

WORKING WITH COUNTRY TO HEAL:

A Transformative Murray-Darling Basin Billabong & River Ranger Initiative

"The Billabong Project"

5 November 2025

Australian Water School Webinar

Presented by: Uncle Feli McHughes, Geoff Reid, Prof. Troy Meston, & Birri O'Dea, One Basin CRC First Nations Research Program



MURRAY RIVER, VICTORIA

Acknowledgement of Country



We acknowledge and pay respect to the Traditional Owners of the Murray–Darling Basin and their Nations.

We pay respect to the Traditional Owners of the lands and the waters upon and around which our organisations are situated.

We acknowledge their deep cultural, social, spiritual, environmental and economic connection to their lands and waters. We pay respect to their Elders, past and present.

Housekeeping



Panel Discussion will run for approximately **60 minutes**



Recording link will be emailed to you, uploaded to our website and YouTube channel



Short 1 minute survey will pop-up at the conclusion— help shape our future training



Click **Q&A** to:

- Ask questions and make comments
- Upvote or comment on other attendees' questions



Click **Chat** to:

- Talk with other attendees
- Ask AWS staff for assistance

Introductions



Uncle Feli McHughes, Ngemba
Chair, First Nations Management
Advisory Committee
One Basin CRC



Mr Geoff Reid, Gomeroi
First Nations Engagement Lead
One Basin CRC



Ms Birri O'Dea,
Gungalu & Birri-Gubba
First Nations Research
One Basin CRC



Prof. Troy Meston,
Yuwaalaraay & Gamilaroi
First Nations Program Lead
One Basin CRC

Our Partners



End-user Organisations



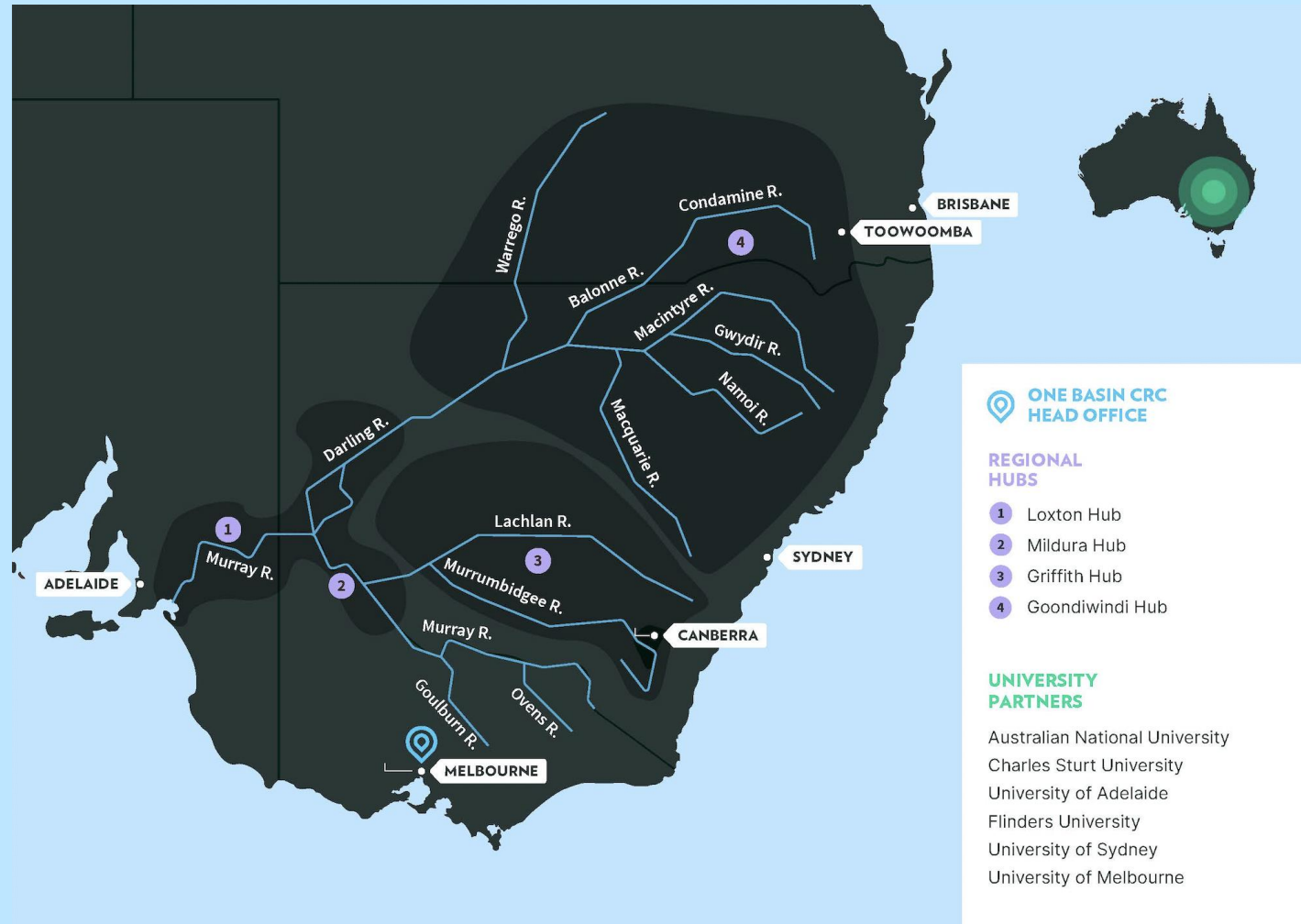
Commercialisation Partners



Knowledge Agencies



Our Regional Hubs



Our Challenges in the Basin



**Wide-spread
degradation & poor
water quality**



Climate Volatility



Biodiversity Loss



**Embedding First Nations-led
caring for Country &
Community Solutions**

Project Beginnings

Project Package

Cultural Billabong Restoration



Project developed by Feli McHughes, Ngemba Nation
Supported by NSW Irrigators' Council.



Youth with NSW Landcare Award outside of the Brewarrina TAFE campus.
Youth at the Billabong, testing water quality as part of their TAFE skill development.

Who is the NSW Irrigators' Council?

NSWIC is the peak body representing irrigators and irrigation co-operatives in every Murray-Darling Basin valley of NSW. It represents over 12,000 water access licence holders. Our vision is the sustainable and productive management of water resources in NSW.

What is the history of the Project?

The Project has grown from a 2006 pilot project - the award-winning Brewarrina Mission Wetland by the Ngemba Billabong Restoration Project, led by Ngemba elder and then Landcare Group CEO Feli McHughes.

The Project seeks to build on the 2006 pilot project, but in partnership with the NSW Irrigators' Council.

Feli McHughes approached NSWIC with the Project concept in 2014. At the General Meeting of NSWIC member representatives from all basins, the Project was embraced, and Feli was asked to become the first formal Project Manager.

NSWIC staff have invested a significant period of time in building relationships with key stakeholders, government agencies and the community.

The Project is respected by the industry, and several irrigation farmers on their private property have expressed interest in participating.

What are the objectives?

Cultural

- Close the Gap
- Connection to Country
- Passing down knowledge
- Access to sites on private land

Socio-Economic

- Culturally-appropriate employment
- Training & skills development
- Flow-on effects to community - improved health, education, crime indicators etc

Environmental

- Billabong restoration (habitat improvement, feral species management)
- Embed Indigenous science and knowledge in water management
- Water quality improvements

Project Beginnings



Local irrigators support cultural billabong restoration project

PUBLISHED IN BOURKE SINCE 1987

Indigenous leaders, landholders, and agencies, met in Bourke last week to discuss the potential for a Caring for Country project based on water management.

The billabong project is the brainchild of Ngemba man, Feli McHughes, who grew up on the banks of the Barwon River in Brewarrina.

Mr McHughes said that the project is designed to provide culturally appropriate employment for the most disadvantaged in communities like Bourke and Brewarrina.

"Basically, we have negotiated with local landholders to use riparian sites located on privately-owned irrigated farmland, to care for country, restore billabong habitat and water quality", Mr McHughes said.

Working in partnership with irrigation farmers, the project is designed to provide training and skills for unemployed people and embed indigenous knowledge

in habitat restorations and water management.

Australian Food & Fibre CEO, Joe Robinson, said that his organisation had committed to support the project with access to billabongs and riparian zones to assist the local Aboriginal community in this "Closing the Gap" project.

"We are happy to commit

resources to the project, including access to the sensitive areas that need protection," Mr Robinson said.

Chairman of the Bourke Tribal Council, Philip Sullivan, challenged people in his welcome to country - asking everyone to stand for making a difference.

"Why are we here?" Mr Sullivan, who is also the local

Regional Engagement Officer for the Murray Darling Basin Authority, asked. "Are we here to make a difference, or are we here to make a living, or are we here to look after each other?"

Project founder, Feli McHughes developed the award-winning methodology of billabong restoration at the Old Brewarrina Mis-

sion Wetland, which was endorsed by the CSIRO.

Mr McHughes was also a founder of the Northern Basin Aboriginal Nations (NBAN) where he remains a director. He was also recently appointed to the Basin Community Committee of the Murray Darling Basin Authority.

The meeting included

representatives from Maranguka, Local Land Services, Barwon-Darling Water, REDIE, the National Indigenous Australians Agency, Public Works Advisory, the Department of Planning and Environment, Northern Basin Aboriginal Nations, NSW Irrigator's Council, and the Commonwealth Environmental Water Holder.



