



NGANGK  
YIRA



Coolamon Research  
and Advocacy Centre

**MU** Murdoch  
University

# BOOLA KEP, BOOLA KOORT MANY WATERS, MANY HEARTS

## Water Roundtable

### SUMMARY REPORT



Prepared By

**Professor Mara West**  
**Professor Roz Walker**  
**Caroline Jones, CCIP Program Team**

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# COMMUNITY WATERWAY ARTWORK ATTRIBUTION

**“Meeting Place: Many Waters, One Knowledge”**

**By Paige Wood-Kenney – Visual Scribe and Cultural Artist. Noongar Yamatji Yok**

**Created during the Boola Kep, Boola Koort – Many Waters, Many Hearts Water Roundtable**



*This collaborative art piece (Front cover and above) grew like a living river across the canvas - each mark, print, and colour added by those who came together to honour water as our lifeblood. Participants were invited to contribute freely - adding fingerprints, handprints, and symbols representing their relationship to water, our countries, family, connection, culture. At the centre lies the waterway, a lifeline connecting Country, community, and culture.*

*Each fingerprint a reminder that our fingerprints are on the water, that every choice and action we make flows downstream, shaping the health of our lands, skies, koolingas lives and communities.*

*Words from different language groups across Western Australia and the Torres Strait Islands were woven through the artwork, each translating to “water” - a reflection of cultural diversity and shared connection.*

*The stars, sun, and moon were painted to show that water’s importance never sleeps - it flows through time, generations, and Country.*

*Footprints along the riverbanks symbolise growth and legacy - as our Elders guide us, our children will follow. The message is clear: good water means good life, for country, sky, and people.*

This artwork embodies the collective spirit of the Roundtable: unity, respect, and the shared responsibility to protect water as our lifeblood. It tells the story of water interconnecting with the self, mother nature & country, koolingas, Elders, the day and night.

Across the two days, two powerful art pieces were created - each one a reflection of deep listening, shared responsibility, and cultural truth. Held on Whadjuk Noongar Boodjar at Murdoch University’s Ngangk Yira and Coolamon Research and Advocacy Centre, the Boola Kep, Boola Koort - Many Waters, Many Hearts Water Roundtable brought together voices from across Western Australia and the Torres Strait to share lived experiences, knowledge, and solutions around water, health, and community wellbeing.

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# ACKNOWLEDGEMENTS

## Acknowledgement of Country

We acknowledge that Murdoch University is situated on the lands of the Whadjuk and Binjareb Noongar people.

We pay our respect to their enduring and dynamic culture and the leadership of Noongar Elders past and present.

The boodjar (Country) on which Murdoch University is located has, for thousands of years been a place of learning. We at Murdoch University are proud to continue this long tradition.

Special thanks to Aunty Marie Taylor for providing a Welcome to Country and to Shem Garlett for proposing the Roundtable title which was resoundingly endorsed by the Homelands Advocacy Hub.

Our thanks to Megan Woodley for bringing community together, to the Murdoch Communications team and to Elly Lukale for the Roundtable photography.

Acknowledgement of the Homelands Advocacy Hub, Coolamon Advocacy and Research Centre for their contribution and support for the delivery of the Roundtable and to the State Government Future Health Fund Research Initiative, Consumer and Community Involvement Fund for funding enabling Aboriginal Community Representatives from many traditional homelands to come together for the Roundtable.

We extend our heartfelt gratitude to the community members who shared their lived experiences.

The WAHTN CCIProgram acknowledges the Aboriginal people of the many traditional lands and language groups of Western Australia. We acknowledge the wisdom of Aboriginal Elders, both past and present, and pay respect to Aboriginal communities of today.

The CCIProgram acknowledges the importance and expertise of the lived experience voice through Aboriginal Community Representatives. We recognise their involvement in making a difference in supporting health research and impacting the health and wellbeing of communities.

# BACKGROUND

For decades, Aboriginal and Torres Strait Islander communities have faced persistent challenges with water access and quality. Many homelands continue to experience poor water infrastructure, inadequate sanitation, and limited access to reliable information about their services. Safe water is not only vital for health and wellbeing, preventing disease and sustaining daily life, it is also inseparable from culture, identity and connection to Country. The inequities in access highlight the ongoing gap between homeland communities and the wider population.

The 2019 International Water Association Conference at Murdoch University brought these issues into sharper focus. Aboriginal participants emphasised that decisions about water and sanitation were too often made without their involvement, despite the direct impact on their daily lives. That conference called for stronger Aboriginal leadership in water governance, a holistic approach to infrastructure, and follow-up Roundtables to keep momentum moving forward.

In the years that followed, workshops and gatherings built on this call. The 2021 Indigenous SMART Communities Workshop explored digital tools for service access. The 2021 Co-design Workshop on Water and Sanitation gave community representatives practical experience in water technologies and produced the recommendation to establish a Homelands Advocacy Hub. The 2022 Homelands Roundtable further emphasised that water security is inseparable from energy, environment and health.

The Homelands Advocacy Hub was formally established in 2023 to strengthen community advocacy and create a platform for collaborative action. Supported by a Future Health Research and Innovation Fund grant, the Hub and its partners convened the 2025 Boola Kep, Boola Koort Water Roundtable to reflect on progress since 2019, revisit earlier recommendations, and identify new priorities for research, policy and practice.

The following page presents a timeline of the major events leading to this Roundtable. A detailed history of this journey is included in the appendix.



**2019 International Water Association Conference**

**Boola Kep, Boola Koort, Many waters, Many hearts — gathering to listen, reflect and keep the journey moving towards safe water and strong homelands**

**International Water Association Conference (Dec 2019)**

Urgent questions raised on water and health. 60 Aboriginal delegates called for a community-led way forward.

**Workshop on Indigenous Smart Communities (Feb 2021)**

Building the priorities for digital and smart community solutions. 25 Aboriginal delegates co-designed next steps.

**Indigenous Communities Co-design Workshop on Water & Sanitation (June 2021)**

Hands-on learning for 6 homelands. Clear call to create a Homelands Advocacy Hub and strengthen local water security.

**Renewable Energy Congress (Dec 2022)**

Explored sustainable power for homelands. Local leaders and researchers mapped pathways for clean energy and resilience.

**Homelands Advocacy Hub formed (June 2023)**

Network established to drive research, policy reform and community-led action for better water and energy.

**Boola Kep, Boola Koort Water Roundtable (July 2025)**

Brings communities back together to share progress, confirm priorities and shape new research and policy action.

**Next Steps (Future)**

Roundtable outcomes will guide a national research partnership (NHMRC) and practical policy (WA Government Brief).

**World Renewable Energy Congress (2026)**

2030 Horizon : The Path to Net Zero Emissions with renewable energy

# 2025 BOOLA KEP, BOOLA KOORT WATER ROUNDTABLE

## INTRODUCTION

The Boola Kep, Boola Koort Water Roundtable, held on 21–22 July 2025 at Murdoch University, was a landmark moment in a continuing journey to secure safe, clean, reliable water for Aboriginal homeland communities. Convened by the Coolamon Research and Advocacy Centre with the support of the Homelands Advocacy Hub, the Roundtable was the latest in a series of gatherings since 2019 where communities, researchers, service providers and government partners have worked side by side to address long-standing inequities in water access and quality.

The purpose of the Roundtable was to revisit the recommendations and priorities established at earlier workshops, to hear directly from communities about current challenges and achievements, and to identify emerging issues that must shape the next stage of collective action. It was also intended to set a clear direction for future work: developing collaborative research projects, strengthening policy influence, and ensuring that the lived experience of homeland communities continues to drive solutions.

The significance of the event lay not only in the issues it addressed, but in how it was held. Delegates included community representatives from across Western Australia and the Torres Strait Islands, alongside leaders from government, service organisations and universities. The Roundtable was deliberately designed as a culturally grounded, collaborative space. Aboriginal leadership shaped the agenda and guided the tone of the discussions, while institutional and government partners came with a shared commitment to listen and work in partnership.

The commencement of the Roundtable reflected these values. A Welcome to Country by **Aunty Marie Taylor** grounded participants in culture, reminding all present that water and Country is inseparable.



# 2025 BOOLA KEP, BOOLA KOORT WATER ROUNDTABLE



**Vice Chancellor Professor Andrew Deeks** welcomed delegates on behalf of Murdoch University, affirming the importance of the University's role in hosting and supporting this work.

**Professor Rhonda Marriott**, as Director of the Coolamon Centre, set the context for the discussions by outlining the University's commitment to Aboriginal-led approaches to transforming water quality and access.



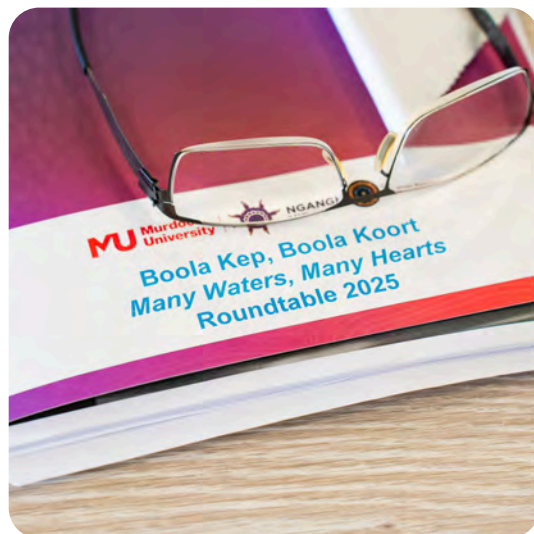
**Dr Mara West** and **Professor Roz Walker** as long-standing drivers of the Homelands Hub, reflected on the history of advocacy and research that led to this Roundtable, reminding participants of the work already undertaken and the priorities identified in earlier gatherings.

To guide the discussions, facilitator **Rebekah Nona** established the Roundtable as a safe, respectful and collaborative space where community voices would be heard and valued.

What the Roundtable set out to achieve was both practical and forward-looking. Across two days, participants reflected on progress since 2019, assessed the barriers and enablers to implementing previous recommendations, and worked together to refine new priorities. The outcomes were intended to inform concrete next steps: a proposed NHMRC Partnership Grant, the preparation of a policy brief to the Western Australian Government, and broader dissemination through public forums such as The Conversation.

# 2025 BOOLA KEP, BOOLA KOORT WATER ROUNDTABLE

The spirit of the Roundtable was one of determination, respect and collaboration. It acknowledged the strength of homeland communities in persisting with these issues despite decades of challenges, and it reaffirmed the principle that lasting solutions can only be achieved through Aboriginal leadership and community-driven approaches. By creating space for dialogue across community, government, service providers and academia, the Roundtable strengthened the foundations for action and reinforced a shared commitment to achieving water justice for all homelands.



# EXPERIENCES AND INSIGHTS FROM ABORIGINAL COMMUNITIES

The morning session of the Roundtable was deliberately structured to ensure that Aboriginal community voices were heard first. Before government agencies, service providers or researchers contributed, the floor belonged to homeland leaders, Elders and representatives. This reflected the intent of the Roundtable: that lived experience must shape the agenda, and that communities who carry the daily burden of unsafe and unreliable water should not be spoken for, but speak directly to their own realities.

Delegates from across Western Australia and the Torres Strait Islands shared accounts of the challenges their communities face with water quality, infrastructure failures and lack of transparency. Their insights underscored the health impacts, cultural significance, and intergenerational concerns that make water insecurity an urgent priority. This session also highlighted the resilience of communities, their advocacy, local expertise, and determination to find solutions, even when systemic barriers have persisted for decades.



What follows are the voices of those communities, speaking with honesty and urgency about their experiences, their concerns, and their hopes for change.

***Sit on the ground & yarn -  
is the water good?  
Would you allow your  
children to drink the  
water?***



# DJARINDJIN

EXPERIENCES AND INSIGHTS FROM ABORIGINAL COMMUNITIES

## NATHAN MCIVOR (CEO, DJARINDJIN)

Djarindjin Representatives – Nathan McIvor, Samarah Cox, Desarae Sibosado

Nathan McIvor spoke of the long-standing water problems in Djarindjin. He described how a sewage pond had been leaking for years, just 150 metres from the bore, with “chemicals in the water, leaching into the water table.” He told the Roundtable that despite a planned \$38 million Water Corporation upgrade, “the water is undrinkable,” with most people relying on bottled water. The community has even created its own branded supply.

He explained that water quality data had not been provided, saying: “No data available – Water Corp will [only] provide when new bore is installed.” He called for an end to secrecy “no more secret squirrel” and urged openness, transparency, and honesty about the state of water in the community.

McIvor highlighted the need for stronger advocacy: “We need to be a squeaky wheel.” He emphasised the importance of ownership, and the need for custodians and caretakers to be at the table. “Each community is different – like comparing Sydney and Perth. One way of doing things won’t work.”



**Culturally, water is the lifeblood of everybody. Rights of the people have been taken – they looked after their water, their community, their people when they had control**

He acknowledged the legacy of miscommunication and negligence by government departments and called for communities to be properly resourced to participate in solutions.

