

# National Environmental Science Program

Sustainable Communities and Waste Hub  
research plan 2025 – Attachment B  
project plans- IP1



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# Project IP1.05 – Sustainable People–Environment Interactions

<b>Project type:</b> Hub research project	
<b>Project status:</b> Existing project seeking amendment to scope and budget	
<b>Cross-cutting initiative:</b>	Yes (IP1.02.02)
<b>Project start date:</b> 01/07/2022	<b>Project end date:</b> 31/12/2026
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# Pathway to impact

Outcomes
<p>From the outset, we will embed a pathway to impact in our processes by engaging with research-users across urban, regional, remote and Indigenous communities to identify clear research needs relevant to policy, programs, management and international reporting, seeking participation and feedback on research plans, and translating knowledge into usable forms in culturally sensitive and context-specific ways.</p> <p><b>The short-term outcomes from the projects include:</b></p> <p>Informing policy and frameworks</p> <ul style="list-style-type: none"> <li>• Data and knowledge to enable federal, state and local governments to better report on national (e.g. <i>Australia's Strategy for Nature 2019–2030</i>, <i>National Climate Resilience and Adaptation Strategy 2021–2025</i>, <i>National Water Initiative</i>, <i>Closing the Gap</i>, <i>Protecting Victoria's Environment – Biodiversity 2037</i>, etc), and international (e.g. Sustainable Development Goals (SDGs), Aichi targets, post-2020 Global Biodiversity Framework, Ramsar triennial reporting to the Conference of the Contracting Parties, post United Nations Framework Convention on Climate Change Conference of Parties, World Heritage Convention, IUCN) policies, outcomes and obligations.</li> <li>• Foregrounding Indigenous water research frameworks and methods – developing, identifying, and sharing ontologies, governance and values to better inform and develop water policy, frameworks and management in Australia.</li> <li>• Policy guidance on capability building for water sustainability and liveability outcomes in remote and regional communities.</li> </ul> <p>Community benefits</p> <ul style="list-style-type: none"> <li>• Identification of the governance and capability requirements for water system changes necessary to deliver water outcomes supportive of Indigenous communities.</li> <li>• Greater understanding of knowledge exchange/capacity building for regional and remote communities, including championing Indigenous thought leaders and change champions to challenge the water and land management sectors.</li> <li>• Training and leadership to support Indigenous-led transformation in the water sector/industry and land and sea management.</li> <li>• Improved understanding of Indigenous wellbeing and pathways to support wellbeing for rural and remote Indigenous communities through connection to Country</li> <li>• Through the formulation of a living laboratory model in remote and regional contexts, this project will seek to directly support water related public health and liveability improvements through infrastructure and governance related water planning and management reform. This will be underpinned for strong Indigenous, Country-centred and community-led decision making and support processes.</li> </ul> <p>Economic Benefits</p> <ul style="list-style-type: none"> <li>• Data and knowledge to support economic evaluations of the benefits of a society that connects with and values nature.</li> <li>• Strengthening processes, protocols and practices for Country-centred economies and sustainable livelihoods generation in regional and remote communities, through improved public health and public amenity in water servicing outcomes.</li> </ul> <p>Environmental Benefits</p> <ul style="list-style-type: none"> <li>• Greater understanding of the characteristics and benefits of nature connection across Australia and the strategies that can support Australians valuing, connecting with and benefiting from nature, while creating positive environmental outcomes.</li> <li>• Knowledge and tools to effectively and equitably support nature connection, urban greening and NbS across rural, regional and remote Australia.</li> </ul> <p>Capacity Building</p> <ul style="list-style-type: none"> <li>• Our mentorship of early career researchers (undergraduate, honours, PhD, and postdoctoral) helps to raise awareness and build capacity in environmental research in Australia.</li> </ul>

- Our research and environmental management capacity building for Indigenous early career researchers and communities helps ensure that the next generation of NESP research can be led by Indigenous researchers.
- The establishment of a series of regional and remote areas living labs with support place-based outcomes in capability building for regional and remote communities water sustainability and liveability outcomes. These will provide or inform a model for First Nations water governance and integrated water management practices.
- Our engagement of international thought leaders in First Nations led water transformation in Aqunulus will strengthen national networks and capabilities in First Nations led water transformation outcomes.

#### Partnerships & Collaboration:

- New and strengthened partnerships among researchers, the Department, state environment agencies/departments, Indigenous groups, local communities, NGOs and other research-user partners.
- Greater understanding of methods that bring together knowledge systems to create frameworks and models for Indigenous-led and bi-cultural water governance and land management.

#### The expected longer-term outcomes of the projects include:

##### Informing policy and frameworks

- Data and knowledge to enable federal, state and local governments to better implement and shape national (e.g. *Australia's Strategy for Nature 2019–2030*, *National Climate Resilience and Adaptation Strategy 2021–2025*, *National Water Initiative*, *Closing the Gap*, *Protecting Victoria's Environment – Biodiversity 2037*, etc), and international (e.g. *Sustainable Development Goals (SDGs)*, *Aichi targets*, *post-2020 Global Biodiversity Framework*, *Ramsar triennial reporting to the conference of the Contracting Parties*, *post United Nations Framework Convention on Climate Change Conference of Parties*, *World Heritage Convention*, *IUCN*) policies and obligations.

##### Community benefits

- Improved capacity in local governments and Indigenous communities through increased availability of tools/models/platforms/knowledge, understanding of specific community needs and the inclusion of more diverse perspectives in environmental decision-making to enable better planning of our communities, including implementation of NbS and sustainability transitions that improve liveability, sustainability, resilience, biodiversity, and health and wellbeing in our communities.
- The formulation of the architecture for a national platform for water related capability support will strengthen avenues for scaled impact through supporting broader uptake and engagement of knowledge tools and networks of practice throughout the country.

##### Economic Benefits

- Economic benefits from improved wellbeing of a country that engages and connects with nature, including reducing productivity losses, money wasted in healthcare, and heat-related health risks.
- Improved management of green infrastructure assets by planting/maintaining greenspaces that are climate resilient or wanted by the community.
- Business triple bottom line benefits from incorporating NbS, and new business opportunities in nature-based tourism and healthcare.
- Supporting pathways for scaled adoption of processes, protocols and practices for Country-centred economies and sustainable livelihoods generation in regional and remote communities.

##### Environmental Benefits

- Evidence, tools, capacity, interest, and partnerships for creating future-proof positive people–environment interactions in urban, regional, remote and Indigenous communities and the resultant benefits for biodiversity, and environments that come from a society connected with and caring for nature

##### Partnerships & Collaboration

- New partnerships across the consortia and partners to foster innovation and creative solutions to improve people–environment interactions across Australia.
- Structurally empower Indigenous voice and participation in decisions that impact on their rights of self-determination and on exercising their stewardship of Country.



