Interweaving love, knowledge, and action: how we are bringing back the Murray-Darling Basin's Forgotten River (103017)

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Abstract:

The Upper Murrumbidgee River has been left behind by Federal and NSW water management reforms that are designed to improve the health of our waterways. The legislative framework for ensuring that the Murray-Darling Basin (Australia's largest water resource) is managed in the national interest explicitly excludes structures operated by the Snowy Hydro Scheme, which means that Tantangara Dam can capture more than 90% of the water at the headwaters of the Upper Murrumbidgee each year, and as much as 99% in dry years. This leads to crises, as happened in 2019, when the Upper Murrumbidgee at Tharwa ran dry. The Murrumbidgee, although lacking flows, is still a beautiful river and deserves to be saved. To change the future of the Upper Murrumbidgee we needed to bring the management of the headwaters of one of our largest and most significant rivers into line with contemporary best practice management and governance. We began by bringing together people and organisations who love and care for this river, but who had been unable, as individuals, to successfully advocate for change. Through these discussions The Forgotten River campaign and website was created to share knowledge and develop resources to support decision making. This campaign meant that we were available to inform policy at the right place, right time and in the right format. In November 2023, we stood alongside Senator David Pocock as he announced a \$50million dollar package to save the Upper Murrumbidgee. This presentation will show that by facilitating conversations with an open heart and enabling people to get involved by providing opportunities to collaborate, we were able to raise awareness and secure the political will we needed for change. Our experience is that we must invest in relationships first, so that a shared purpose between people with divergent views and experiences can be created. We now have the resources to work over the next five years to bring the Upper Murrumbidgee back from the brink. We also have the mandate to continue our collaborative and inclusive approach to engaging all stakeholders, government, industry, scientific and community.

Keywords: Upper Murrumbidgee River, community, Snowy Hydro, The Forgotten River campaign

Introduction:

"Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has." Margaret Mead

The Upper Murrumbidgee River, an integral part of the Murray-Darling Basin, originates from the snowmelt at Long Plain in the Snowy Mountains, and flows through Cooma and Canberra before reconnecting with the main river below Burrinjuck Dam (Figure 1). Historically, this 320km stretch of river was magnificent, characterized by deep pools, cascading waterfalls, and diverse populations of native fish, birds, and vegetation. It held profound significance for First Nations communities, serving as a vital pathway, and hosting numerous sites of cultural importance. In the Waradjuri language "Murrumbidgee" translates to "Big Water," reflecting its once abundant flow. In Ngunnawal language, "Murrumbidgee" means "Pathway of Bosses". Despite the strong social, cultural, ecological, economic, and recreational values of the headwaters to Australia's third longest river, this river is dying and, until recently, there was no obvious pathway to its recovery. A key factor contributing to the cause of this decline is the capture and storage of 90-99% of the Murrumbidgee's headwater flows

since the 1960's, for the purpose of hydropower generation (Pendlebury *et al.* 1997; Snowy Scientific Committee 2010).



Figure 1. Map of the Upper Murrumbidgee River catchment. Source: https://www.upperbidgeereach.org.au/our-river

The Snowy Hydro Scheme is one of Australia's most significant engineering projects. It involves a series of dams, tunnels, power stations, and aqueducts constructed in the Snowy Mountains region of New South Wales. Initiated in 1949, and completed in 1974, the scheme's primary purpose is to generate electricity through hydroelectric power. It's a multi-purpose project, serving irrigation, water supply, and flood control, alongside power generation. The scheme diverts water from several montane rivers and at the time it was built, the focus on energy and water for irrigation, meant that there was no provision made for environmental, social, or cultural water needs.

Situated at the Upper Murrumbidgee River's headwaters, Tantangara Dam, which was built in 1960, plays a pivotal role in the Snowy Hydro Scheme. The water held within Tantangara Dam is prized for its ability to be efficiently harnessed via gravity, thereby minimizing the costs associated with energy production. Since it was built, Tantangara Dam has captured 90-99% of the Upper Murrumbidgee's headwater flows (Pendlebury *et al.* 1997). Consequently, the river receives less than 10% of its inflows and, in some years, as little as 1%. This has significantly compromised the ecological integrity of the Upper Murrumbidgee River, as well as jeopardising cultural, social, and economic assets (e.g. ACT Government, 2022).