Nathan had a clear message: every community must be involved in defining what ownership looks like, and genuine partnerships are needed to “fix the future.”

# LOMBADINA

EXPERIENCES AND INSIGHTS FROM ABORIGINAL COMMUNITIES

## TONY SIBOSADO (DIRECTOR/OPERATIONS MANAGER)

*We need good quality water*

Tony Sibosado expressed concern about the safety of water in Lombadina. He said the community was worried about the “chemicals in water if we use Water Corp water.” He described how the piping system corrodes very quickly and explained that while upgrades are planned, “we’re hesitant about what they’ll be putting in the water.”

His message was simple but clear: the community needs water they can trust, and good quality water is essential for their future.

# TORRES STRAIT ISLANDS

## EDWARD MOSBY & MARK DAVID (REPRESENTATIVES, TSI REGIONAL COUNCIL)

Edward Mosby introduced the scale and complexity of water management across the Torres Strait Islands. He explained that there are 15 islands with 14 different water schemes, each with its own challenges. Geography and distance mean that “Everything is barged in,” and communities often face difficulties getting supplies and infrastructure in place.

He noted that the Council had been working together for some years, including through their participation in the 2019 Water Roundtable, and that they continue to collaborate with universities and researchers such as Dr Melissa Jackson. His emphasis was on partnership and on “looking forward to the future.”



*Every drop of water is seen as a dollar sign \$*

# FITZROY CROSSING

EXPERIENCES AND INSIGHTS FROM ABORIGINAL COMMUNITIES

## PATRICK GREEN & PATRICK DAVIES (ONLINE)

"We've been fighting for 10 years and there's been no improvement."

Patrick Green spoke about the scale of water issues across Fitzroy Crossing, noting that many communities face poor water and sewerage systems. He questioned whether local health problems, including deaths from kidney disease, might be linked to water quality: "Members dying around the area, wondering if water is the problem."

He explained that while communities were advised the water "meets WHO standards (just)," reports have continued to show non-compliance with international benchmarks without accountability. Green highlighted that significant government spending has gone into sewerage ponds and consultants, but little has flowed to local communities who could be doing the work.

Speaking as an advocate, he emphasised the need for accountability in the delivery of services, changes to policy, and opportunities for communities to take part in solutions rather than being sidelined.

Joining via video link, Patrick Davies spoke from Fitzroy Crossing. He reflected that the last Water Roundtable had been in 2021 and said that while Water Corporation is now taking over management, long-standing problems remain from the previous oversight by the Department of Communities.

Communication, he said, had been a persistent barrier: "People not willing to share information. Scared of the press?" He stressed that families need access to reliable information, not just government-held data, and that health agencies must be involved because "water and health are connected." He gave the example of relatives with health conditions, and advice that "you get town water for your babies and sick ones."

Davies noted some improvements with Water Corporation's involvement, saying "Communications [have] been better so far," but he also expressed concern that access to water data is still limited: "I get the feeling they're nervous about it." He called for cooperation between State and Commonwealth governments, better response times to infrastructure failures, and stronger investment in communities, rather than outsourcing and defunding.



# FITZROY CROSSING

EXPERIENCES AND INSIGHTS FROM ABORIGINAL COMMUNITIES

## CLIFTON BIEUNDURRY, BUNUBA PRESCRIBE BODY CORPORATE (PBC) DIRECTOR

"Teach a man to fish – teach locals to manage their own systems."

Clifton Bieundurry called for genuine investment in local people and capacity. He argued that outsourcing essential services to external providers who lack local knowledge is "insanity" and has led to repeating the same mistakes with the same poor results.

He said a legitimate workforce already exists within communities and stressed the need to "build the foundation with local people" through skills, careers, and knowledge. In his view, sustainable water management requires government and industry to give local solutions a proper chance, instead of defaulting to outside contractors.

Bieundurry also spoke about the cultural dimensions of water. He described how the Dreaming connects to the Fitzroy Basin and Canning Basin, with stories of serpents and the willy wagtail still relevant today and accompanied by ceremony. He argued that "law and culture should be part of moving forward" and that cultural knowledge must be included in conversations about water.

He urged longer-term planning, saying government should set structured goals looking 50 years ahead and create the foundation infrastructure to achieve them.

Later in the session, Bieundurry returned to the discussion to raise questions about strategy and policy. He observed that three levels of conversation were happening in the room, domestic and regional, political, and local government/business, and suggested the need to align these into a clear, streamlined strategy.

He spoke about finding champions, both Indigenous and non-Indigenous, and asked whether working groups or subcommittees could help design practical pathways forward. His focus was on clarity, direction, and aligning efforts rather than scattering them.

Bieundurry also placed water management in a broader political context. He pointed to the 1967 Referendum, after which the Commonwealth took on responsibility for Aboriginal people, and argued that the Commonwealth now needs to reclaim responsibility for municipal services such as water, power, and housing. He said the Commonwealth should bring industry directly to the table, rather than passing funding to states, which often defer responsibility back.





# NGAANYATJARRA COUNCIL

EXPERIENCES AND INSIGHTS FROM  
ABORIGINAL COMMUNITIES



## DON MUSCEDERE, WATER TREATMENT MANAGER, TJUNTJUNTJARA, REMS NGAANYATJARRA

Don Muscedere spoke about his responsibility for 14 communities across the Goldfields region. With more than 45 years' experience in mining, he explained that he chose not to return to that industry because he wanted to contribute to positive change in remote communities.

He described water as livelihood, and emphasised the basic right of every person to safe, clean water. While toxins in the water remain a concern, he said government is listening and that he has established a constructive working relationship with Water Corporation, noting that “they listen to what I have to say” and respond quickly when issues are raised.

Muscedere acknowledged that ageing infrastructure leads to daily water leaks and that much of the current work is reactive, but he pointed to efforts to adopt more proactive and preventative approaches. He spoke positively about his local team of technicians, supported by Perth-based staff and Water Corporation.

*Every person has the right  
to good, clean water*

Turning to water quality, he reminded participants that all water supplies should meet the Australian Drinking Water Guidelines, which he described as a fundamental platform. He shared details of a trial product being used by NG Services to reduce calcium build-up, a low-cost, easy-to-install solution that has been in use for decades in the UK.

He explained that treating nitrates and calcium requires a combination of methods, including desalination, chlorination and UV, and asked whether the Roundtable represented “the start of the process” to achieve consistent standards across all communities.

He concluded with a focus on collaboration and problem-solving, stressing that “every problem has a solution” if communication remains open and communities are supported.

# YAMATJI COUNTRY, COONANA

EXPERIENCES AND INSIGHTS FROM  
ABORIGINAL COMMUNITIES

## ROBBY MALLARD - YAMATJI ELDER AND OWNER OF MALLARD CONTRACTING

Robby Mallard, a plumber since 1993, told the Roundtable that despite decades of attention, “nothing has been done” to improve water in his community. He described severe impacts of poor water quality, including unborn babies in Jigalong diagnosed with kidney stones, and noted that similar sewerage problems exist in other regions such as Lombadina. He reported that uranium contamination is present in the Pilbara and Gascoyne, and that in many places people “can’t even drink out of a tap.”

He said costs remain a major hurdle, with communities lacking the resources to address contamination. In his view, it would be better to have one safe tap in every house than to continue relying on bottled water. He gave examples of sickness in older people that he linked to poor water, stating clearly: “It’s not alcohol, it’s the water.”

Mallard spoke of the corrosive effects of water where aluminium is eaten away and stainless steel troughs are failing. He pressed for answers: “What are you going to do?” He argued strongly for desalinated water as a solution, and for universities to be part of developing policies on how water is provided and on the quality of materials used in communities.

He questioned the inequity of current arrangements, asking, “Why do Perth people get desalinated water?” and challenged the focus on sewerage projects rather than on safe drinking water. He urged that sewage should be reused alongside desalination, rather than continually expanding failing systems.



*Nothing has been done,  
water’s not improved*

# NANUTARRA

EXPERIENCES AND INSIGHTS FROM  
ABORIGINAL COMMUNITIES

## SHANE TA'ALA

Shane Ta'ala reflected on the deeper structural issues behind water insecurity in remote communities. He spoke of the “knowledge in the room” and the obligations that leaders and advocates carry for their people, asking “who stands behind you in the room?”

He said communities are not alone in their struggles. Others face the same water quality issues but that the system continues to fail. He described a cycle of chasing information that should be basic, with services that remain reactive rather than transformative. He asked whether water should be recognised as a social policy obligation, noting that communities are left “reporting symptoms” rather than addressing root causes.

Ta'ala characterised this situation as part of a “second wave of colonisation,” where the burdens of broken systems continue to fall on communities themselves. He emphasised that government agencies often don't know their own obligations, leaving Aboriginal organisations and corporations to carry responsibilities that should not be theirs. He warned that members and leaders get burnt out from “fighting a fight that's not their own.”

He posed critical questions about accountability: Who holds the responsibility? State, federal, or local government, or Water Corporation? How can local councils carry obligations they don't understand? Until these questions are answered, he argued, communities will remain caught in a system of compliance and failure, with no clear ownership of the problem.

*We are owning  
burdens that don't  
actually belong to us*



# PANDANUS PARK

## EXPERIENCES AND INSIGHTS FROM ABORIGINAL COMMUNITIES

### PAT RILEY

Speaking online, Pat Riley described the decade-long fight her community has faced over water. Since 2015, bottled water has been issued by the Department of Housing instead of fixing the underlying problems, such as moving the bore. This stopgap measure, she said, has placed extra costs on the community while the water itself remains unsafe.

She detailed serious health concerns, linking uranium and nitrates in the water to widespread illness: “kidney disease, dialysis – not alcohol.” She reported that school children have kidney issues, and that heart conditions are also emerging. Although pregnant women and babies are issued bottled water due to the high levels of nitrates in the water, “others have to drink local water,” which she said is not safe. She expressed deep concern for the next generation, warning about potential brain damage.



*Water not fit for human  
consumption*

Aunty Pat Riley said the government is ignoring the problem, offering little assistance, and that promised visits from Water Corporation have not led to fixes. Instead, plumbers and electricians are sent weekly for patch-up jobs. She emphasised that the water is still “not drinkable” and that the burden of gathering evidence to prove contamination has fallen on the community itself.

She argued that this situation reflects “symptoms of the system” where responsibility lies elsewhere but communities are forced to carry it. She said budgets are being invested into the problem rather than into solutions, and that communities are “not given access to participate in change.”

In closing, Aunty Pat Riley urged that this Roundtable must be treated as a turning point: **“This event should be seen as a transformational event.”**

# WAKUTHUNI

EXPERIENCES AND INSIGHTS FROM  
ABORIGINAL COMMUNITIES

## BRENDAN COOK, COUNCIL CHAIR, WAKUTHUNI, REMS PILBARA META MAYA

Brendan Cook spoke about the impacts of mining and Native Title on his community's water. He asked if drilling has led to nitrate contamination of the water table, raising the question: "who's responsibility?" He explained that since Native Title, government has said the responsibility lies with communities, but that in practice water rights have been taken away and are held by government.



Cook described the cultural significance of local springs, noting that his father was born at a mud spring near Paraburdoo that is now drying up. He spoke of the water snake (serpent) and the way people once drank safely from springs filtered through the earth. He emphasised that "water is different in different places," but that across the region uranium and calcium contamination are widespread, causing taps to block up and stainless steel to corrode.

*My father was born at that spring - now it's drying up*

He said communities face pushback from mining companies when asking for solutions, even though technologies exist. "Why can't we access the technologies they use for filtering and desalination?" he asked, pointing to examples around the world, from desalination on coasts to condensation systems in Israel and dew nets or hydrogen-water technologies being trialled in Japan.

Cook warned that the water table is lowering and contamination is worsening as a result of mining activity. He raised concern that even if communities adopt new solutions, Water Corporation may come in and take those rights away. His message was that Native Title has not delivered water security, instead it has left communities with fewer rights and ongoing risks.

*Native Title has not delivered water security*

# WAKUTHUNI

EXPERIENCES AND INSIGHTS FROM  
ABORIGINAL COMMUNITIES

## AUNTY JOYCE DRUMMOND

Aunty Joyce Drummond made it clear that her concern was not policy but the reality of water quality in Wakuthuni. She said, “don’t put us all under the same blanket,” emphasising that every community is different and requires specific solutions.

She described the situation facing her community: 29 tenants are supplied with only 15 litres\* of water per week, “not enough for a crowded home.” She said maintenance issues caused by bad water are constant, with blockages in drains, toilets and showers. Everyone, she said, is suffering.

Aunty Joyce highlighted the inefficiency of relying on external tradesmen. Trained people already exist within the community, but they are not permitted to do the work, even though the equipment is on hand. Instead, tradesmen are sent at the wrong times, appointments are missed, and the result is extra job orders, more travel, and higher expense: “why can’t we use what we’ve got in community?”

She also spoke of infrastructure fragility: two bores run off a generator, and when the power fails, there is no water. The bores themselves, she said, are bringing up “yucky water.”