Research-user	Engagement and communication	Impact on management action	Outputs
<p><b>Project IP1.02.01:</b></p> <p><b>DCCEEW:</b> Biodiversity Policy/ Biodiversity Policy &amp; Water Science Branch/ Biodiversity Conservation Division; Indigenous Water Policy/ Basin Policy, Science &amp; Indigenous Branch/Water Division; Science Policy &amp; Coordination/Basins Policy, Science &amp; Indigenous Branch/Water Division; Blue Carbon &amp; International Partnerships/Environmental Science &amp; Nature Based Solutions Branch/Biodiversity Markets, Economics &amp; Environmental Science Division; International Environment &amp; United Nations/International Strategy &amp; Engagement Branch/ Portfolio Strategy Division; Heritage Strategies/Heritage Branch/Heritage Reef &amp; Ocean Division; Migratory Species/Protected Species and Communities Branch/ Biodiversity Conservation Division; Science and Management Effectiveness/ Marine &amp; Island Parks Branch/Parks Australia Division; Parks Science and Strategy/Booderee &amp; Business Services Branch/ Parks Australia Division; Wetlands/Wetlands, Policy &amp; Northern Water Use Branch/Commonwealth Environmental Water Office; Science Partnerships/ Environmental Science &amp; Nature Based Solutions Branch/Biodiversity Markets, Economics &amp; Environmental Science Division.</p> <p><b>DAFF:</b> National Soil Policy/ Soils &amp; Nature Based Solutions/ Portfolio Strategy &amp; Climate Policy/Agriculture &amp; Food Policy &amp; Research Group.</p> <p><b>State environment departments</b> Department of Environment, Land, Water and Planning (DELWP) Victoria; Queensland Department of Environment and Science (DES);</p>	<p>Research-user needs have been and will continue to be refined through the co-design process including via facilitated workshops, focus groups, interviews, user surveys and feedback/review of research projects as they develop. Through the co-design process we will update research-users about research outputs which will also be made accessible via the Hub website.</p> <p>Research-users will help identify the format of knowledge products to foster their use in policy-making, planning and management.</p> <p>Where appropriate, research will involve research-users in the co-production of knowledge throughout the life of the research project.</p>	<p>The co-design process itself as well as collaborative research efforts are already influencing policy (e.g. <i>City of Launceston's urban greening strategy</i>) and will continue to influence policy development and program design of our partners. Research outcomes on nature connection and its benefits will be used to assist in reporting for: <i>Australia's Strategy for Nature 2019 – 2030</i> (across all goals), <i>2021 Australia State of the Environment</i> (especially the wellbeing implications for the chapters), and international reporting obligations (e.g. UN SDGs, Aichi targets, post-2020 Global Biodiversity Framework, Ramsar triennial reporting).</p> <p>Outputs from the national survey will be used to benchmark the Victorians Valuing Nature survey results and inform the Protecting Victoria's Environment – Biodiversity 2037 strategy.</p> <p>Outcomes will support partner organisations to quantify and enhance the impacts of their conservation programs (e.g. NE Bioregional Network and Landcare Tasmania ecological restoration programs) for both participant and environmental benefit.</p>	<p>Co-designed research plans (RP2021-RP2025). Summary notes and reports from co-design sessions. Research translated into clear, digestible formats suitable for use by decision-makers including fact sheets, reports and audio-visual formats. A national, interactive audio-visual data base of nature connection stories and data. A suite of tools (e.g. guidelines, survey templates) for evaluating, qualifying and translating nature connection experiences and impacts. Academic publications.</p>

Research-user	Engagement and communication	Impact on management action	Outputs
<p>Tasmanian Department of Natural Resources and Environment (DNRE).</p> <p><b>Local councils</b> Knox, Brighton, Launceston.</p> <p>Other nature-based research users (see project contacts section).</p> <p>Indigenous communities e.g. melythina tiakana warrana Aboriginal Corporation (MTWAC).</p>			
<p>City of Melbourne, Knox City Council, TierraMar, RBGV, Nursery and Garden Industry Victoria (NGIV), Tree Dimensions, community groups, Traditional Owners.</p>	<p>Building on the work of the NESP 1 Clean Air and Urban Landscape (CAUL) Hub, and existing research on 'future urban forests' with all partners, we have identified the need to better understand how NbS can support positive outcomes for nature and society in Australia.</p> <p>We will work with industry partners (e.g NGIV) to codesign and promote useable products.</p>	<p>The report will be used to increase literacy around NbS, inform the design of management of NbS to increase resilience to climate change, to ensure the benefits of NbS accrue to a broad cross-section of the community and Traditional Owners.</p> <p>Working with industry partners and codesigning outputs will facilitate the translation, dissemination and impact of knowledge.</p>	<p>Report on the resilience of Nature-based Solutions for Australian environments and society.</p> <p>Other outputs codesigned with Industry partners.</p>
<p><b>Project IP1.02.02:</b></p> <p><b>DCCEEW:</b> Parks Australia, Indigenous Water Policy/Basin Policy, Science &amp; Indigenous Branch/Water Division; Science Policy &amp; Coordination/Basins Policy, Science &amp; Indigenous Branch/Water Division; Parks Science and Strategy/Booderee &amp; Business Services Branch/Parks Australia Division; Wetlands/Wetlands, Policy &amp; Northern Water Use Branch/Commonwealth Environmental Water Office; Science Partnerships/Environmental Science &amp; Nature Based Solutions Branch/Biodiversity Markets, Economics &amp; Environmental Science Division.</p> <p><b>DITRDCA</b> – Regional Development. Local Government and Regional Recover/ Cities and Territories Division.</p> <p><b>State Government:</b> Department of Environment, Land, Water and Planning</p>	<p>Research-user needs have been and will continue to be identified through the co-design process including via facilitated workshops, focus groups, interviews, user surveys and feedback/review of research projects as they develop. Through the co-design process we will update research-users about research outputs which will also be made accessible via the Hub website.</p> <p>Research-users will help identify the format of knowledge products to foster their use in policy-making, planning and management.</p> <p>Where appropriate, research will involve research-users in the co-production of knowledge through the</p>	<p>Research findings and outputs will support partner organisations to improve water sensitive and liveable outcomes for communities across Australia, particularly for regional and remote communities.</p> <p>The research outcomes will be used by all levels of government to inform structural reform of current laws, policies, strategies, guidelines, standards, and practices impacting the provision of essential water services, particularly to regional and remote communities.</p> <p>The research outcomes will support implementation of <i>National Climate Resilience and Adaptation Strategy 2021–2025</i> and a</p>	<p>Co-designed research plans (RP2021-RP2025)</p> <p>Summary notes and reports from co-design sessions, workshops and colloquiums.</p> <p>Research translated into clear, digestible formats suitable for use by decision-makers including fact sheets, reports and audio-visual formats.</p> <p>Academic publications.</p>

Research-user	Engagement and communication	Impact on management action	Outputs
<p>Victoria; Queensland Department of Environment and Science; WA Department of Communities; WA Department of Water; Development WA; NT Department of Environment, Parks and Water Security; SA Department of Environment and Water.</p> <p><b>Local Governments and Aboriginal Land Councils:</b>  <i>The Central Land Council. Mutitjulu Aboriginal Corporation, Regional and remote LGA;s throughout Australia that have participated in workshops to date.</i></p> <p><b>Water Corporations and peak bodies:</b> Water services Association of Australia, Water Research Australia; WA Water Corporation, NT Power and Water, SA Water.</p> <p><b>Indigenous communities:</b>          Anangu Traditional Owners. First Nations water officers in the MBDA          MDBA – Environmental Research Program.</p>	life of the research project.	renewed <i>National Water Initiative 2004</i> .	



