The Lifeblood of Inland NSW: The Socio-Economic and Cultural Importance of Healthy Rivers

Nature Conservation Council of NSW

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Nature Conservation Council

Introduction

Rivers are the lifeblood of inland New South Wales.

The Northern Murray-Darling Basin consists of the Darling/Baaka River and its tributaries, stretching from central western Queensland around the Great Dividing Range all the way down to the snowy hills of Oberon.
The rivers and wetlands of the Northern Basin create unique ecosystems. They have long been critical water sources that support local communities and their cultural and social structures, diverse types of agriculture like floodplain grazing, horticulture, dry land farming, tourism, and recreational fishing.

However, unsustainable water extraction — particularly floodplain harvesting, the practice of diverting water from the floodplain with levees and dams — has severely impacted river health, making the landscape more susceptible to the impacts of a warming climate.

When the rivers are sick, we see socio-economic decline in many towns.

This report highlights the key socio-economic and cultural values of healthy rivers in inland NSW and presents case studies of communities impacted by poor water management.

It also discusses the need for better water policies that ensure we can have an irrigation sector while ensuring the survival of downstream communities.

Social and Cultural Importance of Healthy Rivers

Indigenous Cultural Heritage

Rivers hold deep spiritual and cultural significance for First Nations communities. Traditional owners have relied on these waterways for thousands of years for food, ceremonies, and cultural practices. The degradation of rivers threatens Indigenous heritage and the ability to pass cultural knowledge to future generations.

Aunty Polly Cutmore - Indigenous Water Rights

Aunty Polly Cutmore is a Gomeroi woman and Traditional Owner of the lands that encompass the Gwydir and MacIntyre Rivers. She has witnessed firsthand the transformation of her ancestral waterways from thriving ecosystems to dying riverbeds. She highlights that water mismanagement has led to the erosion of Indigenous cultural identity. She advocates for Indigenous water rights, arguing that restoring water flows is crucial for both cultural and environmental sustainability.

Community Identity and Wellbeing

Inland NSW communities have long been shaped by their connection to the rivers. As river health declines, so too does community cohesion. When the local river or water hole is sick, people may experience grief similar to bereavement—a phenomenon known as solastalgia, distress caused by environmental change.

Uncle Tony Lees - Goan Waterhole, Trangie

The Goan Waterhole, an area of ecological and cultural significance for the local Wangaibon and Wailwan people, has been severely affected by upstream water diversions. Despite being designated as a protected area by the NSW government and being listed in the Macquarie Castlereagh Long Term Watering Plan, no measures have been taken to restore natural water flows. Uncle Tony Lees is a Wangaibon, Wailwan and Wiradjuri man, who has been fighting for the return of flows to the waterhole, emphasising the importance of water for the continuation of cultural practices.

Socio-Economic Significance of Healthy Rivers

Water Quality and Public Health

Many inland towns depend on rivers for drinking water. Declining river health has led to unsafe water supplies, disproportionately affecting Indigenous communities of inland northern NSW. Static water can lead to fish kills, blue-green algae outbreaks, and stagnation, all of which compromise water quality, and risk public health.

Wetlands are the kidneys of our rivers. They improve water quality through several natural processes:

• **Sediment Trapping:** As water flows through a wetland, its movement slows down, allowing suspended sediments to settle. These sediments often carry pollutants like heavy metals, which are then trapped in the wetland's soil and vegetation.

• **Nutrient Removal:** Wetland plants absorb nutrients such as nitrogen and phosphorus, which are common in agricultural runoff and can cause harmful algal blooms in downstream waters. Microorganisms in the soil further break down these nutrients, preventing them from polluting waterways.

• **Chemical Transformation:** Microbial activity in wetlands can transform harmful substances into less toxic forms. For example, bacteria can convert ammonia into nitrate, a process that reduces the toxicity of the water.

• **Pollutant Storage:** Some pollutants bind to sediments and organic matter in wetlands, effectively removing them from the water column and storing them in a way that prevents them from causing harm.

Tourism and Regional Livelihoods

Tourism in the basin is a key economic driver for regional areas. Healthy rivers support tourism activities such as fishing, eco-tourism, bird watching and camping. Basin wide, tourism generates about $15 billion annually[1]. Recreational fishing alone is worth around $1 billion annually and supports more than 10,000 jobs[2].

Towns along the Darling/Baaka River rely on these industries, but declining river health has threatened their sustainability. Fish kills, reduced water flows, and water pollution have significantly impacted tourism revenue.

Kate McBride - Menindee Lakes Crisis

Kate McBride, a grazier and river advocate, has observed the decline of the Menindee Lakes, once an oasis in the dry inland landscape. Over-extraction has led to catastrophic fish kills, dry rivers and the loss of tourism revenue. She notes that the population and availability of work in Menindee has significantly declined in her lifetime due to water security concerns. This case study exemplifies the direct link between river health and community sustainability.

