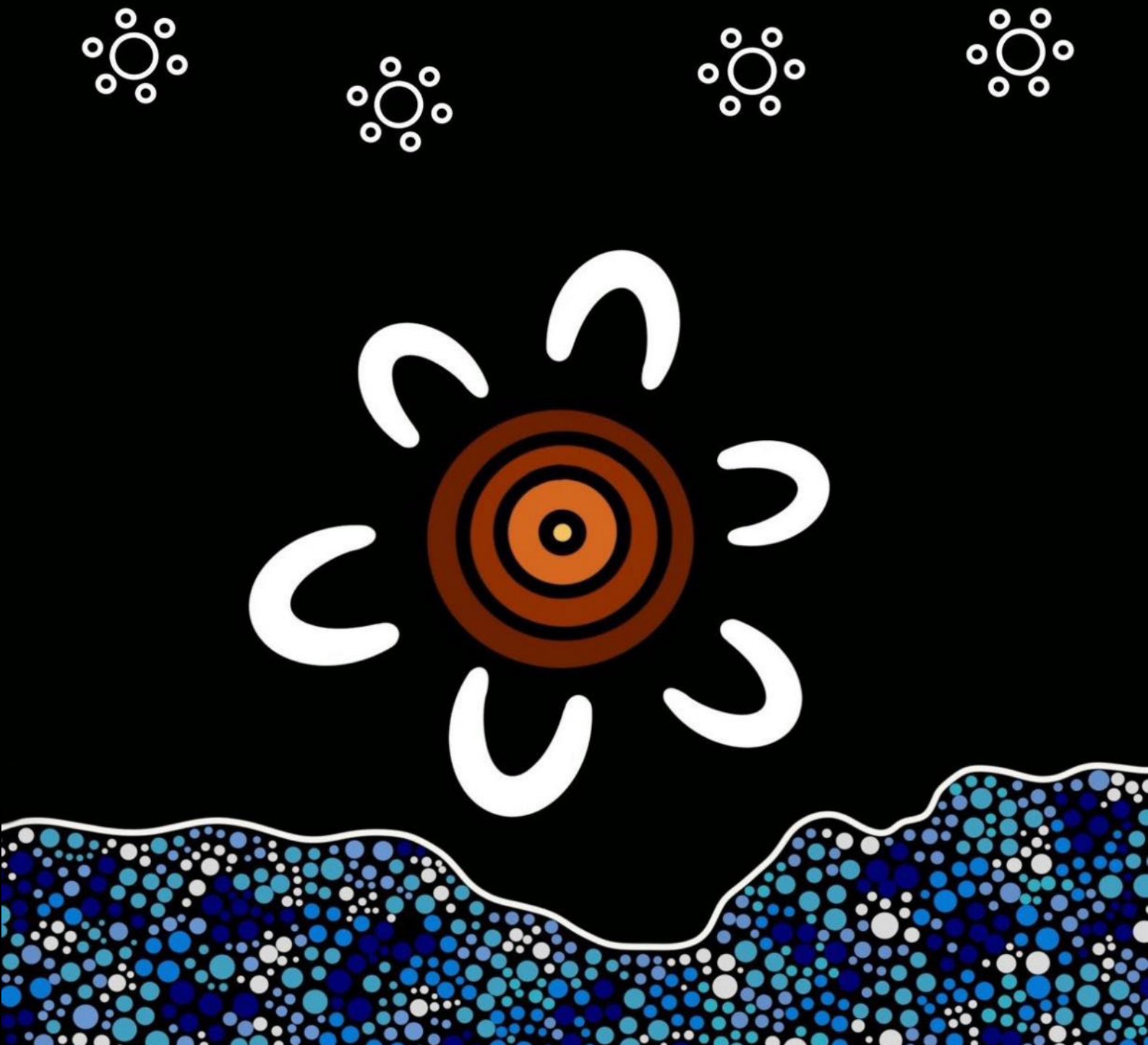
Ginninderry Conservation Trust

Ginninderry Conservation Corridor

MANAGEMENT PLAN 2023-2033



Ginninderry Conservation Trust

The Ginninderry Conservation Corridor Management Plan 2023 – 2033 is a requirement of the Australian Government's environmental approval of the Ginninderry urban development. The plan is developed with stakeholder and community input and approved by the ACT Minister for Planning and Environment. The plan is reviewed every 5 years.

ACKNOWLEDGEMENT

The Ginninderry Conservation Trust acknowledge the Traditional Owners of the land on which we live, learn and work, and pay our respects to the First Nations Peoples and their Elders, past, present and emerging.

DISCLAIMER

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The Aboriginal Artwork is the copyright of Wilay Designs. The designs were prepared by local Ngunawal artists, Jazz and Kristal Matthews.

The Aboriginal community uses both 'Ngunnawal' and 'Ngunawal' spellings. Wilay Designs use 'Ngunawal' in accordance with the teachings of their Elders. Throughout this document, 'Ngunnawal' is used generally, while 'Ngunawal' is used specifically in reference to Wilay Designs' artwork.

Please be aware that this document may contain historical representations and or photographs of people deceased.

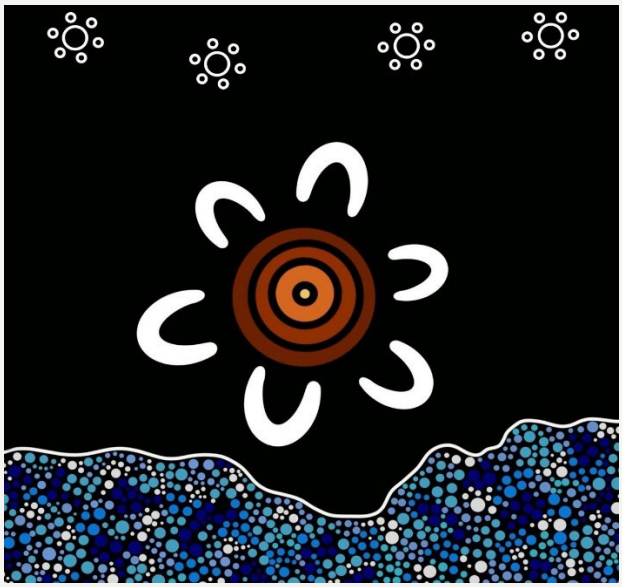


We embrace the spirit of reconciliation and commit to ensuring an equal voice for First Nations people. The name Ginninderry is derived from an Aboriginal word meaning "throwing out little rays of light" or simply "sparkling". It's a very appropriate name for a community and landscape that will be bounded by the Murrumbidgee River and Ginninderra Creek. Over time, the word has taken various forms, including Ginninginninderry, Ghinninghinninderra and Gingininderra, with recent linguistic work by AIATSIS suggesting Djinindirri. Ginninderry was first used for one of the early homesteads in the area including the creek that bordered its land.

After extensive consultation, it was decided that Ginninderry, and its reference to the stunning river corridor, was a name that had both historical provenance and contemporary relevance.

About Wilay Designs – Kristal & Jazz Matthews

"As proud Ngunawal women we have a strong connection to Country and the water throughout our Country. We would love to do some art pieces that depict our beautiful Ngunawal Country and the importance of caring for it. Caring for the land is something Ginninderry has been able to do by protecting culturally significant land. And also preserving trees, we would add some of these trees within an art piece. The waterways are such a significant part of who we are as Ngunawal people so our art pieces would have waterholes, the Ginninderra creek and the Murrumbidgee River. Also the animals that you'd find down by or in the river. Like platypus, fish, turtles & kangaroos etc."



CORROBOREE GROUND

Artist: Kristal Matthews

This design represents the Corroboree Ground, a corroboree was a time of meeting together and celebrating with different mobs who pass through Ngunawal Country. Underneath the starry night sky with the hills in the distance my people and all those who gathered together would come by the waterways and sit near the fire. A fire is depicted in the middle, which is also a meeting place, with people gathered around it. The white represents the ochre which was used during ceremony. Native bush plants and tucker that was collected is represented by the earthy tones. Our connection to Country is just as vital to us today as it was to our old people. We must continue to care for Country and reflect on the significance of this area.

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THE STICKY EVERLASTING (XEROCHRYSUM VISCOSUM), 2021

Artist: Jazz Matthews

This design represents the beautiful native plants. The sticky everlasting is found on Country & brings in the insects, so is good for pollinating.

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Figure 1. A section of the Strathnairn to Shepherds walking



Elioth Gruner (New Zealand; Australia, b.1882, d.1939), Weetangera, Canberra 1937, oil on canvas, 63.8 x 76.5 cm, Art Gallery of New South Wales, Photo: AGNSW, Jenni Carter, licensed to Ginninderry Conservation Trust

Our Vision

The Ginninderry Conservation Corridor is a thriving sanctuary unifying nature, culture, and community. Through outreach, research and partnerships we will protect and restore biodiversity, safeguard ecological integrity, and build a legacy of conservation excellence that inspires a new generation of stewardship.

IN 2033 THE GINNINDERRY CONSERVATION CORRIDOR IS UNIQUE AND IMMEDIATELY RECOGNISABLE AS A PLACE WHERE:



Protection and enhancement of threatened species habitat and communities has been successful and there are viable populations of endangered ecological communities.

The mosaic of distinctive landscapes and habitats have been conserved and enhanced, supporting wildlife to recover and flourish.

Innovative approaches and best available science help the Corridor's biodiversity adapt to climate change and other emerging threats.



There are viable landscapes, habitat and wildlife corridor connections and an abundance of aquatic life within the Conservation Corridor.



There is a strong understanding and respect for Aboriginal values and traditional knowledge is embedded in management activities within the Conservation Corridor.



An informed and motivated community assist in minimising risks to the ecological integrity of the Conservation Corridor.



Our Guiding Principles

The operating principles that underpin our vision for conservation excellence are:

PRINCIPLE 1: COMBINING SCIENCE AND CULTURAL KNOWLEDGE Embrace science and cultural knowledge to protect, connect, and restore landscapes, and foster the support and involvement of our partners for effective natural and cultural heritage conservation.	**PRINCIPLE 2: ADAPTING TO A CHANGING CLIMATE** Climate change predictions need to be faced and acted upon now. We will continue to ensure scientific monitoring and expertise will create best practice management decisions in our conservation planning in the face of a changing climate.	**PRINCIPLE 3: CONNECTIVITY** Maintain and enhance the Corridor's role as part of the broader Murrumbidgee River Corridor, facilitating conservation linkages and wildlife movement across the landscape. Improve management practices to sustain connectivity along the Murrumbidgee and Molonglo River Corridors, Ginninderra Creek catchment, and the ACT and NSW regions.
PRINCIPLE 4: TRADITIONAL CUSTODIANS Respect and protect Aboriginal sites, cultural, and spiritual values in collaboration with Traditional custodians. Involve Aboriginal people in Corridor management and promote cross-cultural awareness within the wider community.	**PRINCIPLE 5: SUSTAINABLE COMMUNITY AND VISITOR USE** Offer enriching experiences that align with natural and cultural values, inspiring visitors and the community while contributing to their well-being and appreciation of the Corridor. Concentrate recreational developments in defined areas that preserve natural and cultural values. Seek compatible commercial partnerships for visitor experiences.	**PRINCIPLE 6: COMMUNITY ENGAGEMENT** Engage the community in Corridor planning, management, ecological enhancement, and cultural heritage protection. Foster scientific research, provide learning and education opportunities, and encourage volunteer participation.
PRINCIPLE 7: QUALITY INTERPRETATION Deliver quality interpretation and management messages that resonate with contemporary audiences, promoting understanding and respect for the Corridor's natural and cultural values. Encourage responsible visitor behaviour with minimal impact.	**PRINCIPLE 8: COLLABORATE ON THE URBAN INTERFACE** Collaborate with the Ginninderry urban developers and future land managers Transport and City Services (ACT Government) to ensure the interface between the Corridor and the Ginninderry urban area aligns with conservation, ecosystem enhancement, and recreation objectives.	**PRINCIPLE 9: EFFECTIVE AND TRANSPARENT GOVERNANCE** Maintain effective and transparent governance aligned with ACT, NSW, and Commonwealth policies for effective natural and cultural heritage conservation.
PRINCIPLE 10: LONG-TERM FINANCAL VIABILITY Secure adequate finances and resources to achieve the Corridor's vision, sustain management operations, and provide quality visitor opportunities in the long term. Utilise government and developer contributions, commercial partnerships, and voluntary collaborations for ongoing investment in programs and asset management.	**PRINCIPLE 11: CONTINUAL IMPROVEMENT** Manage the Corridor under an adaptive framework, continuously refining the Management Plan, priorities, and actions based on monitoring, research, and evaluation. Involve government agencies, institutions, and community groups in research and monitoring programs, fostering connections with existing research findings and programs.	**PRINCIPLE 12: CONSERVATION LEADERSHIP** Investment in conservation leadership through professional development, training and mentoring of our people to help them to multiply their impact across the conservation sector.

Our Objectives

The Ginninderry Conservation Corridor (the Corridor) is located on the lands of the Ngunnawal and Ngambri peoples, whose ancestors managed this landscape for more than 25,000 years prior to European colonisation and the establishment of the ACT.

The Corridor spans the border of the ACT and NSW and is an integral part of the Ginninderry community. It contains a unique combination of significant biodiversity, Aboriginal cultural values, and scenic landscapes which, together, create a unique and special place adjacent to the Murrumbidgee River. It represents a critical link to building and improving ecological connectivity across the wider landscape, and strengthening resilience against disturbance or threats, such as climate change.

The Corridor contains critically endangered Box Gum Woodland and Natural Temperate Grassland and several threatened or declining animal species that rely on these ecosystems including the nationally vulnerable Pink-tailed Worm-lizard. The woodland and forests of the riparian corridor and remnant woodland elsewhere in the Corridor provide habitat for a range of threatened, migratory and other bird species.

In addition to its ecological significance, the Corridor also encompasses important Aboriginal cultural values. It is a place of cultural and spiritual significance for Traditional Custodians. It is also a place for people to engage with and appreciate these qualities.