Her message was a call to work differently: to explore ideas with the community, to think differently about service delivery, and to use the skills and resources already present. She urged drilling for new water on community land and finding solutions together that are grounded in local knowledge and conditions.



*Think differently -  
change the way we  
work together*

\*Contravening the requirement for each person to have five litres of quality water per day.

# INDIGENOUS ENERGY AUSTRALIA

EXPERIENCES AND INSIGHTS FROM  
ABORIGINAL COMMUNITIES

## TOMMY HICKS, HEAD OF CULTURE AND COMMUNITY, IEA

Tommy Hicks spoke about the cultural responsibilities attached to water. He described how Elders teach respect for waterholes, that animals must not be killed there, and people must not misuse them and how these practices reflect a deep spiritual connection to water. He said communities should “mimic what animals do to land,” learning from natural systems.

Hicks emphasised the importance of “understanding and valuing water through the community lens.” He said licenses and agreements already include cultural governance requirements and that these must be upheld. He pointed to examples where companies have put in specific measures to align with cultural obligations, suggesting Water Corporation could also look to these practices.

He highlighted the role of cultural storytelling as a way to embed policy in community values, and as a tool to guide service providers in respecting Aboriginal perspectives on water. His message was that policy must be grounded in culture if it is to be effective.



*Policy must be  
grounded in culture*

## SAMANTHA BARBA, PILBARA ABORIGINAL HEALTH ALLIANCE (PAHA)

Samantha Barba highlighted the health impacts of poor water quality, explaining that the appearance and taste of water lead to people avoiding drinking it. This, she said, results in “severe dehydration due to taste and smell.”

She described the damage caused to household infrastructure, noting that taps wear out every three months and washing machines break down frequently. In some communities, “two out of three houses” have broken taps or washing machines, with appliances only lasting a few months because of the water quality.

# GUEST SPEAKERS

## WATER CORPORATION

### ROD HOLMES (REMOTE ESSENTIAL SERVICES WATER QUALITY) & ROCHELLE STRICKLAND (ABORIGINAL COMMUNITY ENGAGEMENT)

#### Program overview

Responsibility for remote water services transferred from the Department of Communities to Water Corporation on 1 July 2023. A 10-year program is now underway across the Kimberley, Pilbara and Goldfields regions, covering 141 Aboriginal communities (107 of which have already been visited). Almost all rely on groundwater. Water Corporation is mandated to improve water quality and provide direct reporting to the Minister for Aboriginal Affairs; Water; Climate Resilience; South West

#### Key focus areas

Three areas of priority were outlined:

1. *Microbiological safety* - addressing disinfection and chlorination for biological risks.
2. *Chemical health* – managing minerals, hardness, fluoride and other contaminants.
3. *Aesthetic quality* – ensuring water's taste, smell and appearance meet acceptable standards.



Upgrades have been completed on 131 bores, and 27 communities remain on bottled water, in some cases due to high fluoride levels affecting mothers, babies and children.

#### Aboriginal-led engagement

Water Corporation emphasised its intention to take a more community-centred approach: visiting communities individually, working to understand their specific needs, and building flexibility into service delivery. They stressed the importance of listening and partnership, noting that “we don't know what we don't know.” The first public water quality report, including Aboriginal Communities Water Services (ACWA) data, is expected by the end of the year, based on more than 8,000 samples collected.

#### Innovation and improvement

In addition to core upgrades, Water Corporation is exploring emerging technologies, natural filtration systems and improved sampling infrastructure. While acknowledging that “large projects will take time” and that the organisation has “not been known for being quick,” the commitment was to demonstrate early wins, evolve over time, and maintain open communication with communities.

Water Corporation concluded that basic drinking rights must be the starting point, and that service delivery must reflect what communities themselves identify as priorities. Feedback from the Roundtable will be taken forward to policymakers to inform future decisions.

# WAKUTHUNI PILOT

## MONITORING FOR SOLUTIONS IN ABORIGINAL COMMUNITIES

### KEVIN FELL, ECO DETECTION

Kevin Fell, serving as Strategic Advisor at Eco Detection, introduced the company's cutting-edge autonomous water monitoring technology, specifically, its Ion-Q+ capillary electrophoresis platform, for tracking water quality in Indigenous communities such as Wakuthuni. He emphasized the limitations of traditional grab sampling, which captures only a momentary snapshot, and advocated for continuous, high-frequency monitoring that can detect transient yet critical events like spikes in calcium or sulphate over time, essential for assessing risks in drinking water and wetlands.

Pilot trials in Wakuthuni demonstrated the system's effectiveness: over a 10-day deployment, four days showed elevated ion levels that would likely have been missed with conventional sampling. The sensor platform is self-calibrating, deployable in-built or mobile, streams data to the cloud in near real-time, and can be maintained locally, enabling communities to respond rapidly to water quality issues, build local capacity, and inform decisions like whether to pump or not into sensitive ecosystems.



## ‘iKnow weKnow’ Project

### PROFESSOR CARA BEAL, A/PROFESSOR MARTIN ANDA, NATHAN MCIVOR & MARK DAVID

#### CO-DESIGNING A RESILIENT WATER AND ENERGY TOOLBOX FOR ABORIGINAL AND TORRES STRAIT ISLANDER COMMUNITIES

This presentation was included in the Roundtable program as an example of how Aboriginal and Torres Strait Islander communities are working in partnership with researchers to design practical, sustainable solutions. The project aims to co-develop a “toolbox” that strengthens community control over water and energy systems, supports intergenerational knowledge sharing, and integrates cultural perspectives with technical approaches.

# iKnow weKnow Project (cont)

## Mark David (Torres Strait Islands Regional Council)

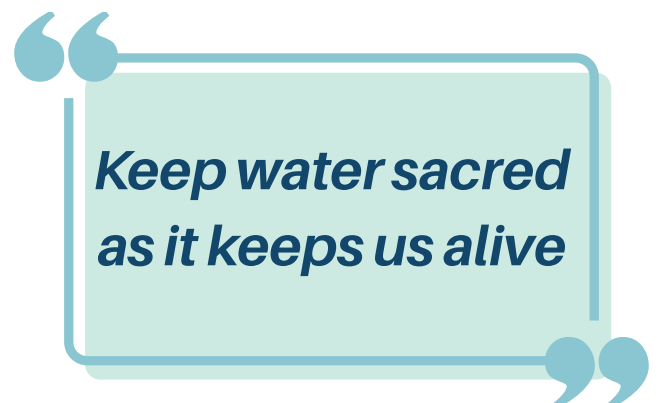
Mark David explained how the project engaged Elders to record stories about water use. He said these stories included both hardship and strength, and that they are being shared with young people so they “know the hardship story” and understand their responsibilities for the future. He highlighted the diversity of water systems across the islands: six communities rely on desalination, while others depend on supplies shipped in from the mainland. Weather and logistics mean careful planning is always required, as “every drop of water is seen as a \$ sign.” He stressed the importance of local voices in decision-making, training youth to manage desalination systems, and ensuring both older and younger generations are equipped to maintain water security.



## Nathan McIvor (CEO, Djarindjin)

Nathan McIvor emphasised the cultural dimension, reminding participants that water is lifeblood and must be kept sacred. He described how Dreaming stories continue to guide how water is understood and cared for. He said communities are addressing knowledge gaps through strategies such as a Healthy Living Strategy, which has been shared with all stakeholders and community members. McIvor spoke of sovereignty and responsibility, asking whether Native Title extends to water rights and stressing the need for communities to remain central in decisions.

He described practical challenges, such as a water tank explosion and cyclone damage, but also pointed to community-driven solutions. Djarindjin is working with rangers, running its own Indigenous-owned airport, and developing a solar power farm with 80% renewable energy planned. He noted the community is investing its own funds alongside government support, but urged that legal and regulatory hurdles be reduced so communities can more easily pursue renewable energy and alternative water systems.



# Transforming Lives in Communities through Innovative Employment

EXPERIENCES FROM REGIONAL ABORIGINAL ORGANISATIONS

## DR MARA WEST

Dr Mara West spoke with urgency and determination about the inequities facing Aboriginal homelands. She contrasted the everyday ease of turning on a tap in towns and cities with the reality in many communities: “Water Corp – you can go home and turn on the tap and have a drink, have a warm or hot shower. Mob can’t do that.”



She described the injustice of mining camps being built “overnight” with full services, while communities like Wakuthuni, located between two mines in one of the richest regions in the world, still struggle without safe water. Bottled water, she said, is no substitute for dignity: “why are they giving them bottled water?”

West challenged the way communities are labelled and dismissed. “We call them Homelands instead of remote. Remote means out of sight, out of mind. We are not remote. Perth is.” She spoke of Aboriginal people being left without a voice at the table, of becoming “refugees in their own country,” and of the racism that continues to shape service delivery.

She called for a change in the way governments and providers engage: “Sit on the ground and yarn – is the water good? Would you allow your children to drink the water?” She stated that communities must be listened to on their own terms, not dictated to from outside. At the same time, West made clear that if systems fail to act, communities will not wait: “Let community fix things on community.” She pointed to the skills already in place, plumbers, environmental health workers, young people ready to train and demanded they be empowered to do the work they are capable of. “We’re the most trained people in the world – but not allowed to carry out repairs on our own properties.”

She urged investment in equipment, training, and community-led industries, with warehouses and maintenance teams based in communities themselves. She gave the example of Lightning Ridge, where local people upskilled, built their own company, and then built their own houses. Her call was to replicate that spirit across homelands: to work differently, think outside the square, and build solutions that create both safe water and local employment.

***We can’t wait another ten years; we are burying people every week***

## DEPARTMENT OF HEALTH

### ALAN RICHARD, PUBLIC & ABORIGINAL HEALTH DIVISION

Alan Richard outlined the Department of Health's regulatory and audit-based role in water quality. He described their focus areas as microbiology, heavy metals, and organic contaminants from long-term exposures. He noted that chlorine lasts longer than ozone, and that perceptions of water taste and smell vary between people. The Department monitors 141 Aboriginal communities, with monthly testing and regular meetings with Water Corporation. Communities were advised to report leaks so they can be addressed, and Richard said new technologies are continually assessed for viability.

## DAY 1 CLOSING DISCUSSIONS AND REFLECTIONS

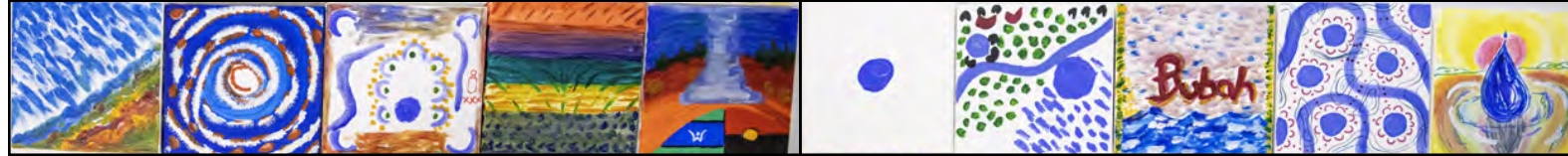
The first day wound down with open discussion that returned to core issues of resourcing, responsibility and communication. Communities spoke of the challenges in reporting leaks and breakdowns, stories of delays, repeated call-outs, and the frustration of problems not being fixed the first time. Questions of accountability were raised again: who is ultimately responsible when services fail, and how do communities ensure they are heard?

Concerns also turned to the use of water by mining companies, the lack of clarity over Native Title rights to waterholes and waterways, and the absence of transparent guidelines about extraction and regulation. These were framed not only as technical issues, but as matters of equity and justice: communities asked why their people are left waiting while industries move quickly to secure their own needs.



Water Corporation contributed by outlining the steps they have begun, site visits, upgrades, and new commitments, and by confirming their intention to work with communities in co-designing solutions. Importantly, they were present to listen and to take the strength of community voices back to government.

The day closed with a reaffirmation of what had been made clear throughout: each community is different, and each must be respected in its own context. Across all discussions, the message was consistent - Aboriginal communities want ownership, accountability, and timely solutions. The call was for urgent action, not promises.



# DAY 2 – REFLECTIONS AND CREATIVE EXPRESSION

The day opened with an overview of key points from Day 1, followed by a creative process led by Aboriginal artist Paige Wood-Kenney. Through shared and individual art-making, participants reflected on the meaning of water, and on the challenges and aspirations their communities hold. The activity created a safe space for voices to be heard in different ways, and for deeper discussion around governance, responsibility and hope for the future.

## Community control and ownership



Participants spoke of the erosion of pride and responsibility when decision-making is centralised, and stressed the need to restore local leadership.

- “One plan erodes community and people leave or don’t care – pride and culture get eroded away. Just like water erosion that takes everything away.”
- “Where people are looking after the land, there is clear water.”

## Skills, employment and empowerment



There was deep frustration at seeing local skills sidelined, and a call to enable people to manage their own water systems.