# Project description

## Project summary

Links between the health of people and the health of ecosystems and the environment are being increasingly recognised in research, policy and programs. Great strides have been taken in national and international research exploring these links between human wellbeing, and environmental and ecosystem health, including through the National Environmental Science Program (NESP). However, critical gaps remain in our knowledge and in our ability to translate knowledge to create more sustainable and liveable communities.

Our aim is to build on work undertaken in NESP 1 Clean Air and Urban Landscapes Hub, and the Sustainable Communities and Waste (SCaW) Hub RP2021-RP2024. Integrating across different knowledge systems (science disciplines, experiential and Indigenous knowledges), the research seeks to create inclusive and reflexive national approaches to sustainable people-environment interactions. Through research and collaboration, and using a Nature-based Solutions (NbS) lens, we will develop knowledge and tools to inform and stimulate change for the shared benefit of humans and nature via two concurrent and mutually reinforcing projects:

Project IP1.02.01: Nature connection

Project IP1.02.02: Water sensitive and liveable communities

Through these projects, this impact priority area aims to empower regional, remote and Indigenous communities to become more sustainable and improve liveability and help support the delivery of *Australia's Strategy for Nature 2019–2030*, *National Climate Resilience and Adaptation Strategy 2021–2025* and a renewed *National Water Initiative 2004*.

## Project description

RP2025 is a continuation of the research of Impact Priority 1 (IP1) via two concurrent and mutually reinforcing 4-year projects that support two of the three cross-cutting themes of the Hub: sustainable communities and regional, remote and Indigenous communities.

RP2025 research builds on the work of the Hub in earlier years in which extensive stocktaking, engagement, research, and co-design were undertaken with industry, community and government participants. In this revision of our two projects, we have clarified the multi-year plan, outcomes and milestones and further developed opportunities for collaboration across hubs and with partners and research-users.

### Project IP1.02.01: Nature connection – UTAS led

#### ***The problem***

The *2021 Australia State of the Environment* concludes 'Overall, the state and trend of the environment of Australia are poor and deteriorating as a result of increasing pressures from climate change, habitat loss, invasive species, pollution and resource extraction'. This poor environmental quality is negatively impacting the wellbeing of Australians. Along with under-

funding, and poor enforcement of existing legal protections, a societal lack of knowledge and culture of apathy contribute to these poor outcomes<sup>1</sup>.

As an antidote to this trajectory, *Australia's Strategy for Nature 2019 - 2030* sets out a vision for a nation of people who connect with, value and care for nature. Part philosophy and part practice, 'nature connection' refers to our human affinity with non-human nature, and the associated emotions and behaviours of this integration. Various frameworks propose that nature connectedness leads to caring for nature which leads to taking actions to protect it<sup>2</sup>. Increasing people's connection to nature can bolster support for environmental initiatives such as tree planting, floodplain management and habitat protection and lead to effective species and ecological community management and recovery<sup>3</sup>. Connection to nature, we know, is positively affected by use and experience in and with nature. Additional factors that influence our nature connection are emerging, such as genetics, nature orientation, environmental quality, and socio-cultural and sensory (non-material) factors. People that score highly in nature connectedness also tend to score highly on measures of eudemonic wellbeing (personal growth, autonomy, purpose in life, environmental mastery, self-acceptance, positive relations to others and vitality) suggesting that they are flourishing and performing well psychologically, happier (positive affect) and more satisfied with life<sup>4</sup>.

However, there are complicating factors at play. Nature connection is adversely impacted by issues of access, engagement and exposure. Rapid urbanisation is leading to many city dwellers having fewer opportunities to interact with the natural environment, with disproportional impacts on marginalised communities. Changing environments and human populations are leading to the distancing of people from nature and altered people-species interactions – sometimes leading to conflict with species (including threatened species) and human wellbeing. Nature engagement can sometimes lead to disillusionment and despair about the state of the environment, and the hopelessness of human efforts to improve things<sup>5</sup>. Such negative experiences or disengagement with nature can make people less inclined to support NbS such as urban greening and sustainable management practices<sup>6</sup>.

There are significant gaps in our understanding of nature connection in Australia and the mechanisms that link our experiences of nature with the positive human and environmental benefits that we hope will result. Much of the research on nature connection and pro-environmental attitudes, behaviours and human wellbeing has been conducted overseas and we know little of how nature connection and its benefits vary across the diverse socio-ecological contexts of Australia. Furthermore, little is known about the influence of nature connection on individual attitudes and behaviours and structural changes that can lead to

<sup>1</sup> Russell-Smith, J., Lindenmayer, D., Kubiszewski, I., Green, P., Costanza, R., Campbell, A., 2015. Moving beyond evidence-free environmental policy. *Frontiers in Ecology and the Environment* 13, 441-448.

<sup>2</sup> For example: Mayer, FS, Frantz, CM, 2004. The connectedness to nature scale: A measure of individuals' feeling in community with nature. *Journal of Environmental Psychology* 24, 503-515. <https://doi.org/10.1016/j.jenvp.2004.10.001>

Schultz, P., 2002. Inclusion with nature: The psychology of human-nature relations. In *Psychology of sustainable development*, pp. 61-78. Springer, Boston, MA.

<sup>3</sup> Soga, M., Gaston, KJ, Yamaura, Y., Kurisu, K., Hanaki, K. 2002. Both direct and vicarious experiences of nature affect children's willingness to conserve biodiversity. *International journal of environmental research and public health*. 13(6):529.

<sup>4</sup> Pritchard, A., Richardson, M., Sheffield D., McEwan K. 2020. The relationship between nature connectedness and eudaimonic well-being: A meta-analysis. *Journal of Happiness Studies* 21(3):1145-67.

<sup>5</sup> Soga, M., & Gaston, K. J. 2022. The dark side of nature experience: Typology, dynamics and implications of negative sensory interactions with nature. *People and Nature*. <https://doi.org/10.1002/PAN3.10383>

<sup>6</sup> Lyytimäki, J. 2014. Bad Nature: Newspaper Representations of Ecosystem Disservices. *Urban Forestry and Urban Greening* 13(3): 418-24. <https://doi.org/10.1016/j.ufug.2014.04.005>.

maximising that relationship for positive human and environmental outcomes. By improving our understanding of how people connect with nature, and how nature connection benefits humans and the environment, we can develop strategies, including nature-based solutions, to generate positive change.

The following key research questions were identified as priorities during the co-design process with the Department and other research-users:

Research Stream 1: What are the characteristics of nature connection across Australia and in what ways does connecting with nature increase or activate people's values for nature, motivate pro-environmental and sustainability behaviours and impact wellbeing?

Research Stream 2: How can new and existing strategies that enable nature connection (e.g. urban greening, NbS, education and nature-connecting programs) be scaled up and out and made resilient and equitable for greater shared environmental, community and national impacts?