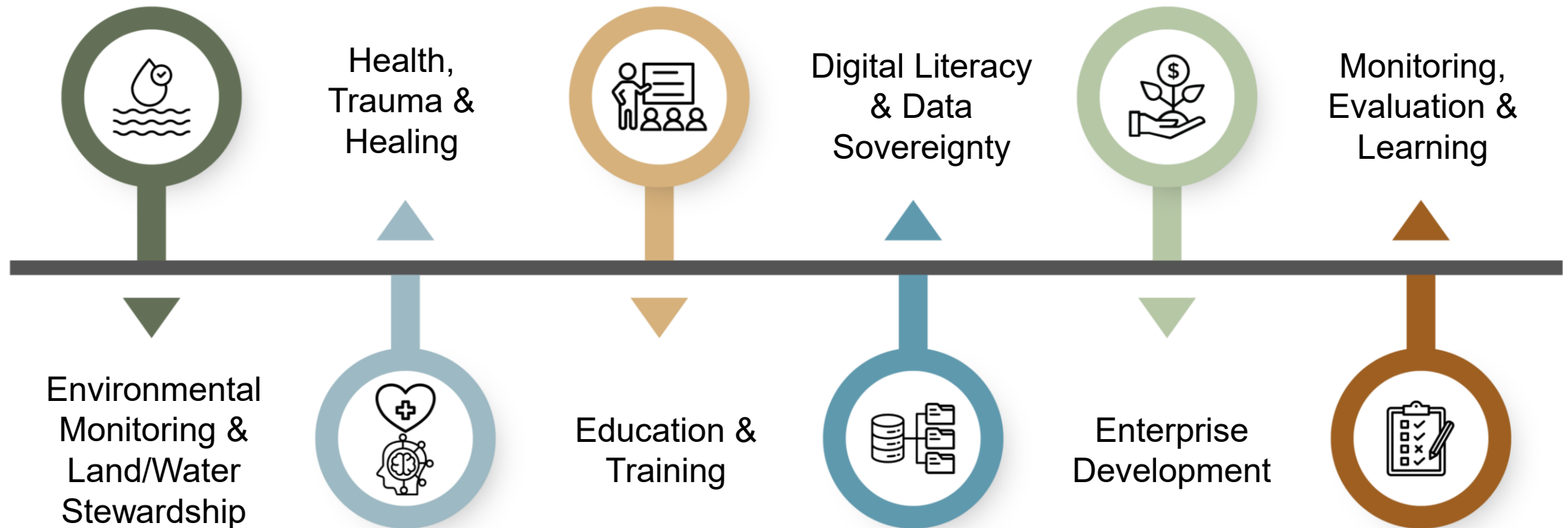
Promoter of billabong restoration, Feli McHughes (centre) with NSW Irrigators Policy Manager Christine Freak and Bernie George from Australian Food & Fibre at one of the billabongs on Darling Farms. PHOTO 1984



CEO of AFF, Joe Robinson, explaining his company's support for the Cultural Billabong Restoration project at Bourke. PHOTO 1984



Project Overview



Context We Work Within



Mistrust

Governments historically have done wrong by First Nations peoples



Ethics

There has been a history of doing research *on* First Nations peoples, rather than with them



Representation

Aboriginal entities hold only 0.2% of available surface water in MDB*

*Hartwig et al, 2020



Polarisation

An overwhelming 'no' vote increased racism and distrust



Discourse

First Nations peoples are often framed in deficit language

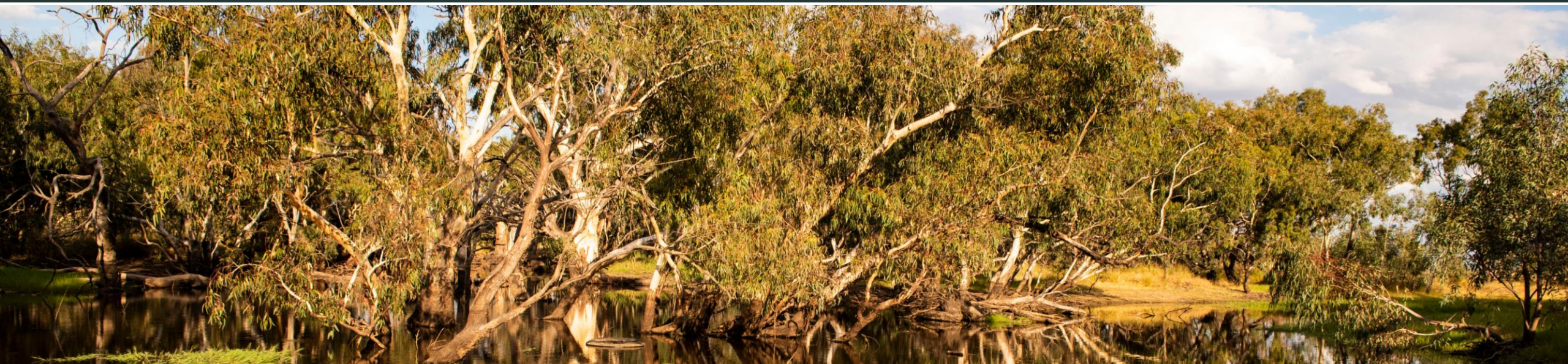


Disadvantage

Closing the Gap targets not met - failure to address root causes of disadvantage (e.g., colonialism & systemic racism)



Environmental Monitoring



Billabongs are culturally significant floodplain wetlands that function as the kidneys of the river system, filtering nutrients, sustaining biodiversity, and regulating seasonal flows.

(Uncle Feli McHughes in Jackson, 2021).

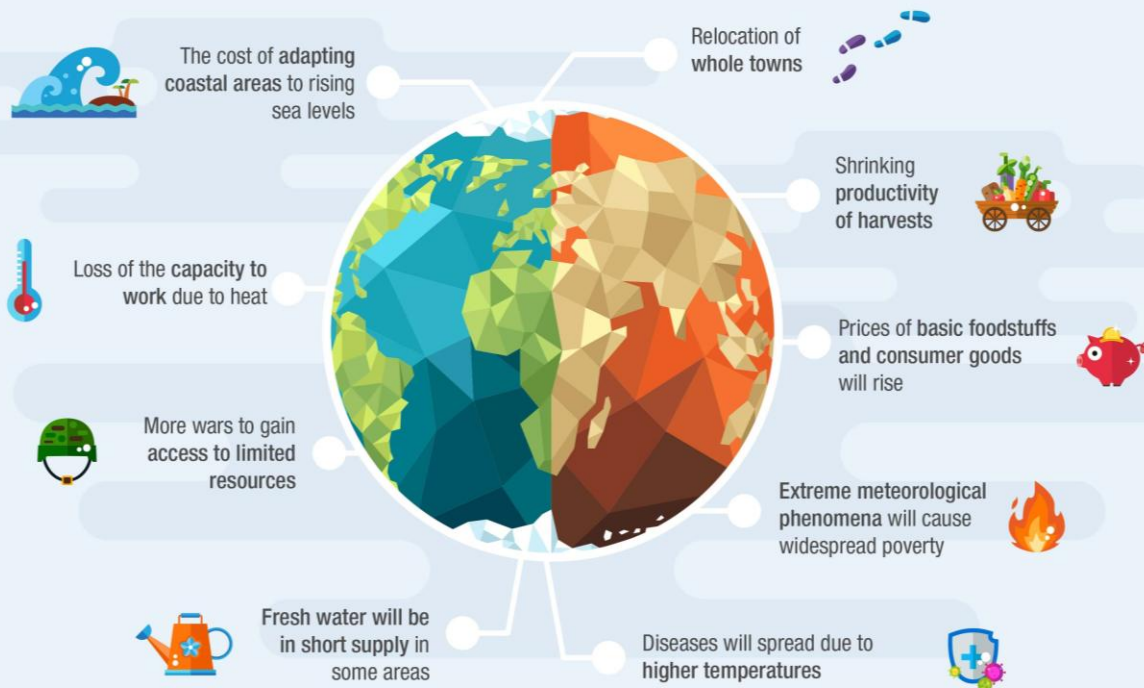




Climate Change – Global



SOCIAL AND ECONOMIC IMPACT OF CLIMATE CHANGE



The Intergovernmental Panel on Climate Change (IPCC)

C.1 Urgency of Near-Term Integrated Climate Action

- There is a rapidly closing window of opportunity to secure a liveable and sustainable future for all (*very high confidence*).
- The choices and actions implemented in this decade will have impacts now and for thousands of years (*high confidence*).

Equity and Inclusion

- Adaptation outcomes are enhanced by increased support to regions and people with the highest vulnerability to climatic hazards.
- Many options are available for reducing emission-intensive consumption, including through behavioural and lifestyle changes, with co-benefits for societal well-being (*high confidence*).

SOURCE: IPCC, AR6 Synthesis Report Headlines, 2023

<https://www.ipcc.ch/report/ar6/syr/resources/spm-headline-statements>

Climate Change - Australia



“Recognising and integrating Aboriginal & Torres Strait Islander peoples’ knowledge into climate adaptation strategies, particularly across the extensive Indigenous estate, can help mitigate climate change impacts and support the resilience of both natural environments and Aboriginal & Torres Strait Islander communities.”

(Australia’s National Climate Risk Assessment: An Overview 2025, p. 43.)

