we need to look after them, and that includes taking care of our floodplain wetlands.

Unless we restore the balance and return water to our priceless wetlands, hundreds of species will face extinction and we risk losing areas that makes life in our rural heartland possible.

This emergency calls for strong leadership from our governments – not just promises but clear pathways for action to stop irreparable collapse and save our iconic precious wetlands. We need to redress the imbalance and return more water to the wetlands in the Darling and throughout inland NSW.

This water is the lifeblood of wildlife and landholders alike and will revive inland communities and industries, whilst also improving water security for landholders and the environment and will provide a mechanism to deliver more water to downstream towns in western NSW.

The NSW & Federal Governments needs to pave the way for a Living Darling Initiative, which will tackle the problems head on and return water to the wetlands. Boosting Riverbank and meeting commitments under the Living Murray will also look after wetlands in the rest of inland NSW. Now is precisely the time for leadership on this issue – get more water back into our wetlands show people in inland NSW that the Government cares about regional communities.

# INLAND NSW WETLAND REPORT CARD

## **SCORE - FAIL**

### **Macquarie Marshes**

*The Kakadu of NSW in dramatic decline*

**ENDANGERED**

*"It is probably the most important site for the breeding of colonially nesting waterbirds in Australia, and colonies in the Marshes are among the largest and most diverse in NSW"*

- Has the largest River Redgum woodlands and Reed Beds in Northern NSW
- The massive complex of wetlands provide a major drought refuge for waterbirds
- The Marshes once supported 20 million birds that bred every year.

#### Issues

*"there has been a significant long-term decline in river flows as a result of river regulation and subsequent diversions upstream. There are now fewer waterbirds, and fewer species of waterbird, than ever before"*

- At least 40-50% of the wetlands have already been lost
- What is left is sick and dying - less than 10% of the original wetland is considered healthy
- About 2,000 hectares of river redgums are dead or dying due to lack of water
- There has been no colonial bird breeding event since 2000 - the longest recorded period without breeding
- Bird counts in 2005 produced alarming figures - "for the second year in a row, record low numbers of waterbirds were counted on the Macquarie Marshes. The marshes averaged 30,000 in the 1980s, never below 100 but this year less than 10 birds".
- Too much water is taken from the system, leaving the Marshes desperate for a drink - in the 2004/2005 water year 80% of water went to extraction, leaving only 20% for the river and Macquarie Marshes.
- Floodplain harvesting then takes more unmeasured water and puts environmental flows at risk
- Climate change is also a threat

#### What needs to be done:

- The Macquarie Marshes desperately need to regain some of the water that they used to receive.
- A Living Darling Initiative is needed to return more water to the wetlands, to protect that water, and to address unsustainable floodplain development.
- Current indications are that another 140,000ML of water are needed to give a core area of the Marshes a fighting chance



# Gwydir Wetlands

*Rapidly disappearing*

## **CRITICALLY ENDANGERED**

- One of the most important bird breeding areas in NSW
- At times home to half a million nesting and breeding waterbirds
- One of the largest inland wetlands in NSW

### Issues

- 90-95% of the wetlands are gone
- Too much water is being taken from the system - natural flows have been reduced by 60%
- Large floods have been reduced by 70%
- Unmeasured water is being diverted and drained from the system – current figures suggest 30,000ML but anecdotal evidence suggests far more.
- Development severs floodplain wetlands from the river, leaving them high and dry
- Climate change is also a threat

*We are on the brink of ecological catastrophe - once lost these areas are almost always irreplaceable – it makes far more sense ecologically & financially to look after what we have*

### What needs to be done:

- The wetlands are dying for a drink - more water needs to be returned to the wetlands
- A Living Darling Initiative is needed to return more water to the wetlands, to protect that water, and to address unsustainable development
- Best available science suggests that the wetlands need their allocation increased by 125,000 ML (though in total the allocation will only equate to about 80,000 ML/year)



*River Red Gums - Amy Hankinson*



# Narran Lakes

## SERIOUSLY THREATENED

- The Lakes were among the highest ranked sites in the Murray Darling Basin for bird species richness, number of breeding species and total number of birds
- A major drought refuge for waterbirds.
- Very important to a number of internationally significant migratory birds and threatened species