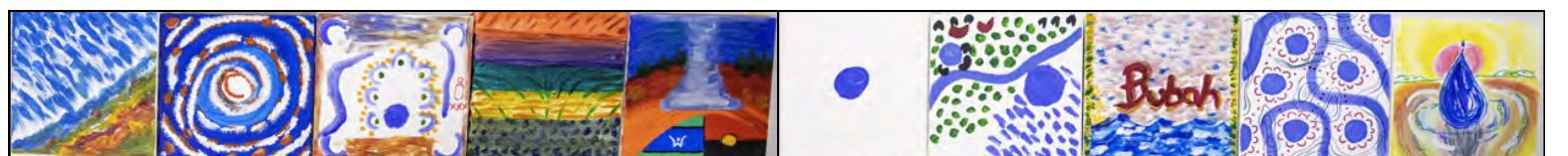
- “Where skills are in community, you don’t have to bring in tendered companies – they are already there.”
- “Seeing other people come in and do our job has kicked community in the guts.”

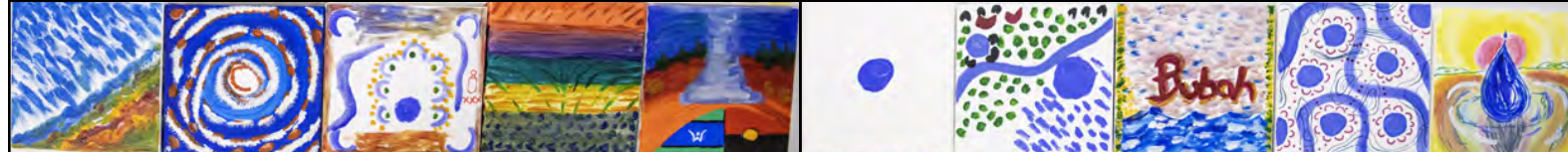
## Young leaders and intergenerational change



Hope was expressed in the role of younger generations to drive change.

- “Young leaders – on the right track – they will bring others along.”
- “This can make change in community to come – but we need to get to young people.”





## Accountability and communication



Participants described ongoing failures of communication, with communities left waiting or uninformed, and called for transparency and responsiveness.

- “Community not getting information about what is happening on land.”
- “Better way act → consult to shape and learn. Need to hear and listen → then do!”

## Innovation, pilots and change



Communities are open to new technologies, but stressed that what matters most is reliable, practical solutions that endure.

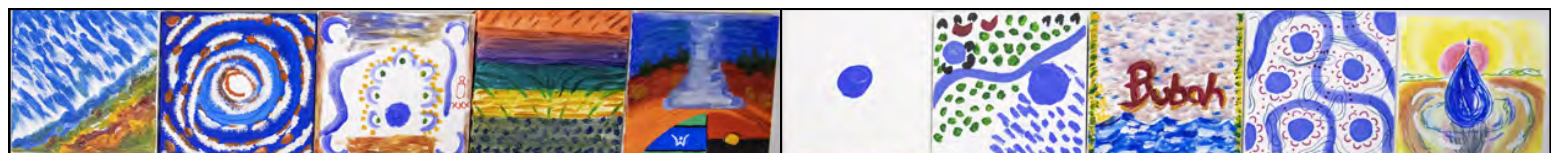
- “Pilot projects often work but then stop. We need to make sure before a project starts that changes can be made sustainable and long-term.”
- “Condensation tech is interesting, but who pays for the equipment and maintenance?”

## Mining, land and water rights



Concerns were raised about mining’s impact on water sources and the lack of clarity around regulation and Native Title rights.

- “Land is sinking due to water extracting from mining.”
- “Who regulates the use of water for mining?”



# MURDOCH UNIVERSITY

TEACHING, RESEARCH AND  
INNOVATION IN WATER ENGINEERING

## BIJI KURU, SCHOOL OF ENGINEERING AND ENERGY

Dr Biji Kurup situated the challenges of water within the broader global context of biodiversity loss, climate change and pollution, noting that these crises affect everyone but often with greater impacts on Aboriginal communities. She outlined her teaching and research in water treatment operations, hydrology, and water cycle management, with an emphasis on governance and learning the guidelines that underpin safe drinking water.

Kurup highlighted opportunities for low-cost desalination in agriculture and the importance of linking innovation to practice. She described the Goldfields and Agricultural Water Supply Scheme as an example of applied water management, and pointed to international lessons such as Singapore's use of treated wastewater. Her students are encouraged to take this theory into Aboriginal communities through final-year projects, with the aim of producing graduates who understand both technical detail and community realities.

She framed this work within the UN Sustainable Development Goals on rights to clean water and sanitation, stressing the need for innovation that is both technically sound and socially relevant. Importantly, she posed questions back to the group: Who is doing a good job, and how can we share that knowledge? Who are the water users, and how can we map them to better plan for the future?



## OCCURRENCE AND REMOVAL OF PHARMACEUTICAL RESIDUES FROM DRINKING WATER TREATMENT PLANTS

### ROBIN LIMOH



Robin Limoh presented on the presence of pharmaceutical residues in regional drinking water treatment plants. He highlighted concerns for human and animal health, noting that while this issue is often given low priority, it raises important risks.

His research examines which pharmaceuticals are most prevalent, how effectively current treatment methods remove them, and the regulatory and cost challenges of adopting new technologies.

# MURDOCH UNIVERSITY

## REAL-TIME WATER QUALITY MONITORING FOR HOMELAND COMMUNITIES

### MARTIN ANDA (ON BEHALF OF RAY FIELDMAN)

Martin Anda spoke of Wakathuni as a case study, where water is highly mineralised technically classified as drinkable but not palatable. He introduced the concept of an online monitoring tool that would allow communities to regularly check and understand their own water quality. “Critical they have access to the information,” he emphasised, noting that while the tool remains at the developmental stage, the aim is to ensure transparency and local control.



He described how technologies such as reverse osmosis, desalination, and auto-blending devices could be part of the solution, but stressed that the process must begin with access to data. Only then can communities weigh up the options and decide what treatment methods are best suited to their circumstances.

The project is being designed so that communities hold equity and can manage the system themselves. Looking ahead, the team hopes to build partnerships with Water Corporation and with water technology companies, ensuring that technical expertise is combined with community ownership. With uranium levels at Wakathuni reported as high as 1400, the urgency for such tools is clear. As Anda noted, future progress depends on a three-step approach: first access to reliable data, then exploration of treatment options, and finally tailoring solutions to each community's needs.

## LIFE CYCLE SUSTAINABILITY ASSESSMENT OF A DECENTRALISED NATURE-BASED WATER TREATMENT UNIT IN HOMELAND COMMUNITIES IN WESTERN AUSTRALIA

### ALEXANDRA LEE



Alexandra Lee outlined her PhD research on a decentralised “wetland in a box” treatment system, the size of a shipping container and remotely controlled online. Her life cycle assessment considers environmental, economic and social impacts, including greenhouse gases, local jobs, and by-products such as fertiliser or animal feed. She highlighted the gap between regulatory claims of universal access to quality water and the reality in many communities, inviting Traditional Owners to contribute data and perspectives to guide the project.

# LUNCH AND LEARN SESSION

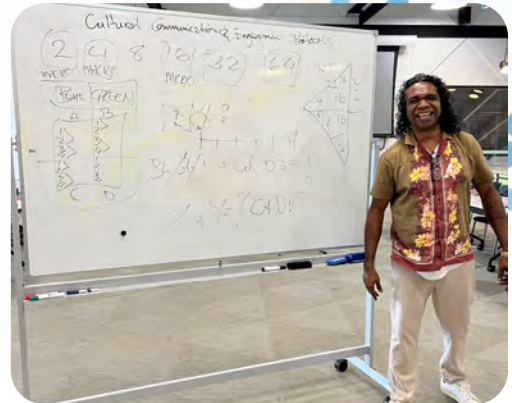
## CULTURAL COMMUNICATION & ENGAGEMENT PROTOCOLS

### CLIFTON BIEUNDURRY (BUNUBA PROSCRIBE BODY CORPORATE DIRECTOR)

Over the lunchbreak, participants were privileged to hear from Clifton Bieundurry, who generously shared his expertise on cultural communication and engagement protocols. Drawing on his experience working across many communities, Clifton explained the role of Aboriginal kinship systems in guiding communication, decision-making and authority.

As a recognised expert in Lore and kinship-based engagement strategies, he offered practical insights into how those attending the Roundtable could better understand who holds authority to give approval and speak on behalf of community.

This session was received with deep appreciation. Clifton Bieundurry's willingness to share this knowledge strengthened the capacity of those in the room to engage respectfully and effectively with Aboriginal communities, and reminded all present that cultural governance must sit at the heart of meaningful change.



# TWO-WAY MAPPING KEY POINTS FOR A CALL TO ACTION

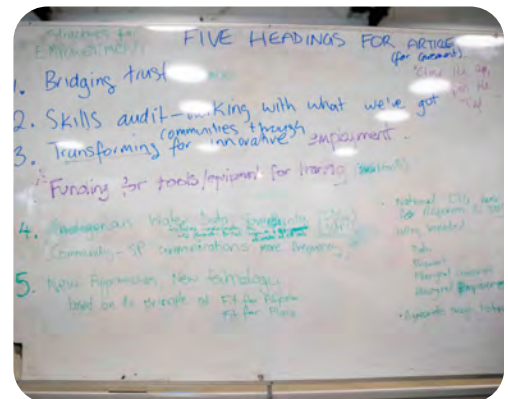
## PREPARING A PAPER FOR THE CONVERSATION AND BASIS OF A POLICY BRIEF

### PROFESSOR CARA BEAL

The final sessions of the Roundtable focused on drawing together the many voices and experiences shared over the two days into a clear call for action.

Dr Cara Beal led a two-way mapping process, asking participants to reflect on the themes that had emerged and to define what lasting change would require. Communities repeatedly stressed that if they are not at the centre, it “doesn’t work.” Key priorities identified included empowerment and participation, building local skills and capacity, culturally and technically appropriate innovation, stronger communication and accountability, and true Indigenous data sovereignty over water quality information.

The discussion emphasised that communication cannot be one-way. Communities want proactive, transparent updates, and the ability to access water quality data themselves, in real time and in culturally meaningful ways. Calls were also made to design projects with clear pathways for systemic change, rather than pilots that end once the trial phase is complete. Across all themes, the consistent message was urgency: communities cannot afford to wait another decade for safe and sustainable water.



# FUTURE OPPORTUNITIES AND NEXT STEPS

## DR MARA WEST AND PROF ROZ WALKER

From this discussion, five priority areas for action were confirmed:

- Bridging the trust gap between communities and service providers.
- Skills audits and resourcing local capability.
- Transforming communities through innovation and employment.
- Indigenous water data sovereignty.
- Investment in new technologies and approaches, shaped and led by communities.



Professor Roz Walker and Dr Mara West then guided the room into considering what concrete steps must follow. Building on recommendations from the first Water Roundtable in 2021, they revisited commitments to an advocacy pathway, an environmental health workforce, and transparent data collection, all of which remain pressing needs.

The call from communities was for Aboriginal control and leadership in forward planning, supported by genuine partnerships with agencies and industry. Participants agreed that progress requires not only resourcing, but also a willingness from government and service providers to “give over power” and allow communities to lead solutions.

As part of this next stage, Roz and Mara outlined the intention to pursue an NHMRC Partnership Grant or other competitive grants that would facilitate collaboration between communities, researchers, and service providers across all levels of government. This grant would focus on optimising water, sanitation, and hygiene (WASH) to improve health outcomes in homeland communities, ensuring Aboriginal leadership and knowledge guide every stage.

The proposal was met with strong support, with communities endorsing the importance of being active partners in both the design and implementation of this work.

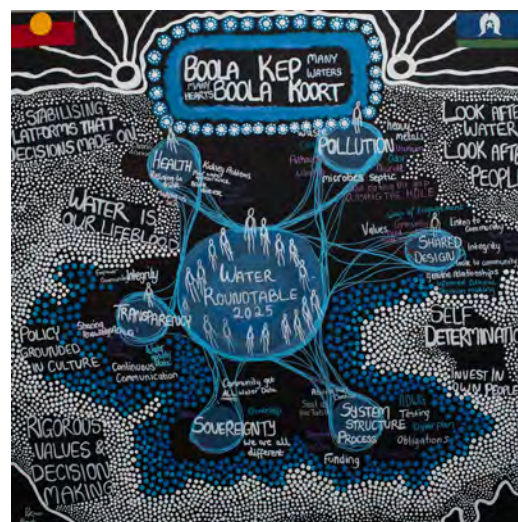
The outcome of these final sessions was clear: communities, researchers, and service providers are ready to act. What is needed now is sustained collaboration, adequate resourcing, and structural change to ensure Aboriginal voices lead the transformation of water access and quality across the homelands.