The Corridor is managed by the Ginninderry Conservation Trust (the Trust) as an IUCN Category IV reserve. According to the IUCN the primary objective of a Category IV reserve is to maintain, conserve and restore species and habitats. The primary objective should apply to at least three-quarters of the protected area – this is known as the 75 percent rule.[1]

Other objectives include:

- To protect vegetation patterns or other biological features through traditional management approaches.
- To protect fragments of habitats as components of landscape or seascape-scale conservation strategies.
- To develop public education and appreciation of the species and/or habitats concerned.
- To provide a means by which the urban residents may obtain regular contact with nature.

This IUCN category applies to habitat fragments or modified ecosystems (often close to urban areas) where active intervention is needed to manage or restore species and strengthen ecosystems.

Under the ACT's Nature Conservation Act, the Corridor is assigned as a Category IV IUCN reserve. It is listed in Schedule 1 as Unnamed Belconnen Reserve which is now known as the Ginninderry Conservation Corridor.

This Management Plan sets out the overall approach to managing the Corridor for the next ten years with the aim to improve the status of endangered ecological communities and species and to maintain healthy and functioning environments. It guides and aligns the priorities and resources of the Trust with those of partner organisations, businesses and the community groups who support our collective ambitions. The Plan describes the significance of the Ginninderry Conservation Corridor's values; outlines the legislative and policy context for management and it sets the vision, goals and objectives for management.

[1] Dudley, N. (Editor) (2008). Guidelines for Applying Protected Area Management Categories. Gland, Switzerland: IUCN. x + 86pp. WITH Stolton, S., P. Shadie and N. Dudley (2013). IUCN WCPA Best Practice Guidance on Recognising Protected Areas and Assigning Management Categories and Governance Types, Best Practice Protected Area Guidelines Series No. 21, Gland, Switzerland: IUCN. xxpp

It identifies policies and actions to achieve the objectives and provides a basis for the community to understand and engage in the Corridor's management. The plan aims to achieve the following outcomes in the next ten years:

- Research provides a sound evidence base for land management and conservation decisions and supports the Trust's program of conservation excellence.
- Traditional knowledge improves environmental and cultural outcomes.
- Community awareness of Aboriginal cultural heritage and connection to Country is increased.
- Threatened ecological communities (Box Gum Woodland, and Natural Temperate Grasslands), and threatened Pink-tailed Worm-lizard populations are protected and enhanced.
- The diversity, extent, condition, connectivity and resilience of native ecological communities and native animals are maintained and/or improved to support ecosystem resilience.
- Threats to native plants, animals and ecological communities are minimised.
- The impacts of wildfire on biodiversity values are minimised while life and property are protected.
- Knowledge and understanding of the implications of climate change on the values of the Corridor is strengthened.
- The scenic views from within and into the Corridor are protected and enhanced.
- The Murrumbidgee River and riparian ecosystems are protected and improved.
- Historic heritage places and objects are protected and conserved.
- Nature-based activities in the Corridor contribute to the improved emotional, physical, and spiritual health and well-being of our community.
- Residents and the wider community are committed to the Corridor vision and are actively involved through a range of activities and volunteering.
- Addressing the complexity of our future conservation challenges will require a strategic and collaborative approach. Maintaining existing and developing new partnerships will be essential for sustaining the future capacity of the Ginninderry Conservation Corridor and the ultimate success of our vision for conservation excellence.

Our achievements so far

Since the Corridor was established in 2018 much has happened with enhancement programs, research partnerships, community engagement and on-ground conservation work. These achievements and highlights include:

- Establishment of the Ginninderry Conservation Corridor and implementation of commitments for its protection and management.
- Establishment of the Ginninderry Conservation Trust and delivery of the Ginninderry Conservation Corridor Management Plan.
- Mapping of Matters of National Environmental Significance (MNES) in the Ginninderry Conservation Corridor to improve knowledge of their extent and condition.
- Support implementation of cat containment in the urban areas as they are developed.
- Weed control for the protection and enhancement of Box Gum Woodland, Natural Temperate Grassland and Pink-tailed Worm- lizard habitat.
- Natural Temperate Grassland and Pink-tailed Worm-lizard habitat enhancement and extension works.
- Development of a Bushfire Management Plan and biomass monitoring protocols associated with the strategic grazing program.
- Development of a Caring for Country team of dedicated First Nations land managers including two trainees.
- Community stewardship programs via shared information, active learning and volunteer opportunities.
- Completion of the first 3 stages of the walking track network through the Corridor.
- Implementation of an interpretation framework including messaging about accessibility and safety, wayfinding and interpretive signage (cultural and natural values).
- Participation in the Bush on the Boundary group which includes representatives from Ginninderra Catchment Group, ACT Conservation Council, Friends of Grasslands, ACT for Bees and Ginninderra Falls Association to collaborate on work program and conservation efforts.
- Establishment of volunteering programs in the Corridor.

- Pink-tailed Worm-lizard translocations ahead of development.
- Established a Murray Cray monitoring program in partnership with Office of Nature Conservation (ACT Government).
- Establishment of a partnership with ANU Fenner School for research programs to support conservation excellence including:
  - Understanding and managing the impacts of the red fox on Box Gum Woodland ecosystems and local threatened species.
  - Using diet analysis of herbivores including cattle, kangaroos and deer to understand and manage grazing as a conservation tool.
  - Pink-tailed Worm-lizard population estimates and translocation trials.
  - Habitat and ecology of Eastern Brown Snakes on the urban interface.

This management plan builds on the success of the previous management plan and the long-term objectives of ecological enhancement, cultural stewardship, sustainable recreation and community involvement.



Figure 2. School holiday program

1. Ginninderry Conservation Corridor

Ginninderry Conservation Corridor

- Is located on the lands of the Ngunnawal and Ngambri peoples.
- Straddles the border of the ACT and NSW.
- Contains endangered ecological communities and threatened species.
- Offers extensive opportunities to experience nature and enjoy recreational activities.

Management Plan

- Developed in accordance with Section 5.3.1 of the Program Report
- Approved by the ACT Conservator, ACT Minister for the Environment and NSW Department of Climate Change, Energy, the Environment and Water indicating compliance with all relevant Territory and State requirements.
- Sets the long-term vision for the Corridor.
- Describes important values.
- Establishes objectives for management.
- Provides actions for implementation over the next 5 - 10 years.



Figure 3. Wombat *(Vombatus ursinus)*

1.1 Significance of the Corridor

1.1.1 Biodiversity conservation

The Corridor serves as a sanctuary for the critically endangered Box Gum Woodland, a once abundant ecosystem now reduced to a mere 8% of its original coverage due to European settlement in southeast Australia. The Corridor is also home to the critically endangered Natural Temperate Grassland and to a significant population and habitat of the nationally vulnerable Pink- tailed Worm-lizard. The riparian areas and remaining woodlands throughout the Corridor offer a haven for a variety of bird species, including those that are threatened or migratory.

1.1.2 Conservation connectivity

The Corridor plays a crucial role in connecting and conserving species and ecological communities across the regional landscape. It serves as an essential link within the larger Murrumbidgee River Corridor, spans 9,800 hectares and stretches 66 kilometres along the Murrumbidgee River in the ACT. This expansive corridor is a significant conservation link in the region.

Ginninderra Creek and the surrounding reserves in the catchment area contribute to habitat connectivity, bridging Mulligans Flat Woodland Sanctuary, other reserves in the northern ACT, and nearby regions of New South Wales.

1.1.3 Ecological research and innovation

The Corridor plays an important role in supporting research of threatened communities and important flora and fauna species. Collaborative partnerships with the research and conservation community enable significant conservation outcomes. This research contributes to the conservation of threatened flora and fauna species as well as conservation and knowledge sharing.

1.1.4 Ecosystem services

Ecological restoration in the Ginninderry Conservation Corridor and sustainable management of natural processes, soils, streams, runoff, weeds, pests and human uses will contribute to the quality of the regional environment and the social and economic community benefits derived from the environment.

It will contribute to the quality of water and associated aquatic ecosystems in the Murrumbidgee River which is one of Australia's most significant rivers, providing water supplies to towns and irrigation for food production downstream of the ACT.

1.1.5 Cultural heritage

The Corridor is of high cultural significance to the Aboriginal community. It provides evidence and connection between past Aboriginal use of the Murrumbidgee River and Ginninderra Creek areas and the present community. It has significance as an area where connection to country can be maintained (including through participation in management and deriving socio-economic benefits) and culture can be communicated to younger generations. The knowledge and skills of the Traditional Custodian's will help to improve conservation efforts across the Corridor.

Additionally, the history of European agricultural settlement and land use from the 1830s is intertwined with the Corridor's landscape. This connection is evident through the nearby Belconnen Farm heritage precinct, which is listed on the ACT Heritage Register, and Elioth Gruner's 1937 painting *Weetangera*

1.1.6 Scenic landscape

The Corridor offers sweeping vistas of the Murrumbidgee River, Brindabella Ranges and Namadgi National Park in the distance.

1.1.7 Recreation and tourism

The Corridor's picturesque surroundings and riverfront location make it a vital resource for recreation for the residents of Ginninderry, West Belconnen and the broader region. It offers a range of opportunities for outdoor activities and includes a network of walking tracks to promote physical well-being and facilitate a deeper connection with the area's natural and cultural heritage. With its proximity to the growing population of Ginninderry, and other areas of Canberra, the Corridor provides convenient access to the Murrumbidgee River. Moreover, it serves as a hub for educational institutions and the community to actively engage in learning, appreciating local biodiversity, participating in ecological enhancement efforts, and celebrating the rich cultural heritage of the area.

The Riverside Parkland locality was recognised as a regional recreation destination in the National Capital Plan of 2014.

1.1.8 Community conservation and stewardship

The Corridor supports a range of programs that aim to set a national benchmark in achieving community-based biodiversity conservation adjacent to an urban area. It provides opportunities for individuals, groups and organisations to work collaboratively to promote, monitor and protect the Corridor's natural values.

The threats to these values and the actions required to mitigate them are summarised in Table 1.

Table 1. Threats to values in the Ginninderry Conservation Corridor

THREAT	POTENTIAL IMPACTS	MEASURES THAT WILL BE USED TO MANAGE THREATS[2]
Climate Change	• Impacts on Pink-tailed Worm-lizard habitat, Box Gum Woodland, Natural Temperate Grassland and other significant species and communities. • Changes in moisture and nutrient levels affecting growth conditions and habitat of some species. • Increase in climate related events-drought, fire, flood.	• Science-based response for biodiversity management and ecosystem enhancement of specific ecosystems. • Ongoing research and conservation innovation programs to support species survival.
Spread of weed species	• Competition with native vegetation communities and species. • Impacts on Pink-tailed Worm-lizard habitat, Box Gum Woodland, Natural Temperate Grassland and other significant species and communities. • Impacts on ecosystem enhancement works. • Degradation of cultural values.	• Long term weed control programs. • Management vehicle and machinery wash down protocols. • Collaboration with nearby conservation landscape managers. • Encourage use of native species in Ginninderry urban landscaping and discourage use of potential weed species. • Surveillance for new species incursions.
Grazing and browsing by feral deer, goats, pigs, rabbits and domestic stock	• Impacts on biodiversity of native vegetation communities through grazing, introduction of weed species and suppression of vegetation regeneration. • Disturbance of native animal habitat. • Reduction of ground cover leading to soil erosion. • Animal impacts on Aboriginal cultural sites and cultural values.	• Long term feral animal control programs, using combinations of shooting, baiting and trapping. • Research program on the impact of feral animals. • Biomass monitoring to inform cattle stocking. • Use of sturdy tree guards to allow native plants to establish.
Predation by feral animals such as foxes, domestic dogs/cats feral/domestic cats entering from the urban area	• Impacts on native animal populations due to predation and interference with habitat and breeding.	• Feral animal control programs. • Cat containment in the urban area. • Exclusion of domestic dogs from the Corridor Research program.

[2] Details on these measures are provided in Chapters 4, 5 and 6

THREAT	POTENTIAL IMPACTS	MEASURES THAT WILL BE USED TO MANAGE THREATS[2]
Inappropriate fire regimes and fire protection measures	• Impacts on the condition of fire sensitive species and communities (such as Black Cypress Pine and Pale Pomaderris). • Damage to ecosystem enhancement works. • Degradation of PTWL habitat. • Impacts to cultural heritage sites.	• Science-based plans for biodiversity management and ecosystem enhancement of specific ecosystems that will determine appropriate fire regimes and feed into the Corridor's overall fire management plan. • Development of cultural fire burning regimes with input from the Ginninderry First Nations Reference Group and Caring for Country Team.
Changed runoff patterns and sediment and nutrients in runoff from urban areas and Corridor infrastructure	• Impacts on water quality, aquatic habitats and species in streams and the Murrumbidgee River caused by sedimentation or pollutants. • Introduction of weeds and pest species. • Changes in moisture and nutrient levels affecting growth conditions and habitat of some species, including Pink-tailed Worm-lizard habitat.	• High standards of sustainable urban design in the Ginninderry urban area, and retention ponds to contain and treat the quality of urban runoff. • Application of high standards of design and runoff management for infrastructure and buildings within the Corridor. • Maintenance of WSUD assets (by the Joint Venture/TCCS). • Creek stabilisation and revegetation within the corridor.
Rural tree dieback	• Loss of Eucalypt trees resulting from susceptibility to insect attack as part of a general decline in ecosystem health.	• Ecological enhancement which will reduce the vulnerability of older trees through improvements to soil structure, vegetation diversity and the range of tree age classes.
Impacts from construction activities in the urban area and the Corridor	• Damage to vegetation and animal habitat, including loss and fragmentation. • Impacts on water quality, aquatic habitats and species in streams and the Murrumbidgee River. • Introduction of weeds and pest species, foreign materials. • Damage to Aboriginal sites and cultural values.	• Construction Environment Management Plans including erosion and sediment controls, measures to mitigate weed spread, protective measures for sensitive areas, procedures relating to Aboriginal sites, waste management procedures and post-construction remediation. • Heritage conservation management plan.
Inappropriate location of tracks and infrastructure	• Soil erosion and weed spread. • Habitat fragmentation and loss of native animal habitat. • Human presence affecting native animals. • Damage to Aboriginal sites and cultural values. • Impacts on scenic values and heritage views.	• Construction of tracks and visitor precincts that will take account of impacts on Corridor values. • Pre-construction surveys for MNES. • Location of works depot outside the Corridor. • Conservation management planning for protection of Aboriginal sites. • Design principles to protect scenic values. • Heritage conservation management plan.