Since Tantangara Dam's completion in 1960 (Figure 2), operations for hydro power have taken precedence over the health of the Upper Murrumbidgee River. Consequently, the Upper Murrumbidgee River has lagged in benefiting from Federal water management reforms aimed at enhancing waterway health. This disparity arises because the legislative framework governing the management of the Murray-Darling Basin, Australia's largest water resource, explicitly excludes structures operated by the Snowy Hydro Scheme, with the *Water Act* (2007 Cwlth) instructing that the Murray Darling Basin Plan "not be inconsistent with the Snowy Water Licence" (Commonwealth of Australia, 2007).

In 2019, the Upper Murrumbidgee River dried up at Tharwa near Canberra (Figure 2), necessitating the transport of water to the village over several weeks. Had this occurred elsewhere in the Murray-Darling Basin, there would likely have been widespread public outcry over such a catastrophic event. At that time, however, media attention was minimal, leaving many Canberrans unaware of the river's dire condition. Nonetheless, this event triggered concern and frustration among a small group of people, igniting a call for change.





Figure 2. Tantangara Dam (left) and the Murrumbidgee River drying to pools in 2019 at Tharwa: Photo credits: theforgottenriver.au (left) and Simon Lowes (right).

Love letters - speaking of we not me.

The sight of the Upper Murrumbidgee River's disappearance at Tharwa, moved one resident to compose a heartfelt letter, personifying the river's voice to reach the people of Canberra. This poignant communication stirred emotions and empathy as, through the letter, the river recounted the events of 2019, along with the subsequent bushfires, flooding, and pandemic. Through excerpts from the letter, the river's emotions, and responses to circumstances beyond its control are vividly conveyed.

December 2019

You may not recall, but like you, I started December 2019 looking up to the grand old Brindabellas covered in snow. It was a cold one to start the summer indeed, but a chill that was soon to be replaced by oppressive heat, gusting warm winds and bushfire. Three consecutive hot and dry years had baked the country dry. The warmer waters of the Indian and Pacific Oceans had deserted us, delivering hot and dry conditions across the eastern parts of Australia. One hundred per cent of NSW was drought-declared, and in the middle of December, I finally stopped flowing. As we geared towards Christmas, water was trucked into the township of Tharwa, and the cod, yellow-belly and crayfish which rely on my water, took refuge in the remaining stagnant pools to await the return of flowing water.

February 2020

February also saw the coming of the first decent rain for a while and boy did the countryside need it. I will never complain of the rain coming down, but the first rains after a fire are not pleasant. I was now getting a dose of what Canberra had been breathing in all summer. My waters turned as black as Guinness, with ash and burnt timber washing into my body and filling my throat and lungs. It is not a colour you want to see a river turn too often.

August 2020

They reckon walking next to water is good for your mental health. I don't read much, but I reckon there is something in that. Why do people like walking, camping, and picnicking near rivers, lakes, and waterfalls? There must be some truth to it, because as soon as people were told they can't go out (due to covid restrictions), the lakes and rivers of the Canberra region were chock-a-block with

families and people out walking, running, and riding. The walking tracks by my banks, empty over Christmas, were now teeming with people getting out and about to escape the indoors, the 24-hour news-cycle and the virus-talk, to simply enjoy the fresh air. For me, it was a tremendous sight to see people enjoying and re-connecting to the rivers again.

As the Upper Murrumbidgee River journeys through droughts, fires, floods, and the pandemic, its array of emotions becomes palpable, evoking a sense of collective unity in the reader. The unfolding narrative immerses readers in the river's experiences, fostering a shared understanding and connection. The letter concludes with the river expressing anxiety about its future amidst the Snowy Hydro 2.0 development and persisting low flows—barely a fraction of what is necessary for its survival.

July 2021

I am a little anxious for what the future holds. Some of my close friends met at Namadgi earlier this year to check in on how I'm going. Unfortunately, I am not as healthy as I should be (Mason, 2021), and I do wonder about what the future has in store. What does a warming climate mean for the waters in my riverbed? Will this Snowy 2.0 I've heard of be kind to me? I don't know, but as I have done for years, I'll patiently sit by and find out. I may need a few more of you to keep an eye out for me though. Your friend and companion, the Upper Murrumbidgee River

The publication of the "Letter to Canberrans from the Upper Murrumbidgee River" (Lowes, 2021) served as a catalyst for people to empathize and connect with a river they knew little about (Canberra Times, 2021). Despite our belief in being rational beings, our choices are heavily influenced by feelings rather than facts. The story told through the letter raised awareness and, for many alarm, about the state of the Upper Murrumbidgee River. It also marked the start of what was to become The Forgotten River campaign, which enabled those who had been flagging concerns about the river for years, as well as those new to the story, to come together, share information, and mobilise as a collective effort.