Nationally significant climate risks to Australia



Risks to Aboriginal and Torres Strait Islander Peoples

Risks to:

- Self-determination
- Land, sea and Country
- Cultural knowledges, practices, values and sites
- People’s health, wellbeing and identity
- Economic participation and social and cultural economic development
- Water and food security
- Remote and rural communities



Risks to Health and social support

Risks to:

- Individuals and communities at risk
- Heat and extreme weather
- Mental health
- Service delivery and workforce
- Air quality
- Communicable diseases
- Food and water security
- Aboriginal and Torres Strait Islander peoples
- Infrastructure



Risks to Communities

Risks to:

- Natural environments and ecosystem services
- Water
- Physical and mental health
- Biosecurity
- Community cohesion and resilience
- Viability of businesses and industries
- Workforce stability and productivity
- Emergency services and recovery
- Supply chain infrastructure
- Governance



Risks to Infrastructure and the built environment

Risks to:

- Buildings and community infrastructure
- Transport and telecommunications
- Human health, and medical and emergency services
- Water and wastewater management
- Urban natural environments
- Critical and essential services infrastructure
- Supply chains
- Energy
- Circular economy and waste management
- Building liveability



Risks to Defence and national security

Risks to:

- Disaster response and recovery
- Migration and displacement
- Social cohesion
- Supply chains
- Personnel health and safety
- Natural environments
- Critical infrastructure
- Essential services



Risks to Natural environment

Risks to:

- Landscape function
- Vulnerable environments
- Natural resources
- Species loss
- Use and management of natural places
- Rural and Aboriginal and Torres Strait Islander peoples’ livelihoods
- Human health and wellbeing
- Natural places and associated values



Risks to Economy, trade and finance

Risks to:

- Governments’ finances and capacities
- Australian economy
- Individual and household budgets
- Financial system
- Production and consumption of goods and services



Risks to Primary industries and food

Risks to:

- Ecosystem services
- Infrastructure
- Health and wellbeing
- Productivity and profitability
- Community
- Trade and export markets

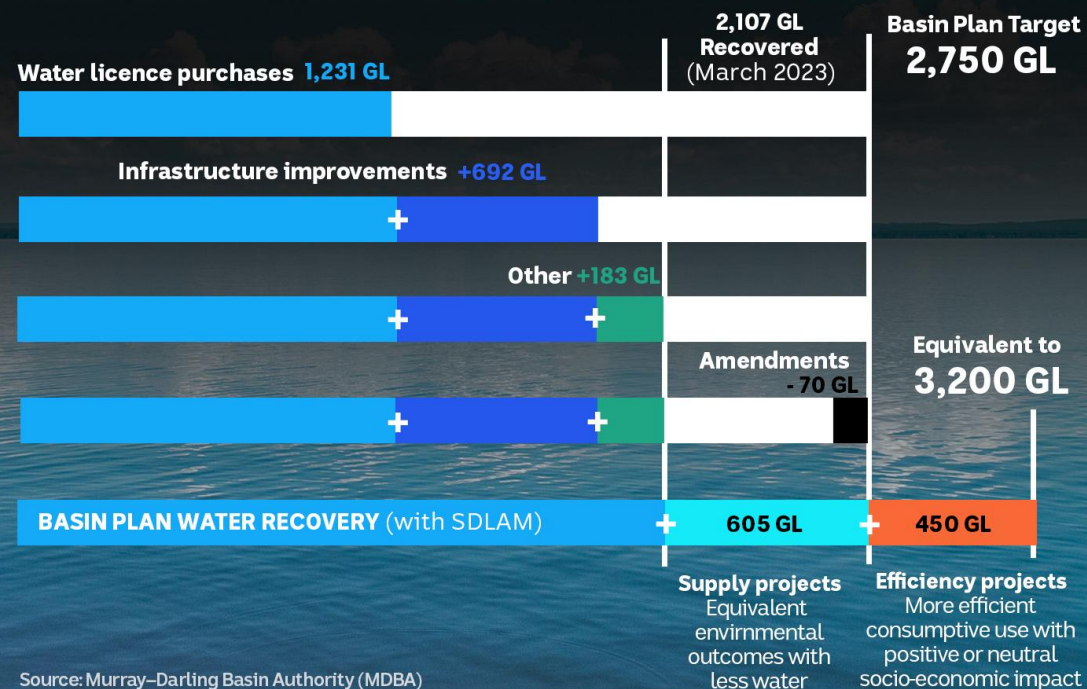
SOURCE: <https://www.acs.gov.au/pages/national-climate-risk-assessment>



MDB Specific Issues

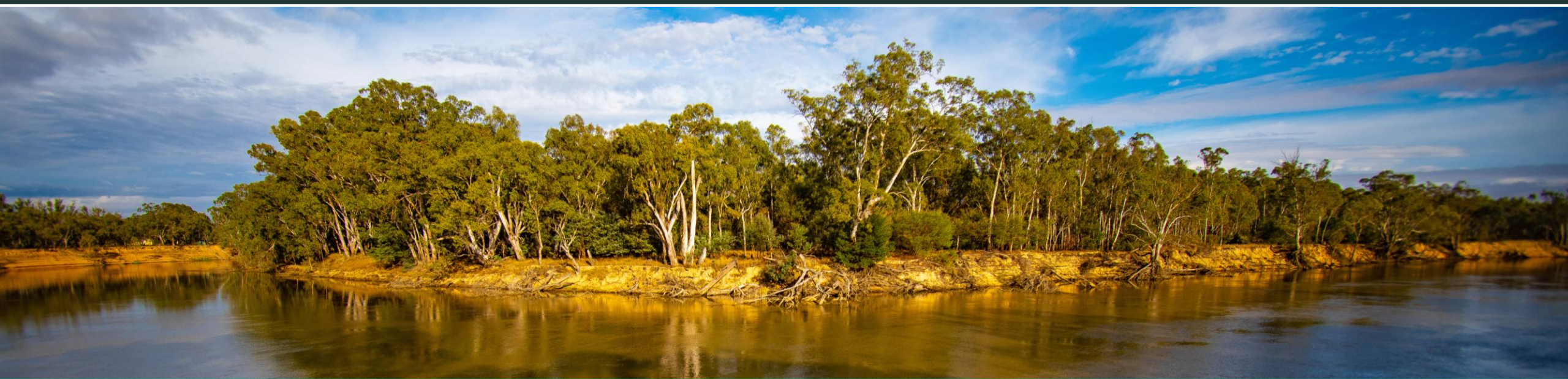


BREAKDOWN OF WATER RECOVERY SOURCES





Health, Trauma, and Healing

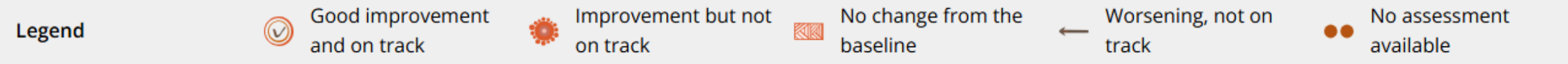
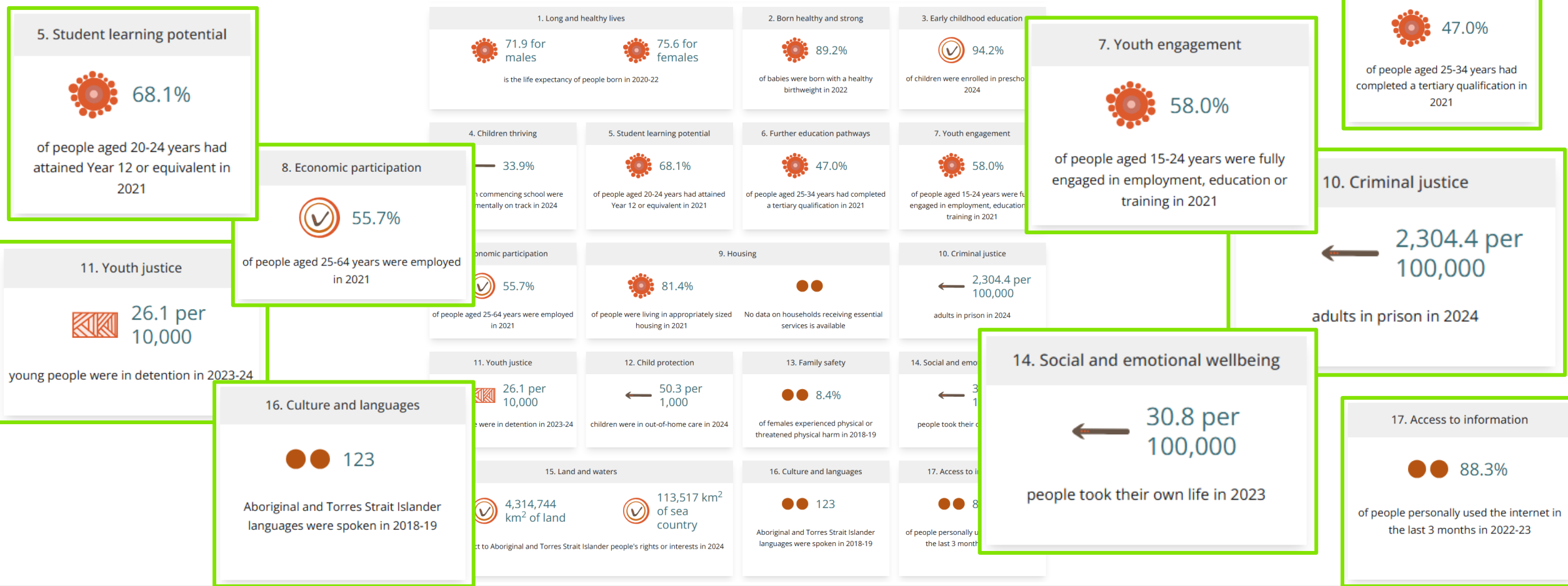


"These relationships with culture and Country have always shaped the health and wellbeing of Aboriginal peoples as holistic, encompassing physical, mental, and spiritual aspects."