Research Stream 3 (Indigenous led): How can research and capacity building enable cultural connection, and support sovereignty and land and sea management/caring for Country by Australian Indigenous communities?

### ***Our response***

The Nature Connection Project aims to increase benefits for humans and the environment derived from valuing nature, through understanding nature connection in the Australian context, and identifying and supporting strategies, like NbS, urban greening, and nature-connecting programs, to maximise positive impacts on health, wellbeing and sustainability for all Australians.

As a starting point for creating a nation of people who value nature, we need to build an understanding of what valuing and connecting to nature means to Australians and to explore what enables or hinders nature access and/or experience, and the mechanisms that generate the desired benefits. From a deep, place-based understanding, we can develop strategies to address barriers and maximise benefits into the future.

Research in IP1.02.01 will support reporting on Australia's Strategy for Nature, and, by linking nature with health and wellbeing, Australia's State of the Environment. What we learn about nature connection and its benefits across the country will support the development of environmental policies and strategies that have co-benefits for people and nature. Outcomes from our investigations into the scaling up and out of NbS can improve sustainability and liveability across the country including into regional, remote and Indigenous communities.

### **Methodology**

Over the life of this Hub, we are applying a transdisciplinary, co-design and co-creation approach to a multi-phase action research project. This project has a top-down national scale component, an intensely place-based component and a continued focus on supporting Tasmanian Aboriginal community-members to develop an Indigenous-led project. Through interviews, surveys, workshops and observations we will continue to gather mixed data from a range of stakeholders, many of whom are involved in nature connection activities, to develop a rich, multifaceted understandings of nature connection and how to realise its potential benefits. Case studies will be used to advance our research and collaborations. The City of Launceston urban greening project and the Tasmanian NE Bioregional Network's health benefits of participation in ecological restoration programs have been examined

through RP2022 and RP2023. Through RP2025, additional case studies will be identified and developed. Specifically, we are exploring case studies of how climate change is impacting the nature relationships of young people in Tasmania and how on-Country experiences are impacting the wellbeing of Indigenous rangers in Tasmania and Indigenous young people in central Australia. These case studies will provide further nuances to our national work exploring the relationships between nature connection and wellbeing, and showcasing how those relationships vary across specific populations and circumstances.

In 2024 we made significant advances in our program. We released several outputs from our national survey (three reports), submitted several academic publications with more detailed results and presented these findings at four national conference and the Spotlight on Science series for DCCEEW. We also collected >100 stories about nature connection from diverse populations within and beyond Tasmania and released a report to share the framework and methods of the Storytelling Project. In our urban greening stream published award-winning research on inclusive urban greening which was central to the development of the urban greening strategy in Launceston, Tasmania. In 2025, we will continue with these efforts to further clarify nature connection pathways and benefits in Australia.

#### *Outcomes and outputs*

Our key outcomes will be the quantifying, characterising and mapping of Australian experiences and impacts of nature connection and pathways for a more nature-connected society and empowered Indigenous communities. Our outputs, along with traditional research publications and reports, will be a national dataset of nature connection, an interactive storymap/database of nature connection stories, and a suite of tools for evaluating, qualifying and translating nature connection experiences and impacts for use by diverse stakeholders and research-users.

#### *Capacity building*

Additional funds for capacity building in RP2025 will be put to use in the following ways:

- 1) Employ an Indigenous research Fellow to research and analysis in our Indigenous-led stream.
- 2) Continue to develop an Indigenous-led project with the Anangu people who are the traditional owners of Uluru, Kata Tjuta, and the surrounding lands.
- 3) Employ an early career researcher to support qualitative analysis of the nature connection story data, exploring what stories (thematic analysis) and art (visual analysis) tell us about the diverse ways people in Australia connect with nature and how those relationships with nature impact wellbeing and pro-environmental behaviours.
- 4) Host a workshop with policy-makers from DCCEEW, practitioners and researchers to explore the mechanisms, enablers, and barriers to connecting, valuing and creating positive changes for people and nature

## **Linkages**

Our work builds on knowledge created in NESP 1 Clean Air and Urban Landscapes Hub on the benefits of engaging with nature. We are collaborating with the Resilient Landscapes Hub to understand how nature connection relates to private land management decisions. We are linking with the Marine and Coastal Hub, and the Resilient Landscape Hub for our Indigenous-led research project; this collaboration emerged in recognition of a) the consultation demands on Aboriginal and Torres Strait Islander leaders and communities and b) that the interests of these leaders and communities do not necessarily fit neatly into the constraints of a given Hub. The co-design of our Indigenous-led project is being undertaken with our Indigenous partners as well as the other hubs. Within our Hub, we are also exploring connections across IP areas on improving liveability and sustainability in remote, regional and Indigenous communities and understanding the motivations for sustainability behaviours.

## **Project IP1.02.02: Water sensitive and liveable communities – Monash and Curtin co-led**

### ***The problem***

Australian cities and regions are confronted with complex challenges exacerbated by climate change that threaten the health and sustainability of people and nature. Local government is on the frontline of dealing with these challenges because it is the level of government closest to communities and responsible for most local infrastructure. There are 537 councils across the nation, but only a small proportion have made real progress on sustainable transitions to more water sensitive and liveable communities. A limiting factor has been the absence of an authoritative national platform for accessing science, tools and guidance.

This situation is most acute in regional and remote local government areas, as highlighted in the recently released *2021 Australia State of the Environment (SoE)* report which details poor and declining condition of natural and social-cultural capital across many parts of regional and remote Australia. Highlighted in the SoE report is an urgent need to structurally empower Indigenous voices and participation in all decisions that impact on their rights of self-determination and on exercising their stewardship of Country. A key finding of the SoE report was that Indigenous-led and governed caring for Country, undertaken via holistic and long-term programs, is key to future success.

Similarly, the Productivity Commission (PC)<sup>7</sup> highlights systemic failings in the delivery of safe and secure water services to regional and remote communities resulting in poor health and liveability outcomes, compared with national benchmarks and standards. The PC advocates for a re-designed national water policy to include objectives and targets, co-designed with Indigenous Australians, to improve Indigenous access to water and involvement in water management centred on the concept of “cultural flows”. This concept calls for substantial increases to Indigenous water access and more control in decision-making. The recommendations of the PC however do not address structural problems underlying inequities in Indigenous water rights within the policy architecture and legal foundations governing water management in Australia.

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<sup>7</sup> Productivity Commission 2021, National Water Reform 2020, Inquiry Report no. 96, Canberra.  
<https://www.pc.gov.au/inquiries/completed/water-reform-2020/report/water-reform-2020.pdf>

The Water Services Association of Australia (WSAA) commissioned research<sup>8</sup> to review remote water services in Australia, to elevate these issues in the national conversation, and to recommend ways to close the gap in the delivery of safe drinking water, including water quality and water security. Preliminary findings from this research found that despite many stakeholders across Australia leading important initiatives in ‘Closing the Gap’ for Indigenous Australians, there are frequent examples about remote communities with limited and sometimes no access to safe drinking water, poor health outcomes associated with lack of clean and reliable water supplies, and unclear accountabilities for providing water services.