## Story of the Boola Kep, Boola Koort - Many Waters, Many Hearts Artwork

By Paige Wood-Kenney – Visual Scribe and Cultural Artist. Noongar Yamatji Yok

### “Listening to Country”: - Reflection of the Roundtable



*This artwork represents a space where many journeys, stories, and both ancient & modern knowledges flow together like rivers converging on common sacred ground, all joining together in conversation and respect.*

*The second piece captures the rhythm and flow of the discussions and emotions shared across the two-day gathering. Created live as a visual scribe artwork, it weaves together words and themes that arose during presentations and yarning sessions.*

*Many voices spoke of contamination and healing, community resilience, and the right to safe, reliable drinking water. The artwork visualises the collective fight for water justice and the strength of Aboriginal and Torres Strait Islander communities leading that change.*

*Shapes of waterways, droplets, and connecting lines represent knowledge exchange — research flowing into community wisdom and back again. Circles ripple outward, showing how one story or solution can reach many. They are surrounded by clusters of fine dotwork, representing how each idea is strengthened by the people who gather around it, learn from it, and carry it home.*

*These dots also speak to the rhythm of time — “many, many times” — the cycles of listening, sharing, and acting that shape intergenerational knowledge. This pattern of repetition honours how Aboriginal and Torres Strait Islander communities have always met, shared, and cared for water and one another across seasons and generations.*

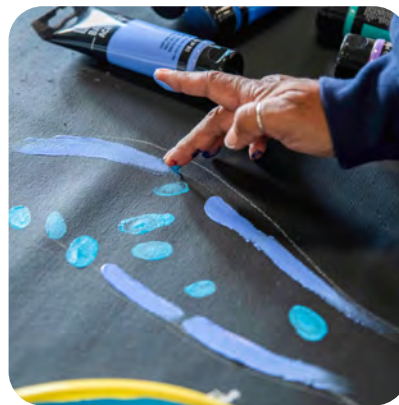
*This piece stands as both documentation and declaration — a creative record of Many Waters, Many Hearts and a reminder that when we listen to Country, we remember that water is not a resource — it is a relative.*

# WATER IS LIFE: ARTWORK FROM BOOLA KEP, BOOLA KOORT ROUNDTABLE 2025

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This piece stands as both documentation and declaration - a creative record of Many Waters, Many Hearts and a reminder that when we listen to Country, we remember that water is not a resource - it is a relative.

# KEY TAKEAWAYS

The 2025 Boola Kep, Boola Koort: Many Waters, Many Hearts Water Roundtable brought together Aboriginal community leaders, Elders, service providers, researchers and policy representatives to address one of the most urgent issues facing Homelands across WA and the Torres Strait: the right to safe, clean water.

Across two days, participants spoke with honesty, respect and clarity about the challenges their communities face, poor water quality, lack of transparency, inadequate infrastructure, and the health impacts these create. They also shared their knowledge, solutions and determination to drive change.

What we heard loud and clear:

- **Communities must be at the centre of decision-making and governance.**
- **Good water equals good health, this is non-negotiable.**
- **Data sovereignty and transparency are essential for trust.**
- **Skills and employment in communities are key to sustainable solutions.**
- **Change must happen now: we cannot wait another decade.**

What happens next:

This Roundtable has strengthened networks, highlighted practical solutions, and set the stage for future action, including a proposed NHMRC Partnership Grant to advance safe water, sanitation and hygiene in Homelands. The commitment shared in these rooms must now translate into systemic change, led by Aboriginal communities, supported by partners, and acted on by government and service providers.

Lives depend on it.



# PARTNERS IN SUPPORT

We would like to give special acknowledgment to the State Govt Future Health Fund Research Initiative, Consumer and Community Support Fund for funding this initiative to bring Aboriginal community representatives from many traditional homelands together for this Water Roundtable, together with sponsorship from the following organisations and support from WA Health Translation Network Consumer and Community Involvement Program

## Funding Support



Government of **Western Australia**  
Department of **Health**



## Sponsorship and Partnerships



## THE CONSUMER AND COMMUNITY INVOLVEMENT PROGRAM

We are honoured to have played a supporting role in the delivery of the 2025 Boola Kep, Boola Koort Water Roundtable, helping to create the opportunity for Aboriginal voices and leadership to be heard clearly.

The Consumer and Community Involvement Program (CCIProgram), part of the Western Australian Health Translation Network (WAHTN), is dedicated to embedding the voices of consumers and community members in health research. Our team works to build connections between researchers, consumers and organisations, providing guidance and resources to ensure that research is shaped by lived experience and addresses real-world health challenges.

By championing involvement at local, state and national levels, the CCIProgram continues to evolve so that health research is informed, shaped and guided by those with lived experience.

---

# WANT TO KNOW MORE?

**PHONE:** (08) 6151 1071

**E-MAIL:** ADMIN@CCIPROGRAM.ORG

**WEBSITE:** WWW.CCIPROGRAM.ORG

## CONNECT WITH US



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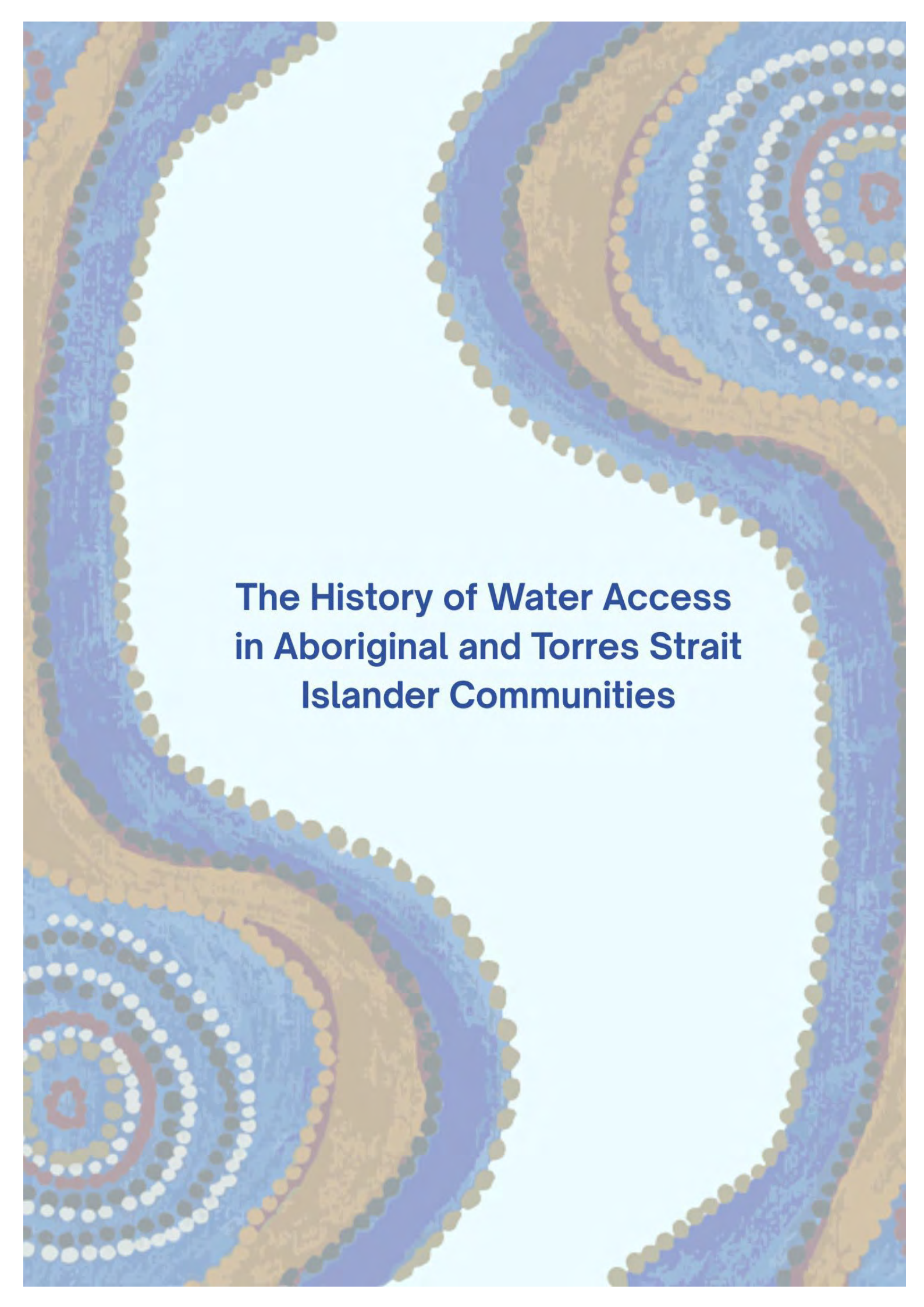
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**Consumer and Community  
Involvement Program**



**The History of Water Access  
in Aboriginal and Torres Strait  
Islander Communities**



*We wish to acknowledge the contribution of Dr. Mara West for creating the art work on the front page and throughout the report. We would also like to extend our thanks and appreciation to the communities who have participated in the workshops and conferences discussed in the report.*

# The History of Water Access in Aboriginal and Torres Strait Islander Communities

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## Introduction

Over the past six years, the Ngangk Yira Institute for Change has been involved in facilitating a series of workshops and Roundtables on Water. This report sets out a timeline of the purpose, key findings and recommendations of water conferences and workshops from 2019 to 2025, and examines key initiatives and audit reports related to the quality of services in Aboriginal and Torres Strait Island communities.

### 1. International Water Association Conference: Small Water and Wastewater Systems (2019)



Figure 1: IWA Conference 2019 Banner

#### 1-5 December 2019

The 16<sup>th</sup> International Water Association (IWA) held a specialised conference on small water and wastewater systems (SWWS) in 2019 at Murdoch University. The conference provided the opportunity to bring together scientists, engineers and practicing professionals from government departments, international aid agencies, private institutions, consulting establishments, research institutes and university organisations. Over 300 people attended the IWA conference from around the world, including around 60 Aboriginal people in a special stream funded by then Federal Minister for Aboriginal Affairs Ken Wyatt.

The conference focused on exploring innovative approaches to water treatment, improved assessment and management of water resources and ecosystems, and strategies for balancing economic development with ecological sustainability. A central theme of the conference was the development of infrastructure capable of delivering high-quality water



in adequate quantities, using sustainable practices. Several presentations and discussions addressed small-scale water and wastewater systems, with particular emphasis on their potential to improve environmental health outcomes in Aboriginal communities.

The following topics were covered:

Conference topics	Special stream topics
Water resources	Water quality in our communities
Water quality management	Sanitation
Governance, policy and regulation	Social impact and quality of life
Wastewater treatment	Innovative solutions
Wastewater collection and disposal	Co-design and policy change
Wastewater treatment and reuse	Governance
Landscape and water management	

**Table 1:** Topics covered at the IWA Conference 2019

The conference offered all delegates a field visit to choose from three different streams on desalinations, water efficiency and water reuse. Each stream included a visit to one or more sites related to that stream and guided by experts at the facility. This gave the participants a unique opportunity to experience the practice of technologies related to each of the respective streams being used in Western Australia.

There were nine sessions in the Indigenous Stream at the SWWS Conference:

1. National Indigenous Australians Agency Policy and Funding
2. The challenge of maintaining optimal health in remote communities faced with poor quality water and sanitation issues
3. Bawa on Kuruma Country: *Our rivers story and how modern activities are changing it*
4. Challenges in providing water services to a remote desert community, application of innovations and lessons learnt
5. The *Australian Indigenous HealthInfoNet*: how the environmental health portal provides information for Environmental Health Workers
6. Nirrumbuk Environmental Health and Services, Kimberly, WA



7. Engaging communities in the operations and maintenance of small-scale systems in remote communities
8. Innovative Water Testing Services for Remote Communities
9. Water supply systems in communities

The IWA conference 2019 also aligned with the objectives of the UN Sustainable Development Goal 6, which is to ensure availability and sustainable management of clean water and sanitation for all. Significantly, the conference served as a starting point for raising critical questions about the environmental health and water challenges faced by Aboriginal communities. It was an important step toward identifying inclusive and sustainable solutions to address ongoing issues experienced by Aboriginal communities in Western Australia.

## **Discussion**

The 9 sessions were classified into three categories. In each category, there were three presentations each detailing information, challenges, experiences and lessons learnt for water testing, water and sanitation services and water demand management while working in Aboriginal and Torres Strait Island communities.

### **1.1 Challenges, experiences and lessons learnt**

**Dr Cara Beal, Griffith University.** *Community - based approaches to water demand management in the Torres Strait Islands: results from a collaborative pilot project (Torres Strait Island).*

Dr Cara Beal's presentation and subsequent discussion brought the following points:

- Engage community, form partnerships
- Find out what outcomes wanted by looking at the context of the problem
- Avoid giving options to stakeholders and do not make unreachable expectations
- Allow time to show respect to community
- Connected water to all houses and meter connections are different experience on water service
- Water training on how to use wisely, fixing leaks, testing for pathogens, adapting to climate risks, securing water in the time of scarcity
- Having rainwater at every home is an advantage



- Remote management is helpful
- Community engagement and sharing of desalinated water among Islands
- Community engagement is better for reporting leakage, lifestyle changes, information about water cycle, water meters, water restriction notifications.

**Mr Prem Mirihagalla, Department of Communities:** *Challenges in providing water services to a remote desert community, application of innovations and lessons learnt* (Indigenous communities, WA).