THREAT	POTENTIAL IMPACTS	MEASURES THAT WILL BE USED TO MANAGE THREATS[2]
Disturbance and damage by visitors	• Disturbance of native vegetation and plant and animal habitat, including taking of fallen wood and rocks. • Rubbish dumping • Fires • Erosion and weed spread. • Disturbance of Aboriginal archaeological sites and areas of Aboriginal significance. • Roadkill of native fauna.	• Planning and construction of tracks and visitor precincts will consider impacts on Corridor values in the location and design of tracks and infrastructure. • Programs and information to increase visitor awareness and encourage minimal impact behaviour. • A small number of visitor access roads and management tracks with low-speed limits. • Restriction of mountain bike usage to maintenance tracks, not walking tracks.
Social impacts from unsustainable type and level of visitor use	• Conflicting uses affecting the experience of other visitors and the quality of nature- and culture-based experiences through noise, speed and crowding.	• Planning and development of tracks and visitor precincts that will take account of impacts on Corridor values in the location of tracks and infrastructure. • Provision of visitor infrastructure to focus, limit and manage visitation. • Provision of areas for tranquil, low-key nature-based activities accessed by recreation tracks. • Programs and information to increase visitor awareness and encourage minimal impact behaviour.
Edge effects along the urban boundary	• Introduction of weeds, domestic animals, impacts on water quality. • Fragmentation of plant and animal habitat and ranges. • Roadkill • Multiple visitor entry points leading to uncontrolled uses, erosion, weed introduction, informal tracks and visitor conflicts. • Damage to Aboriginal sites and values.	• Collaborate with the Ginninderry urban developers and the future land manager Transport and City Services to ensure the urban interface protects the Corridor. • Fencing of the Corridor to manage access to designated roads and tracks. • A small number of visitor access roads and management tracks with low-speed limits. • Programs and information to increase awareness by residents and visitors of ways to minimise impacts on the Corridor and to encourage development of stewardship for the Corridor. • Encouragement of use of non-invasive and local species in the urban area. https://ginninderry.com/wp-content/uploads/2022/07/GIN_56325_Pest_Plants_Factsheet_A4_03.pdf • Contribute to continued review of preferred and non-preferred species for Ginninderry urban area.

1.2 Managing the Corridor's values

1.2.1 Establishment of the Corridor

The Ginninderry Conservation Corridor was established in 2018 as part of the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999 (*EPBC) approval of the Ginninderry urban development. The amount of land formally managed as part of the Conservation Corridor is currently 280 hectares (ha) in the ACT. Expansion of the Corridor is planned to occur over several years with additional areas added according to the approval and staging of the adjacent urban development.

Appendix C indicates the area expected to be under Trust management within the duration of this Plan which is in line with the stages of the Ginninderry urban development. This staged approach ensures the preservation of ecological integrity of the area while accommodating the needs of the growing community.

In its entirety the Corridor will span the ACT/NSW border and cover an area of approximately 580 hectares (when fully established.

The Ginninderry Conservation Corridor has two forms of land tenure to reflect the arrangements between the ACT, NSW, Yass Valley Council and the Australian Government. The ACT land is Public Land Nature Reserve managed by the Trust under a Licence to Occupy Unleased Land from the ACT Government. The NSW land is currently Freehold Land which has been rezoned to C2. In the future as the R1 zoned land is developed for urban living the adjacent corridor land will be dedicated to Yass Valley Council and managed by the Trust in accordance with this Management Plan.

This Management Plan will apply only to the areas of the Corridor where management responsibility has been, or will be, transferred to the Trust within the next five years. Specifically, the areas to which this plan will apply includes stages 1a, 2a and 3a (refer Appendix C - Staging Plan). It should be noted it is understood that any land dedicated to the Trust's management beyond the term of the Plan will be managed in accordance with the Plan. In the interim, land management will continue to be the responsibility of the ACT Government and NSW freehold landowners.

1.2.2 Management of the Corridor[3]

The Ginninderry Conservation Trust's primary responsibility is delivering the obligations required by the ACT, Yass Valley Council and Australian Governments and the commitments outlined in this Management Plan.

Funding to implement these commitments comes primarily from the Ginninderry Joint Venture Partners - Riverview Developments and the ACT Government.

Riverview Projects (ACT) Pty Ltd holds an EPBC Commonwealth approval with the West Belconnen EPBC Approval granted on 01 September 2017. The EPBC approval grants environmental approval over the Ginninderry Project, including both the urban area and Ginninderry Conservation Corridor. The conditions of this EPBC approval set out the actions and offset requirements for MNES matters in the Ginninderry Conservation Corridor and are outlined in the Program Report across Table 4 and Section 5.3.1. The Program Report and the EPBC Approval are the guiding documents behind this Management Plan and the Offset Management Plan. Accordingly, all management actions will be completed in accordance with the guiding documents as well as the Management Plan and the Offset Management Plan.

Separate environmental approvals may also be required from the ACT Government for certain activities.

The Ginninderry Development Offset Management Plan[2] guides the technical details of conservation and ecological enhancement measures in areas of the Corridor that contain special values and are considered MNES. It sets out the requirements and obligations to mitigate the environmental impact of the adjacent urban development and ensure the protection and enhancement of these ecologically significant species.

Specifically, the Ginninderry Development Offset Management Plan contains management plans for Box Gum Woodland, Natural Temperate Grassland and Pink-tailed Worm-lizards.

Offset sites are mapped using ArcGIS software and can be viewed using the ArcGIS Online platform. Contact admin.contact@ginninderry.org for access.

1.3 Implementation of the management plan

The management strategies in this Plan are set out in a way that shows the connections between the outcomes that are sought for the Corridor, the actions

[3] Ginninderry Development Offset Management Plan, SMEC 2

that will be taken to achieve outcomes and the ways performance will be evaluated.

- **Objectives (What we want to achieve)** – desired outcomes for the Corridor in the long term.
- **Actions (What we are going to do)** – management actions to achieve desired outcomes, concentrating on priorities.
- **Measures of Success (How we will evaluate outcomes)** – performance indicators that will enable us to evaluate what we have achieved.

Actions are prioritised as follows and are listed in Table 4:

- Ongoing – actions that will be applied throughout the life of this Plan and future management plans.
- Priority 1 – to be completed 2025-2027
- Priority 2 – to be completed 2027-2030
- Priority 3 – to be completed 2030-2033

Implementation will be supported by a number of supporting plans that provide additional detail against specific items referenced in the Management Plan.

These are presented in Table 2.

1.3.1 Conservation Corridor Ecological Monitoring Framework

The Ginninderry Conservation Corridor Ecological Monitoring Framework establishes the monitoring schedule, monitoring approach and thresholds for review of management measures for each of the MNES including:

- Box Gum Woodland listed as critically endangered under the EPBC Act.
- Natural Temperate Grassland of the South- Eastern Highlands (Natural Temperate Grassland) listed as critically endangered under the EPBC Act.
- Pink-tailed Worm-lizard (*Aprasia parapulchella*) listed as vulnerable under the EPBC Act.

It also sets out specific monitoring requirements for a range of environmental factors which are not listed as MNES relating to vegetation mapping and vegetation condition monitoring.

The framework is intended to remain as a 'live' document, includes standalone sections for annual monitoring of each ecological value, and includes guidance for ongoing update and adaptive management of the framework to ensure it remains consistent, appropriate and implementable. The Framework meets the monitoring requirements for ACT conservation reserves and offsets, including the Conservation Effectiveness Monitoring Program.[4]

Monitoring reports are published at https://www.ginninderry.org/publications as they become available.



Figure 4. Fungi and moss

[4] Conservation Effectiveness Monitoring Program, ACT Government, 2017.

1.4 Adaptive management and review

This and subsequent Management Plans for the Ginninderry Conservation Corridor will follow a best-practice adaptive management framework that enables management strategies and actions to be evaluated and adjusted over time based on experience, monitoring, climatic conditions, research and science-based evidence.

Adaptive management is a best practice approach developed by the IUCN for effective management of protected areas, including ecological enhancement and sustainable recreational use (refer Figure 6). It is a cyclical process that consists of:

- analysis of the current status and threats
- planning where to go in the future (desired outcomes) and how to get there (strategies, actions and resources)
- implementing the plan
- putting in place indicators and observation, surveillance, monitoring, and research systems to provide information on achievement of desired outcomes (performance)
- evaluating outcomes periodically to assess effectiveness by reviewing plans and making any necessary adjustments.

A mid-term review of this Plan will occur in 5 years to evaluate progress and identify any issues that arise as residential development continues, research into the Corridor progresses and management outcomes are achieved. A full review of the Plan will be undertaken in 10 years.

There is potential to coordinate reviews of this plan with reviews of the Murrumbidgee River Corridor Management Plan undertaken by the ACT Government.

Annual reporting to the ACT Conservator of Flora and Fauna on MNES outcomes is also required as part of the MNES approvals under the EPBC Act.

The relationship between the legislation, the Offset Management Plan, this Management Plan, operational planning and the Ecological Monitoring Framework is presented in Figure 6.



Figure 5. LGBTQI+ planting day with Landcare ACT, Meridian and Molonglo RFS, May 2023

01 | DEFINE GOALS

What are we trying to achieve?
(Legislation, strategies, policies, reserve management plans and business plans)
Ginninderry Corridor Management Plan

- The values and significance of the Corridor
- Defines management objectives, actions and priorities for implementation

Ginninderry Offset Management Plan

- Management plans for Box Gum Woodland, Natural Temperate Grassland and Pink-tailed Worm- lizard

Murrumbidgee River Corridor Reserve Management Plan

- The values and significance of the Corridor
- Defines management objectives, actions and priorities for implementation

02 | PLAN ACTIONS

How do we get there?

(Implementation plans, operational plans, project plans)



05 | REPORTS

Provide feedback on effectiveness of actions in achieving goals set out in Program Report
(Recommendations on improvements)
Annual Reporting and Management Review

- EPBC Annual Reporting
- Ginninderry Conservation Trust Annual Report (Public)
- Quarterly reports to ACT Government in line with funding agreement Management plan review - 5 years
- Updated management plan - 10 years

04 | EVALUATE

Analyse data and assess evidence gathered from actions
(Evaluation of management effectiveness in meeting goals)
Conservation Corridor Ecological Monitoring Framework and Offset Management Plan:

- Are ecosystem management objectives being met?
- What factors are impacting on the objectives being met (eg climatic conditions)?
- What changes are required to improve results?
- Recommendations for improvement
- Ongoing review
- Research Programs

03 | DO

Implement action plan and record outcomes
(On-ground operational management works, monitoring, and research)
Corridor Operations Plan (annual)

- Lists annual management actions aligned to budget
- Thematic monitoring and research
- Spatially based
- Offset Management Plan

Figure 6. Implementation of the Ginninderry Conservation Corridor Management Plan and Adaptive Management Cycle

Table 2. Supporting plans to the Ginninderry Conservation Corridor Management Plan

	PLAN
Ecological enhancement and biodiversity conservation	Ginninderry Development Offset Management Plan 2022
	Ecological Monitoring Framework 2021
	Pink-tailed Worm-lizard Habitat Management Plan (included in Offset Management Plan 2022)
	Box Gum Woodland Management Plan (included in Offset Management Plan 2022)
	Natural Temperate Grassland Management Plan (included in Offset Management Plan 2022)
	Murrumbidgee Riparian Zone and Environs Management Plan 2024
	Weed Management Plan 2021
	Bushfire Management Plan 2022
Heritage and culture	Aboriginal Cultural Values Document 2017
	Cultural Heritage Management Plan 2021 (pending approval by ACT Government)
Visitor experiences and infrastructure	Tracks Master Plan 2022
	Visitor Safety Strategy 2022
	Interpretation Framework 2021
	Riverside Park Master Plan 2024
Community stewardship	Reserve Communication Strategy 2023
Management operations	Annual Works Plans (ongoing)