There is a clear and urgent call in the national discourse for research to support regional and remote communities and their local institutions to develop more effective ways to empower their voice and sovereignty in decisions that impact on their way of life.

The following key research questions were identified as priorities during the co-design process with the Department and other research-users:

*Research Stream 1:* What co-designed research is needed to address research-user identified and prioritised gaps in knowledge capital and improvements to the interoperability of existing knowledge products that can be scaled out to benefit regional and remote communities; and

*Research Stream 2 (Indigenous-led):* How can sovereign water rights, knowledges, practices, values and aspirations of Indigenous peoples transform water governance and scientific frameworks for better water outcomes for Country, culture and community?

### **Our response**

IP1.02.02 aims to address the needs identified during co-design through two concurrent and mutually reinforcing streams of research that are both proposed to run for the period 2023-2026 to address the research questions posed.

Research undertaken in IP1.02.02 will improve access to fit for purpose knowledge capital and products for regional and remote communities and will provide evidence-based frameworks and models to structurally empower Indigenous voices and participation in decisions that impact on their rights of self-determination and on exercising their stewardship of Country.

### **Methodology**

The research design applies a transdisciplinary, co-design and co-creation approach.

Research Stream 1 involves IP1 researchers and research-users co-designing research scopes and methods through the place-based establishment of living labs in regional and remote contexts, to address prioritised knowledge and capability gaps and interoperability improvements. Research will also be undertaken to understand how program outputs from living labs could be operationalised at scale within a National Shared Learning Platform conceptualised in RP2022 (IP1.02.02). In the first two years (2022-2024) the research convened

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<sup>8</sup> WSAA Preliminary report: Improving water services to remote First Nations communities  
<https://www.wsaa.asn.au/news/release-preliminary-report-improving-water-services-remote-first-nations-communities>



- A series of national regional and remote knowledge holder co-design workshops to understand existing needs, priorities and opportunities
- Specific end-user discussion through federal, state and Country-centred jurisdictions to identify enabling requirement for engagement in a national platform for Regional and remote areas capability support
- A number of place-based discussions to identify opportunities for living lab establishment that could support the development of capability building tools and knowledge products and inform conceptual underpinnings for a national platform

For the subsequent years (2024-2026), the research with additional capability development will:

- Engage a broader set of First Nations-led research and practice expertise to establish a living lab in remote Australia in partnership with IP1.02 end users (Eg. Parks Australia), Traditional Owners and partners, and State/Territory and Federal governments. This will support place-based water sustainability and liveability outcomes, while generating key insights into capability building needs, tools, resources and processes to inform outcomes for National Platform establishment
- With added research assistance support, begin establishing a living lab in regional Australia in partnership with IP1.02 end users (eg. Water Sensitive Cities Australia), Traditional Owners and partners, and State/Territory and Federal governments to support place-based water sustainability and liveability outcomes, while generating key insights into capability building needs, tools, resources and processes to inform outcomes for National Platform establishment
- Establish a High-level project steering committee and First Nations advisory body to advise and oversee the research, design and development requirements for a national platform of tools, guidance, networks and data sharing (conceptualised from RP2-3 co-design)

Research Stream 2 will adopt Indigenous research methodologies and place based participatory action research to inform a nationally consistent approach to the structural empowerment of Aboriginal and Torres Strait Islander peoples in decisions that impact outcomes for Country, culture and community. In the first two years (2023-2024) the research convened:

- Indigenous scholars and Indigenous water practitioners in a three-workshop series to explore: aqua nullius (workshop 1), Indigenous water science practices and governance (workshop 2), and strategies to negotiate the use of Indigenous science methods and water governance (workshop 3).

For the subsequent years (2024-2026), the research with additional capability development funding will:

- Develop and present three stand-alone workshops to provide Indigenous water practitioners a deeper understanding of the settler-state water system, including the purpose and roles of the NWI, PC and Murray Darling Basin Authority (MDBA) (workshop 1), MDBA operations (workshop 2) and water markets and the entitlement and allocation systems (workshop 3).

- An Indigenous-led water conference, shaped by the aqua nullius workshop series (2023), to review of the work required to transform the architecture of the Australian water sector, including legislation and institutions, to allow the re-enfranchisement of Indigenous water rights, science and governance.
- Seek engagement and partnerships with global First Nations Water leaders to strengthen perspectives and practitioner networks of Aquanulius and First Nations led water transformation requirements within the national context.
- Develop and present a scaled series of Aquanulius workshops throughout the National context to broaden participation of the First Nations water community in the lead up to the 2027 Indigenous-led water Conference.
- Engage Indigenous research assistance in the administration and research oversight of the formulation of a First Nations research advisory. This will not only strengthen the process of the all NESP research being First Nations led and or guided, but offer the opportunity for new learning and guidance for effective establishment processes and protocols of an institutional model of this kind.
- Support the second phase of National engagement, for the scoping of a national platform for fit for purpose capability building for regional and remote areas water needs.
- Support the initial feasibility, scoping and relationship establishment of a second regional/remote areas living lab to inform insights of place-based requirements for water capability building.

#### *Outcomes and outputs*

Our key outcomes will be identification of the system changes necessary to deliver Indigenous water and regional and remote community water outcomes. The project will also provide on-going engagement with all levels of government, water authorities and regional and remote communities to strengthen coordination and foster knowledge exchange, localised and integrated capabilities in regional and remote communities. Our outputs, along with traditional research publications, will include:

- Co-designed research scopes and methods to address research-user identified and prioritised gaps in knowledge capital and improvements to the interoperability of existing knowledge products that can be scaled out to benefit regional and remote communities.
- A detailed prospectus articulating the architecture for the development of a national capability building platform (including key actions to support engagement and participation) for regional and remote water servicing outcomes.
- Indigenous water research frameworks and methods.
- Methods that bring together knowledge systems to create frameworks and models for Indigenous led and bi-cultural water governance.
- Guidance and protocols for First Nations oversight on water related research conduct

#### *Linkages*

IP1.02.02 has synergies with other research occurring within the Hub engaging with regional and remote Indigenous communities. This includes research considering local governance

and institutional frameworks and models (e.g. Project IP5.02.03: Governing community-based recovery and circular economy initiatives). Regular coordination meetings with other SCaW Hub research leaders are ensuring these synergies are leveraged.