### Issues

- Inflows to Narran Lakes have been dramatically reduced to a mere 32% by rapid and extensive irrigation development & floodplain harvesting
- The Lakes are now expected to fill 1 year in 7, whereas they previously filled once every 2 years.
- There has been no bird breeding event since 1999.
- Climate change is also a threat

### What needs to be done

- Water must be returned
- A Living Darling Initiative is needed to return more water to the Narran Lakes, to protect that water, and to address unsustainable floodplain development. It will also provide a conduit to overcome interstate difference
- Best available scientific evidence indicates that the Lakes must receive flows at least every 3.5 years if they are to survive

### Fish and Rivers in Stress

In 1817 Oxley recorded that one man caught 18 Murray cod in less than one hour, with the largest a huge 32 kg. Now a recent 220 person-day survey didn't catch a single cod or catfish in any of the Murray, Lachlan and Murrumbidgee Rivers.

Many populations of the 29 species of fishes within the Murray-Darling system have dramatically declined due to major changes in the rivers.

The Silver Perch was once one of the most common species within the Murray Darling Basin and supported a significant commercial fishery. However the fish is now 'critically endangered' because it has suffered a population decline of at least 80% in the past 3 generations.

The NSW Fisheries Scientific Committee has recently made proposals to change the listing of numerous freshwater fish species to endangered and critically endangered. They have already listed three entire aquatic ecological communities that span river lengths and numerous wetlands as endangered. All have cited overregulation and water extraction leading to habitat destruction as factors contributing to their decline

Wetlands are critical for fish survival and breeding – immediate action needs to be taken to repair these stricken areas before we are left with nothing.



Murray Cod MDBC

# Paroo & Warrego Wetlands

## VULNERABLE

- The most extensive wetlands area in the Murray Darling Basin
- Said to be the most important area for waterbirds in the entire Basin, supporting hundreds of thousands of waterbirds in some years, including up to different 63 species.
- A haven for tens of thousands of internationally migrating birds
- A massive complex of wetlands provide a major drought refuge for waterbirds
- One of the richest and most diverse samples of wetlands in inland Australia.

### Issues

- The Paroo River is in significantly better condition than the systems where intensive irrigation has established.
- Degradation has occurred through clearing, over-grazing and invasive species
- However diverting water upstream is potentially the greatest threat, including proposals to sell an allocation of 8,000ML of water from the Warrego River a year.
- Climate change is also a threat

### What needs to be done

- No further water must be drained from the system
- The floodplain wetlands must be protected from unsustainable development and land use through strengthened land use agreements

## International Travellers – Birds from Far Away

All the wetlands listed provide valuable shelter and feeding sites for birds that have travelled internationally from as far away as Japan, China and Siberia.

The reduced flooding of wetlands has meant that there are far fewer breeding opportunities and areas to feed. It follows that we risk having a major impact on these international birds as well as our own.

We have a global responsibility to protect these species.



*Red necked stint*

The Red-necked Stint is the smallest of Australia's international migratory birds, and it is small enough to fit inside a wine glass. It migrates annually from its breeding grounds in Arctic Asia, Alaska and the North Pacific, a journey of about 15,000km one way. In its lifetime it will fly the same distance as that between the earth and the moon.

# Fivebough and Tuckerbill Swamps

## RECOVERING

- A wetland of international importance because of the abundance and diversity of waterbirds, including threatened species and migratory birds
- Regularly supports over 20,000 waterbirds
- Provides important waterbird habitat and refuge within an agricultural landscape

### Issues

- Water quality



- Risk of salinisation from rising groundwater
- Climate change is also a threat

#### Actions

Management to improve the wetlands includes:

- water quality monitoring
- wetting and drying regimes reinstated
- Vegetation remediation
- land use management

## Lowbidgee Wetlands

### ENDANGERED

**Along with the Murrumbidgee it is in the critical ward at the hospital**

- Amongst most important waterbird breeding areas in Eastern Australia
- Has lignum swamps that are so extensive they are of national importance as a breeding area for ibis, especially Straw-necked Ibis – in some years there are tens of thousands of breeding pairs

#### Issues

- Over 75% of the wetlands have been lost, and almost half of what remains is degraded or dying
- Waterbirds have declined by a dramatic 80%
- Native fish species have also been severely affected
- Water to the wetlands has been reduced by over 60%
- Trees that once got water every 7-10 years have not had water for 20-25 years
- Floodplain harvesting then takes more unmeasured water and puts environmental flows at risk
- Climate change is also a threat

#### What is needed

- An emergency Wetland Rescue Package is needed to return flows to the Lowbidgee wetlands, that invests significant amounts of money into Riverbank to buy the water back from willing sellers.