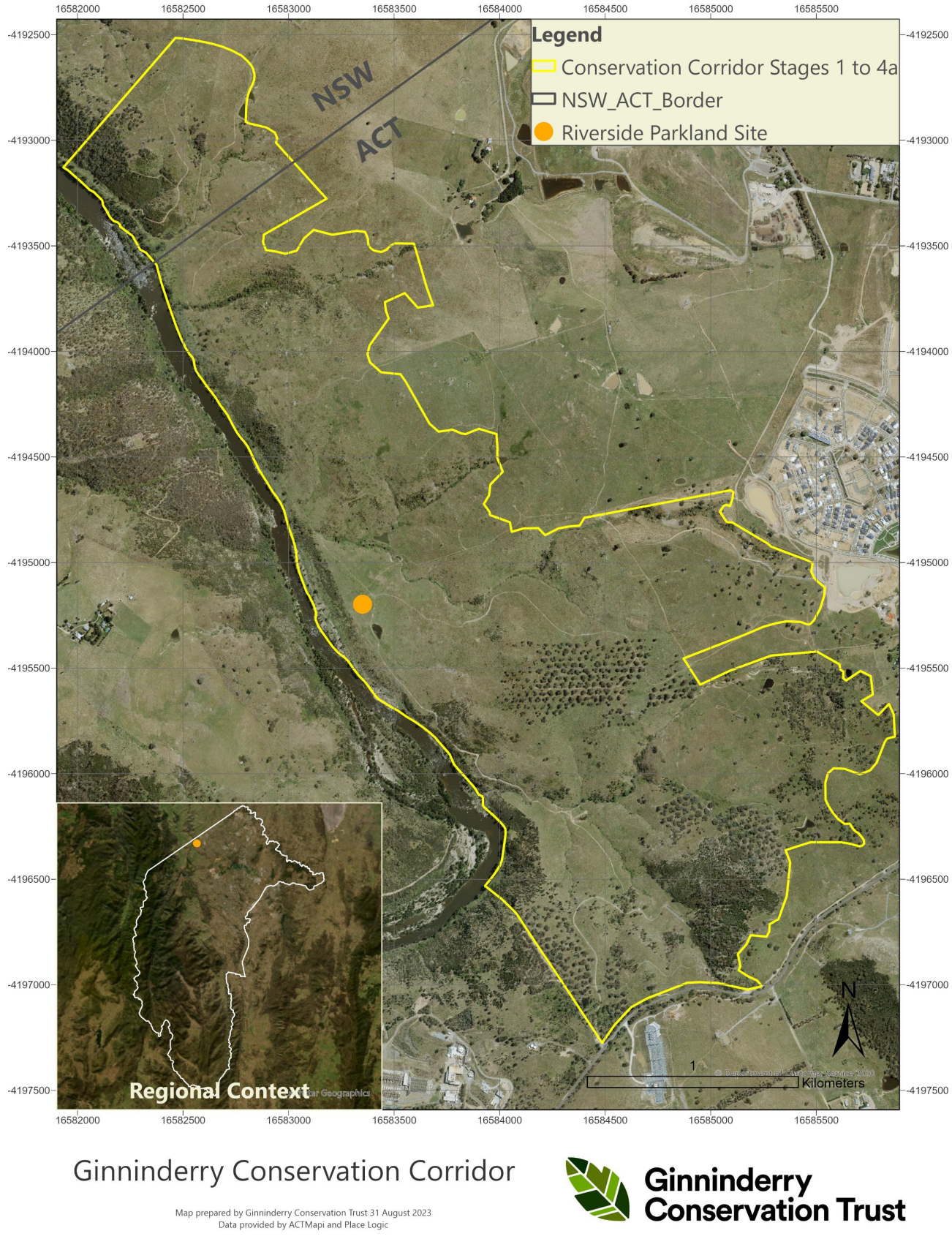


Figure 7. Ginninderry Conservation Corridor – Regional Context

2. Conserving natural values

Conserving natural values

- Critically endangered Natural Temperate Grassland and Box Gum Woodland.
- Critically endangered Pink–tailed Worm- lizard.
- Threatened flora and fauna species.
- Rare and uncommon plants.
- Habitat connectivity.

Management approach

- Threatened species and communities, native plants and animals are conserved.
- The extent and condition of native vegetation and habitat connectivity are improved.
- Threats are managed to reduce impacts and increase resilience to climate change.
- Aboriginal cultural practices are integrated into management.



Figure 8. Sunset beyond the woodland dam

2.1 Ecological enhancement and conservation of biodiversity

2.1.1 Ecosystems

The Ginninderry Conservation Corridor boasts a stunning landscape with steep slopes, dramatic watercourses, and ancient volcanic rocks dating back 444-416 million years. The diverse terrain creates a rich tapestry of habitats that nurtures a wide array of flora and fauna.

The Ginninderry Conservation Corridor supports the following four woodland or dry forest types:

- 140.2 ha of *Eucalyptus melliodora – E. blakelyi* Tableland Grassy Woodland.
- 11.1 ha of *Casuarina cunninghamiana* – Tableland Riparian Woodland.
- 17.3 ha of *Callitris endlicheri* – Dry Woodland – Open Forest.
- 79.3 ha of *Eucalyptus macrorhyncha* Tableland Grass/Shrub Forest.

The locations of vegetation types in the Corridor are summarised in Figures 11, 13 and 16.[5] The areas mapped in these figures are generally to be avoided unless impacts have previously been identified in the Program and are to be managed in accordance with Section 3 of the of the Ginninderry Development Offset Management Plan 2022.

Agricultural activities spanning 150 years have significantly altered the original vegetation communities. Despite this, the grasslands, woodlands and forests of the Corridor are of regional and national conservation significance due to the size and connection of vegetation patches, and the habitat they provide for threatened or declining species.

Any unanticipated impacts should be addressed and managed in line with the Program Report (Section 5.3.4)



Figure 9. View from rocky knoll looking downstream to the Murrumbidgee River



Figure 10. View from the Ginninderry Conservation Corridor to the Murrumbidgee River

[5] Robert Jessop Pty Ltd, 2017. West Belconnen Vegetation Survey Summary, 2017 Update.

2.1.2 Box Gum Woodland (MNES)

The Corridor contains three remnant patches (totalling 73.3 hectares) of the critically endangered Yellow Box – Red Gum Grassy Woodland and derived native grassland. In total, 59.3 ha of the Ginninderry Conservation Corridor (ACT portion) meets the EPBC Act criteria for Box Gum Woodland. An additional 14 ha meets the listing criteria for NC Act Box Gum Woodland (total 73.3 ha). All 73.3 ha occurs in the southern part of the Corridor, in the lower lying, flat to gently undulating parts of the landscape. This community is characterised by remnant trees such as Yellow Box (*Eucalyptus melliodora*) and Red Gum *(Eucalyptus blakelyi*), with a mix of native and exotic species in the understorey (refer Figure 11).

There are also remnants of the other woodland vegetation including Scribbly Gum (*Eucalyptus rossii),* Broad-leaved Peppermint (*Eucalyptus dives*), Red Stringybark (*Eucalyptus macrorhyncha*) and Snow Gum (*Eucalyptus pauciflora*). Areas of Natural Temperate Grassland also occur in the Corridor.

The Box Gum Woodland in the Corridor is in a modified condition with an absence of the tree layer in many places.

A National Recovery Plan for Box Gum Woodland (which was once widespread from southern Queensland to central Victoria) aims to prevent the extinction of the ecological community through protection and enhancement of remnant sites. The ACT Native Woodland Conservation Strategy and Action Plans (ACT Government 2019) outline conservation goals, objectives and actions for woodlands and woodland dependent species in the ACT.

Box Gum Woodland in the Corridor provides habitat for native fauna such as birds, bats, ground dwelling and arboreal mammals and invertebrates. Enhancement and extension of the woodland will provide additional habitat benefits. Small mammals that previously occurred in this habitat in the region include the Eastern Bettong (*Bettongia gaimardi)*, New Holland Mouse (*Pseudomys novaehollandiae*) and Southern Brown Bandicoot *(Isooden obesulus*).

Threats to the Box Gum Woodland in the Corridor can potentially come from weeds spread by visitors, vehicles, animals and migration from nearby areas; overgrazing by feral animals, livestock and native animals; predation by feral and domestic animals; dieback of mature trees; too frequent bushfires or hazard reduction burning; loss of ground cover through trampling, erosion and removal of fallen timber; inappropriate location of infrastructure; and failure to provide sufficient infrastructure to cope with visitation pressure from the Ginninderry community and Canberra more broadly.

Ginninderry Development Offset Management Plan[6] guides the technical details of conservation and ecological enhancement measures for the Box Gum Woodland.

The establishment of the Ginninderry Conservation Corridor effectively avoids any development of these remnant patches and their management is to be managed in accordance with Section 3 of the Ginninderry Development Offset Management Plan. Critical management needs for the conservation and enhancement of Box Gum Woodland are set out in the Offset Management Plan and include:

- maintaining or improving soil structure, aeration and organic matter and avoidance of fertilisers and soil compaction
- avoidance of run-off from developed areas and roads
- control of weeds and their introduction
- improving structural diversity and habitat in the ecosystem by protecting or reintroducing ground cover, fallen timber and tree regeneration
- strategic planting of missing elements such as shrubs or forbs
- adequate buffers from developed areas
- fire management burning in a mosaic pattern at appropriate durations taking account of an area's floristic composition
- grazing, where it occurs, that maintains 80% of ground cover and is avoided during the flowering and seeding of native species.

The EPBC Act approval sets out requirements for the location and management of infrastructure in Box Gum Woodland and the management of cats and dogs entering the Corridor.

Actions related to cat containment are provided in Section 2.5 (Actions ER 13) and dog walking in Section 6.2 (Table 17).

[6] Ginninderry Development Offset Management Plan SMEC 2022

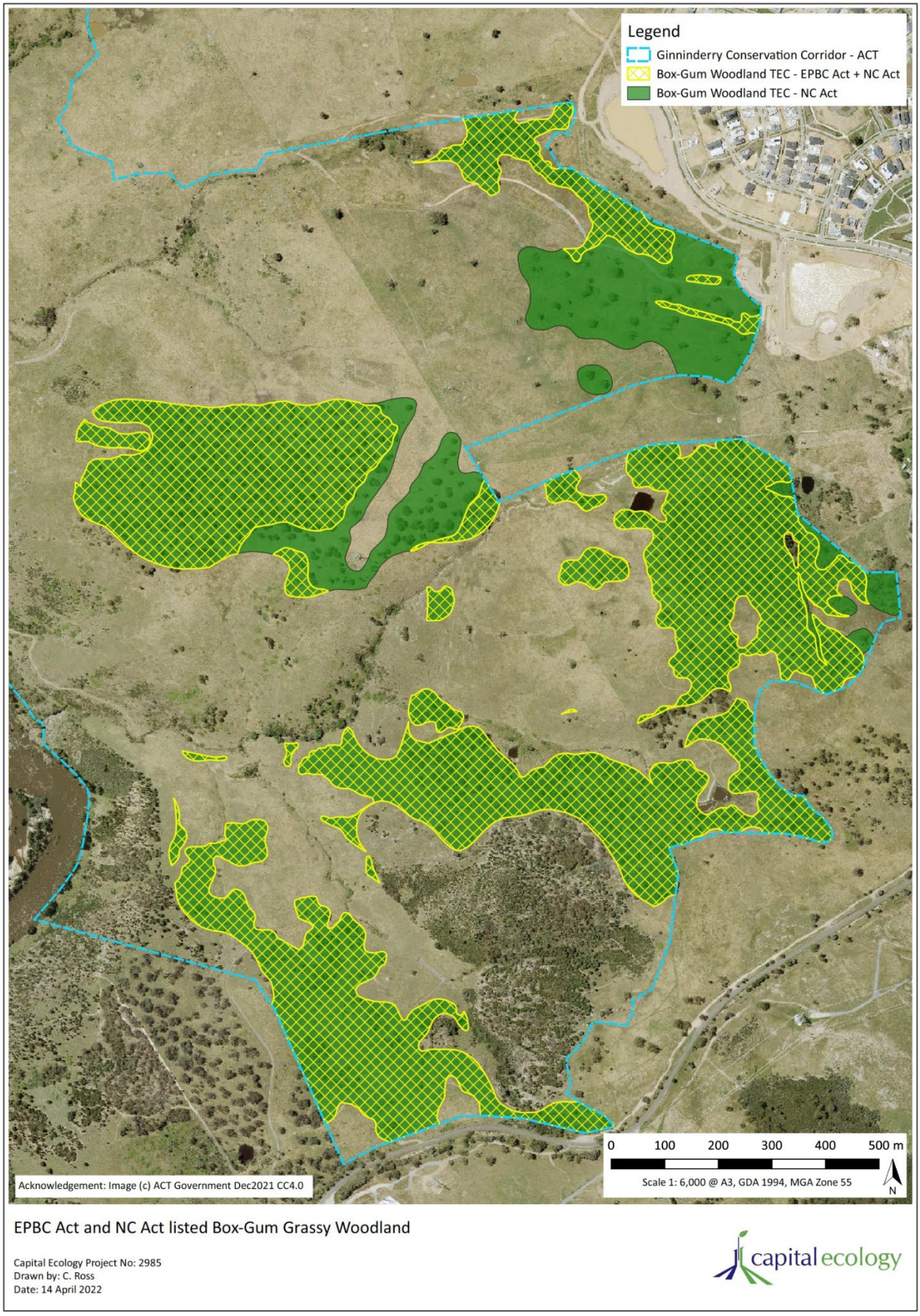


Figure 11. Box Gum Woodland in the Ginninderry Conservation Corridor (**Capital Ecology 2022**)

2.1.3 Natural Temperate Grassland (MNES)

The Corridor contains 123.7 ha of grasslands which have been mapped as meeting the condition thresholds for Natural Temperate Grassland.[7] Of this total 44.47 ha of Natural Temperate Grassland of the South Eastern Highlands (NSW and ACT) is a critically endangered community nationally and in the ACT (refer Figure 13).

Natural Temperate Grassland occurs in areas where few trees grow because of factors such as low temperatures, low rainfall and infertile or clay soils. In the ACT the community generally occur in valleys below 625 m in altitude.

Natural Temperate Grassland is a native ecological community that is dominated by moderately tall (25–50 cm) to tall (50 cm–1.0 m), dense to open native tussock grasses (*Themeda triandra, Rytidosperma* species, *Austrostipa* species, *Bothriochloa macra, Poa* species). There is also a diversity of native herbaceous plants (forbs), which may comprise up to 70% of species present. The ACT has some of the largest remaining patches of Natural Temperate Grassland in Australia, which represent a significant proportion of reserved areas for this community nationally. These areas, and connected areas of other native grassland, are also recognised as major habitat for several nationally threatened grassland animals and plants.

These grasslands in the ACT provide critical habitat for four threatened animal species:

- Striped Legless Lizard (*Delma impar*)
- Grassland Earless Dragon (*Tympanocryptis pinguicolla*)
- Golden Sun Moth (*Synemon plana*)
- Perunga Grasshopper (*Perunga ochracea).*

The Perunga Grasshopper has been identified in the Conservation Corridor on three occasions, including a patch of re-created grassland by our pro-active management.

The ACT Native Grassland Conservation Strategy and Action Plans provides the strategic context for the protection, management and enhancement of ACT native grasslands, and guides actions aimed at conserving threatened grassland species, as well as the critically endangered Natural Temperate Grassland ecological community.

The Ginninderry Development Offset Management Plan[8] guides the technical details of conservation and ecological enhancement measures for Natural Temperate Grassland.

Current threats to these areas are infestations of African Love Grass, St John's Wort, Blackberry and erosion. Future potential threats include trampling of vegetation caused by recreational use, feral animals and domestic dogs; and habitat damage or reduction of habitat connectivity caused by the location of infrastructure.