[1] https://www.mdba.gov.au/basin
[2] https://www.dpi.nsw.gov.au/fishing/habitat/rehabilitating/fish-and-flows

Cotton Growing and Local Economies

Industrial scale cotton is the main irrigated crop in northern inland NSW. In recent decades the size of cotton farms has rapidly expanded, yet local employment opportunities and economies adjacent to cotton development have declined. There are many reasons that could be contributing to this decline, including:

• automation of cotton production means less staff are required
• the amalgamation of smaller family run properties into large scale corporate operations
• profits from cotton farming are often exported rather than reinvested into local economies

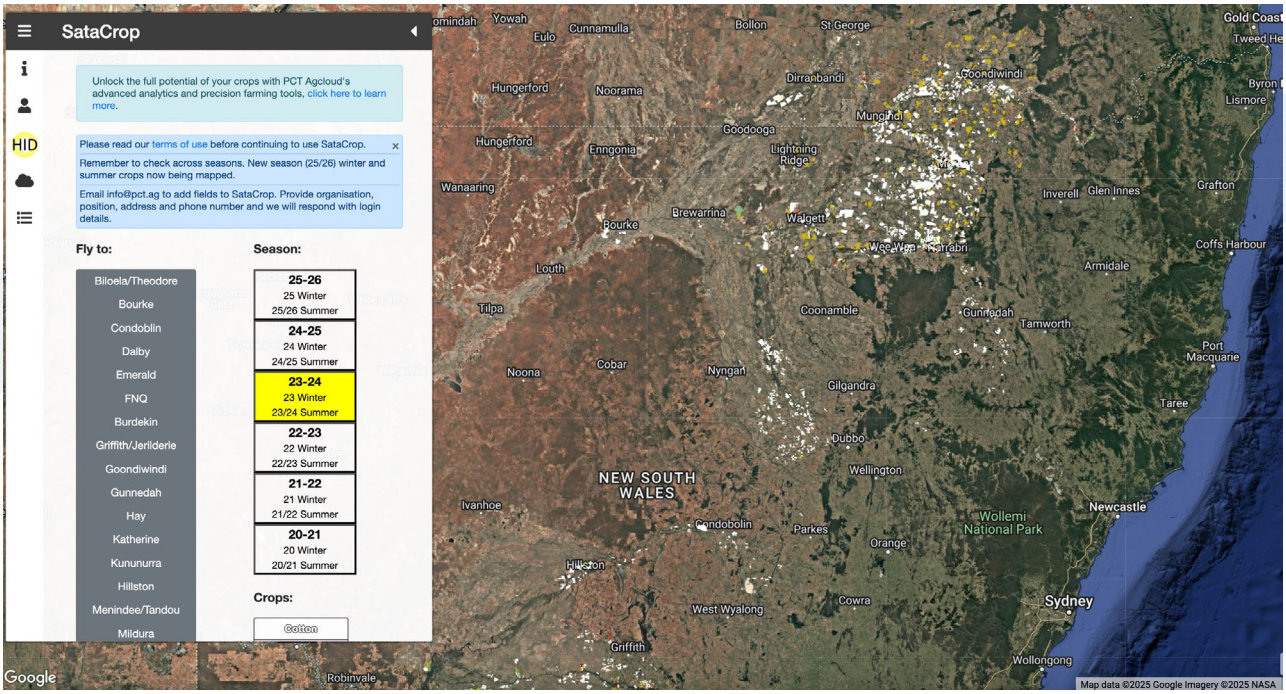
There have been several record-breaking cotton crops in NSW in recent years, reflecting the industry's significant growth:

• **2021–22:** NSW achieved a record cotton production of approximately 3.68 million bales, surpassing the previous record set in 2017–18[3]

• **2022–23:** Despite challenging wet conditions, NSW produced around 3.2 million bales, marking the second-highest production on record and well above the 10-year average of 2.1 million bales[4]

• **2023–24:** The cotton industry anticipated another strong season, with forecasts suggesting a national crop of approximately 4.5 million bales, about two-thirds of which were expected from NSW[5]

[3] https://www.dpi.nsw.gov.au/about-us/publications/pdi/2022/cotton?
[4] https://www.dpi.nsw.gov.au/about-us/publications/pdi/2023/cotton?
[5] https://www.graincentral.com/cropping/nsw-cotton-crop-update/?



Source: SataCrop

Concentrated high in the catchments of the Darling/Baaka River, large-scale cotton operations have benefited immensely from water policy development in NSW, while downstream landholders have seen once-productive waterways dry up, stripping them of their ability to farm and graze sustainably.

Adjusting the water sharing rules to allow enough water into the Barwon-Darling River system so that it has enough water flowing at the right times, would only reduce the water taken for irrigation by between 4% to 6%.