(Thorpe et al., (2023), Oxford Research Encyclopedia of Global Public Health.)

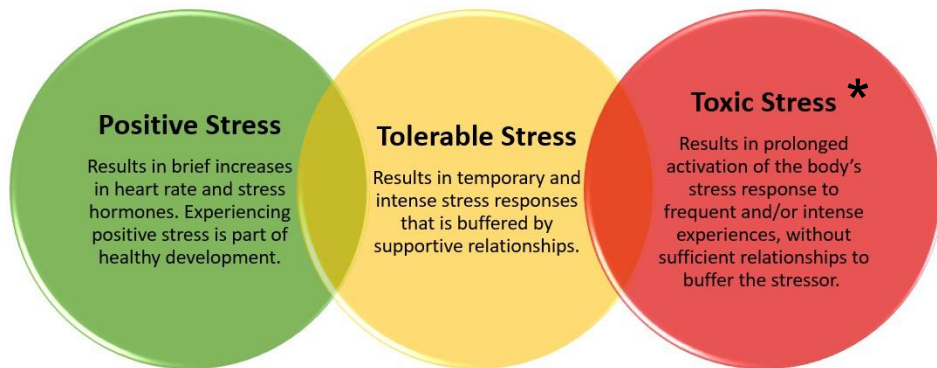


Closing the Gap Targets

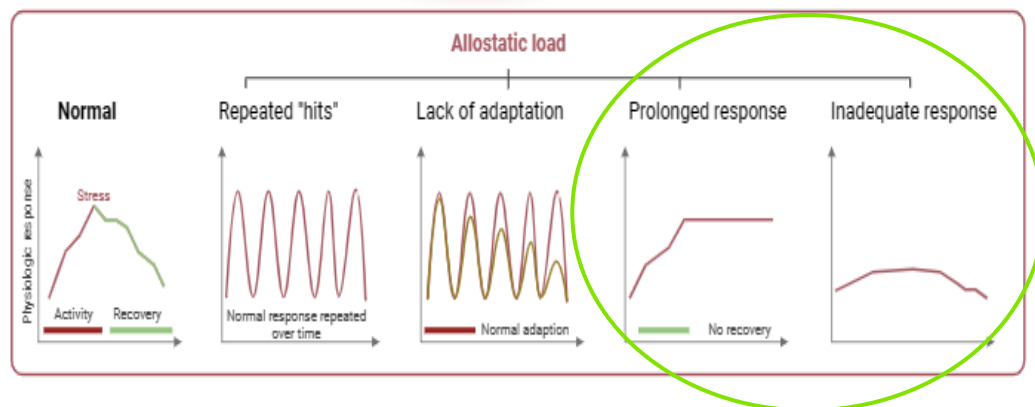




Neuro Mapping



SOURCE: <https://www.health.state.mn.us/communities/ace/trauma.html>

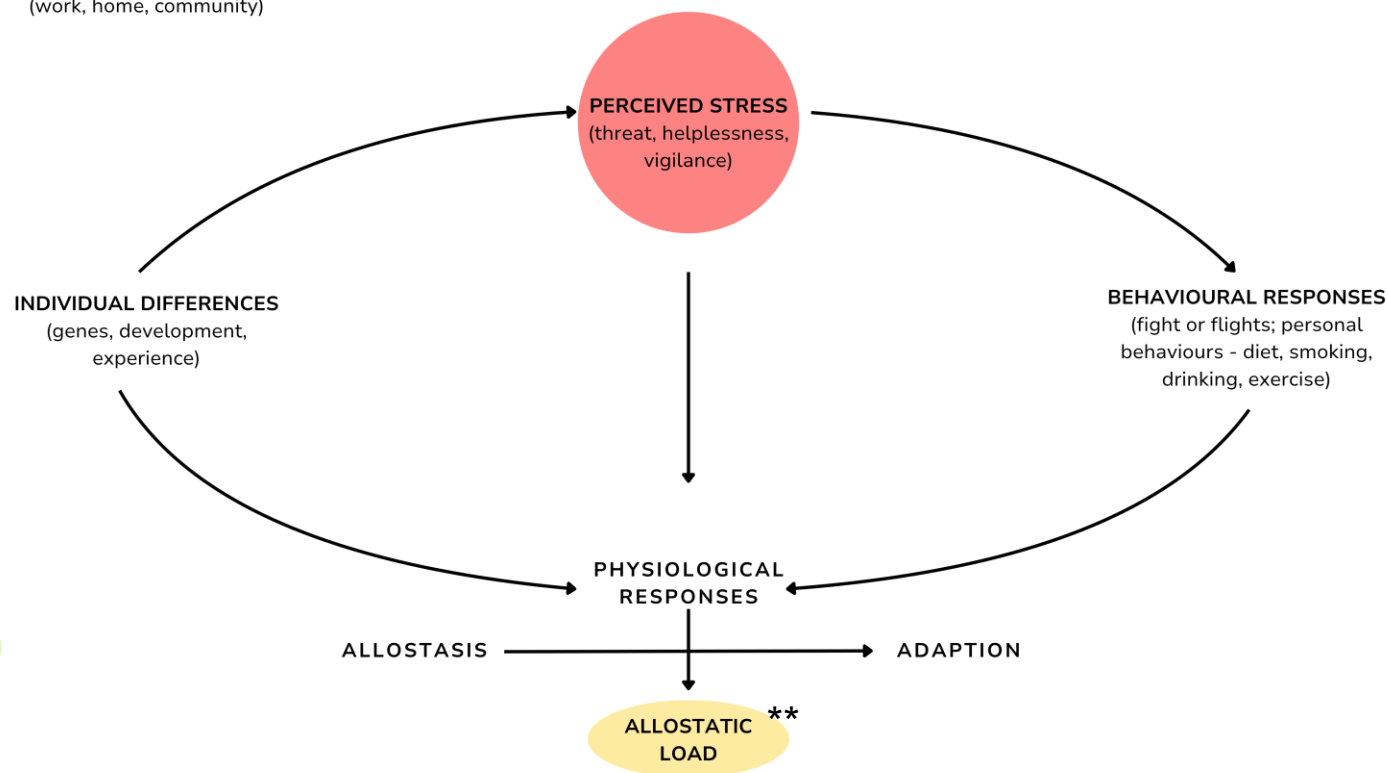


*See discussion paper on neuro dimension of project

ENVIRONMENTAL STRESSORS
(work, home, community)

MAJOR LIFE EVENTS

TRAUMA, ABUSE



**See John Henry for more details.



Enterprise Development



If the state of Indigenous economic disadvantage was reflected within the broader Australian citizenry there would be outrage and government would seek to intervene in the market to provide capitalists and workers with financial incentives to stimulate employment and economic development.

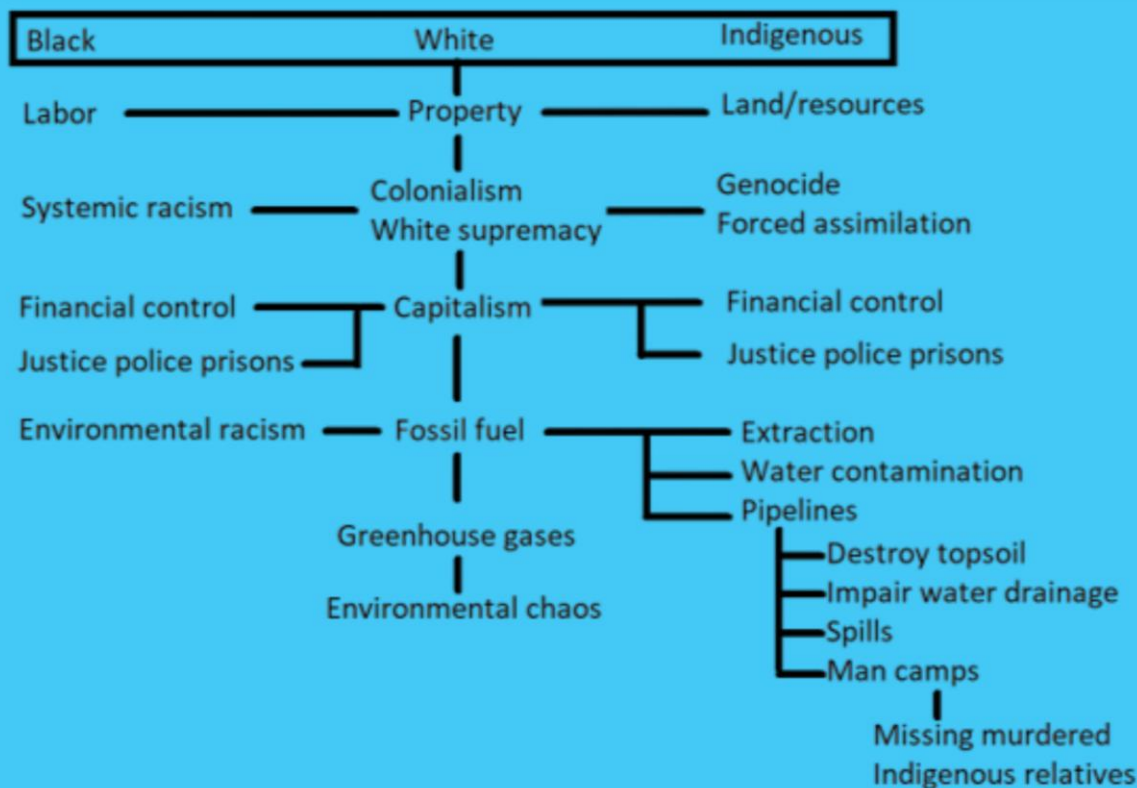
(Moreton-Robinson, (2009), Imagining the Good Indigenous Citizen: Race War and the Pathology of Patriarchal White Sovereignty. *Cultural Studies Review*, 15(2))



NAMOI RIVER (IN DROUGHT), NEW SOUTH WALES

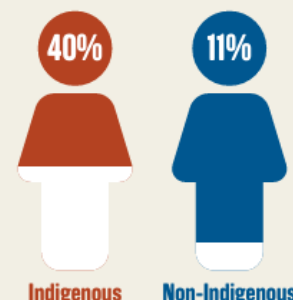


The Economic Divide



The ongoing colonisation of Australia has negatively affected many Aboriginal and Torres Strait Islander people and communities. This is important to note when considering experiences of disadvantage, discrimination, and hardship.

