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Image : Brolgas Macquarie Catchment Neil Zoglaven

World Wetlands Day: 2 February '25

'Protecting wetlands for our common future'

This third edition of the IRN newsletter celebrates wetlands and their environmental, cultural, social and economic significance. Australia signed the Ramsar Treaty in 1975: *The Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat.* The Convention includes a commitment to the conservation and wise use of all wetlands, not just those listed as internationally important.

There are more than 30,000 wetlands in the Murray-Darling Basin from upland swamps and springs to riparian benches and floodplain billabongs, ephemeral salt lakes and large lowland areas such as Macquarie Marshes, Great Cumbung Swamp and the Coorong.

A 2000 study by the Ramsar Bureau calculated that world-wide wetlands provided 45% of ecosystem services equal to almost $15 trillion a year. Wetlands are amongst the most biodiverse ecosystems with up to 40% of the world's species living and breeding in these areas.

Wetlands are important in providing drought refuge, water storage, groundwater recharge, filtering for water quality, flood mitigation, natural pest control and pollination.

Wetlands also play a vital role in carbon storage, especially peatlands, salt marshes and mangroves, important for global climate regulation. In 2018 the Ramsar Convention undertook the first Global Wetland Outlook and found that wetlands are disappearing three times faster than forests. https://www.global-wetland-outlook.ramsar.org/outlook

In NSW and the Murray-Darling Basin there are many threats to wetlands especially from water extraction upstream. This newsletter explores some of the changes to water management to better protect wetland ecosystems and the need for stronger policy and regulation.

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Cultural significance of wetlands

Wetlands feature prominently in creation and dreaming stories and often mark the course of sacred beings like the rainbow serpent. Wherever it is found water holds deep spiritual and cultural significance. Access to water dominated Aboriginal life along with the food and other resources generated. Today, many Aboriginal people refer to their rivers and wetlands as 'supermarkets', a clear indication of their importance in the indigenous economy.

Wetlands traditionally provided high protein foods, medicinal plants, and materials for making nets, baskets, tools, jewelry, clothing, canoes and many other items. Fishing was, and still is, a very important part of Aboriginal life and culture. The most significant fish species for nutritious high protein, low saturated fat food sources are golden perch, silver perch and Murray cod. These species need spring-summer floods to trigger breeding.

There are thirty-three species of freshwater mussels in the Murray-Darling Basin. Huge shell middens are evidence of the long period of Aboriginal use right across the Basin. Flooded wetlands provided significant food sources of waterbirds and eggs. Other freshwater foods included turtles and eggs, yabbies and shrimps. Wetlands provided fertile hunting grounds for larger animals such as kangaroos, emu, goanna and native birds who came to the water to drink.

First Nation families still enjoy camping, fishing and hunting on rivers and wetland areas maintaining their strong spiritual connection to country.

Image: Polly Cutmore, Traditional Owner from the Gwydir and MacIntyre Rivers, looking for mussels at Waterloo creek by David Paull

The loss of significant medium and small floods and freshes, particularly during the breeding months of spring and summer has caused a major collapse in native species populations dependent on wetlands for survival.

Caring for country requires the reinstatement of the full range of flows to provide the variability and resilience for wetlands to maintain their significant ecosystem services and cultural values particularly under the threat of climate change.

Improved water sharing to support cultural flows, Native Title and First Nation communities will also help the future of wetlands.

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Opportunities to improve wetland health

The NSW Government has the responsibility to regulate water use in the state under the *Water Management Act 2000* (WMA). NSW makes up 56% of the Murray-Darling Basin and therefore, also has the responsibility of sharing water with downstream states under the Basin Plan.

The ongoing loss of wetlands and their dependent populations of water birds, native fish, turtles, plants and other species indicates that water sharing arrangements needed to improve wetland health are still deficient.

New water sharing rules

The key legal instrument under the WMA for water management in each river system is the Water Sharing Plan (WSP). These have a 10 year lifespan and must be reviewed and replaced. Currently there are seven inland WSPs under consideration for replacement by July this year. These are the unregulated river WSPs for the Barwon-Darling/Baaka, Gwydir, Namoi, Macquarie/Wambuul Bogan, Lachlan, Murrumbidgee and the regulated Belubula River.

The unregulated WSPs are introducing new rules to help protect Ramsar and other significant wetlands. Mapping of wetlands is also being updated to assist the identification of wetland areas in each river catchment. A broader set of criteria is needed for identifying water dependent ecosystems. IRN strongly supports new rules to better protect wetlands from water extraction and objects to any exemptions to their implementation.