His presented identified the lesson learnt by Department of Communities while working with Aboriginal communities:

- Challenges such as high salinity and low vegetation need to be addressed in South East of WA
- Unreliability of rainfall and hence security of water should be addressed
- Staff houses have better conditions and water usage of 175L/p/d
- Community houses are in poor condition and overcrowding is an issue
- Issues such as water leaks needs to be addressed
- Need to overcome constraints such as social and cultural aspects, remoteness, salinity.

**Mr David Sneddon, CEO ARL Group,** presented innovative solutions for water testing issues and challenges faced by Indigenous communities. Following his presentation there were good discussions from the audience. Solutions presented were given below.

- Working in partnership with communities
- No bias
- Strong focus on WA
- Improving equipment
- 24/7 availability
- All analysis done in house
- Committed to improving the system
- Providing resources that are needed.



## 1.2 Environmental Health Officer Perspectives

Environmental Health Officers from various communities also presented at the conference as follows:

**Patrick Davies and Mr Harry Yungabun:** Nindilingarri Cultural Health about *Engaging communities in the operations and maintenance of small-scale systems in remote communities.*

Patrick's presentation raised the following discussion points:

- Review the process of communication
- Locally trained plumbers need recognition
- CDEP workers and ATSI days.
- Three monthly check on each community
- KRSP through REMS responsible for Outreach and Maintenance for 19 communities.

**Ms Sara Slattery, Mr Royce Evans and Mr Arnold Bobby:** *Bawa on Kuruma Country: Our rivers story and how modern activities are changing:*

The conversation from the audience and points raised were as follows.

- Mining proponents should be required to share water sampling results / data with the Traditional Owners Corporation on which lands they mine.
- Would Aboriginal corporations wish to open laboratories in the regional areas with a solid business plan, the government should be financially supporting the incentive.
- Aboriginal Corporations need to be included in commercial / industry water licenses applications on their land.
- Aboriginal Corporations who manage land on which mining activities are active should have access to the water licenses requirements / restrictions.
- Traditional owners feel powerless in regards with what aquifers are being pumped in the regional areas, on their land, who defines the maximum / minimum water drawing capacity.
- **Water Corporation need to consult and communicate with the local traditional owners in relation to water consumption / aquifers extraction / regional – localised limits (if any) on aquifers withdrawals.**



**Mr Bruce Stewart, Ms Tehani Mahoni and Kim Merrey:** *Nirrumbuk Environmental Health and Services, Kimberly, WA.*

Mr Bruce Stewart and his team described the situations they faced including:

1. Wastage of water
2. Poor plumbing hardware choice
3. Poor design of plumbing layout
4. Poor maintenance
5. Consequent health problems

The discussion brought some solutions:

- Plumbing hardware should be selected after testing the water to find out the harness to avoid further complications in plumbing, design, maintenance and ultimately health issues related to all the above
- Plumbing hardware with fewer parts is preferred.
- Plastic pipes are also preferable to copper pipes.
- Pipes should preferably be installed in front of walls [exposed] rather than behind walls.
- There should not any leaks to damage cupboards, having slippery floors dangerous to seniors living in the house
- More importantly, electrical shocks from water leakage.

### **Suggestions for improvement**

- Engagement of locals, e.g. environmental health workers, including training more of local people [CDEP model was raised to train local youth by local resource person].
- Clarification is required on what a trained environmental health worker can fix, besides replacing tap washer. Availability of spare parts should be considered.
- Tradesmen engaged by the community instead of by a government agency.
- Tradesmen should be engaged not only simply to fix one problem, but also to check related plumbing problems after coming a long way to the community.
- Maintenance of several areas should be carried out at the same time [e.g. plumbing, cupboards, walls, electrical], i.e. team approach of service provision.



- Housing for Health NSW should be consulted.
- Plumbing hardware should be selected after testing the water to find out the harness to avoid further complications in plumbing, design, maintenance and ultimately health issues related to all the above
- Plumbing hardware with fewer parts is preferred.

### 1.3 Organisation Presentations

Three information sessions were also presented at the conference:

**Ms Jenny Collard, National Indigenous Australian Agency (NIAA):** *National Indigenous Australians Agency Policy (NIAA) & Funding;*

Ms Collard detailed the many opportunities for funding through the National Indigenous Australians Agency (NIAA) established on 1 July 2019. The new standalone Agency (NIAA) aimed to implement the Government's policies and programs **with fairness in economic and social participation** to improve the lives of all Aboriginal and Torres Strait Islander peoples. Ken Wyatt was appointed as the Minister of Indigenous Affairs overseeing the Government's key priorities of:

- getting children to school
- adults in jobs
- making communities safer, and
- recognising Aboriginal and Torres Strait Islander peoples in our national Constitution.
- Closing the Gap

The NIAA's grant funding for the Indigenous Advancement Strategy was approx. \$4 billion.

#### **Government's commitment**

The Commonwealth Government has commenced a process of co-design to determine options to improve local and regional decision-making and a national voice. The Government has allocated \$7.3 million for the co-design process.

The Final report on Constitutional Recognition (2018) recommendation was that Government should initiate a process of co-design. A Senior Advisory Group was established by the Minister with advice and input from co-chairs Professor Dr Marcia Langton and Professor Tom Calma. It is commissioned to work with the Minister, and to provide



overarching guidance and advice to the co design groups on local and regional decision making and models for a national voice. Consideration was also given to achieving a balance of gender; representation across jurisdictions; and the urban, regional and remote spectrum. The Senior Advisory Group met for the first time Wednesday 13 November 2019.

### **Water Responsibilities**

**With respect to water, States and Territories** are responsible for land servicing and **ensuring appropriate municipal service infrastructure is provided and maintained. This includes water and sanitation infrastructure.** The NIAA works closely with States and Territories, local authorities and community members on infrastructure projects that the Agency fund / deliver.

**Ms Vilma FitzGerald, Edith Cowan University:** *The Australian Indigenous HealthInfoNet: How the environmental health portal provides information for Environmental Health;* She presented on Environmental Health information portal and how it can be accessed in the website address <https://healthinfor.net.ecu.edu.au/>. The centre also provides services such as training as well as providing a platform for people who are interested in presenting webinars.

**Professor Rhonda Marriot, Murdoch University:** *The challenge of maintaining optimal health in remote communities faced with poor quality water and sanitation issues.* Professor Marriott raised the following points that urgently need to be addressed:

- **Lack of communication and integration within state government departments** to bring a positive solution;
- Water quality issues related to naturally occurring contaminants such as Arsenic;
- Testing, reporting and communicating water quality to right people diligently;
- When mining camps are well equipped with fully functional drinking water supplies, should be able to get quality water to adjacent Indigenous communities;
- Are there license providers of plumbers in WA?;
- **WA Government reform process is underway;**
- Henry Tan's (Dept of Health) presentation (Recent consultation on drinking water and the results to be checked);



- Need all communities to be tested only 80 out 274 only get water quality tested.
- Schools should also be tested separately and communicated effectively.

She referred to five journal papers describing water, sanitation and health issues which are included in the references.

Professor Marriott questioned whether it is possible to develop Water Quality Standards (ADWQG) based on tolerance limit levels of Indigenous people as their bodies respond differently to Caucasian people.

#### **Details from the article on Australian Drinking Water Guidelines (ADWG)**

##### ***Box 2.1 Application of the Framework in Western Australia (ADWG, 2011)***

In Western Australia, **drinking water quality management is a shared responsibility between the Water and Rivers Commission (WRC) and the Water Corporation of Western Australia (WCWA).**

The WRC is responsible for administration of catchment and source protection legislation; the WCWA is the major licensed drinking water supplier responsible for the collection, treatment and distribution of drinking water to consumers.

Other key agencies in the supply of drinking water are the regulators, including the Health Authority, which provides interpretation and guidance on potential health impacts of drinking water quality.

A variation to the application of the Framework that is proposed by Western Australia is to apply the Framework at the state level using a whole-of-government approach, with each agency responsible for implementing the Framework within its areas of control and consulting with relevant partnership agencies.

**This approach requires a high level of commitment by all agencies, clear definition of accountabilities and responsibilities within the Framework, and increased communication and coordination of planning and management activities.**

Under these circumstances, the WRC would be the lead agency to implement the catchment aspects of the Framework, with the WCWA a significant stakeholder. Downstream of the catchment, WCWA would be responsible for implementing the Framework in its areas of control.

***It is proposed that the Health Department, as the agency with responsibility for protecting public health, will have a key coordinating role in ensuring effective implementation and operation of the Framework.***



## 1.4 Participant Feedback Sessions

Mrs Mara West (Chair) Dr Martin Anda and Dr Biji Kurup facilitated feedback discussions.

**Feedback Session 1 - Key Focus:** Water quality, community empowerment, and transparency.

- *Government-Community Communication:* Needs improvement.
- *Community Initiative:* Encouraged to seek independent funding and take proactive steps.
- *Water Quality:*
  - Public access to water testing reports.
  - Use of advanced purification technologies for undrinkable water.
  - Education on water quality and interpretation of results.
- *Transparency:* Service providers should be listed publicly.
- *Smart Community Trial:* Water sensors trialled with online data logging.

**Feedback Session 2- Key Focus:** Infrastructure, training, community empowerment, and systemic reform.

- *CDEP Program:* Recommended for revival due to its past success.
- *Funding:* Should be redirected to effective community programs.
- *Communication Infrastructure:* Needs repair (phones, fax).
- *Education and Training:* Focus on water conservation and quality, involving youth.
- *Local Licensing/Water Testing:* Train community members to test water and interpret data using a traffic light system.
- *Environmental Monitoring:* Mining impacts on water sources must be tracked.
- *Human Rights Framing:* Infrastructure access should be presented as a right; poverty in the community is a social and economic problem which needs to be addressed
- *Government Engagement:* Check alignment with government agendas;

## 1.5 Findings and Proposed Actions

A central issue identified by Aboriginal and Torres Strait Islander people who attended the conference was not being included in conversations regarding environmental health and



water issues. Additional challenges were identified in maintaining health and wellbeing due to inadequate water quality and sanitation infrastructure.

Final recommendations were put forward for future action:

- 1) Holistic approach to infrastructure projects
- 2) Indigenous roundtable on Water:
  - a) Follow up meeting 2020
  - b) Scope a trial for regional service providers
  - c) Plan for across whole region
- 3) SMART Communities for ALL.

### **The need for holistic approach to infrastructure projects**

It was proposed that a holistic approach to infrastructure projects would be vital to engage communities in operations and maintenance, and supply and testing. In order to do this, a co-design workshop was put forward to provide a platform for communities to share experiences, discuss issues, and explore emerging technologies. This proposal culminated in the Indigenous Communities Co-design Workshop held from 21–24 June 2021. The initiative built on momentum from the Indigenous stream at the IWA Conference 2019, which had recommended a follow-up workshop focused on developing SMART communities. This recommendation was implemented in February 2021 with the convening of a dedicated SMART Communities workshop.

## **2. Workshop on Indigenous SMART Communities (2021)**

### **8-11 February 2021**

The workshop on Indigenous SMART Communities was a response to key recommendations emerging from the IWA Conference 2019. It was proposed that Murdoch University lead the development of a culturally relevant demonstration project focused on Homelands Digital Water Services. It was suggested that a platform needs to be created for communities to access essential services data on water and power in a time critical way. This information could be shared across Australia to empower other communities with similar service security concerns.



To effectively implement these recommendations and to support *Closing the Gap*, it was agreed that the culturally appropriate project on Homelands Digital Services would demonstrate reliability in power supply and water quality through better access to data services for people in homeland communities.

<b>National Agreement on Closing the Gap (2019)</b>
<p>The National Agreement on Closing the Gap was also developed in 2019 and recognises the strength and resilience of Aboriginal and Torres Strait Islander people in maintaining the world’s oldest living cultures. It aims to ensure Aboriginal and Torres Strait Islander people and governments work together to overcome inequality and achieve equal life outcomes. It was developed in genuine partnership between Australian governments and the Coalition of Aboriginal and Torres Strait Islander Peak Organisations (Coalition of Peaks) and is centred around the idea that better outcomes are achieved when First Nations people have a genuine say in the policies and services that affect them.</p>
<p>The National Agreement marked a shift in how governments work by prioritising shared decision-making and structural change. The voices of Aboriginal and Torres Strait Islander people, including Elders, Traditional Owners, communities and organisations, continue to guide its implementation.</p>
<p>Overall, 19 measurable targets were identified across 17 socio-economic outcomes that affect outcomes for Aboriginal and Torres Strait Islander people. The outcomes reflect the desired results for Aboriginal and Torres Strait Island communities, while targets and their indicators track progress. Specific targets were set forth for 2026. One key target (Target 17) is the achievement of equal levels of digital inclusion for Aboriginal and Torres Strait Islander communities, including access to services such as telehealth, Centrelink and online learning.</p>
<p>In response to advice from the First Nations Digital Inclusion Advisory Group, the Government committed \$68 million in the 2024–25 Budget for key initiatives, including free community Wi-Fi in homeland areas, a Digital Support Hub, a network of digital mentors, and improved data collection.</p>
<p>In Western Australia, many Aboriginal people in homeland communities continue to experience limited access to information about their water services when compared to people in metro regions, such as Perth (e.g. Water Corporation, MyWater). This highlights the ongoing need to close the digital and information access gap, particularly in homeland communities. Achieving the targets set out in the National Agreement requires continued collaboration, accountability, and action from all levels of government, working in genuine partnership with Aboriginal and Torres Strait Islander people to ensure improved access to essential services and life outcomes.</p>

**Figure 2:** Further information on the National Agreement on Closing the Gap Initiative (2019)



### **3. Indigenous Communities Co-design Workshop on Water and Sanitation (2021)**

#### **21-24 June 2021**

The co-design workshop was held as a follow-up to proposals raised at the IWA Conference 2019. The balance of funds from the conference were used to support 25 Aboriginal delegates from the Kimberley to the Southwest to attend the workshop. They were joined by researchers from Murdoch University, representatives from Water Corporation, Department of Communities and key water, energy and digital technology stakeholders to co-design priorities from issues and concerns raised from the previous conference in 2019. A total of 73 participants attended the workshop, including 26 Aboriginal and Torres Strait Islander representatives and 47 non-Aboriginal attendees.