In addition to controlling the current weeds on site, maintaining appropriate biomass disturbance regimes (such as grazing pressure and fire frequency) will be a priority threat mitigation objective within the Natural Temperate Grassland areas in the Conservation Corridor.



Figure 12. Early Nancy (*Wurmbea dioica*)

[7] Sharp 2017; RJPL and SMEC, 2017

[8] Ginninderry Development Offset Management Plan, SMEC 2022

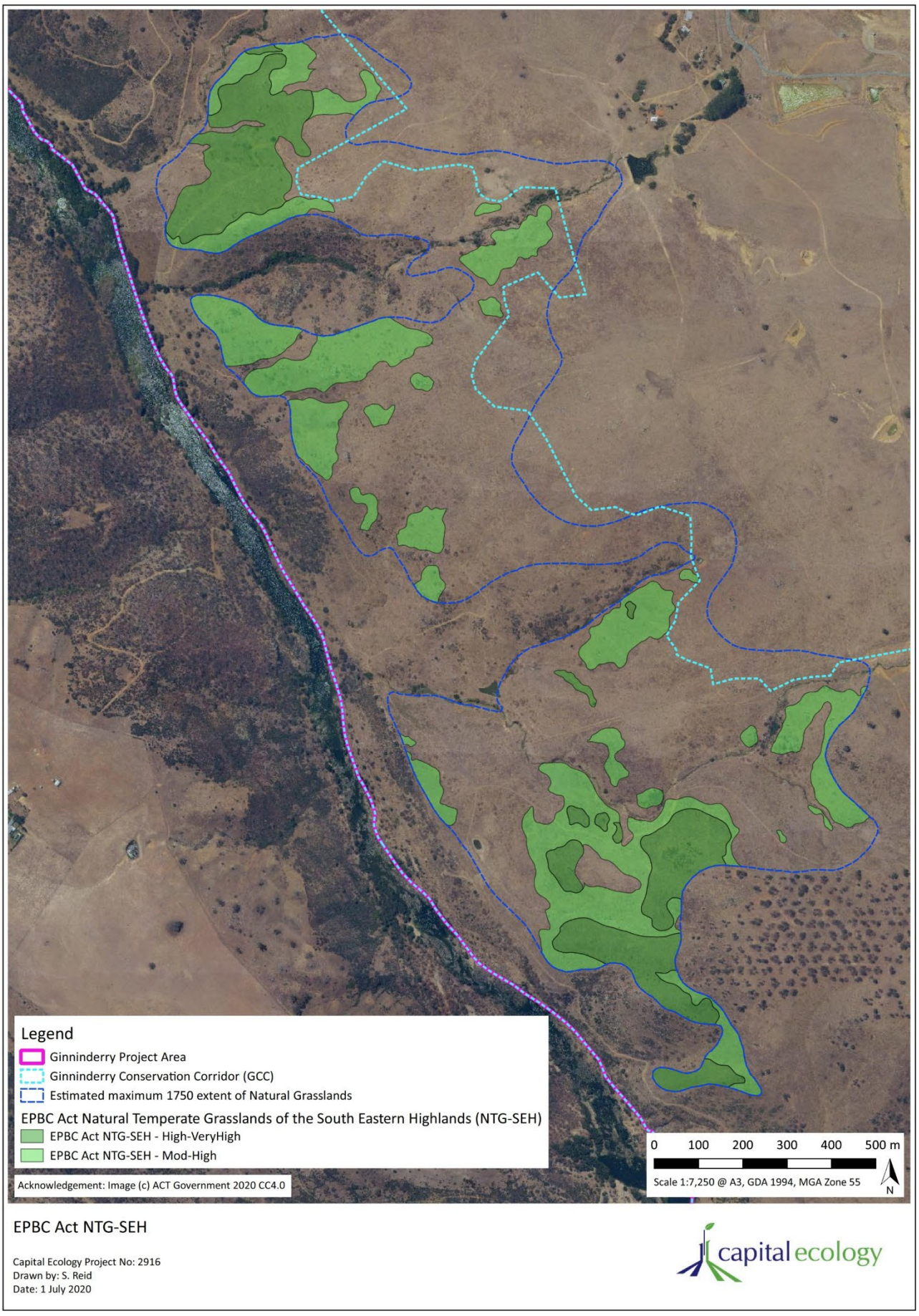


Figure 13. Natural Temperate Grassland in the Ginninderry Conservation Corridor (Capital Ecology 2020)

2.1.4 Dry forest

Along the slopes that overlook the river in the southern part of the Corridor, below Shepherd's Lookout, there are patches of Black Cypress Pine Tableland Open Forest. These areas are predominantly characterised by the unique and dominant presence of Black Cypress Pine (*Callitris endlicheri*) which hosts the rare Callitris Mistletoe (*Muellerina bidwillii*) at the eastern extent of its range.

2.1.5 Pale Pomaderris

Pale Pomaderris (*Pomaderris pallida*) has been found in the ACT section of the Corridor (one plant). Pale Pomaderris is listed as vulnerable nationally under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999* and in NSW under the *Biodiversity Conservation Act 2016*. The species is known from only about 15 populations mostly found in the region along the Murrumbidgee, Cotter and Paddy's Rivers.

2.1.6 Riparian and aquatic vegetation

Riparian vegetation occurs adjacent to watercourses, in the area above the permanent water level where a damper microclimate supports vegetation with different characteristics from adjacent dryland areas.

A narrow band of River She-oak Tableland Riparian Woodland is present along the Murrumbidgee River, characterised by extensive stands of River She-oak (*Casuarina cunninghamiana*). However, the understorey in this riparian zone consists predominantly of exotic species. River She-oak vegetation, once abundant, has significantly declined and holds important conservation value and plays a crucial role in protecting water quality and supporting river life, including threatened fish.



Figure 14. Murrumbidgee River riparian woodland



Figure 15. Box Gum Woodland along Shepherds Lookout Loop

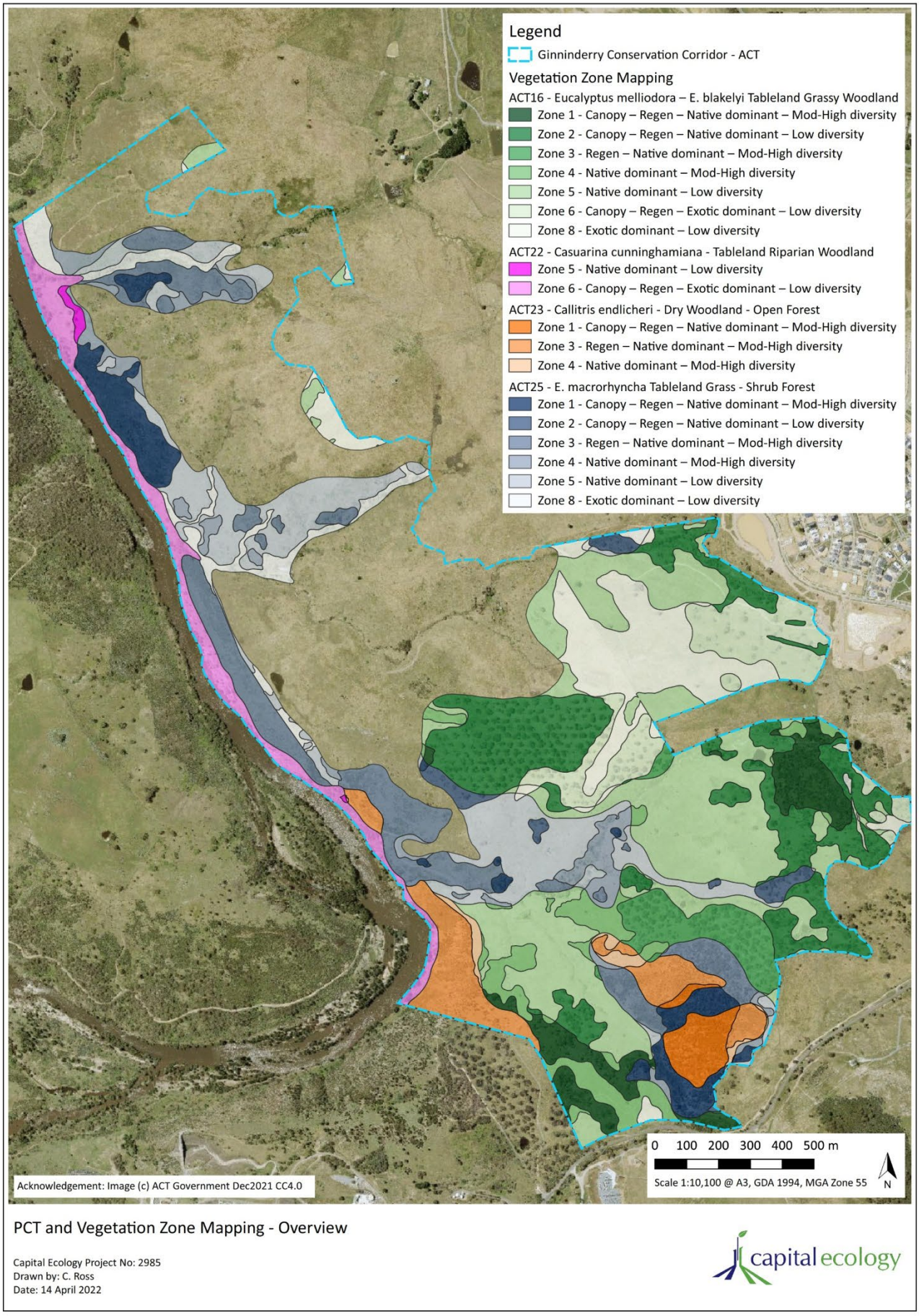


Figure 16. Woody Vegetation of the Ginninderry Conservation Corridor (Capital Ecology 2022)

2.1.7 Native animals

The Corridor hosts a diverse range of fauna, encompassing various bird and reptile species, as well as larger mammals commonly found in the broader Murrumbidgee River Corridor.

These include Eastern Grey Kangaroo (*Macropus giganteus),* Swamp Wallaby (*Wallabia bicolor*), Red-necked Wallaby (*Macropus rufogriseus*), Wallaroo or Euro (*Macropus robustus*), Wombat (*Vombatus ursinus),* Brush-tailed Possum (*Trichosurus vulpecula*), Ring-tail Possum (*Pseudocheirus peregrinus),* and Echidna (*Tachyglossus aculeatus*). Notably, the Eastern Bent-wing Bat (*Miniopterus schreibersii oceanensis*) has been recorded in the area, which is listed as vulnerable in NSW.

Species that inhabit the Murrumbidgee River include Rakali (*Hydromys chrysogaster*) and Platypus (*Ornithorhynchus anatinus*) as well as many species of native fish.

The Corridor also provides habitat for a variety of woodland bird species, which either reside year-round or visit as nomadic or migratory visitors. Birds of prey observed in the Corridor include the Nankeen Kestrel (*Falco cenchroides*), Wedge-tailed Eagle (*Aquila audax),* Variable Goshawk (*Accipiter hiogaster*), Spotted Harrier (*Circus assimilis*) which is listed as vulnerable in NSW, Peregrine Falcon (*Falco peregrinus*), Brown Falcon (*Falco berigora*), Australian Hobby (*Falco longipennis*), and Little Eagle (*Hieraaetus morphnoides*) that has been declared vulnerable in ACT and NSW. Apart from the Nankeen Kestrel, no nesting sites have been officially confirmed within the Corridor. However, as vegetation enhancement continues, the likelihood of nesting by birds of prey is expected to rise.

Additionally, the woodlands and grasslands of the Corridor provide important habitat for numerous threatened or declining species.



Figure 17. Caring for Country team leader Tyson Powell holding orphaned Wallaroo



Figure 18. Bearded Dragon (*Pogona barbata*)



Figure 19. Broad Palmed Frog (*Litoria latopalmata*)

2.1.8 Pink-tailed Worm-lizard (MNES)

The Corridor contains important habitat for the Pink-tailed Worm-lizard (*Aprasia parapulchella*) which is listed as vulnerable nationally, in NSW and in the ACT. It is a small, cryptic, legless lizard that is largely confined to the ACT and nearby regions, with isolated small populations in widely separated locations in NSW and near Bendigo in Victoria. Grasses and surface rocks are important habitat elements providing shelter for the lizards.

Approximately 125.6 ha of habitat exists through the Corridor from Stockdill Drive in the south to about one kilometre north of the ACT/NSW border.[9] There are some further discrete habitat patches between the main habitat band and Ginninderra Creek. Habitat in the Corridor occurs throughout much of the hilly areas and steeply dissected slopes above the Murrumbidgee River. The habitat consists of areas of surface volcanic rocks in areas of grassland with a significant component of native grassland species such as Kangaroo Grass (*Themeda triandra*). Habitat of the lizard often supports populations of other native reptiles, and the presence of Pink-tailed Worm-lizard is an indicator of the presence of other reptile species. The habitat is mostly in good condition and consists of modified native grassland with scattered surface rocks in hilly terrain. Habitat for the Pink-tailed Worm-lizard in the Corridor is presented in Figure 23.[10]

The habitat in the Corridor links with other significant regional Pink-tailed Worm-lizard populations along the Murrumbidgee and Molonglo Rivers to the south. The lizard population and habitat in the Corridor are important for maintaining connectivity between populations of the species to the south.

The implementation of appropriate measures to mitigate indirect impacts on PTWL have been developed in accordance with Section 4.2.4 of the Program Report.

Threats to the habitat include infestations of African Love Grass, St John's Wort and Blackberry that out compete native grassland species; the removal of or interference with rocks, trampling of vegetation caused by recreational use, feral animals and domestic dogs; and habitat damage or reduction of habitat connectivity caused by the location of infrastructure. Some existing tracks in the Corridor area pass through Pink-tailed Worm-lizard habitat. Recreational tracks and other infrastructure will be located and designed in a way that avoids or minimises impacts on fragmentation of lizard habitat and reduces the likelihood of the local community creating their own ad-hoc wayfinding paths (desire lines). Refer Appendix E – Track Master Plan Summary 2022.The EPBC Act approval sets out requirements for the location and management of infrastructure in Pink- tailed Worm-lizard habitat.