Paul Cameron - Trangie Station

Paul Cameron's property, Trangie Station, has been severely impacted by upstream water diversions. The Trangie Cowal, a natural waterway running through his property, was blocked by a cotton farm over 50 years ago, redirecting water into an on-farm reservoir. As a result, the once-thriving ecosystem on Trangie Station has suffered, rendering his irrigation license - the very first extraction licence issued for the Trangie Cowal, effectively useless. Paul can no longer drought proof the farm by growing irrigated stock feed, which has been a serious impediment to his income and financial sustainability. This case highlights the inequities in water allocation policies and the long-term consequences of poor river management.

Dugald and Justine Bucknell - Floodplain Graziers

The Bucknells operate a grazing enterprise that relies on natural grass and water flows from the Wambuul/Macquarie River. However, with the proliferation of upstream irrigation and the over-allocation of water entitlements, the Marshes are receiving far fewer of the flows that are required to sustain healthy floodplain ecosystems. As a result, Quambone Station's productivity has greatly decreased.

Applying the findings of the Lower Balonne Floodplain Grazing model, Dugald and Justine estimate their indicative annual financial loss at $1.42 million due to reduced carrying capacity and lower gross margins—a weekly pre-tax loss of $27,258, over ten consecutive years. This loss is not merely theoretical; it is based on real-world profit and loss statements analysed using established modelling techniques.

Arthur Davies - Floodplain Grazier on the Darling/Baaka

Arthur has witnessed the river's demise since the 1980s due to over extraction in the Barwon Darling and upper river tributaries that feed it. The irrigation industry has been allowed to expand to unsustainable levels at the expense of hydrological connectivity throughout the entire Barwon Darling system.

Arthur's cattle operation is no longer viable on the flood plain. He has had to put bores down to support the homestead and stock watering points. Water quality at times is quite toxic. Irrigation pumping trigger heights throughout the entire system need to be lifted to allow the rivers to connect again, and for the Darling River to flow.


Brisbane
Aunt Polly Cutmore, Moree
Moree
Bourke
Macquarie Marshes
Justine and Dugald Bucknell, Macquarie Marshes
Wilcannia
Warren
Kate McBride, Menindee
Paul Cameron, Trangie Station
Trangie
Dubbo
Menindee
Tony Lees, Trangie
Sydney
Canberra

Policy Recommendations for Sustainable River Management

Improved Water Regulation

- **Implement the full recommendations of the NSW Connectivity Expert Panel report July 2024** to ensure the Darling/Baaka River and the downstream communities that rely on it receive adequate water:
  - A base flow all the time
  - A small flush once a year
  - A larger flush every second year

- **Implement stricter rules, monitoring and compliance measures** to prevent the pumping of environmental water and water theft.

Enhancing Socio-Economic Modelling in Water Policy

- Government socio-economic studies must assess the broader economic, social, cultural, and environmental impacts of water policies, rather than focusing solely on financial outcomes for irrigators.
- Independent economic analyses should be informed with the latest industry data, and be calibrated to account for changes in irrigator behaviour to adapt to new water rule regimes.

Restoring Water Flows for Cultural and Ecological Health

- Recognise Indigenous water rights and allocate water to support the cultural and economic sustainability of First Nations.
- Restore environmental flows to restore and protect 30% of degraded inland wetlands.
- Invest in water recovery programs that benefit both upstream and downstream communities.

Supporting Economic Transition in River-Dependent Towns

- Develop diverse economic opportunities in tourism, conservation, and less water dependent agriculture.
- Provide financial incentives for farmers who adopt regenerative farming practices and the revegetation of riparian corridors on private land.
- Invest in human services like nurses and teachers, in communities transitioning away from water-intensive industries.

Conclusion

Healthy rivers are essential to the long-term sustainability of inland NSW. The degradation of the Darling/Baaka River and its tributaries due to excessive water extraction has had severe socio-economic and cultural consequences. Case studies demonstrate the direct impact of poor water management on farmers, Indigenous communities, and regional towns.

Restoring river health requires strong policy reforms, including better water management, investment in socio-economic transition, and recognition of Indigenous water rights. An equitable water management approach must ensure there is enough water for ecosystem health as the principles of the NSW Water Management Act prescribe.

The future of inland NSW depends on the health of its rivers. Ensuring sustainable water management will not only revive struggling communities but also safeguard the region's ecological and cultural legacy for future generations.

Nancy Blay - Co-author & Strategic Advisor

Nancy Blay is a co-author of this report and a strategist working at the intersection of finance, nature, and equity. She helped shape both the campaign's strategy and its narrative, bringing a background in international finance and a strong commitment to biodiversity and justice. She works at the intersection of systems thinking, community engagement, and environmental transformation—centering community wisdom, inclusive decision-making, and lasting biodiversity outcomes, while grounding solutions in economic realities and long-term viability.

Her approach is grounded, relational, and driven by a commitment to regenerate ecosystems and the systems that shape them. Her work is about shifting how institutions listen, act, and invest—so that ecological resilience and community wisdom are no longer left out of the conversation.