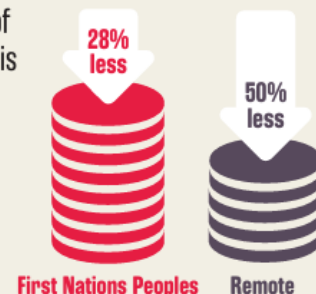
40% live without two or more essentials for a decent standard of living, such as housing, clean water, and food. Compared to 11% of non-Indigenous people born in Australia.



Make up **0.7%** of senior leadership across Australian employers.



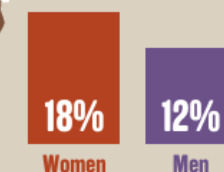
The **median weekly household income** of First Nations peoples is **28% less** than non-Indigenous peoples. This gap stretches to **50% in remote areas.**



15% aged 15 and over provide unpaid assistance to a person with a disability.



Indigenous women are more likely to provide unpaid care than Indigenous men.





Economic Opportunities



SOURCE: Photograph: Tourism Australia / Oliver Strewe



Barkindji Wiimpatya Murra Centre (Bmeet)

Offsets are more than just carbon.



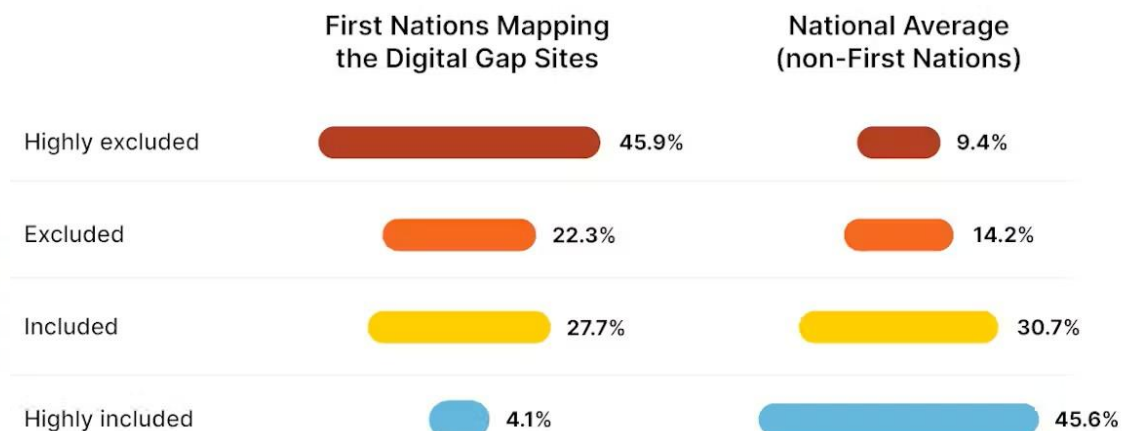
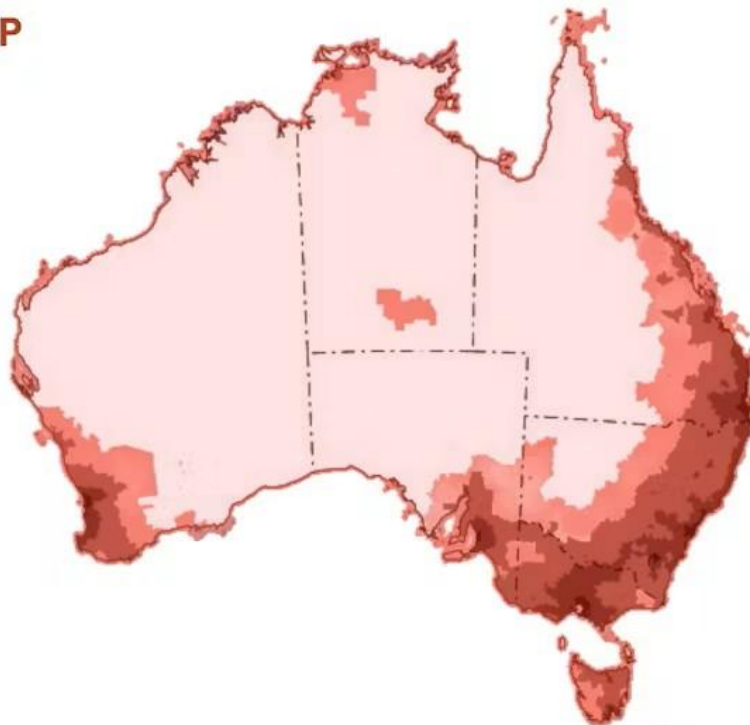
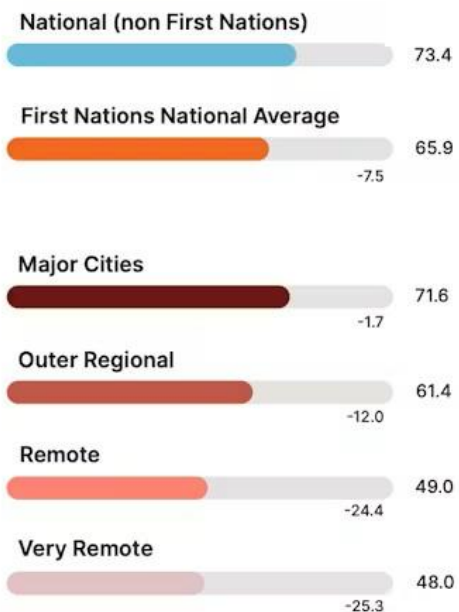


The Digital Divide

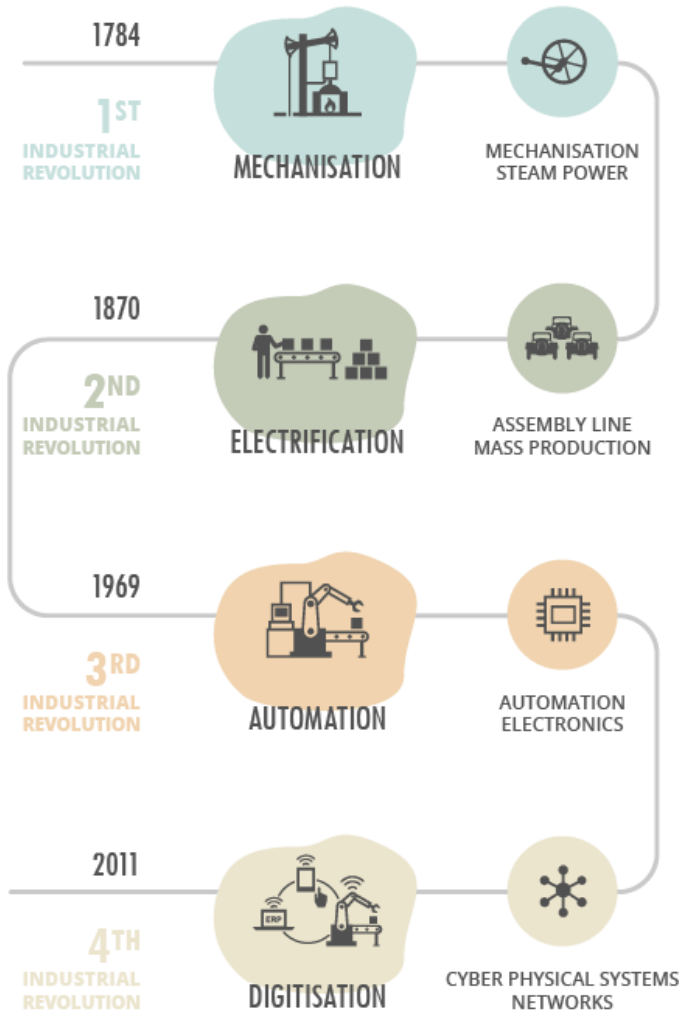


“Nationally, we found a “digital gap” of 7.5 points between First Nations people and others in Australia. In remote Australia the gap is 24.4 points, and in very remote communities and homelands it is 25.3 points.”