The Ginninderry Development Offset Management Plan guides the technical details of conservation and ecological enhancement for the Pink–tailed Worm-lizard habitat.

Protection of habitat for the nationally significant Pink-tailed Worm-lizard and the associated lizard population in the Corridor is a high priority. The habitat will be conserved and managed to promote the long-term survival of the lizard in the region and improve the connectivity between habitat patches within the Corridor and with other nearby lizard populations.

In Winter 2020 an intensive grassland rehabilitation project was undertaken on a 0.3-hectare site within the Corridor. The site was dominated by exotic pasture grasses and herbaceous weed species. The topsoil was scraped and the area sown with a diverse range of native forbs and grasses. The site is monitored each year and species recorded. Structural habitat elements were also added to the site including woody debris, bricks and rocks. In Autumn 2023 the skin of a Pink-tailed Worm-lizard was recorded under one of the bricks. The site continues to improve in terms of both species' diversity and cover. A further 0.27ha of intensive grassland restoration was completed in June 2024.



Figure 20. Pink-tailed Worm-lizard (*Aprasia parapulchella*)

[9] Osborne and Wong, May 2013

[10] Capital Ecology, Ginninderry – Pink-tailed Worm-lizard survey and habitat mapping of NSW land, 2019.

2.1.9 Rosenberg's Goanna

There have been historical sightings of Rosenberg's Goanna in the area. The goanna (a large predator species that reaches up to 1.5 metres in length) is declining in numbers and is listed as vulnerable in NSW under the Biodiversity Conservation Act 2016. A recent survey has indicated the presence of Rosenberg's Goanna in the Ginninderra Gorge area.[11] Further study is required to ascertain the details of the goanna population and how it uses the area, although none have been detected in the Corridor during the last 5 years of active management.



Figure 21. Project Officer Bridie Noble with Cunningham Skink (*Egernia cunninghami*)

2.1.10 Golden Sun Moth (MNES)

Surveys across the Ginninderry Development and the associated future conservation areas have not identified any Golden Sun Moth (GSM) areas that require protection and management within the Ginninderry Conservation Corridor.

However, within the Program Report Section 4.2.3, impacts on GSM were identified associated with the Ginninderra Drive extension associated with the proposed development. The impacts of the proposed road extension on the Jarramlee and West Macgregor offset areas are to be offset through the establishment of the Lot 2 Wallaroo Road offset area and the reestablishment of GSM habitat within that landholding.

In accordance with the Program Section 5.1, Table 4 the Jarramlee, West Macgregor and Lot 2 Wallaroo offset areas are managed under the combined Gooromon Grasslands Offset Management Plan 2018-23 (GG OMP) managed by the ACT Government and not the Ginninderry Conservation Trust.

There are currently no GSM management areas with the Ginninderry Conservation Corridor.



Figure 22. Golden Sun Moth (*Synemon plana*)

[11] Ginninderra Catchment Group (2015)

2.1.11 Threatened bird species

Several bird species observed in the Corridor are listed as threatened under ACT, NSW or national legislation (see Table 3).

A pair of Little Eagles (listed as vulnerable under ACT and NSW legislation) has nested in pine trees at Strathnairn on the edge of the Corridor and forage across the Corridor and nearby areas. Their main food items are rabbits and middle-sized birds such as rosella, starlings and magpies.

Several woodland bird species observed in the Corridor area are listed as threatened in the ACT and NSW, including the Superb Parrot and Scarlet Robin. The broader Murrumbidgee River Corridor is particularly important for the movement of large numbers of honeyeaters, and it is possible that other nomadic threatened species such as the Painted Honeyeater and Regent Honeyeater at times move through the Corridor.



Figure 23. Gang Gang Cockatoo (*Callocephalon fimbriatum*)

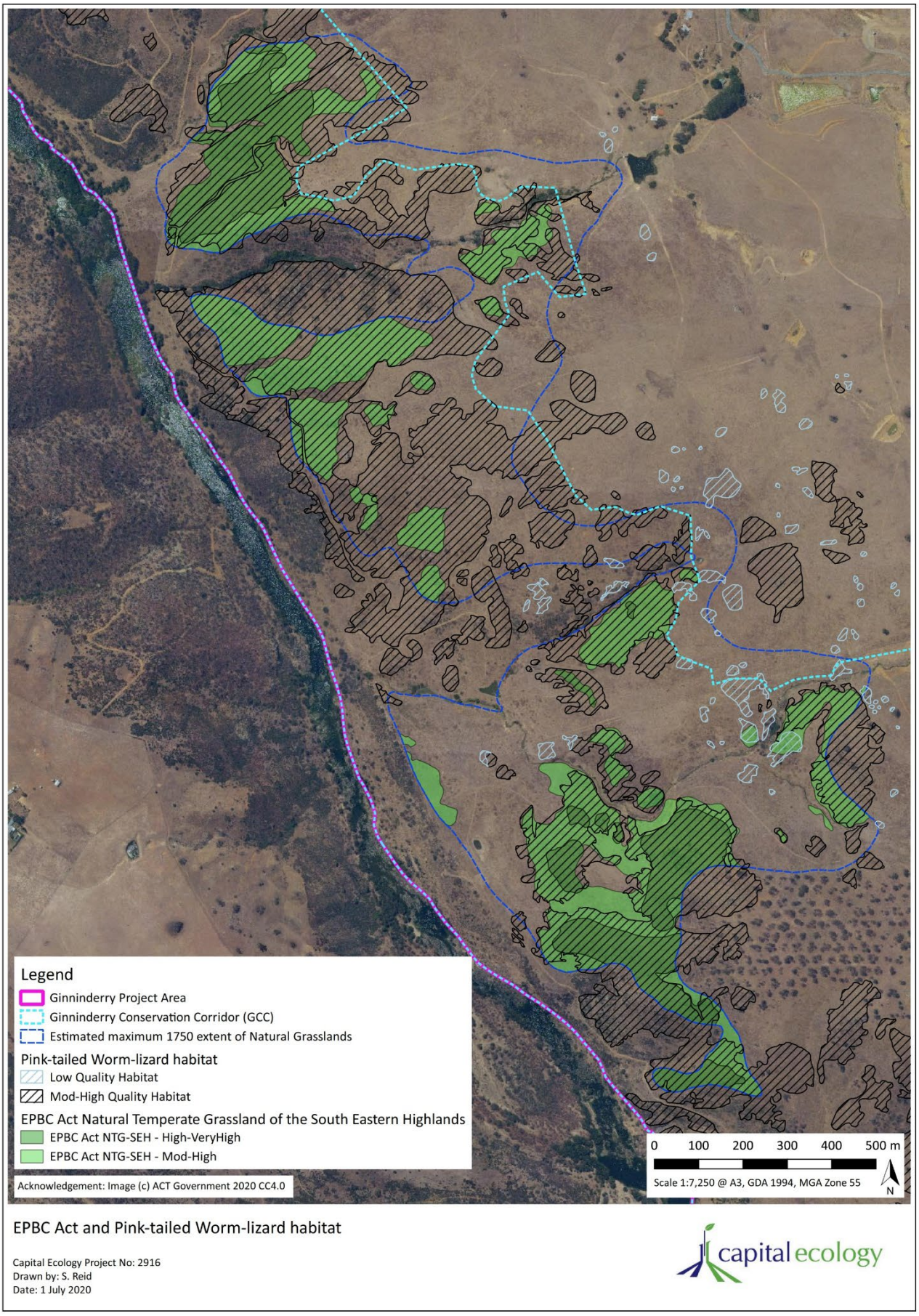


Figure 24. Pink-tailed Worm-lizard Habitat (Capital Ecology 2020)

Table 3. Threatened and migratory bird species that use or potentially use the Corridor

NAME	THREATENED SPECIES LISTING		
	EPBC ACT (NATIONAL)	NC ACT (ACT)	BC ACT (NSW)
Little Eagle (*Hieraaetus morphnoides*)		Vulnerable	Vulnerable
Spotted Harrier (*Circus assimilis*)			Vulnerable
White-winged Triller (*Lalage suerii*)		Vulnerable	Vulnerable
Speckled Warbler (*Pyrrholaemus sagittatus*)			Vulnerable
Diamond Firetail (*Stagonopleura guttata)*	Vulnerable	Vulnerable	Vulnerable
Varied Sittella (*Daphoenositta chrysoptera*)		Vulnerable	Vulnerable
Flame Robin (*Petroica phoenicea*)		Vulnerable	Vulnerable
Scarlet Robin (*Petroica boodang*)		Vulnerable	Vulnerable
Gang-gang Cockatoo (*Callocephalon fimbriatum)*	Endangered	Endangered	Endangered
Brown Treecreeper (*Climacteris picumnus*)	Vulnerable	Vulnerable	Vulnerable
Painted Honeyeater (*Grantiella picta*)	Vulnerable	Vulnerable	Vulnerable
Regent Honeyeater (*Xanthomyza phrygia*)	Critically Endangered	Endangered	Critically Endangered
Superb Parrot (*Polytelis swainsonii*)	Vulnerable	Vulnerable	Vulnerable
Swift Parrot (*Lathamus discolor*)	Critically Endangered	Critically Endangered	Endangered
Rainbow Bee-eater (*Merops ornatus)*	Migratory		
Rufous Fantail (*Rhipidura rufifrons*)	Migratory		
Latham's Snipe *(Gallinago hardwickii)*	Vulnerable Migratory		Vulnerable

2.2 Habitat connectivity and wildlife movement

Maintaining and enhancing ecological connectivity is important to achieve conservation at the landscape scale. The resilience of natural areas—their ability to persevere and adjust despite disturbances and changes in land use and climate—depends on the continuity of ecological processes such as energy flows, nutrient cycles, hydrological cycles and food webs. Natural areas should be relatively resilient if they are larger and better connected, threats are managed, and ecological processes and intact native vegetation are maintained.

The Ginninderry Conservation Corridor serves as a vital regional link for conservation connectivity. As a component of the larger Murrumbidgee River Corridor, it plays a crucial role in safeguarding and enhancing habitat linkages, particularly at the confluence with the Molonglo River.

Effective ecosystem management within the Corridor contributes to the protection of water quality and aquatic life in the upper reaches of the Murrumbidgee River. The river, its riparian zone, and the surrounding landforms are a significant conservation corridor within the region.

Extensive enhancement projects involving ACT and NSW agencies, catchment groups, research institutions, and community organisations are undertaken to improve the ecological condition of the Murrumbidgee River and its function as a conservation corridor.

Additionally, tree planting and weed control efforts are conducted along the Murrumbidgee River Corridor and community volunteers monitor water quality in rivers, streams, wetlands, and lakes through the ACT Waterwatch program. The management of the Ginninderry Conservation Corridor makes an important contribution to these ongoing initiatives, further strengthening the regional conservation efforts.

Work in the Corridor will continue to:

- Improve the physical habitat linkages between the reserve and adjoining areas and conservation corridors.
- Engage in collaborative programs for management of the catchment (including nearby Golden Sun Moth offset areas), the Murrumbidgee River and other regional conservation initiatives.
- Remove unnecessary fencing.

2.3 Aquatic ecosystems

Through ecological enhancement efforts in the Ginninderry Conservation Corridor and the implementation of sustainable management practices, including the preservation of natural processes, soils, streams, run-off, weed and pest control, and responsible human activities; significant contributions will be made to enhance the regional environment and maintaining and improving the quality of water and associated aquatic ecosystems in the Murrumbidgee River. As one of Australia's most significant rivers, the Murrumbidgee River contains habitat crucial for the survival of various threatened aquatic species, such as Murray Cod (*Maccullochella peelii*), Macquarie Perch (*Macquaria australasica*) and Golden Perch (*Macquaria ambigua*).

It also serves as a vital water source for towns and supports irrigation for downstream food production beyond the ACT. Effective ecosystem management within the Corridor contributes to safeguarding the water quality that flows into Burrinjuck Dam, which serves as the primary major dam along the Murrumbidgee River downstream of the ACT. This reservoir is crucial for storing water for the Murrumbidgee Irrigation Area and facilitating the release of environmental flows into the river.

Moreover, Burrinjuck Dam hosts a hydro-electric power station and is a highly sought-after location for fishing, boating, and recreational activities, attracting a significant number of visitors and contributing significant economic value to the Yass Valley region.[12]



Figure 25. Eastern Long-necked Turtle (*Chelodina longicollis*)

[12] Yass Valley Council www.yassvalley.com.au

2.4 Management considerations

2.4.1 Past land use

Prior to European settlement of the Canberra region, the valley floors were covered in native grasslands, maintained through a combination of cold air drainage, waterlogging, and controlled burning by Aboriginal communities. Woodlands predominantly occupied the mid and lower slopes, while the rocky ridges supported dry forest ecosystems.

Significant changes occurred with the arrival of pastoral activity in the 1820s. Livestock grazing led to the alteration of grasslands, as woodlands and forests were cleared or thinned to enhance grass growth and provide timber. Introduction of exotic plant and animal species also took place. In 1911, all lands became leasehold to facilitate the establishment of the National Capital.

Biodiversity, landscape and cultural heritage values have survived in the Ginninderry Conservation Corridor despite clearing of much of the area for agriculture. In part this is due to the steep nature of the terrain along the banks of the Murrumbidgee River that was not suitable for agriculture. Establishment of the Murrumbidgee River Corridor by the ACT Government also protected the area from urban development and maintained its scenic landscapes.

However, many of the values of the Corridor are remnants of the former ecological communities in the area and are vulnerable to the ecological changes associated with past agricultural uses and the growth of the regional population.

2.4.2 Climate change

The ACT region is already witnessing the effects of climate change, characterized by rising temperatures, an increase in hot days, and a decrease in cold nights. Projections indicate that future rainfall patterns will be altered, with lower average rainfall, less uniform distribution, and reduced predictability. Furthermore, the area can expect more intense and frequent storm events, wetter summers and autumns, and drier winters and springs.