Northern Basin: improving connectivity.

The proposed flow rules to improve connectivity between the NSW Northern Basin rivers and the Barwon-Darling/Baaka include the reinstatement of small and large freshes. These flows have been recommended by the Connectivity Expert Panel and are critical to wet river benches and low lying wetland areas. Large uncontrolled floods fill up all wetland areas, however, the small and medium flows in between are essential for maintaining resilience and providing variability.

IRN has strongly supported that the Panel's recommended flows and triggers be included in all Northern Basin WSPs as soon as possible.

https://water.dpie.nsw.gov.au/our-work/projects-and-programs/northern-basin-connectivity-program

Southern Basin: Reconnecting River Country

This project is important in the Murray and Murrumbidgee Rivers to provide small to medium flood flows to the significant wetlands along these major rivers; only some formally listed under the Ramsar Treaty. The aim is to identify and mitigate private land easements and infrastructure likely to be impacted by the release of environmental water from upstream dams. These releases will not be capable of replicating large, uncontrolled floods but are critical in replacing the lower flood ranges that had naturally occurred on a regular basis. These smaller flows are very important for improving wetland function and health.

https://water.dpie.nsw.gov.au/our-work/water-infrastructure-nsw/sdlam/reconnecting-river-country-program

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Ongoing Threats

Floodplain water harvesting

Capturing water from floodplains before it enters rivers and creeks or after it overflows has had a significant impact on the health of floodplain wetlands in the NSW northern Basin. The billabongs, lagoons, marshes, reedbeds, river redgums, groundwater and other important wetland habitats are severely affected by this loss of water access. New licences have been granted to properties that harvest flood water without any assessment of downstream or wetland impacts. The exemption to capture rainfall runoff without a licence gives these water users more rights than anyone else in the state. It is critical that strong rules are included in WSPs to better manage the volume and timing of floodplain water capture so that wetlands get the share of water they need to survive into the future.

New infrastructure

Our river systems and catchments have been greatly altered through the construction of dams, weirs, on-farm water storage, channels, pipes and pumps and large irrigation schemes.

These impediments to natural flows have been a major cause of loss of wetlands across the Basin. Industry and communities have the challenge of using more efficient technology and decreasing water demand into the future. Constructing more infrastructure to capture or redirect water flows will continue to exacerbate the problems with wetland and river health.

Stop Press: Water bird populations dropping dramatically in the Basin

https://www.abc.net.au/news/2025-01-19/waterbird-population-almost-halved-survey/104814966

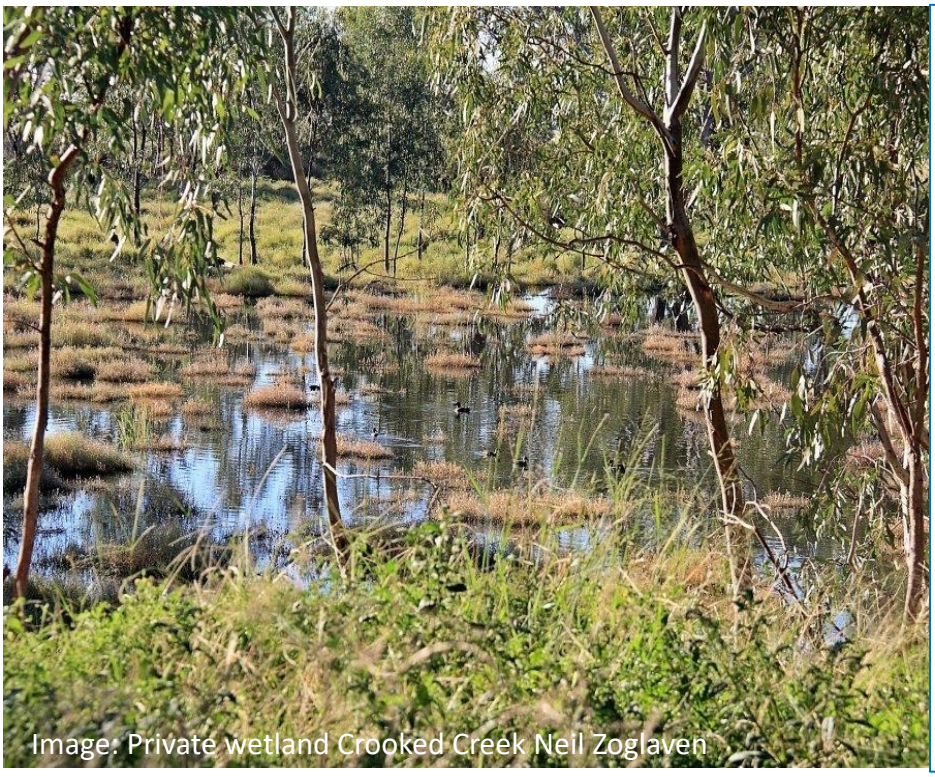

Image: Private wetland Crooked Creek Neil Zoglaven

IRN Newsletter

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https://inlandriversnetwork.org/newsletters/