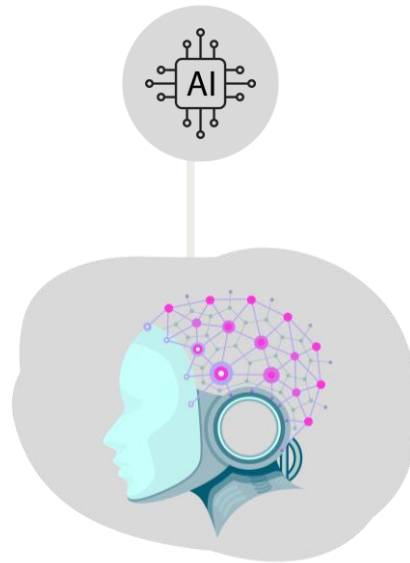
THE FIRST NATIONS DIGITAL GAP



The Digital Economy



5TH INDUSTRIAL REVOLUTION



AI, The Environment, & Global Economy

Potential impact of AI in agriculture, energy, transport and water by 2030:
Source: PwC analysis

+4.4% GDP (\$5.2Tr)

Potential impact of AI in agriculture

-4.0% GHGs (-2.4Gt)

+1.0% net jobs (+38.2 million)

5G & The Economy

The potential impact of 5G upon the US economy
Source: Accenture

\$275 Billion
Investment

3 Million
Jobs Created

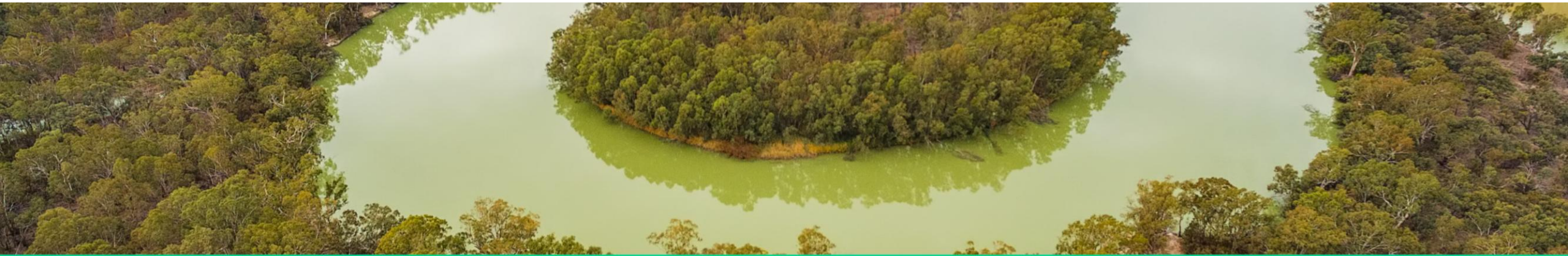
\$500 Billion
GDP Growth

www.dls.ltd



Imtiaz Adam
@deeplearn007

Land & Water Stewardship



The land is a sacred entity, not property or real estate; it is the great mother of all humanity. The Dreaming is a combination of meaning (about life and all reality), and an action guide to living. The two most important kinds of relationship in life are, firstly, those between land and people and, secondly, those amongst people themselves, the second being always contingent upon the first. The land, and how we treat it, is what determines our human-ness. Because land is sacred and must be looked after, the relation between people and land becomes the template for society and social relations. Therefore all meaning comes from land.

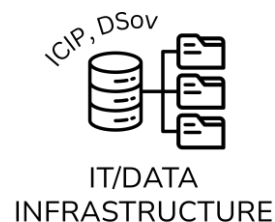
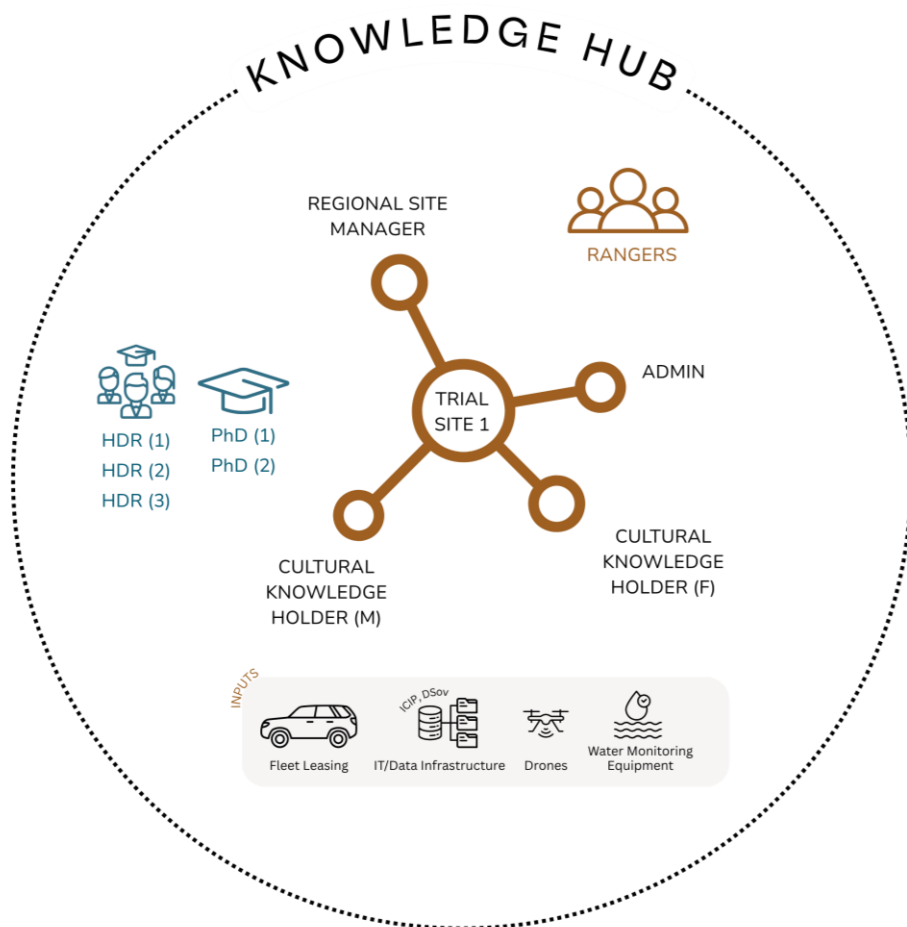
(Aunty Dr. Mary Graham (1999), Worldviews: Environment, Culture, Religion, 3, p. 105-118).



Project Overview



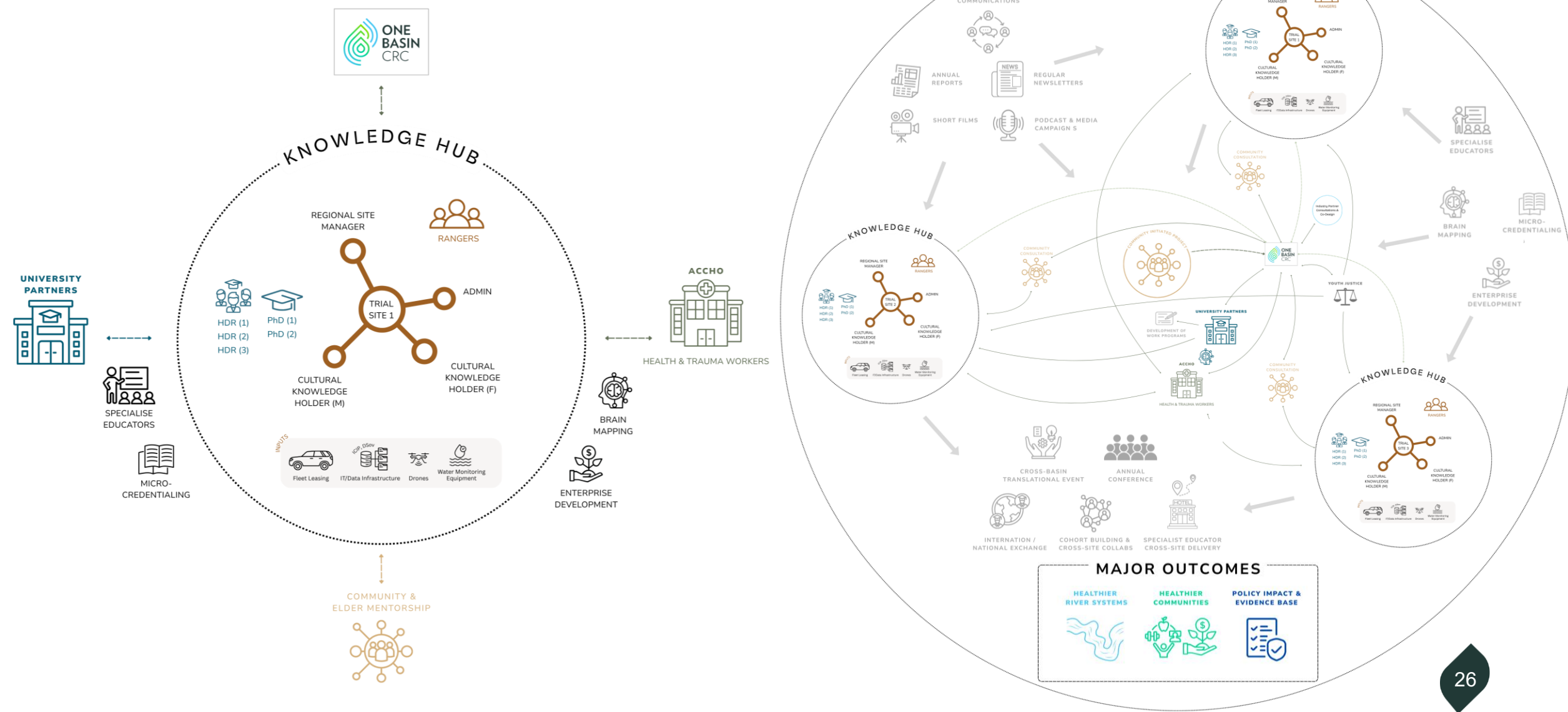
Creation of Knowledge Hubs



Continual neuro mapping to see the effects on overall health, wellbeing and participation from connection with Country, Elders, community, health support, education, self-determined data collection and translation, and economic opportunity.