### **Integrating/cross-cutting pillars (cross-project philosophy)**

There are two key integrating pillars that provide opportunities for cross-project, cross-IP and cross hub collaborations, and are being recognised as key concepts within environmental research and policy:

- Nature-based solutions (NbS) is an approach that is becoming widely adopted in global policy and standards (e.g. International Union for Conservation of Nature (IUCN) Global NbS Standard) and emerging in policy and programs in Australia. A NbS approach encourages transdisciplinary methodologies for co-design and co-creation of research to address environmental, ecological and human health and wellbeing challenges, that achieve biodiversity co-benefits. It fosters multiple benefits for people and place and promotes the resilience of social–ecological systems to environmental change. At the same time, NbS have been criticised as ‘green washing’ and not reflecting Indigenous interests. NbS can have negative impacts if undertaken without considering local context and a changing environment. Research that better understands the role of NbS in the Australian context can contribute to strengthening government policy and international reporting requirements, as well as environmental programs, the goals of the NESP program, our Hub, and our IP goal of liveable, nature-connected and sustainable communities. Key research questions include how to apply NbS in the unique Australian social and environmental context, how to scale-up and scale-out solutions to achieve national outcomes, and to understand the resilience of NbS themselves to the challenges they are designed to address e.g. climate change and urban heat.
- Genuine and meaningful engagement with Aboriginal and Torres Strait Islander communities is central to IP1. We are actively developing connections and a funding structure conducive to co-designing and co-creating Indigenous-led research in both projects. For further details, see ‘Pathway to Impact’ and ‘Indigenous consultation and engagement’.

### **Is this a cross-hub project?**

#### **Project IP1.02.01: Nature connection: Yes**

Stream 3 of this project (Indigenous-led research) is a cross-Hub project being co-designed and co-delivered with leadership from the melythina tiakana warrana Aboriginal Corporation (MTWAC) in the northeast of Tasmania. While the details are still being worked out, the project is expected to focus on:

- Supporting the development of a Healthy Country Plan for Tebrakunna Country led by the melythina tiakana warrana Aboriginal Corporation (MTWAC)
- Developing tools to assess wellbeing benefits of connection with Country/on-Country activities and negative impacts of being disconnected/unable to access ancestral country
- Identifying priority management, research and monitoring needs for MTWAC for improving health of Tebrakunna Country and wellbeing of Coastal Plains Nation

- Building capacity of MTWAC rangers improving health of Tebrakunna Country and advancing wellbeing for the Coastal Plains Nation

Stream 1 is not officially a cross-hub project. However, we are collaborating with the Resilient Landscapes (RL) Hub as they are undertaking similar surveys in Tasmania to determine the role of nature connectedness in private land management. Through this collaboration, we have ensured questions in the survey are similar to allow for cross study comparison and we will work together (through in-kind contributions) to understand the dynamics of nature connection, wellbeing and land management.

In Stream 2, we are collaborating with the Climate Systems Hub on greening and heatwaves, focusing on Western Sydney. In this collaboration, the Climate Systems Hub would generate high resolution models to look at different heatwave impact scenarios, which IP1, could then feed into a policy/strategy response. Then, working with local communities, we will explore receptiveness to different greening interventions.

**Project IP1.02.02: Water sensitive and liveable communities: No**

While this is not a cross-hub project, we have identified several opportunities for cross-hub research including the Climate Science Hub (heat and climate adaptation in urban and regional communities), Resilient Landscapes Hub (nature connection and wellbeing and “cultural water”) and Marine and Coastal Hub (blue and green ecosystem services and health, nature-based solutions). ScaW Hub researchers from Monash, Curtin, CSIRO and UTAS are well connected with other hub researchers at their respective institutions through existing relationships. We will continue to explore these collaborations.

Our researchers are also involved in and will seek synergies with the Healthy Environments and Lives Network (HEAL). This recently-formed network is supported by a \$10 million grant through the National Health and Medical Research Council's *Special Initiative on Human Health and Environmental Change*. It brings together 100 experts across Australia to catalyse research, knowledge exchange and research translation into policy and practice that will bring measurable improvements to our health, the Australian health system, and the environment.

## **Does this project contribute to a cross-cutting initiative?**

**Project IP1.02.01: Nature connection: No**

**Project IP1.02.02: Water sensitive and liveable communities: Yes.**

This project contributes (in part) to the Climate Adaptation Initiative led by the Climate Systems Hub via research that supports improvements in the evidence base for adaptation decision-making for climate resilience. Several members of the ScaW Hub and Climate Systems Hub met in December 2021 to discuss synergies in urban climate and air quality across the two hubs. Overlapping interests were identified in these initial conversations that we will progress throughout 2025 and 2026 with an aim to develop a cross-Hub collaboration as place-based programs continue to develop.

# Indigenous consultation and engagement

Recognition of the diversity of Indigenous communities in Australia is embedded in our Research Plan 2025 which is guided by the Hub's Indigenous Partnerships Strategy. Aboriginal and Torres Strait Islander knowledges, cultures and land management practices vary greatly across the country. Colonisation and its aftermath have had varying impacts on culture and community. We recognise and acknowledge the rights of our Indigenous peoples, which are covered in the United Nations Declaration on the Rights of Indigenous Peoples, i.e. the right to self-determination and *free, prior and informed consent*. In line with the Hub's Indigenous Advisory Committee, we are following the philosophy that NESP Hubs are proceeding from 'for us' in NESP 1, to the current 'with us' stage in NESP 2, to be 'by us' in NESP 3.

In each project, at least one stream will be Category 1 Indigenous led (of the NESP's revised three-category Indigenous engagement approach) with the other streams being Category 2. Given that each project can only be listed with one Category, they will default to the lowest Category of Co-design (Category 2)

IP1.02.02 is establishing a First Nations advisory body to provide First Nations oversight across all related streams. This body will ensure Indigenous leadership at the project development scale as well as on-ground through project deliverables, ensuring First Nations leadership throughout. The revised project budget and scope will include milestones for the First Nations advisory body, to provide guidance on appropriate protocol for First Nations oversight on NESP IP1.02 programs. Stream 2 of this project is also completely indigenous led, by indigenous research fellow Kate Harriden at MSDI.

We will continue to ensure close consultation with the Hub's Indigenous Advisory Group through our Senior Indigenous Facilitator, and our IP1 Indigenous Facilitator, Pairrebeenne and Trawlwoolway man from Tebrakunna, Rob Anders, to co-design consultation, engagement and research methods and practices that are appropriate and always acknowledge and respect Indigenous knowledges and participation. We will not repeat the mistakes of western academic researchers in the past. The days of non-Indigenous researchers flying in and flying out to *do* research *on* Indigenous communities must end.

We have already built relationships with members of Indigenous organisations (e.g. MTWAC) that we hope will lead to enduring partnerships. Through our RP co-design, we have continued to engage with these organisations to enable us to undertake and support co-designed and Indigenous-led research projects. We recognise that building these relationships takes time, and that they do not necessarily align seamlessly with academic and bureaucratic timeframes and boundaries. Through Rob Anders, who is an active community member, we understand that Aboriginal communities are busy with consultation on a range of policy/legislative reform (e.g. new Aboriginal heritage legislation, review of the Aboriginal Lands Act, *Closing the Gap*, Truth-Telling and Treaty conversations), and that the capacity to take on additional consultation is limited. In recognition of this challenge, we are engaging with these communities at the pace and form that best suits them and have teamed up with the other Hubs at our institution to collaboratively develop an Indigenous-led project and reduce consultation fatigue on Aboriginal communities. For example, we have organised on-country cultural awareness training with MTWAC (employing local Aboriginal community members to run the training), involved their chairperson in our local co-design workshops

and attended their board meeting to discuss project co-design. We will work with this community to identify capability gaps in the area of environmental research and management and support closing those gaps with capacity-building activities. With the additional capability development funds, we are also exploring an Indigenous-led project with the traditional owners of Uluru, Kata Tjuta, and the surrounding land, the Anangu people. We have initiated discussions with this community and partners and there is interest in the establishment of an Anangu led integrated water planning forum for the National Park and surrounding region, which will be a priority for RP2025 and beyond. Additional Anangu support has also been expressed for exploring the benefits of on-Country learning experiences for young people in this community. We will continue to explore the support and feasibility of this project and if all parties agree, commence the contracting and ethics process to undertake work in late 2025/2026.