### Bird numbers in dramatic decline

Since the early 1980's annual average bird numbers have dramatically declined, falling by nearly 80%.

Waterbird breeding grounds and feeding sites depend on regular flooding, so reduced flooding has had a major impact on breeding - in the Macquarie Marshes for example it is estimated that the nests of colonially nesting birds have been reduced by 100,000 every 11 years.

Our majestic colonial water-birds, which include ibis and egrets, breed on only a few large floodplain wetlands in Australia, many of which are listed here. Hence overextraction of water may well have an impact on entire continental populations.

One such bird - the Straw-necked Ibis – has not bred in the Macquarie Marshes (a major rookery) for almost 7 years now. The Ibis become too old to breed at around 8 years of age – if this trend continues it is likely that the Ibis population could face collapse.



*Brolgas - WWF*

Not only are we losing an amazing array of birds at an alarming rate, we are losing many "farmers' friends", as they have significant economic importance through their service of insect control.

With bird numbers dropping with alarming speed we are reaching crisis point, emergency actions are required to return water to the wetlands that these birds rely on.

# Great Cumbung Swamp

## ENDANGERED

- One of the most important waterbird breeding areas in Eastern Australia and supports large numbers of waterbirds
- Contains one of the largest reed beds in NSW
- Provides key drought refuge for wildlife such as birds and fish
- One of the most important breeding areas in SE Australia for the rare Freckled Duck.

### Issues

- Overextraction of water in the Lachlan
- River regulation and floodplain development have also isolated the floodplain wetlands
- Climate change is also a threat

### What is needed

- An emergency Wetland Rescue Package is needed to return flows to the Lowbidgee wetlands, that invests significant amounts of money into Riverbank to buy the water back from willing sellers.

# Central Murray State Forests

## ENDANGERED

- Includes the largest naturally occurring River Red Gum forest in Australia.
- Contains at least 8 globally threatened fauna and internationally migrating birds
- The wetlands once regularly supported 20,000 or more waterbirds

### Issues

- Over 45% of the wetlands are degraded and shrunk, with many critical wildlife refuges lost
- 40-60% of floods have been lost, replaced by constant unseasonal low flow.
- The flows of the Murray River to the sea have been reduced to only 27% through overuse and river regulation
- Murray cod, once abundant, are now rarely caught and no longer live in many wetlands
- Colonially-nesting waterbird breeding has dropped drastically by 80% and many species no longer bred in the forests
- Brolgas are now locally extinct, and several egret species that relied on the area for breeding are now endangered and critically endangered
- Climate change is also a threat

### *What needs to be done*

- Commitments to return 500GL under the Living Murray First Step must be met by 2009 through the use of market based mechanisms and other cost effective measures
- Governments also need to meet commitments to return another 1000GL under the Second Step of the Living Murray Initiative



**How to ensure our birds, fish and trees can continue to survive drought?**

**How to ensure our kids can still turn a buck in agriculture?**

**How to ensure we don't lose our magnificent and iconic wetlands and rivers?**

Redress the imbalance and return some water to the wetlands by:

- returning 1500GL of water to the Murray River and its wetlands
- committing to a Living Darling Initiative that will rescue the iconic river and its wetlands by returning much needed water
- committing to Wetland Rescue Packages for wetlands on the Murrumbidgee and Lachlan Rivers to return some water to them and make sure its managed well

Governments must act now - once its gone is too late

### **A Living Darling Initiative – The Way Forward**

A Living Darling Initiative would be a long overdue opportunity to provide much needed and rapid life support to the Darling River and its internationally significant wetlands, which have reached a state of emergency.