These changing climatic conditions, including higher temperatures, increased storm run-off, and a shift from winter to summer rainfall, are likely to lead to overall drier conditions in the Corridor. Consequently, there may be an escalation in the number of days with high fire danger and an increased occurrence of bushfire events.

As a result of climate change, the native species within the Corridor will encounter substantially different local conditions compared to the present. To survive, they will need to adapt to these changes, either by adjusting their behaviour or by expanding or shifting their geographic range. Species that have limited climatic ranges, small populations, and limited adaptive capacity or migratory abilities are particularly vulnerable. Without suitable habitat in the ACT, these species may face significant declines or even local extinctions.

Likely implications of climate change for ecological communities in the Corridor are:

- Grasslands—woodland invasion due to reductions in both cold air drainage and water logging and increased CO2 level, reduced productivity, reduced cover of native grasses and annual forbs, increased soil erosion, increased weed invasion particularly of C4 grasses, and changes in species composition.
- Woodlands—lower spring productivity, loss of geophytic species, increased scrubbiness, increases in currently cold-limited weeds and feral species, changes in habitat structure and changes in species composition.
- Dry forests—higher frequency of extreme droughts and fires.
- Insectivorous birds-—changes in habitat heterogeneity and habitat structure.
- Potential implications of climate change for threatened species and ecosystems in the Corridor include increasing susceptibility to drought-related moisture stress, disease and insect attack.

Conservation efforts will need to focus on strategies that promote natural resilience and benefit biodiversity irrespective of the extent of climate change. These approaches aim to assist ecosystems and species in adapting to changing conditions.

2.4.3 Grazing management

Cattle and native herbivore grazing has a strong influence on the composition of native grasslands and grassy woodlands ecosystems. In the absence of grazing, dense grass swards dominated by a few species can develop. However, with moderate grazing, the swards are fragmented, creating space for a diverse range of plants to thrive. On the other hand, intense grazing can result in the removal of almost the entire grass sward, leading to adverse impacts such as erosion and loss of species. In general, moderation of grazing pressure, while retaining some areas subject to higher and lower grazing pressure, is considered a sound strategy for conserving biodiversity.

In modified grassland communities, especially when herbivores and their predators have been removed,

the natural processes that regulate grass biomass and structure are often disrupted. This disruption can lead to imbalances in grassland communities, with grass biomass becoming too high, too low, or excessively uniform, thereby limiting the diversity of species that can be supported. Maintaining heterogeneity is crucial for providing suitable habitats for a wide range of species.

Strategic grazing has been demonstrated to be an effective technique in the ecological enhancement of former grazing land in the Corridor. Controlled levels of grazing by kangaroos and livestock will continue to be used in the Corridor as a tool to manage weed spread and reduce biomass to decrease bushfire risk.

Guidance on the areas to be grazed, grazing levels, exclusion areas and protective measures for threatened habitat and species is provided in the Ginninderry Conservation Corridor Offset Management Plan. Research is underway to identify preferred diet of herbivores within the Conservation Corridor, including cattle, deer and macropods.

2.4.4 Fire

USING FIRE FOR ECOLOGICAL AND CULTURAL OUTCOMES

Fire plays a significant role as a natural ecosystem process in many Australian vegetation communities and is closely intertwined with the lives of native animals. Certain species depend on specific fire regimes for their regeneration and the maintenance of their habitats.

In August 2024 the Trust partnered with PCS, Ngunnawal and other First Nations community to undertake the first Cultural burn in the Corridor.

Burning (including cool burns) will continue to be utilised as a tool for cultural and ecological purposes. Burns will be guided by research and cultural leaders and planned in collaboration with PCS/RFS and the Aboriginal community. Planning will consider factors such as weather conditions, fuel characteristics, cultural values and ecological requirements. By carefully considering these factors, use of fire in the landscape will contribute to the overall ecological health and conservation objectives of the Corridor.

Acknowledging the crucial role of Aboriginal burning in shaping and preserving Australian ecosystems, the Ginninderry Conservation Trust is actively working with Traditional Custodians to incorporate traditional ecological knowledge, including traditional burning practices, into the management strategies for the Corridor.

This collaborative approach not only contributes to the preservation and improvement of the Corridor's ecological health but also respects and supports the rich cultural heritage of the Traditional Custodians and their deep relationship with Country.

BUSHFIRE MANAGEMENT

The Ginninderry Conservation Corridor borders residential areas, which must be protected from the risk of fire. Bush fire risk in the Corridor is managed according to the Bushfire Management Plan in accordance with ACT and NSW bushfire management legislation and planning requirements, Asset Protection Zones (APZs) are in place along the edge of the Ginninderry urban area. The APZs are buffer areas where vegetation, fuel loads and structures are managed to reduce fire risk and intensity. The APZs are located wholly within the urban boundary.

Inappropriate fire frequency and intensities through hazard reduction burning or wildfires will affect the condition of vegetation communities and habitat in the Corridor and ecological enhancement works.

Management of fire is important to protect Pink-tailed Worm-lizard habitat, Box Gum Woodland areas, Natural Temperate Grassland and the fire-sensitive Black Cypress Pine community.

The Ginninderry Conservation Trust undertakes bi-annual biomass surveys to determine the level of fire fuel load and subsequent management actions required.

To date, monitoring of the strategic grazing program has demonstrated that biomass is being maintained at acceptable levels (a key consideration for the maintenance of grassland fauna habitat and flora diversity).

WEEDS

Invasive species have significant impacts on biodiversity through competition with native plants and degradation of habitat. Weeds are recognised as a significant threat to many of the Corridor's threatened species and ecological communities and to the integrity of other vegetation communities.

There are many exotic species throughout the Conservation Corridor. Many of the species recorded are well established and abundant in areas that have been intensively disturbed. Woody weeds are prevalent on the steep slopes above the Murrumbidgee River and inland gullies and Blackberry infestations occur along the river and most streams. Herbaceous weeds are present in many grassland areas.

The Ginninderry Conservation Corridor Weed Management Plan[13] guides the treatment of weeds in the Corridor. The Weed Management Plan gives priority to controlling the most invasive weeds where there are significant infestations, where there is potential for increased weed spread and where weed species pose a high risk to areas of high conservation value such as Pink-tailed Worm-lizard habitat. The control methods recommended in the Weed Management Plan are consistent with the requirements of the *Pest Plants and Animals Act 2005*, the ACT Weeds Strategy and noxious weed control requirements in the ACT and in NSW under the *Noxious Weeds Act 1993*.

Ongoing weed control and weed mapping is carried out in the Corridor. The maps inform management actions and provide data on what has been completed, when it needs to be reviewed, and helps detect new incursions.

2.4.5 Pest animals

Pest animals cause environmental, social and economic damage through predation of native animals, grazing of native plants, competition with native animals for food and habitat, and altering the structure and function of ecosystems. Pest animals also contribute to the spread of weeds and pathogens and reduce social amenity in high-use areas and adjacent urban areas.

Pest animal species in the Corridor (or potentially present due to their occurrence in nearby areas) include rabbits (*Oryctolagus cuniculus*), feral goats (*Capra hircus*), wild deer (*Cervus spp*. and *Dama dama*), feral pigs (*Sus scrofa*), foxes (*Vulpes vulpes*) and feral cats (*Felis catus*).

Impacts by pest animals on natural values include soil erosion (from burrows), grazing on native species, predation on native species and competition for and degradation of native species habitat. Pest animal browsing (including by Deer) can affect vegetation, soil cover and the success of rehabilitation plantings.[14] Conversely, rabbits form an important component of the Little Eagle's diet.

In the ACT pest animals are managed under *the Pest Plants and Animals Act 2005* and the ACT Pest Animal Management Strategy 2012-2022. Cross-border cooperative pest animal control programs are undertaken between NSW and ACT authorities in the region.

It is a management priority to prevent the increase in distribution and abundance of these species.

2.4.6 Biosecurity

PHYTOPHTHORA

Phytophthora, an introduced microscopic soil-borne water mould, poses a threat to native vegetation by causing root rot and ultimately killing many native trees and shrubs. It invades and destroys their root systems, particularly under warm and moist conditions. The spores of Phytophthora can be easily spread through stormwater, track construction, and visitor activities.

Recognised as a nationally listed threatening process, containing the spread of Phytophthora is challenging. However, current best practices include fencing affected areas, restricting public access, and implementing hygiene measures such as sanitizing tools, machinery, shoes, and tyres. Soil testing to map the distribution of this pathogen is being undertaken within the ACT, with identified sites prompting specific actions to mitigate its impact.[15]

DIEBACK

The term "dieback" refers to the widespread decline in plant health. In the ACT, there has been a noticeable decline in Blakely's Red Gum (*Eucalyptus blakelyi*) since approximately 2004, affecting trees of all ages. Dieback has also been observed in Apple Box (*Eucalyptus bridgesiana*) and to a lesser extent in Ribbon Gum (*Eucalyptus viminalis*) and Yellow Box (*Eucalyptus melliodora*). Multiple factors, including declining habitat condition and climatic influences, contribute to this condition decline. Further research is necessary to better understand the historical extent, range, and causes of dieback in the ACT, monitor the condition of susceptible species, and assess the implications for the conservation of these species.

2.4.7 Managing urban interface effects

Potential risks to the ecosystems of the Corridor from the Ginninderry urban area are:

- Soil erosion (including during the construction phase)
- Introduction of weeds and other exotic plant species spreading for urban gardens and open space
- Invasion by domestic animals such as dogs and cats

[13] Ginninderry Conservation Corridor Weed Management Plan, Ginninderry Conservation Trust, 2021
[14] Robert Jessop Pty Ltd, 2015
[15] Canberra Nature Park Reserve Management Plan, ACT Parks and Conservation Service, 2021

- Pollution and sediment in runoff affecting water quality in the Corridor streams and the Murrumbidgee River
- Impacts on native fauna sensitive to disturbance, noise and light, including bats and breeding birds
- Impacts on fauna species from roadkill and introduced predators
- Impacts of invasive exotic animals that have become prevalent in Canberra urban areas (such as the Common Myna, *Acridotheres tristis*) and aggressive native animals (such as the Noisy Miner, *Manorina melanocephala*) which compete with native bird species for habitat and nesting sites
- Human impacts from unsustainable access and activities.

The Ginninderry Conservation Trust works closely with the managers of the Ginninderry development to influence the approach to environmental management within the urban area and minimise potential urban edge impacts on the Corridor. This includes a contribution to the induction packages for new residents and participation in community sustainability education programs.

Cat containment has been declared by the ACT Government for the suburbs of Strathnairn and Macnamara to support conservation of the Corridor's values. As development progresses, cat containment will continue to be declared in these areas. Cat containment is yet to be legislated in NSW. The cat containment policy has been implemented through ACT legislation (the *Domestic Animals Act 2000*) for the suburbs of Strathnairn and Macnamara, with enforcement by ACT Domestic Animal Services. Community education, and communication of cat containment regulations will be an ongoing requirement.

Dogs are prohibited from entering the Conservation Corridor, signage is installed, and information is provided to residents and published on the Ginninderry Conservation Trust's website.

2.5 Ecological enhancement and biodiversity conservation: management, objectives and actions

Active intervention is required to prevent the ecosystems, biodiversity and landscapes of the Corridor from further degradation and meet the legislative requirements for protection of threatened species and communities, control of weeds and pests and fire management.

The main way this will be achieved is through an ecosystem-based approach that seeks to enhance the natural ecosystems of the Corridor (soils, water, plant and animal communities) that have been modified by past land uses to a healthy condition and function.

Ecosystem enhancement will be conducted in a variety of ways depending on the current condition of areas and may consist of soil stabilisation, control of pests and weeds, encouragement of natural vegetation regeneration, planting of vegetation, creation of fauna habitat, special protective measures for particular species and communities and reintroduction of flora and fauna species that previously existed. To maximise the effectiveness of ecosystem enhancement and manage impacts from upstream sources, works will proceed as far as possible on a sub- catchment basis.

This section sets out broad strategies for ecosystem enhancement and biodiversity conservation.

The Ginninderry Development Offset Management Plan guides the technical details of conservation and ecological enhancement protection and enhancement measures in areas of the Corridor that contain special values including MNES. Specifically, the Ginninderry Development Offset Management Plan focuses on Pink–tailed Worm- lizard habitat, Box Gum Woodland and Natural Temperate Grassland.

Where management actions are not specifically provided in this Plan or sub-plans, management of threatened and significant species and habitat will be guided by relevant government legislation and plans (such as recovery plans). Should additional significant species or communities be discovered or become established in the Corridor, specific management actions will need to be developed and included in the review of this plan in five years.