Knowledge is power - and why you should share it.

The Australian River Restoration Centre (ARRC) is a small not-for-profit charity based in Canberra, that is dedicated to on-ground restoration, hosting training workshops, and providing practical resources for landholders wanting to protect and rehabilitate their riparian areas. As a long-time member of the Upper Murrumbidgee Demonstration Reach partnership involving a mix of government, non-government, and community organisations, the ARRC collaborates to care for the river despite limited resources (UMDR, 2024). Over the past twelve years working on the Upper Murrumbidgee, the ARRC has been supporting landholders to protect and restore critical habitat for the endangered Macquarie perch and Trout cod, as well as providing resources to assist with weed identification and removal, revegetation, stock management and erosion.

Spurred by the events of 2019, in early 2020, the ARRC gathered a group of like-minded individuals across academia, research, government agencies and community groups who had been separately advocating for change to the management of the Upper Murrumbidgee River. Recognising the need for coordinated action, the group entrusted the ARRC, as a non-government organization with a strong connection to the river, as well as expertise in communication and strategy, to lead a campaign to raise awareness about the Upper Murrumbidgee's condition, and the imperative for action.

To be an effective advocate it is important to know the facts so that they can underpin effective action. The web of organisational and inter-jurisdictional arrangements governing how the Upper Murrumbidgee River was being (mis)managed was one of the reasons the river had been largely ignored in the Murray-Darling Basin reforms. Although complex and complicated, untangling the web was critical to know where responsibilities for the river lay, which levers could be pulled, and who needed to be engaged in creating a new future for the Upper Murrumbidgee River.

The extensive effort of "untangling the web" spanned several months and shed light on the intricate nature of current management structures. It also highlighted avenues (pressure points) to query the Federal, New South Wales, and Australian Capital Territory Governments regarding the ramifications of Snowy Hydro operations. Amongst many documents, several key instruments were identified which dictate how the river operates, how these rules are set, and importantly, how these rules have enabled the continued decline of the river. Previously little known instruments such as the Statement of Expectations, the Snowy Water Inquiry Outcomes Implementation Deed (SWIOID), the Snowy Water Licence, and the New South Wales Water Sharing Plan, were about to become part of the regular vernacular for anyone with an interest in the Upper Murrumbidgee River.

Statement of Expectations:

- Snowy Hydro Limited is an unlisted public company limited by shares and incorporated under the Corporations Act. It is a Commonwealth Company for the purposes of the *Public Governance, Performance and Accountability (PGPA) Act 2013,* and wholly owned by the Australian Government, represented by two Shareholder Ministers: The Minister for Finance and the Minister for Energy (DCCEEW, 2021).
- The Shareholder Ministers outline their expectations to the Snowy Hydro Limited Board via a document called the 'Statement of Expectations'. The Board is obligated to manage Snowy Hydro in the interests of its shareholders which is to meet their expectations.
- In October 2021, the then Shareholders, the Honorable Simon Birmingham Minister for Finance and the Honorable Angus Taylor Minister for Industry, Energy and Emissions Reduction issued a 'Statement of Expectations' to the Snowy Hydro Board. This Statement requires that Snowy Hydro Limited operates profitably within the National Electricity Market, promotes competition in the wholesale and retail energy markets, delivers financial returns consistent with commercial operations, and progresses pumped hydro in the Snowy Mountains through Snowy 2.0.
- In this Statement of Expectations, environmental considerations are not mentioned, downstream water users are not mentioned, Cultural and social flows are not mentioned in fact, there are no expectations relating to anything other than energy production and distribution.

Pressure point: To date, the Statement of Expectations is set by the Commonwealth portfolios of Finance and Energy, with no connection to the portfolios of Water and the Environment. It is perhaps no surprise that statements to date have completely ignored reforms such as the National Water Initiative, the *Water Act* (2007 Cwlth) and the Murray Darling Basin Plan, which seek to better manage our rivers for multiple users. The Statement of Expectations can be changed by Shareholder ministers at any time. Ensuring that the next iteration incorporates the necessary connections to the water reforms and the community remains a challenge.