Finally, Additional funding capability will also support the ongoing establishment and scoping of a First Nations advisory panel to oversee all IP1 water related research programs and partnerships (underway as of RP3). This will be an Indigenous led initiative with funding to support the employment of an Indigenous early career research assistant to support the administrative, program development and learning development requirements of this program. Consistent with NESPs' three category approach this initiative will provide an opportunity for learning and guidance to be produced for appropriate governance that can effectively ensure Indigenous oversight and leadership in all NESP related research. Given the centrality of water to Country and First Nations people IP1.02 research programming will be used as the case study to generate these insights. Reports and guidance will be produced as program outputs to inform the NESP Hub and End users (See program Milestones).

Which Three-category approach the project meets\*:

IP1.02.01: Nature connection	<b>Indigenous-led (1)</b> <input type="checkbox"/>	<b>Co-design (2)</b> <input checked="" type="checkbox"/>	<b>Communicate (3)</b> <input type="checkbox"/>
Project IP1.02.02: Water sensitive and liveable communities	<b>Indigenous-led</b> <input type="checkbox"/>	<b>Co-design</b> <input checked="" type="checkbox"/>	<b>Communicate</b> <input type="checkbox"/>

\*Noting that Stream 3 in IP.01.02.01 and Stream 2 in IP.01.02.02 meet the criteria for Indigenous-led



# Project milestones

## Project IP1.02.01: Nature connection

<b>Milestones</b>	<b>Due date</b>	<b>Responsible person</b>
Milestone 1 - Annual report on project's RP2022 activities	7 April 2023	Emily Flies (UTAS)
Milestone 2 – Signing of project contract	30 June 2023	Emily Flies (UTAS)
Milestone 3 – Co-design workshops for RP2024 commenced	1 August 2023	Emily Flies (UTAS)
Milestone 4 – first on-country Aboriginal cultural awareness training completed	1 August 2023	Emily Flies (UTAS)
Milestone 5 – Detailed project RP2024 developed	29 August 2023	Emily Flies (UTAS)
Milestone 6 – Report on strategies for equitable urban greening and nature connection in regional communities	31 December 2023	Jason Byrne (UTAS)
Milestone 7 - First draft of an Indigenous-led project developed	31 December 2023	Emily Flies (UTAS)
Milestone 8 – Co-designed national survey examining nature connection and its benefits delivered	31 December 2023	Emily Flies (UTAS)
Milestone 9 – Workshop and report on collecting nature-connection stories	31 March 2024	Emily Flies (UTAS)
Milestone 10 - Annual report on project's RP2023 activities	7 April 2024	Emily Flies (UTAS)
Milestone 11 – Detailed project RP2025 developed	29 August 2024	Emily Flies (UTAS)

Milestone 12 – Report and infographic characterising nature connection and benefits in Australia	31 December 2024	Emily Flies (UTAS)
Milestone 13 – Indigenous-led project commenced	31 August 2024	Emily Flies (UTAS)
Milestone 14 – Story-telling data collection begun with second community (young people)	31 December 2024	Pauline Marsh (UTAS)
Milestone 15 – Launch of interactive story database using data from first site/community (Tasmania)	31 March 2025	Pauline Marsh (UTAS)
Milestone 16 - Annual report on project's RP2024 activities	7 April 2025	Emily Flies (UTAS)
Milestone 17 – a tailored plan for Indigenous capacity building delivered	29 August 2025	Emily Flies (UTAS)
Milestone 18 – Review of national and international literature pertaining to nature connection, health and pro-environmental behaviours.  Storytelling data collection begun with third site/community (TBD)  Workshop bringing together policy-makers, practitioners and researchers to explore the mechanisms, enablers, and barriers to connecting, valuing and creating positive changes for people and nature planned	31 December 2025	Emily Flies (UTAS)
Milestone 19 – Addition of second community (young people ) data to interactive story telling database.  Report detailing mechanisms, enablers, and barriers to connecting, valuing and creating positive	31 March 2026	Pauline Marsh (UTAS)

changes for people and nature delivered.

Milestone 20 – An Indigenous-led framework for wellbeing and pathways for supporting wellbeing delivered for Tebrakunna community	1 April 2026	Emily Flies (UTAS)
Milestone 21 – Annual report on project's RP2025 activities	7 April 2026	Emily Flies (UTAS)
Milestone 22 – Story telling data from third site/community released on interactive story telling database	31 December 2026	Pauline Marsh (UTAS)
Nature Connection Toolkit for stakeholders and research end users delivered		

**Project IP1.02.02: Water sensitive and liveable communities**

<b>Milestones</b>	<b>Due date</b>	<b>Responsible person</b>
Milestone 1 - Annual report on project's RP2022 activities	April 2023	Paul Satur (Monash)
Milestone 2 – Signing of project contract	June 2023	Paul Satur (Monash)
Milestone 3 – Research user identified research priorities to address research user identified and prioritised gaps in knowledge capital and improvements to the interoperability of existing knowledge products	August 2023	Paul Satur (Monash) / Late Mohammad Swapan (Curtin) / Guy Barnett (CSIRO)
Milestone 4 - Detailed project RP2024 developed	August 2023	Paul Satur (Monash)
Milestone 5 – National convening of Indigenous scholars and Indigenous water practitioners to explore: aqua nullius (workshop 1), Indigenous water science practices and governance (workshop 2), and strategies to negotiate the use of Indigenous science methods and water governance (workshop 3).	October 2023	Kate Harriden (Monash)
Milestone 6 – Workshop reports	November 2023	Kate Harriden (Monash)
Milestone 7- Workshop with Traditional Owners and partners organisation(s) to discuss and plan steps towards establishment of remote areas living laboratory	October 2024	Paul Satur (Monash) / Late Mohammad Swapan (Curtin) / Guy Barnett (CSIRO)
Milestone 8- (Tentative) Formulation of living lab working group and project advisory to support future research and governance for living lab (UKTNP) (To be determine by Traditional Owners and partners through in context engagement)	March 2025	Paul Satur (Monash) / Francesca Perugia (Curtin) / Guy Barnett (CSIRO)
Milestone 9 - Water conference, shaped by the above workshop outcomes, aimed at creating the conditions for an Indigenous-led review of the work required to transform the architecture of the Australian water sector, including legislation and institutions, to allow the enfranchisement of Indigenous water rights, science and governance.	April 2025	Kate Harriden (Monash)
Milestone 10 – Water conference report	March 2025	Kate Harriden (Monash)
Milestone 11 - Annual report on project's RP4 activities	April 2025	Paul Satur (Monash)
Milestone 12– Establish First Nations scoping panel to identify appropriate Indigenous governance for balance of IP1.02 research program	May 2025	Kate Harriden & Paul Satur (Monash)