The workshop was chaired by Associate Professor Martin Anda, Dr. Mara West and Professor Rhonda Marriott, and its design was guided by an Aboriginal Homelands Water Roundtable Committee comprising representatives from Aboriginal communities, industry, government and academic members. Topics covered wastewater supply innovations, off grid water treatment and renewable energy.

It was opened by Minister Dave Kelly, the four-day workshop aimed to empower Aboriginal and Torres Strait Islander participants with practical experience in the design, cost, operation, and maintenance of water technologies. The workshop sought to address the power imbalance between decision-makers responsible for water and sanitation infrastructure and the Indigenous communities most affected by these decisions.

#### **3.1 Workshop Aims**

The workshop held in June had four key priorities:

1. Introduce workshop participants to new technologies.
2. Assist participants to construct their community profile and assess their needs regarding appropriate water and sanitation designs.
3. Scope a trial for regional service providers.
4. Develop a plan including training to be created for the whole region.



The workshop incorporated a hands-on learning approach. Sessions included expert presentations on water quality and health in homeland communities, as well as off-campus site visits to local water technology providers. Participants engaged in technology demonstrations and practical exercises, followed by reflective co-design sessions to discuss future directions for Indigenous water infrastructure and service delivery.

The Keynote address by Annette Stokes on healthy water for healthy lives set the scene for the workshop on why good water quality and sanitation in communities is essential.



**Figure 3:** Keynote address by Annette Stokes on healthy water for healthy lives

### **3.2 Aboriginal Homeland Community Representatives**

Six Aboriginal communities from Western Australia actively participated in the co-design workshop, alongside representation from the Torres Strait Islands and various water service providers. The participating communities included:

- Tjuntjuntjarra (REMS [Remote Essential and Municipal Services] Ngaanyatjarra Council)
- Kanpa (REMS, Ngaanyatjarra Council)
- Pia Wadjarri (REMS, Pilbara Meta Maya Regional Aboriginal Corporation)
- Wakathuni (REMS, Pilbara Meta Maya)



- Yulga Jinna (REMS, Pilbara Meta Maya)
- Wongutha CAPS (Esperance)
- Torres Strait Islands (TSI Regional Council)

In addition, representatives for Water Corporation forthcoming Essential and Municipal Services Upgrade Program (EMSUP), which commenced in July 2023 included seven communities in the Kimberley (Ardyaloon/One Arm Point, Beagle Bay, Bayulu, Bidadanga, Djarindjin, Lombadina, Mowanjum Community) and Kimberley Regional Service Providers (KRSP).

Notably, the two Torres Strait Islander delegates attending the workshop, Mark David (Operations Manager for Water, TSI Regional Council) and the Chairperson of the TSI Regional Council, shared insights into the higher level of access to information services they have achieved. Mark David later became a researcher on the ARC Linkage Grant discussed later in the section.



**Figure 4:** Group photo of almost everyone attending the co-design workshop



### 3.3 Onsite Organisation Visits

Dr. Bep Unik, Research Fellow at the Kulbardi Aboriginal Centre, Murdoch University, explained:

*“We’re undertaking hands-on learning, putting the technology and infrastructure in the hands of community leaders, that will lead to informed decision making and ultimately empowerment for these communities.”*



**Figure 5:** During the visit to Hamilton Hill, delegates participated in a hands-on workshop with greywater recycling systems by Sam Milani of Advanced Wastewater Systems

### 3.4 Government and Industry Representatives

Several senior government officials and industry leaders participated in the workshop, reflecting broad institutional support. Notable attendees included:

- Hon. Dave Kelly MLA, Minister for Water
- Mike Rowe, Director General, Department of Communities
- Garry Young, Manager, Remote Essential and Municipal Services (REMS)
- Stephanie Unwin, CEO, Horizon Power
- Innovation staff from Water Corporation



All expressed strong support for the proposed establishment of an “Indigenous Roundtable on Water,” now referred to as the Homelands Advocacy Hub (discussed in a later section of this report).

### 3.5 Participant Feedback

The feedback given from participants who attended the workshop was positive. Patrick Armstrong, graduate sustainability consultant, Murdoch University, explained that one of the highlights included meeting the community delegates:

*“As a volunteer, I really enjoyed seeing members of Aboriginal communities in the same room as Water Corp and Department of Communities representatives... I think too often us white folk are sheltered or resistant to hearing stories and perspectives of the Indigenous people of WA. It was great to meet everyone and hear their perspective on the issue over the workshop.”*

Similarly, Steven Kelly from Bundiyarra Environmental Health shared:

*“The highlight for us was the whole trip in itself as we met new people...with possible future partnerships. We learned a lot about water technologies and water systems that we can possibly take back to our community.”*

John Regan, Water Corporation, explained that “*hearing directly from the different Aboriginal communities*” was the main highlight. He followed on by saying:

*“I like the activity where we did the different community profiles. I like seeing the available technologies, often a bit different to what Water Corp uses but good to see what else is out there. Having the group from the Torres Strait Island Regional Council present was good to see how a different operating model works.”*

During the workshop, the delegates discussed the importance of reframing the use of “remote communities”, which is the term generally used by government, and instead use the term “homeland communities” to better represent a place of connection. This is now the practice by Water Corporation and the Homelands Advocacy Hub.



**Figure 6:** Co-chairs Professor Rhonda Marriott (Ngangk Yira) and Mara West (Yamatji Elder, Telethon Kids)

The co-chairs Professor Rhonda Marriott and Dr. Mara West concluded the workshop with a summary of the recommendations arising from the discussions.

### 3.6 Findings and Recommendations

The co-design workshop identified three primary recommendations to enhance water and essential service delivery in homeland communities and support the goals under the *Closing the Gap* initiative (Figure 2):

1. **Establish a Knowledge Sharing Hub:** A homelands and community services hub be established to facilitate knowledge sharing between communities, researchers and service providers. The proposed hub would support the design and delivery of infrastructure and service projects in a culturally informed manner.
2. **Environmental Health Worker Training:** Aboriginal Environmental Health Worker training programs need to be strengthened, with a minimum of one paid Environmental Health Worker position established in each of the 143 homeland communities across Western Australia.
3. **Data Collection:** Communities called for transparent and comprehensive data collection processes, including the provision of both bacteriological and chemical



water test results. This data must be communicated to communities in a culturally appropriate and accessible way.

The importance of these initiatives was reinforced by the Western Australian Auditor General's follow-up report, *Delivering Essential Services to Remote Aboriginal Communities*, 2 June 2021 (Figure 7). The report acknowledged that while water quality had improved in many communities since the initial audit report in 2015, *"the level of service that communities receive is not uniform, and water quality is not routinely tested in the smallest communities."*

### **3.7 Actions and Outputs from the Workshop**

Following the workshop, several constructive meetings were held by Professor Rhonda Marriott and Dr. Mara West with Minister Dave Kelly and senior agency officials. These discussions highlighted that the workshop's proposals had aligned with emerging state-level priorities. The Western Australian Government was, at the time, exploring a potential transition of responsibility for REMS and capital works programs in 143 homeland communities from the Department of Communities to Water Corporation and Horizon Power. It was envisaged this would address longstanding underinvestment in infrastructure and include a shift from diesel energy systems to renewable energy sources.

Additionally, the Shire President of Derby, Geoff Haerewa, extended an invitation to the Roundtable Committee Secretariat support team to visit Pandanus Park, where Chairperson Patricia Riley facilitated discussions on local water and energy issues. As a result, the Shire President invited the Committee to organise the next workshop to be held in Derby.

To address the issues raised in the workshop, a funding proposal to support the [\*iKnow, WeKnow\*](#) project was submitted to the Australian Research Council (ARC) Linkage fund. Among those involved in the project are Dr. Cara Beal, Associate Professor Martin Anda and Mark David. The three-year project (2023-2026) is focused on co-designing a resilient water-energy toolbox for Aboriginal and Torres Strait Island communities. Its aim is to collaboratively develop community-driven strategies for managing water and energy in homeland communities, with the project being conducted in partnership with four remote



communities: Djarindjin (Western Australia), Atitjere (Northern Territory), Mapoon and Warraber (Queensland).

By integrating digital solutions with cultural knowledge, the project is designed to deliver a tested and refined set of tools that enable both communities and service providers to transform existing water and energy practice and cut the cost of supplying essential services to homeland communities. Applying these tools will ease pressure on local water sources, cut reliance on diesel-generated power and help build local skills and employment opportunities.

The benefits from the project: training and capacity building, improved access to safe water, community water management, enhanced community wellbeing and health, infrastructural upgrades and Indigenous knowledge sharing.



### **2021 Audit Report: *Delivering Essential Services to Remote Aboriginal Communities.***

A follow-up audit report published in 2021 evaluated the extent to which the Department of Communities had addressed recommendations from the 2015 Auditor-General's report on *Delivering Essential Services to Remote Aboriginal Communities*. It examined the management of essential services across 143 remote communities in Western Australia and also provided a follow-up on the recommendations made in the 2015 audit, which assessed service delivery to 84 of the larger remote communities at the time.

The 2021 audit found that The Department of **Communities had made progress on all six recommendations from the 2015 audit**. Water quality improved in 38 communities, and wastewater is now monitored in accordance with contractual requirements. Reliability of power and water supply has also increased. The Department has enhanced coordination with other State entities, strengthened its contract management, and undertaken a review of essential service eligibility. Additionally, it has clarified its roles and responsibilities for delivering essential services in remote Aboriginal communities.

However, there remained significant concerns regarding water quality in remote communities. Testing conducted between 2019 and 2020 detected contamination in the water supplies of 37 communities, including the presence of arsenic, nitrates, E. coli and uranium. Furthermore, **51 communities did not undergo water quality testing until late 2019**, four years after being included in the Remote Essential and Municipal Services (REMS) program, exposing them to prolonged risks of illness from both chemical and biological contaminants.

The audit also emphasised that digital connectivity is becoming increasingly critical for accessing and delivering essential services. **Addressing the digital divide**, particularly in homeland areas, was identified as a key enabler in supporting Aboriginal people to live on Country. One of the report's central recommendations was to "improve assurance of drinking water quality, upgrade water treatment and supporting power systems where necessary to achieve this."

The recommendations set out in the 2021 audit report are as follows:

- **Improve assurance of drinking water quality:** Water needs to be regularly tested in all REMS communities and the water treatment and supporting power systems need to be upgraded where necessary to achieve this.
- **Improve governance of the Department of Communities program:** Publish service performance data and the eligibility criteria it uses to improve transparency, and establish and promote engagement of Aboriginal communities in service delivery decisions.
- **Ensure the sustainability of essential services in remote Aboriginal communities:** The Department of Communities should finalise a detailed action plan to address priority risk areas, and finalise a comprehensive investment plan for essential service delivery to communities.
- **Ensure value for money in its contracts for essential services in remote communities:** All contracts need to be tendered regularly according to State Government procurement policy.

**Figure 7:** Further information on the 2021 Audit Report



#### 4. World Renewable Energy Congress: A Pathway to Economic Recovery and Climate Change Mitigation (2022)



Figure 8: WREC 2022 Banner

##### 4-9 December 2022

The World Renewable Energy Congress (WREC) was held with the aim of sharing ideas, presenting research and discussing a broad range of topics related to renewable energy science, technology, policy and social impact. The event featured contributions from Members of the Western Australian Parliament including Dr. Brad Pettitt MLC, Jessica Shaw MLA and Federal member for Curtin, Kate Chaney MP, alongside leading industry professionals and researchers from Australia and overseas.

Delegates participated in one of two field trips: the first visiting exponents of clean energy from waves and battery power in Fremantle and Kwinana's Big Battery; and the second looking at Murdoch's ClearvuePV power-producing glasshouse, before visiting a renewable hydrogen energy hub and energy-from-food production centre in Jandakot. These visits provided delegates with valuable insights into emerging energy technologies and their applications in real-world settings.