Such an initiative would protect and restore these priceless assets, and it will enable states such as NSW to make significant progress towards their commitments under the National Water Initiative. It will also revive inland communities and industry that rely on healthy rivers and wetlands, such as floodplain grazing, and assist in developing sustainable regional communities. It will also provide enhanced water security and a mechanism to deliver more water for downstream towns in western NSW.

It is important to ensure that our 'natural capital' - our rivers and wetlands – are maintained because once these wetlands are lost they are expensive and extremely difficult, if not impossible, to replace.

**These wetlands need basin states (NSW, QLD, SA, VIC) and the Federal Government to commit to negotiating a 'Living Darling' intergovernmental agreement that sets targets for water recovery, by the end of 2008.**

The NSW Government should take a leadership role on the Darling and initiate this intergovernmental agreement on the Living Darling.

Key elements would include:

1. Boosting Riverbank by \$375 million through the purchase of water entitlements from willing sellers;
2. Developing and implementing novel market based instruments that allow irrigators and the environment to share water entitlements in a mutually beneficial way;
3. Cost effective investment in improved infrastructure;
4. Stopping the illegal draining of our rivers and floodplains and assessing all floodplain development;
5. Protecting rivers from further river regulation, development and water extraction, such as the Paroo & Warrego
6. Identifying and properly managing high conservation freshwater areas through new legislation; and
7. Investing in best practice complementary land and water management, including stewardship payments to support landholders who go beyond their obligations to protect and enhance native biodiversity.
8. A high level scientific & skills based panel to guide the successful implementation of the strategy

## Wetland Values

Wetland	Wetland of International Importance?	Wetland of National Importance?	Globally threatened species?	Migratory birds protected by international treaties?	Nationally threatened species?	NSW Threatened Species?	Now/once regularly supported over 20,000 waterbirds?	Key drought refugia?
Macquarie Marshes	✓	✓	✓	✓	✓	✓	✓	✓
Gwydir wetlands	✓	✓	✓	✓	✓	✓	✓	✗
Narran Lakes	✓	✓	✓	✓	✓	✓	✓	✓
NSW Central Murray Forests	✓	✓	✓	✓	✓	✓	✓	✗
Lowbidgee wetlands	✗	✓	✓	✓	✓	✓	✗	✗
Fivebough & Tuckerbill Swamps	✓	✓	✓	✓	✓	✓	✓	✗
Great Cumbung Swamp	✗	✓	✗	✓	✓	✓		✓
Paroo & Warrego wetlands	✓	✓	✓	✓	✓	✓	✓	✓

## Primary threats

Wetland	River regulation - dams and weirs?	Overextraction of water?	Floodplain development & harvesting?	Water Quality Issues?	Land use & clearing?
Macquarie Marshes	✓	✓	✓		
Gwydir wetlands	✓	✓	✓		✓
Narran Lakes	✓	✓	✓		
NSW Central Murray State Forests	✓	✓	✓		✓
Lowbidgee wetlands	✓	✓	✓		✓
Fivebough & Tuckerbill Swamps		?		✓	✓
Great Cumbung Swamp	✓	✓	✓		✓
Paroo & Warrego wetlands	✓*	✗**			✓

\* Warrego

\*\* : may change

## Management Issues and Actions Needed

Wetland	Sufficient environmental flows?	Sufficient regulation of development?	Meeting Government commitments?	Actions Needed
Macquarie Marshes	✗	✗	✗	Return water; regulate and restrict floodplain harvesting
Gwydir wetlands	✗	✗	✗	Return water; regulate and restrict floodplain harvesting
Narran Lakes	✗	✗	✗	Return water; regulate and restrict floodplain harvesting
NSW Central Murray State Forests	✗	✗	✗	Return water, stop unsustainable clearing & floodplain development
Lowbidgee wetlands	✗	✗	✗	Return water; regulate and restrict floodplain harvesting
Fivebough & Tuckerbill Swamps	✓	✓	✓	Continue active management
Great Cumbung Swamp	✗	✗	✗	Return water; regulate and restrict floodplain harvesting
Paroo & Warrego Wetlands	?	?	✓	No more water extraction, ensure sustainable land use

?: possibly but may change