Snowy Water Inquiry Outcomes Implementation Deed

- The SWIOID is a legal agreement that outlines the commitments and actions agreed upon by the stakeholders involved in the Snowy Water Inquiry, which was conducted from 1998 to 2000. It aimed to assess the environmental impacts and water resource management practices associated with the Snowy Mountains Hydro-electric Scheme. The inquiry examined various aspects of water management, including river flows, environmental impacts, and the allocation of water resources within the Snowy Mountains region. The SWIOID came into effect in 2002.
- The SWIOID has not been reviewed, and is not scheduled to be reviewed, despite being over 20 years old. This means that all the positive outcomes being achieved through the implementation of Basin Plan and associated water reforms are not being applied to the

- Snowy and montane rivers like the Upper Murrumbidgee River, resulting in a glaring absence on the map of Basin Plan improvements.
- The small environmental flows provided in the SWIOID have very little flexibility, with no carry-over and limited-to-almost no active or adaptive management. Allocations are based on in-flows from the previous water year (out of sync with natural cues), and water use is traded off against other rivers, where one Montane river receives flows at the expense of another; with the Upper Murrumbidgee River often the last to receive allocations.

Pressure point: The SWIOID can be reviewed at any time, yet it does not have a mandated review period. As a result, since it was signed by the governments of Victoria, New South Wales, and the Commonwealth in 2002, it has never been reviewed. This is despite two droughts (Millenium drought and the 2017-19 drought), and the Commonwealth water reforms. This document is now well overdue for review, but it requires all three signatory governments to agree that a review be undertaken.

Snowy Water Licence

- The Statement of Expectations and SWIOID is enacted predominately by the Snowy Water Licence which is issued by the state of New South Wales. The Licence is reviewed every ten years, with the last review taking place in 2017.
- In the 2017 review of the Snowy Water Licence, town water supply and the volumes of water available to the environment were ruled out of scope (NSW Department of Industry, 2018), with no reason given as to why this was the case.

Pressure point: The licence is ultimately the instrument that dictates water releases from storages that are part of the Snowy Hydro Scheme. Any revisions to the Statement of Expectations and the SWIOID designed to have positive changes to flows and management of the Snowy and Montane Rivers, need to be enacted through the water licence to have effect.

New South Wales Water Sharing Plan

- Under the NSW Water Sharing Plan process, the Upper Murrumbidgee River is classified as unregulated a technical classification which is bizarre given that regulation of the headwater by Tantangara Dam means that the river receives just 1-10% of its inflows! As a highly regulated 'unregulated' river, the operations of Tantangara Dam critically impact the ability of the river to maintain its health, as well as its cultural, social, and economic values.
- The limited amount of water allocated for environmental flows in the Upper Murrumbidgee River is unprotected in the Water Sharing Plan for the Upper Murrumbidgee River; however there have been recent efforts to start protecting flows (NSW DPI -Water, 2023).

Pressure Point: Water Sharing Plans can be reviewed. Following concerns raised regarding several NSW Water Sharing Plans in 2020 (Sydney Morning Herald, 2020), NSW sought to undertake reviews of several Water Sharing Plans including for the Murrumbidgee River. With strong advocacy from key stakeholders a revised Murrumbidgee Water Sharing Plan is an opportunity to protect environmental flows released from Tantangara dam (Natural Resources Commission, 2023).

Untangling this web of rules and regulations provided vital knowledge about the avenues we could use to influence change (pressure points). These instruments, though few in number, are high in potential impact. They are also difficult to change, and this has meant that the rules governing the Upper Murrumbidgee River have been stuck in time. Understanding this operating environment (and the many other instruments which exist related to this river) and widely sharing this knowledge with other advocates for the river, was the crucial next step in mobilising the community, government agencies and political leaders to act.

Armed with a better understanding of the complex and complicated nature of the rules governing water use in the Upper Murrumbidgee River, the ARRC continued to work with anyone and everyone who had an interest in the river to share information and set about driving change. A critical aspect of this was the creation of The Forgotten River website (theforgottenriver.au).