##### 4.1 Aboriginal Stream- 5 December 2022

On 5 December 2022, there was a workshop on sustainable power solutions for Aboriginal communities. The session was chaired by Dr. Mara West and there was a talk by Professor Rhonda Marriott about the recommendations from the Indigenous Communities Co-design Workshop on Water and Sanitisation (2021). Professor Roz Walker also discussed



strengthening Aboriginal community capacity for sustainable futures and shared key findings from the [Aboriginal Environmental Health Review](#).

Among the key findings was the need to continue the Aboriginal Environmental Health Program in Western Australia to address the significant gaps in environmental health services in remote Aboriginal communities. It was recommended that the AEH program:

- **Adopt a Holistic Approach:** to environmental health, acknowledging the interconnectedness of factors like housing, water quality and “caring for Country” in Aboriginal communities.
- **Address the Environmental Determinants:** including housing, water quality and land management, and their impact on health outcomes.
- **Increase Community Capacity Building:** and enhance the current program to better address the environmental health needs of communities.
- **Enhance Inter-sectoral Collaboration:** through inter-sectoral communication, transparency and collaboration among different government sectors and agencies involved in environmental health.

In addition, project managers, Homeland leaders and PhD candidates presented innovative energy solutions tailored to remote communities.

A consistent message from all speakers was the urgency and importance of implementing practical, community-driven projects to improve access to clean, affordable and sustainable energy across homeland communities.

Katie Quail, a PhD candidate from the University of New South Wales, shared preliminary findings from her doctoral research. Her report highlighted the need for early community engagement, capacity building and incentivisation as critical strategies for the success of large-scale renewable energy projects on Indigenous lands.

Throughout the workshop, speakers and participants shared their personal reflections on how this journey for the homeland communities has been during the era of upsurging innovative technological revolutions in renewable energy and in retaining the cultural values of the homeland communities. Emphasis was placed on the importance of balancing



technological progress with the preservation of cultural values and community-led decision-making.

## **4.2 Findings and Proposed Actions**

Discussions during the *Renewable Energy Congress* and associated workshops highlighted several important findings and proposed actions relating to energy transitions in Western Australia's 143 homeland communities.

Associate Professor Martin Anda and his project collaborators shared the future potential of hydrogen energy delivered via stand-alone microgrids as a promising option for these communities. This technology presents new opportunities for Indigenous business development and is expected to be integrated within the broader community energy planning framework currently guided by co-design principles.

An academic project exploring the replacement of diesel generators with solar energy in homeland communities was also presented. While the project demonstrated potential benefits, it identified key challenges around the remote locations of these communities from the metro region and a shortage of technical skills locally.

As discussed in the co-design workshop (2021) section, following a visit by the Shire President of Derby (Geoff Haerewa) to Pandanus Park, a plan was developed to improve water quality by enhancing nitrate removal systems. A model for the transition of the unreliable diesel power station was also developed to transition to clean renewable energy.

Representatives from Pilbara Solar and Cheeditha Energy discussed the potential for generating clean solar energy in the homeland communities of Western Australia. Both organisations expressed the need for consideration of the cultural values of Aboriginal communities throughout the planning and design processes to support the longevity of the land and biodiversity beyond the concept of innovative infrastructures and technological advancement.

## **5. Homelands Advocacy Hub (2023)**

**19 June 2023**



The Homelands Advocacy Hub was established in response to recommendations of the Indigenous Communities Co-design Workshop on Water and Sanitation held in 2021. Initially known as the Roundtable on Water, the group evolved into the Homelands Water and Energy Group. The name changed further as communities began adding energy and under the auspice of the Coolamon Research and Advocacy Centre the name changed to Homelands Advocacy Hub. The membership and terms of reference were reviewed accordingly.

The primary objective of the Homelands Advocacy Hub is to establish a network of Aboriginal community representatives dedicated to improving water and energy, building community capacity, empowerment and resilience to work with heatwaves, as well as mitigating climate disasters. It brings together stakeholders and partnerships to engage in practice-led, evidence-based policy reform, driven by innovative projects through the Coolamon Research and Advocacy Centre in selected Aboriginal community trial sites.

Homelands Advocacy Hub operates as an integral part of the Coolamon Research and Advocacy Centre, Ngangk Yira Institute for Change. The strategic location of the Hub within the Coolamon Centre supports community-led initiatives and effective policy translation aimed at improving social, economic, educational and health outcomes in Aboriginal communities.

Findings emerging from the Homeland Advocacy Hub's projects are intended to inform and guide government and Aboriginal community-controlled organisations in developing policies and practices that address the concerns raised throughout this report. The Hub plays a critical role in providing governance and transforming policy and practice to improve water-related health and wellbeing outcomes.

## **6. FHRI: CCI Grant Awarded (2025)**

**28 May 2025**

A Future Health Research and Innovation Fund grant for Consumer and Community Involvement was awarded to Coolamon Research and Advocacy Centre, Ngangk Yira Institute for Change to conduct the 2025 Water Roundtable. The 2025 Water Roundtable event *'Revisiting Aboriginal Homeland Community Water Roundtable 2022 Priorities and*



*Recommendations to improve consumer community-led health outcomes'* aims to bring together people from across several impacted communities.

The culturally informed CCI plan employs a culturally responsive and representative approach, bringing together specific consumers from diverse homeland communities with lived experience as well as the ability to represent their community's views, interests, needs, priorities and aspirations related to health and wellbeing. The CCI activities outlined through the Consumer and Community Involvement Support Program are designed to inform future research and innovation priorities, ideas and activities for selected Aboriginal Homeland communities adversely impacted by poor water and energy quality and security.

The Roundtable is an exciting opportunity to build on previous work by bringing new technologies and innovations to increase CCI capacity in Western Australia as a national leader in research and innovation activities.

## **7. *Boola Kep, Boola Koort Water Roundtable (2025)***

### **21-22 July 2025**

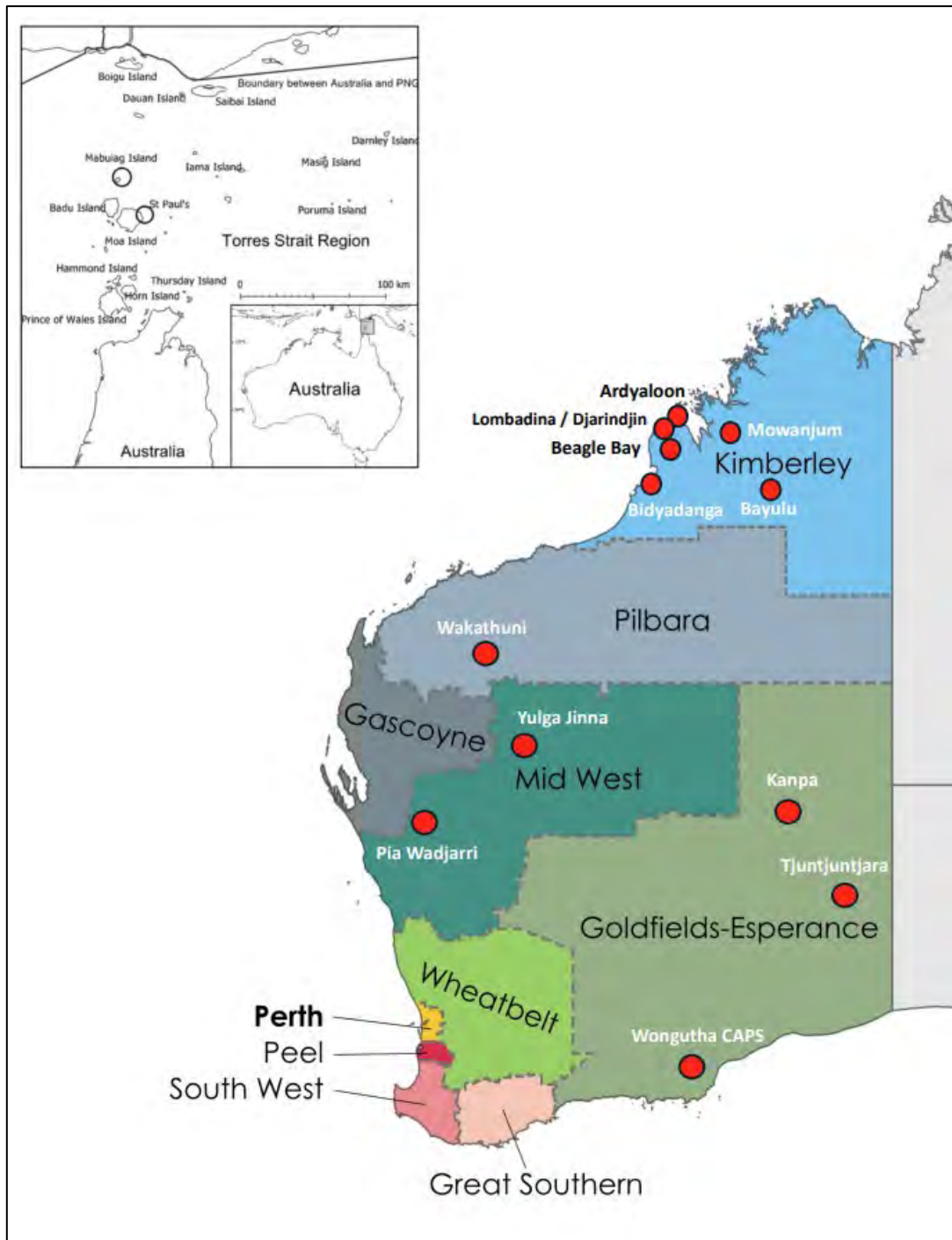
In July 2025, the Coolamon Research Centre at Murdoch University will host a two-day Community Conversation and Water Roundtable. Those who have been invited to attend include community representatives and participants from the six communities who were involved in the 2021 co-design workshop, as well as participants or nominated representatives from other workshops discussed in the report (Figure 9).

All of the original communities have been invited to attend and most have responded, with the exception where there was sorry business (Yulga Jinna and Wongutha CAPS):

- Tjuntjunjarra (REMS, Ngaanyatjarra Council)
- Kanpa (REMS, Ngaanyatjarra Council)
- Pia Wadjarri (REMS, Pilbara Meta Maya)
- Wakathuni (REMS, Pilbara Meta Maya)
- Yulga Jinna (REMS, Pilbara Meta Maya)
- Wongutha CAPS (Esperance)
- Torres Strait Islands (TSI Regional Council)



In addition, all of the communities that are part of EMSUP have been invited, which include seven communities in the Kimberley (Ardyaloon/One Arm Point, Beagle Bay, Bayulu, Bidyadanga, Djarindjin, Lombadina, Mowanjum Community) and KRSP.



**Figure 9:** Map of the communities invited to attend the 2025 Water Roundtable

The 2025 Water Roundtable is aimed at revisiting the priorities and recommendations to improve consumer community-led outcomes. It will provide an opportunity for participants



to reflect on the achievements since the 2019 IWA conference and review the research priorities and actions identified at that event, adding additional insights into new or emerging issues and determining future priorities. Communities and stakeholders who are interested in and have capacity will be invited to collaborate with researchers and relevant government departments in a competitive grant to achieve local water and energy priorities.

The Roundtable will also bring together government and Aboriginal community-controlled stakeholders and service providers to review progress, barriers and enablers to implementing the 2019 recommendations. It will address the issues of water, sanitation and hygiene by providing participants with a voice to share their lived experiences related to water and digital connectivity with key policy, industry and services stakeholders as well as academics with significant expertise in developing innovations to address these issues.

The Roundtable is critical in strengthening the impact of the Homelands Advocacy Hub to strongly support research and advocacy. It is envisioned to lead to an NHMRC government partnership grant application and a government policy brief.

## **8. Next Steps**

### **8.1 Obtaining a Competitive Grant**

The outcomes of the 2025 Water Roundtable is intended to work toward a competitive grant, such as a partnership grant from the National Health and Medical Research Council (NHMRC). The grant will facilitate community and stakeholder collaboration across service levels to optimise drinking water, sanitation and hygiene (WASH) to improve health outcomes. This will lead to longer term benefits by reducing inequities, improving health outcomes, and economic, social and environmental benefits.

### **8.2 Government Policy Brief (2025)**

The policy brief to the Western Australian Government is envisioned as an outcome of the 2025 Water Roundtable.

### **8.3 Article in The Conversation (2025)**

The findings and recommendations arising from the 2025 Water Roundtable, together with insights gathered through community feedback, will be carefully collated and synthesised



over the coming months. This work will form the basis of an article, which is planned for publication in *The Conversation* later in the year, ensuring the outcomes are shared widely and contribute to ongoing public discussion and policy development.

## 9. References

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## Thank You

We acknowledge and extend our appreciation to the many individuals, communities and organisations who have contributed to the collective work on water access, quality and equity in Aboriginal and Torres Strait Islander communities from 2019–2025 and beyond.

Your voices, knowledge and advocacy have shaped the direction of this work, and we deeply value your continuing partnership and leadership in driving change and improving water and energy services across homeland communities.