Knowledge Hubs



Current Ranger Programs



NT - Indigenous Ranger Groups

- 1 Anangu Luritja Rangers
- 2 Anmatjerr Rangers
- 3 Muru-wariyi Anikil Rangers
- 4 Tjuwapa Rangers
- 5 Tjuwapa Women Rangers
- 6 Kalkatjarra Rangers
- 7 Warlpiri Rangers
- 8 North Tanami Rangers
- 9 Bulgul Land and Sea Rangers
- 10 Malak Malak Land and Water Management Rangers
- 11 Wagiman Rangers
- 12 Tharramurr Rangers
- 13 Waanyi Garawa Rangers
- 14 Garawa Rangers
- 15 Li-Anthawinyarra Sea Rangers
- 16 Tiwi Rangers
- 17 Anindilyakwa Rangers
- 18 Wambai Rangers
- 19 Werenbun Rangers
- 20 Crocodile Islands Rangers
- 21 Yirrkala Rangers
- 22 Dhimurru Rangers
- 23 Bawinanga Rangers
- 24 Warddeken Rangers
- 25 Gamgi Land and Sea Management Rangers
- 26 Gumatj Marthal Rangers
- 27 Yugul Mangi Land and Sea Management Rangers
- 28 Arakula Swamp Ranger Groups
- 29 Mandbalk Land and Sea Management Rangers
- 30 Mimal Rangers
- 31 Numbulwar Numburindi Land and Sea Management Rangers
- 32 Jawonj Rangers
- 33 Nanyima Rangers
- 34 Mangarrayi Rangers
- 35 Tjakura Rangers
- 36 Asnyikarrak Kiri Rangers

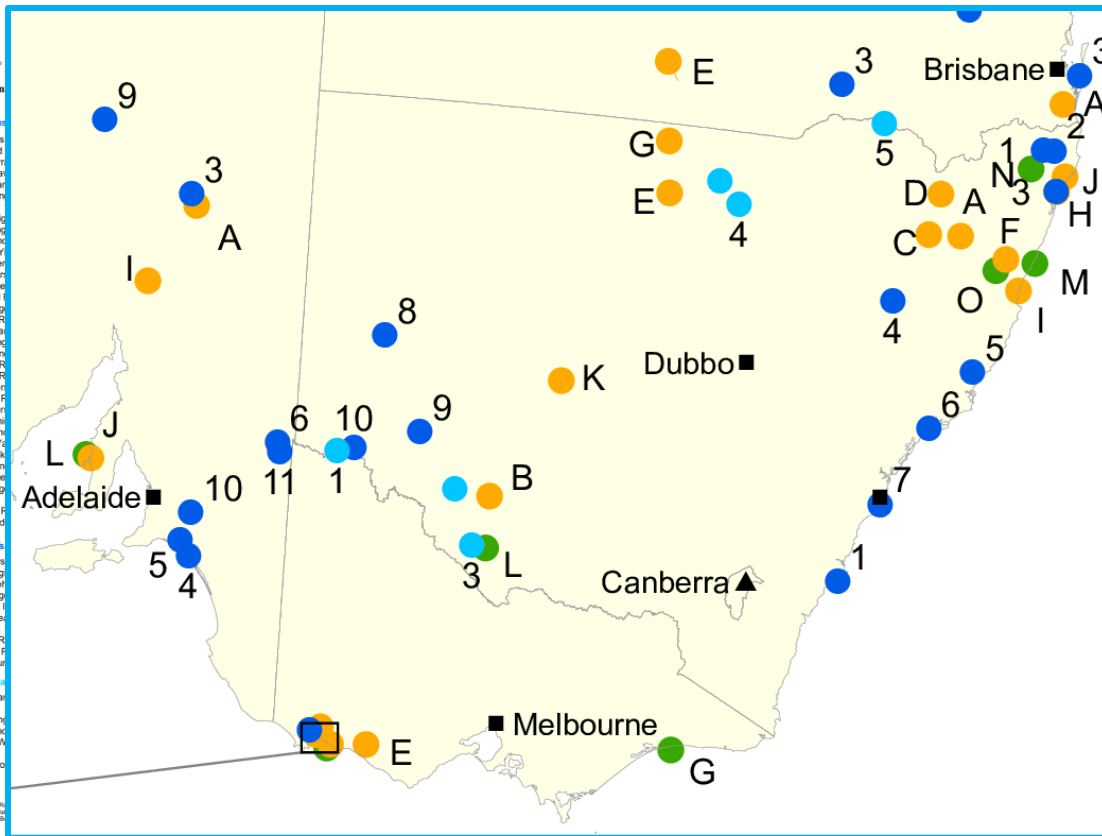
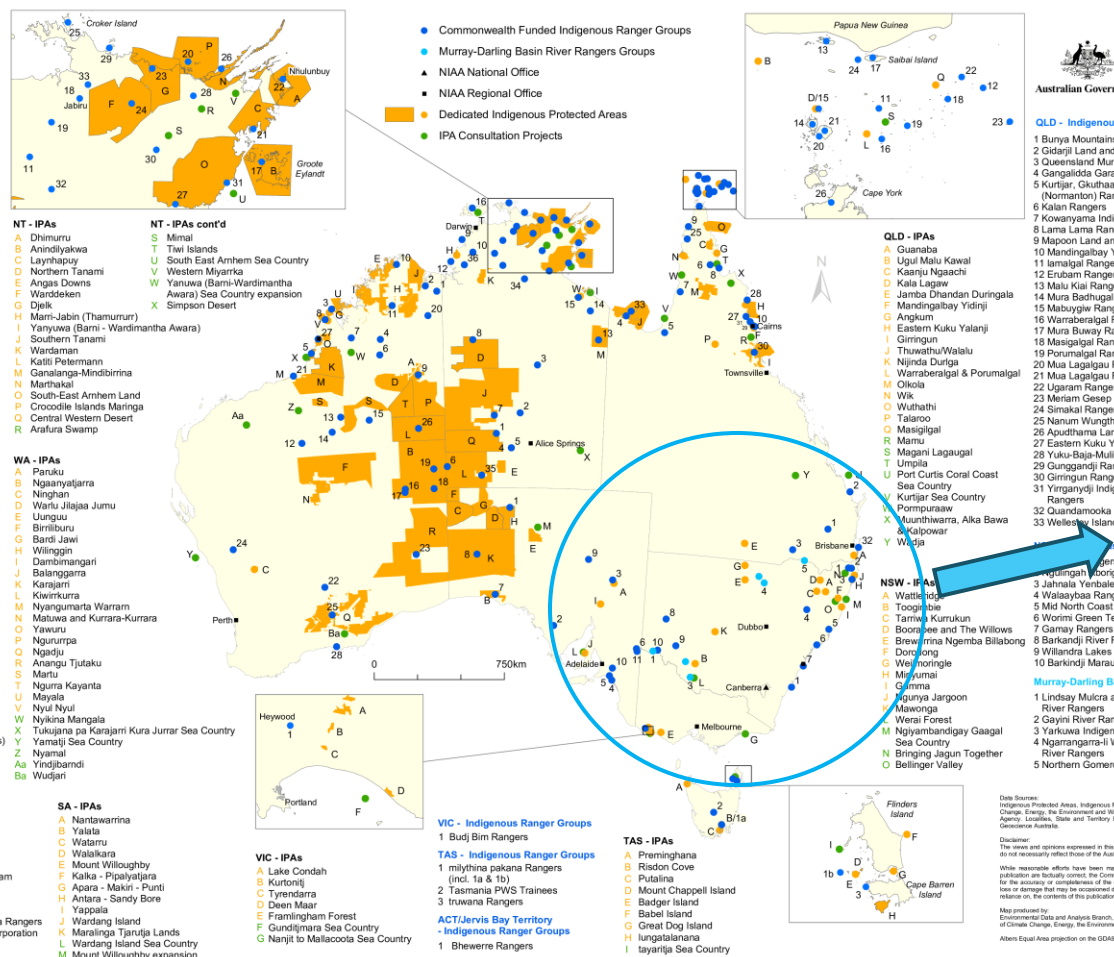
WA - Indigenous Ranger Groups

- 1 Yawooroo Murrumbidgee Rangers
- 2 Balanang Rangers
- 3 Bardi Jawi Rangers
- 4 Goonyandi Rangers
- 5 Karajarri Rangers
- 6 Yanyuwa Rangers
- 7 Nyika Rangers
- 8 Nyika Rangers
- 9 Panuku Rangers
- 10 Unguun Rangers
- 11 Wungurr Rangers
- 12 Jigalong Rangers
- 13 Punmu Rangers
- 14 Parnngurr Rangers
- 15 Kunawarr Rangers
- 16 Warburton Women Rangers
- 17 Warburton Men Rangers
- 18 Blackstone Rangers
- 19 Warakurna Rangers
- 20 Kija Rangers
- 21 Nyungun Rangers
- 22 Goldfields Land Management Rangers
- 23 Spinifex Rangers
- 24 Mid West Aboriginal Rangers (3 groups)
- 25 Ngadju Rangers
- 26 Kwirrkura Rangers
- 27 Yawuru Rangers
- 28 Tjallinga Rangers