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Ramsar wetland sites in New South Wales

The Convention on Wetlands of International Importance, known as the Ramsar Convention was first signed in the Iranian city of Ramsar in 1971. It aims to promote and protect wetlands throughout the world. Today, it recognises and protects more than 192 million hectares of wetlands worldwide.

Countries, such as Australia, which sign up to the convention can nominate sites to be listed as Wetlands of International Importance, referred to as Ramsar sites.

In NSW these wetlands are on a range of land tenures, including national parks and nature reserves, state forests, Crown land and private land.

There are 12 Ramsar sites in New South Wales, of which eight are associated with inland rivers and their catchments.

The listing reflects more the 'art of the possible' than a true reflection of international significance. For the protection of vital wetlands across the Murray Darling Basin a proper inventory and protection measures of wetlands is needed. Significantly more than formally listed Ramsar wetlands need upstream flow protection, and protection from mining intrusions as has occurred at Lake Cowal.

Inland RAMSAR wetland sites in NSW

Fivebough and Tuckerbil Swamps - 620 hectares, are on Crown land near Leeton in the Riverina region of New South Wales.

Gwydir Wetlands - consists of 4 separate subsites around the Gingham Watercourse and Lower Gwydir (also known as the Big Leather Watercourse). The whole Ramsar site covers 823 hectares.

The subsites within the Gwydir Wetlands are Crinolyn, Goddard's Lease, Old Dromana, and Windella.

Lake Pinaroo (Fort Grey Basin) - 719 hectares, is in Sturt National Park near Tibooburra in the north-west corner of New South Wales. It is within the Lake Eyre drainage division.

Lake Pinaroo is the largest terminal basin within the NSW part of the Simpson–Strzelecki Dunefields bio-region. A terminal basin retains water because it has no outflows to other bodies of water such as rivers or the ocean.

Little Llangothlin Nature Reserve Ramsar site is near Guyra in northern New South Wales and covers an area of 258 hectares. It includes Little Llangothlin Lagoon and part of Billy Bung Lagoon. Little Llangothlin Nature Reserve supports 2 examples of high-altitude lakes, most of which have now been cleared from the NSW New England tablelands.

Macquarie Marshes Ramsar site, 19,850 hectares, lies about 100 kilometres north of Warren in central west New South Wales. It consists of 3 subsites:

Macquarie Marshes Nature Reserve was listed as a Ramsar site in 1986 part of the Wilgara grazing property, added in 2000. U-block (also part of a grazing property), added in 2012.

Narran Lake Nature Reserve

Comprises the whole floodplain area within Narran Lake Nature Reserve, 8447 hectares.

The site is about 50 kilometres east of Brewarrina in north-west New South Wales.

NSW Central Murray Forests Ramsar site, 83,992 hectares, is near Deniliquin in south-western NSW.

It consists of 3 subsites: Millewa Forests, Werai Forests and Koondrook Forests. All 3 depend on flows in the Murray River.

Millewa Forests, together with Barmah Forest in Victoria, are Australia's largest area of river red gum forest. They have trees more than 200 years old and areas that are structurally equivalent to undisturbed forest.

Paroo River Wetlands - in far western New South Wales is 138,304 hectares. The Paroo River is considered the last free-flowing river in the Murray–Darling Basin. The Ramsar site consists of 2 parts:

Nocoleche Nature Reserve (71,133 hectares), near Wanaaring the Peery Lake section of Paroo–Darling National Park (67,171 hectares), near White Cliffs.

More detailed information can be found here:

Threats to NSW RAMSAR wetlands

The main threats to the NSW inland Ramsar sites' ecological character can be collated as follows. The number of sites reported to be subject to each threat category is shown.

Introduced pest species – animals and plants (8 sites)

Catchment impacts (dryland salinity, water diversion, channel erosion, groundwater extraction, runoff and sedimentation, urban) (6 sites)

Agriculture, irrigation and grazing (4 sites)

Alteration of natural flow regime (4 sites)

Altered fire regimes and fire management (4 sites)

Climate change (4 sites)

Other – visitors and recreational use, sewage disposal (3 sites)