The Forgotten River website is a space which brings together information about the management of the river into a single location for stakeholders to gain a common understanding of the issues and, importantly, the solutions. It has become a key resource for people interested in the Upper Murrumbidgee River to learn, become empowered and act. The creation of this website enabled up to date information, such as letters sent to politicians and submissions made by the ARRC and other community organisations into water reform consultation processes, to be quickly shared. For example, submissions to the NSW Regional Water Strategy, and the Productivity Commission Review of the Implementation of the Murray Darling Basin Plan are all available on the website for anyone to access and use.

The name 'The Forgotten River' was chosen to evoke interest and reflect the reality that the Upper Murrumbidgee River has been forgotten about in the context of water reform. It was also chosen because the more the ARRC connected with people living near or along the Upper Murrumbidgee, the more the strikingly low level of awareness about the state of the river was evident. Canberra, the National Capital, is the largest city in the Murray-Darling Basin, with the Upper Murrumbidgee River flowing right through it. Interestingly, very few community leaders we spoke to knew about the significance of the river, with ACT water reforms primarily focusing on urban streams, rather than the Upper Murrumbidgee River, which Canberra relies upon as a third source of drinking water.

With the support of our partners, ARRC moved into the next stage of the Forgotten River campaign which was to raise awareness about the Upper Murrumbidgee River amongst those who lived along it. This involved the publication of media articles and lots of conversations. Over the past two years, presentations on the Forgotten River have been provided to many different interest groups including the Snowy Advisory Committee, Icon Water, the Murray Darling Basin Authority Board, the Upper Murrumbidgee Catchment Network, the University of Canberra, OzFish Unlimited (Canberra Chapter), ACT Rural Landholders Association, Australian Water Association, and more. Importantly, these presentations were often undertaken in collaboration with other agencies and community groups, such as the Upper Murrumbidgee Demonstration Reach, the ACT and Region Catchment Coordination Group, researchers, First Nations groups and government agencies.

In addition, a series of articles and interviews were conducted across ABC media, Canberra Times, and The Riot Act, as well as rural and Landcare networks such as the Monaro Post and Radio Landcare. While it is unfortunate that many of these articles are behind a paywall, it is important to capture some of this activity, as it does reflect efforts to mobilise the community and politicians (Canberra Times (2022a and 2022b), ABC News (2024), Riot Act (2024a and 2024b). These activities built on, ran concurrently with, or were part of, a range of other activities to raise awareness, including Fish and Flows Forums (Mason, E. 2021; Stuart, L. 2024), and Upper Murrumbidgee Catchment Network events (UMCN, 2022a and 2022b), while also connecting with concerns being raised more broadly about a lack of environmental flows across Snowy and Montane Rivers (Bender *et al.* 2022). With a more unified, engaged, empowered, and informed network, it was time to give the broader community a voice.

In 2023, the ARRC set out on an ambitious project to undertake a survey of community members with an interest in the Upper Murrumbidgee River to help inform its future management. This survey would, however, be different, being as much about educating, as collecting information. The survey

was designed to explain water management in the context of the Murray Darling Basin Plan, the Snowy Hydro operating environment (i.e. Statement of Expectations, SWIOID and Water Licence) and the consequent state of the Upper Murrumbidgee River. The survey sought feedback on the future management of the river, and asked participants about their personal connection to the river. The survey ran throughout November and early December 2023 and received over one thousand responses across a broad range of interest groups.

Among the many views shared, two strong themes came through; firstly, people were generally unaware that river regulation in the Upper Murrumbidgee River results in 90-99% of the headwaters captured and diverted (Figure 3). Almost all respondents agreed this is simply not sustainable (i.e. we have not spoken to a single person yet who thinks this is a sustainable level of river regulation).

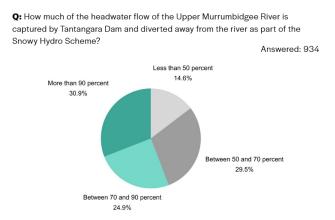
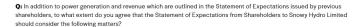


Figure 3: Survey responses (934 of 1064 survey participants) reflecting that just under one third of the community was aware that 90-99% of the river's headwaters are diverted. For many participants who were unaware that over 90% of water is diverted, this was a surprise and of concern (ARRC, 2024).