Milestone 13- Establishment of regional and remote areas advisory and steering group to guide next phase of formulation and scoping of a national platform (at discretion and guidance of end-users)	June 2025	Paul Satur (Monash)_ Francesca Perugia(Curtin) / Guy Barnett (CSIRO)
Milestone 14 - Co-designed research scopes and methods to address research end-user identified and prioritised capability needs, gaps in knowledge capital and/or improvements to the interoperability of existing knowledge products	August 2025	Paul Satur (Monash) / Francesca Perugia (Curtin) / Guy Barnett (CSIRO)
Milestone 15 - Detailed project scope developed with program partners- regional living lab (at discretion of partners including First Nations communities)	August 2025	Paul Satur (Monash) Francesca Perugia (Curtin) / Guy Barnett (CSIRO)
Milestone 16 – First Nations scoping panel report outlining appropriate Indigenous governance for balance of IUP1.02.02 research program	Oct 2025	Kate Harriden & Paul Satur (Monash)
Milestone 17- Delivery of western water systems workshop series (3) with First Nations Water leaders and practitioners	October 2025	Kate Harriden
Milestone 18- Western Systems Workshop(s) Report	December 2025	Kate Harriden (Monash)
Milestone 19- Global Partners Engagement in Aquanulius Report	December 2025	Kate Harriden (Monash)
Milestone 20 – Delivery of Aquanulius Workshop series with First Nations water leaders and practitioners	March 2026	Kate Harriden (Monash)
Milestone 21- Aquanulius Workshops report	April 2026	Kate Harriden (Monash)
Milestone 22 - Annual report on project's RP2025 activities	April 2026	Paul Satur (Monash)
Milestone 23 – Prospectus for National Platform establishment for regional and remote water capability building to guide future research development and translation.	April 2026	Paul Satur (Monash) Mohammad Swapan (Curtin) / Guy Barnett (CSIRO)
Milestone 24 – Final report on Indigenous governance for IP1.02.02	April 2026	Paul Satur (Monash) / Francesca Perugia (Curtin) / Guy Barnett (CSIRO)
Milestone 25 – Final report on project's activities (including regional and remote living labs, platform development options, Aquanulius approach and project governance model for ongoing program development)	December 2026	Paul Satur & Kate Harriden (Monash)

# Data and information management

The co-design process will identify detailed knowledge products to be delivered through RP2025 and beyond. Detailed data and information management plans will be developed for each of these. It is expected that any knowledge products generated through the co-design phase will be made publicly available through the Hub website, and in accordance with the Hub Data Management Strategy and subject to ethics approvals and any relevant Indigenous Cultural and Intellectual Property (ICIP) arrangements. The Data Wrangler will play a key role in coordinating and facilitating this data management and sharing through the provision of expert advice.

Project output	Data management and accessibility
Synthesis reports, fact sheets, infographics and academic papers	Will be made publicly available on the Hub website, in accordance with the Hub Data Management Strategy. There will be sensitivities of the underlying data, per the ethics approval, that will not allow full disclosure of the data but all syntheses and data that can be made public will be made available on the website.
Reports from co-design workshops	Where Indigenous knowledges are included in project outputs, the management and accessibility of those outputs will be subject to the Ethics approvals, FAIR (Findable, Accessible, Interoperable, Reusable) and CARE (Collective benefit, Authority to Control, Responsibility, and Ethics) principles and any specific Indigenous Cultural and Intellectual Property (ICIP) arrangements developed with the communities involved. We will handle the data that emerges from these discussions according to Article 31 of the United Nations Declaration on the Rights of Indigenous Peoples, which Australia has endorsed, and affirms that:  <i>Indigenous peoples have the right to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions, as well as the manifestations of their sciences, technologies and cultures, including human and genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literatures, designs, sports and traditional games and visual and performing arts. They also have the right to maintain, control, protect and develop their intellectual property over such cultural heritage, traditional knowledge, and traditional cultural expressions.</i>
Nature connection story site	Specific to the Nature Connection interactive storytelling site, the project team will work with Indigenous partner organisations and community members to ensure that story data is collected and shared in culturally appropriate ways,



Project output	Data management and accessibility
Conceptual design and methodological framework for the development of a national platform to advance water sensitive outcomes for liveable regional and remote communities	<p>and with full consent. Process consent methods will be applied (i.e. at continuing points in the co-design and collection and sharing process) to provide multiple opportunities along the project timeline to reiterate how, when and why the stories will be shared and used. Clarification about cultural obligations and kinship structures pertaining to story ownership and appropriateness for sharing in the public (and non-Indigenous) domain will be built into the story-gathering processes, and form part of the authority to publish checks.</p> <p>Will be made publicly available on the Hub website, in accordance with the Hub Data Management Strategy and communication strategy.</p> <p>As above, all Indigenous knowledge included in project outputs will adhere to ethics approvals, FAIR and CARE principles, and all relevant ICIP arrangements.</p>

# Location of research

The projects aim to deliver knowledge products that can inform policy discussion and planning for all 102 Australian cities and towns defined as *Significant Urban Areas*<sup>9</sup> by the Australian Bureau of Statistics, as well as regional and remote communities. The co-design process will include research-users from urban, regional and remote Australia, including potential case studies in Launceston and rural Tasmania, as well as in Canberra, Melbourne, Perth, Hobart and Brisbane, regional Victoria (e.g. Ballarat), regional Western Australia and Uluru-Kata Tjuta National Park.

The choice of case-study locations has been led by our partners, while also taking account of our IP area's interest in focussing on regional, rural and remote areas.

Through the establishment phase, activities will be face to face where possible, particularly where invitations are received to meet on Country from TRACA and MTWAC (NE Tasmania) or the Traditional Owners of Uluru-Kata Tjuta National Park. However, the majority of the co-design activities will be conducted through online workshops and meetings, followed up by email conversations, as appropriate. Whether workshops are face to face, online or a hybrid of the two, notes will be kept as a record of outcomes and follow-up activities. These will be circulated to attendees with an option for them to seek clarification or amendment.

The table below describes the scale at which the project will be working, and the location/s where most of the project research will be conducted.

At which spatial scale is the project working	National <input checked="" type="checkbox"/>	Regional <input checked="" type="checkbox"/>	Local <input checked="" type="checkbox"/>
Location(s) – gazetted region /place name	Australia Tasmania Uluru Kata-Tjuta National park Murray-Darling Basin Other places TBD		
Aboriginal or Torres Strait Islander nation or traditional place name(s)	Lutruwita (Tasmania) Uluru Kata-Tjuta		

<sup>9</sup> <https://www.abs.gov.au/statistics/standards/australian-statistical-geography-standard-asgs-edition-3/jul2021-jun2026/significant-urban-areas-urban-centres-and-localities-section-state>

# Project keywords

Human-nature connection, Indigenous engagement, Indigenous leadership, liveability, nature-based solutions, water-sensitive cities, urban greening, pro-environmental behaviour, wellbeing, dark skies