SA - Indigenous Ranger Groups

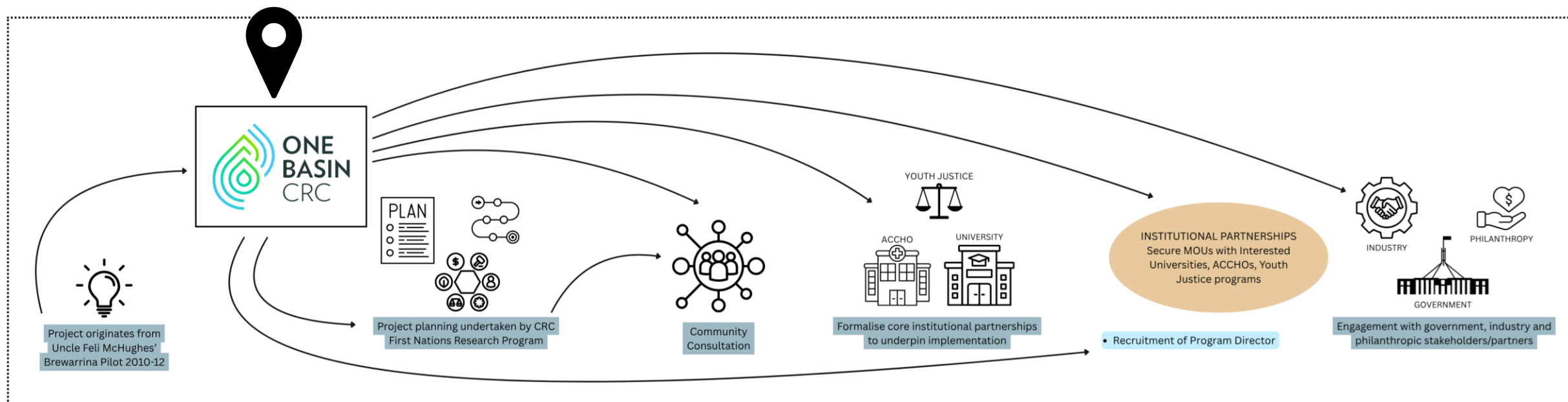
- 1 APY Land Management Rangers
- 2 Gawler Rangers
- 3 Nantawarra Rangers
- 4 Ngarrindjeri Rangers
- 5 Raukkan Rangers
- 6 Australian Landscapes Trust Ranger Team
- 7 Yalata Rangers
- 8 Oak Valley Rangers
- 9 Arabana Rangers
- 10 Coorong and Murray Lower Lakes Area Rangers
- 11 River Murray and Mallee Aboriginal Corporation Ranger Team

Indigenous Protected Areas - Commonwealth Funded Indigenous Ranger Programs - February 2025

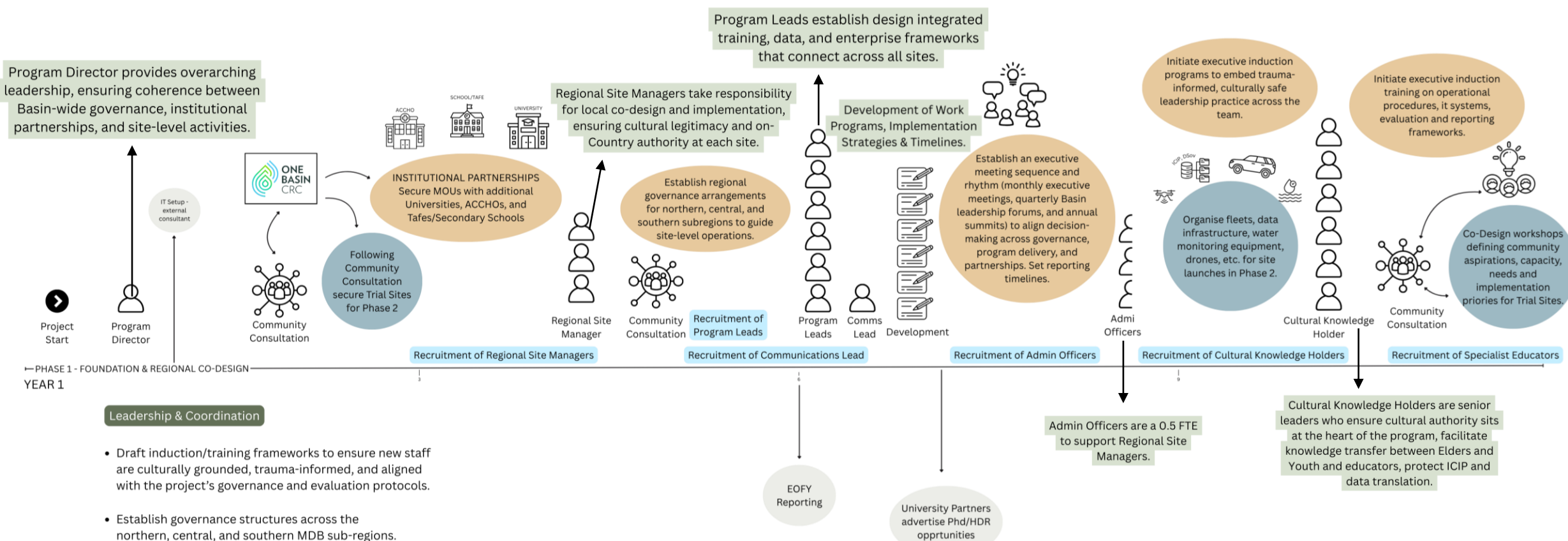


Project Preparation

WE ARE HERE NOW



Timeline – Phase 1: Year 1

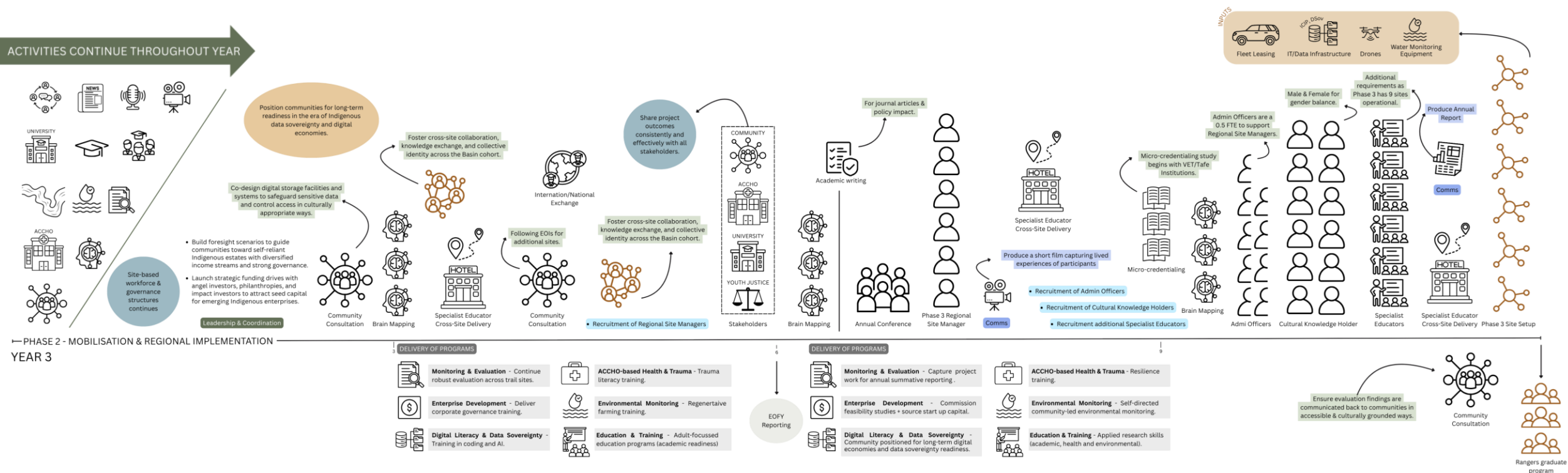


COMMS & SITE STAFF CAPTURE AN ARCHIVE OF COMMUNITY NARRATIVES AND MILESTONES.

ACCHO-BASED HEALTH & TRAUMA WORKERS MONITOR PARTICIPANT BIOMARKERS (E.G., CORTISOL, HRV) EVERY THREE MONTHS, INTEGRATING CLINICAL DATA WITH CULTURAL WELLBEING INDICATORS.



Timeline – Phase 2: Year 3



Partner With Us



The Billabong Project responds to shared challenges that affect us all - declining water quality, biodiversity loss, climate extremes, and the need to restore Country through First Nations leadership.

E: billabong@onebasin.com.au

Together, we can explore how evidence-based, culturally grounded approaches can drive positive change across the Basin.

Thanks for attending



Recording link will be emailed to you and uploaded to the AWS website and YouTube channel.



As a live attendee, you will receive a **Certificate of Attendance** within the next *two business days*. This may count toward your Continuing Professional Development hours



A short **1-minute survey** will pop up at the webinar's conclusion or *complete it on your phone now by scanning the QR code*.



See you at the next month's One Basin Webinar on 3rd Dec:
Public First Nations Data: is it Data Nullius?
Challenging "data nullius": Restoring Indigenous sovereignty in public data governance