Secondly, the community want to see more than just power generation and financial revenue considered in the management of the Upper Murrumbidgee River (Figure 4). This is not surprising as the objectives of the National Water Initiative and the Murray-Darling Basin Reforms are to strike a balance across multiple needs. The community said they want to see values relating to Critical Human Water Needs, water quality, environmental, cultural, and broader socio-economic considerations included in the management of the river, while also seeking greater transparency regarding governance and decision making (ARRC, 2024).



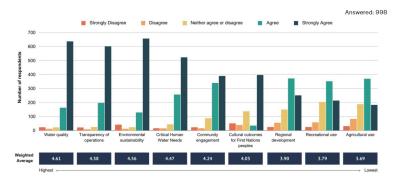


Figure 4: Survey responses (998 of 1064 survey participants) strongly indicating a preference for more values to be considered in the management of the Upper Murrumbidgee River (ARRC, 2024). This can only be done through a change to the Statement of Expectations from shareholders (i.e. Federal Ministers for Energy and Finance), the SWIOID and the snowy licence.

Full survey results are published on The Forgotten River website (ARRC, 2023) and make for interesting reading. Some of the qualitative responses were moving and showed just how beloved the Upper Murrumbidgee River is for many locals.

"As a child we would always swim in the Murrumbidgee rather than the pool. Today, the quality is too poor."

"As a keen bushwalker I love the upper catchment areas. I was saddened to see it nearly dry during the last drought."

The Forgotten River campaign enabled a collaborative, coordinated and community driven call to action to change a river system which is dying. It prompted questions from survey participants such as, why haven't the rules for this river been looked at since 2002 despite two droughts, regional growth, and national water reforms? Why aren't environmental flows protected in this part of the Murray Darling Basin? Why did the town of Tharwa lose its Critical Human Water supply in 2019? Why aren't our Commonwealth Ministers asking for environmental, cultural, and social values to be considered in the management of the operations which affect these rivers?

In tandem with the survey, the ARRC was also engaged in meetings with senior politicians and their advisors about how we could use the opportunity presented by the Restoring our Rivers bill to get the health of the Upper Murrumbidgee River on the political agenda. The ACT Minister for Water Shane Rattenbury, and Senator for the ACT, David Pocock became valued champions for the Upper Murrumbidgee River, writing letters and asking questions of the Commonwealth Water Minister, the Hon Tanya Plibersek MP, about how the river could continue to be ignored within the context of the wider Murray-Darling Basin reform agenda.

In December 2023, Senator Pocock successfully secured investment in the Upper Murrumbidgee River during negotiations surrounding the Restoring Our Rivers Bill (Water Act Amendment). This achievement epitomised the alignment of the right individual, timing, and knowledge to exert pressure and influence. (Figure 5) By endorsing the Restoring our Rivers Bill, Senator Pocock gave his support to the Albanese Labor Government, with the condition that the Upper Murrumbidgee River would

receive a \$50 million investment to enhance its ecological well-being. The allocation of this funding includes \$15 million for catchment health and management activities, \$5 million for monitoring and research, and \$30 million to procure water in case of critical events, such as the cease-to-flow incident in 2019. Notably, it was also agreed upon that the Statement of Expectations and SWIOID would undergo review. (Pocock, D. 2023; DCCEEW 2024).



Figure 5: Announcing the Upper Murrumbidgee River package. Ngunnawel Elders Richie Allen & Bradley Bell, Siwan Lovett, David Pocock, Andy Lowes (L-R) Photo: Lincoln Magee

The investment announcement is a significant outcome for a river which, since the 1960s has been put under immense pressure. The ARRC is proud to have led The Forgotten River campaign on behalf of many committed individuals and organisations who have been working hard to get the needs of the Upper Murrumbidgee River recognised.

Risks remain, as there is already the likelihood that the Statement of Expectations will be drafted behind doors with no community consultation or input, ignoring the results of the community survey. The ARRC will continue ongoing effort and advocacy to ensure the SWIOID review is thorough, comprehensive, and transparent. Although instrumental in achieving this outcome for the Upper Murrumbidgee River, there is no guarantee that the ARRC and the organisations which collaborated to mount The Forgotten River campaign will be involved in delivering the allocated investment. It is likely Federal Funding Agreements between the Commonwealth, NSW, and the ACT, will be used to allocate the funds. Effective inter-jurisdictional governance will be needed to ensure that the river is recovered in-line with national water reforms, as well as for the ecology and communities which depend on it.

Acknowledgements

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