Table 4. Ecosystems, native animals and habitat connectivity - Actions and Priorities

ECOSYSTEMS, NATIVE ANIMALS AND HABITAT CONNECTIVITY		
Objectives • Threatened ecological communities (Box Gum Woodland, and Natural Temperate Grasslands) are conserved and rehabilitated. • The diversity, extent, condition, connectivity and resilience of native ecological communities are maintained and/or enhanced. • Threatened native animal species and the diversity of other animal populations, are conserved. • Habitat for woodland birds and other native fauna is conserved and enhanced. • Habitat connectivity is maintained and strengthened to support ecosystem resilience. • Threats to native plants, animals and ecological communities are minimised.		
Actions		**Priorities**
ER1	Implement the management actions in the Pink-tailed Worm-lizard Management Plan (included in the Ginninderry Development Offset Management Plan) and the Ginninderry Conservation Corridor Ecological Monitoring Framework.	1
ER2	Develop an annual work plan to guide specific Pink-tailed Worm-lizard habitat enhancement works in the applicable period, including at a minimum, enhancement methods, work locations and monitoring requirements.	1
ER3	Continue with the ecological enhancement of the Box Gum Woodland according to the requirements of the Box Gum Woodland Management Plan (included in the Ginninderry Development Offset Management Plan) and the Ginninderry Conservation Corridor Ecological Monitoring Framework.	1
ER4	Locate and design management tracks, recreation tracks, vehicle roads and other infrastructure in accordance with the Track Master Plan and existing approvals to avoid, minimize or manage impacts on Box Gum Woodland enhancement in accordance with EPBC Act approval conditions.	Ongoing
ER5	Liaise with managers of the Ginninderry urban construction on measures to reduce run-off and other potential construction impacts on Box Gum Woodland, Natural Temperate Grassland and other ecological communities.	Ongoing
ER6	Preparation of an annual report which includes Box Gum Woodland protection and restoration outcomes in accordance with EPBC Act approval conditions.	Ongoing
ER7	Continue with the ecological development of the Natural Temperate Grassland according to the requirements of the Natural Temperate Grassland Management Plan and the Ginninderry Conservation Corridor Ecological Monitoring Framework.	1
ER8	Annual work plans to include Natural Temperate Grassland enhancement works.	1
ER9	Where infrastructure works occur in the Ginninderry Conservation Corridor, in line with the Program Report, implement measures to translocate Pink-tailed Worm-lizard where habitat and populations are under threat due to impacts of infrastructure construction.	Ongoing

ECOSYSTEMS, NATIVE ANIMALS AND HABITAT CONNECTIVITY		
ER10	Investigate and implement measures to translocate other native species as required within the Corridor that may be impacted by development where and if conditions are suitable.	Ongoing
ER11	Work with the managers of adjoining land including ACT Parks and Conservation Service, Yass Valley Council and other relevant agencies and organisations to participate in collaborative programs for management of the Murrumbidgee River and other regional conservation initiatives.	Ongoing
ER12	Work with the relevant authorities and the community to communicate cat containment in the urban area.	Ongoing
ER13	Encourage the use of non-invasive and native plant species in the Ginninderry urban area.	Ongoing
ER14	Contribute to induction packages for new Ginninderry residents and to community sustainability education programs on the Corridor's values, its conservation aims and how residents can support protection and enhancement of these values.	Ongoing
ER15	Continue to collect seed and propagate native species for use within the Corridor to support enhancement of ecological communities within the Corridor.	Ongoing

Table 5. Weeds - Actions and Priorities

WEEDS		
Objectives • Weeds are excluded, eradicated, controlled or contained to minimise and mitigate adverse impacts on conservation values.		
Actions		**Priorities**
ER16	Actively manage invasive weeds in accordance with the Weed Management Plan for the Ginninderry Conservation Corridor 2021 and subsequent updates.	Ongoing
ER17	Map and monitor the distribution and spread of weeds to detect trends and improve effectiveness of control programs for conservation and update the weed management plan accordingly.	Ongoing

Table 6. Pest Animals - Actions and Priorities

PESTS ANIMALS		
Objectives • Pest animals are excluded, eradicated or controlled to minimise adverse impacts on conservation values.		
Actions		**Priorities**
ER18	Implement pest control measures consistent with the ACT and NSW Pest Animal Management Strategies.	1
ER19	Monitor and evaluate the effectiveness of pest animal control in relation to conservation outcomes.	Ongoing

PESTS ANIMALS		
ER20	Strengthen partnerships with adjacent land managers and the community in pest animal management to improve cost-effectiveness and reduce pest re-invasion including surveillance and coordinated pest control.	Ongoing
ER21	Incorporate traditional ecological knowledge and practices into management of pest species in the Corridor.	Ongoing

Table 7. Fire - Actions and Priorities

FIRE		
Objectives • Ecological and cultural burning regimes are established, implemented and monitored. • The adverse impacts of fire-fuel management on biodiversity values are minimised while life and property are protected.		
Actions		**Priorities**
ER22	Implement the Ginninderry Conservation Corridor Bushfire Management Plan 2021 in accordance with ACT and NSW fire management legislation and planning requirements.	1
ER23	Integrate the requirements of the Bushfire Management Plan with the protection of threatened, rare or fire-sensitive species, their habitat and ecological function by: • Implementing ecological guidelines for fire fuel and access management operations, protection measures to support the long-term maintenance of plant and animal communities and retaining habitat refugia by utilising landscape mosaic burning regimes • Monitoring the effectiveness of burning in contributing to conservation outcomes and fire risk mitigation outcomes • Monitoring the impacts of prescribed burning and unplanned fire.	Ongoing
ER24	Continue bi-annual biomass monitoring and reporting to support conservation objectives in grassland, woodland and forest ecosystems.	Ongoing
ER25	Permit vegetation trimming to support fire management and other operational requirements including visitor and staff safety.	Ongoing

Table 8. Grazing Management - Actions and Priorities

GRAZING MANAGEMENT		
Objectives • Conservation grazing regimes support protection of threatened species and improve ecosystem function. • Overabundant animal species are managed to reduce impacts on reserve values.		
Actions		**Priorities**
ER26	Monitor Eastern Grey Kangaroo populations in accordance with the Eastern Grey Kangaroo: Controlled Native Species Management Plan and manage accordingly.	Ongoing
ER27	Manage and actively monitor total grazing pressure and impacts to achieve conservation objectives, particularly in grassy ecosystems where threatened animal species have particular habitat requirements.	Ongoing

GRAZING MANAGEMENT		
ER28	Utilise strategic grazing (by livestock) to achieve Ginninderry Conservation Corridor Bushfire Management Plan (2021) objectives.	Ongoing

Table 9. Biodiversity - Actions and Priorities

BIOSECURITY		
Objectives • Diseases are excluded, eradicated, controlled or contained to minimise and mitigate adverse impacts on values. • Research capacity on biosecurity, in particular invasive species, is increased.		
Actions		**Priorities**
ER29	Identify options for the early control or exclusion of biosecurity risks.	Ongoing
ER30	Coordinate disease control in cooperation with adjoining land managers.	Ongoing
ER31	Support collaborative invasive species research with research partners.	Ongoing

Table 10. Climate Change - Actions and Priorities

CLIMATE CHANGE		
Objectives • Ecosystem resilience to a changing climate is strengthened. • Knowledge and understanding of the implications of climate change for the values of Corridor are improved and inform management planning and decision making.		
Actions		**Priorities**
ER33	Promote resilience to climate change by: • Maintaining and restoring species and habitat diversity in ecological communities • Identifying, managing and protecting potential climate refugia and landscape connections • Maintaining large, well connected and genetically diverse populations.	Ongoing
ER34	Work with research partners to conduct research and trial innovative management responses to improve resilience in species and ecological communities to climate change impacts.	Ongoing

HOW WE WILL EVALUATE OUTCOMES – ECOLOGICAL ENHANCEMENT AND CONSERVATION OF BIODIVERSITY
• Maintain or increase the extent of Natural Temperate Grassland, Box Gum Woodland and Pink-tailed Worm-lizard Habitat. • Increase in floristic diversity and structural habitat elements. • Reduction of areas of significant weed infestations. • Reduced incidence of invasive and over-abundant animals.

3. Protecting the landscape

Protecting the landscape

- The Corridor is a cultural landscape, embedded with the spirits and stories of the Traditional Custodians.
- The varied geology produces diversity in plant and animal species.

Management approach

- Landscape character is protected from visual impacts.
- Geological features are protected and interpreted.
- Soils and watercourses are protected from erosion.



Figure 26. Callitris Forest with Murrumbidgee River in the distance

3.1 Land and water

3.1.1 Landscapes

The landscape within the Corridor represents thousands of years of Aboriginal land management and is embedded with the spirits and stories of their ancestors. Many landscape features have cultural significance as having been created by ancestral beings or as places of ceremony.

The Corridor contributes to the landscape features which give Canberra its distinctive natural character and setting as the national capital. Protection of Canberra's landscape setting and open space system is given statutory effect by the National Capital Plan which also establishes the Murrumbidgee and Molonglo River Corridors to protect and enhance the environmental quality and landscape setting from urban encroachment.

An analysis of the landscape character, slope and viewpoints covering the areas within the Conservation Corridor was conducted in the West Belconnen Landscape and Open Space Strategy.[16] The requirement for landscape protection is set out in the ACT's West Belconnen Structure Plan which aims to mitigate potential urban landscape impacts.

Design of infrastructure within the Corridor is guided by principles that aim to protect the quality of the natural and cultural landscapes.

3.1.2 Geology, soils and land surface condition

The Corridor occupies a landscape characterised by steep slopes and deeply incised watercourses that is the highly eroded remnant of rocks formed from volcanic activity during the Silurian geological period between 444 and 416 million years ago and is typical of the geology of the surrounding area.

The terrain of the Corridor is a major determinant of the biodiversity of the area. The steeply sloping topography, the gullies formed by watercourses and the deeply incised landforms of the Murrumbidgee River and Ginninderra Gorge provide a range of environments, habitats and aspects that support the Corridor's diverse ecological communities, flora and fauna.

The terrain in the Corridor is also a major factor in the protection and enhancement of biodiversity, the protection of scenic values and management of recreation that is sustainable.

3.2 Murrumbidgee River environs

The waters of the Murrumbidgee River are not within the Conservation Corridor and are managed by the ACT and NSW Governments.

The ACT portion of the Corridor is part of the Murrumbidgee River Corridor and the NSW land will extend this riparian conservation area. Management of the terrestrial ecosystems, the riparian zone, streams, water quality and recreational activities in the Corridor will have implications for aquatic ecosystems, fish populations and habitat in the river.

The Murrumbidgee River flows through a channel characterised by high steep slopes except in the vicinity of the planned Riverside Visitor Precinct where the drop to the river is lower. Below the steep slopes the river is bounded by a riparian zone of variable width occupied by vegetation subject to inundation by river water or high water tables and areas where streams flowing through the Corridor discharge into the river.

The stretch of the Murrumbidgee River adjoining the Corridor contains habitat for the native Murray Cod, Murray Crayfish, Golden Perch, several threatened native fish species and the exotic European Carp and Redfin.

Some of these species are listed under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999*, the *ACT Nature Conservation Act 2014* (NC Act) and the *NSW Fisheries Management Act 1994* (the FM Act) (see Table 5). It is possible that the Booroolong Frog (*Litoria booroolongensis*) occurs in the riparian zone along the Murrumbidgee River. This species is listed as endangered nationally and in NSW. Monitoring for this species will be undertaken as part of the Trust's annual Frogwatch program.

The Murray Cod is Australia's iconic freshwater sporting fish. Once abundant throughout the Murray-Darling River system (which includes the Murrumbidgee River), Murray Cod has declined in abundance due to habitat loss, river flow regulation, barriers to fish passage and overfishing. It is listed as a vulnerable species under the EPBC Act but can still be caught subject to the ACT Recreational Fishing Guidelines. Under the national recovery plan for Murray Cod[17] the population in the ACT is considered significant for the long-term survival and recovery of the species due to its size, level of integrity and location near the upland limit of Murray Cod distribution in the Murrumbidgee River.

Actions to protect and manage these species are included in the ACT Aquatic and Riparian Conservation Strategy and Action Plans.

[16] McGregor Coxall (no date)

[17] Koehn and Clunie, October 2010

Table 11. Threatened aquatic fauna species occurring (or potentially occurring) in the Murrumbidgee River at Ginninderry Conservation Corridor

NAME	THREATENED SPECIES LISTING		
	EPBC Act (National)	**NC Act (ACT)**	**BC Act (NSW)**
Murray Cod (*Maccullochella peelii*)	Vulnerable	*Special Protection*	Not listed
Macquarie Perch (*Macquaria australasica*)	Endangered	Endangered	Endangered
Trout Cod (*Maccullochella macquariensis*)	Endangered	Endangered	Endangered
Silver Perch (*Bidyanus bidyanus*) – possible presence	Critically Endangered	Endangered	Vulnerable
Murray River Crayfish (*Euastacus armatus*) – possible presence	Vulnerable	Vulnerable	Vulnerable



Figure 27. Murrumbidgee River

3.3 Management considerations

3.3.1 Sensitive location and design of infrastructure

Protection and enhancement of the natural appearance of the Corridor landscape and the scenic views from within and into the Corridor, including the placement and design of visitor infrastructure and vegetation plantings is a critical consideration.

Viewpoints are provided to enable visitors to appreciate the variety of landscapes, including the Murrumbidgee River and vistas of distant mountains.

Visitor and management infrastructure and facilities will be located and designed in a manner that minimises impacts on biodiversity, ecosystem enhancement and wildlife. Design principles to protect natural and cultural landscape values include:

- Low structures designed to blend with the natural landscape and contours and have minimal intrusion into scenic views from within and into the Corridor.
- Natural materials should be used for structures, the outside cladding of larger structures and track surfaces where feasible.
- The colour of structures should blend with the surrounding areas.
- The intrusion of tracks and roads into the visual landscape should be minimised. As far as possible should be located to follow natural contours.
- Vegetation plantings and screening of structures, tracks and roads should be compatible with ecological enhancement objectives for the affected areas.

3.3.2 Soil and erosion

Effective sediment and erosion controls will be critical for re-establishing vegetation and for protecting the water quality of streams and the river. Visitor infrastructure and tracks will need to be located to minimise erosion and impacts on scenic vistas. Due to the steep slopes and risk of erosion and disturbance of fauna habitat, recreation activities and infrastructure which have a high impact on the ground surface or scenic vistas are not considered suitable in the Corridor.

Fire and fire suppression, flood events, overgrazing, inappropriate recreation and poor maintenance of roads and tracks can lead to significantly increased erosion. This can cause loss of vegetation, siltation of rivers and streams, lower water quality and the loss of ecological values. Impacts may be greater during droughts when ground cover is reduced.

3.3.3 Murrumbidgee River and environs

Protection, ecological enhancement and management of the river waters, riparian zone and river slopes are important to:

- Maintain environmental conditions in the river that sustain aquatic ecosystems, protect aquatic species' populations and habitat, and are suitable for recreational uses.
- Contribute to conservation connectivity along the river outside the Corridor.
- Prevent erosion of the steep river slopes.
- Retain the scenic river landscape and scenic vistas of and from the river which have significance for historic heritage and visitor enjoyment.
- Provide for quality visitor experiences compatible with the vision for the Corridor.

Murrumbidgee Riparian Zone and Environs Management Plan provides guidance to protect and enhance these environments.

Potential threats to the natural and cultural values, environmental condition and quality of recreational experiences near the river are:

- Water quality impacts and potential introduction of exotic species from runoff from the urban areas and streams in the Corridor.
- Invasive plant species in the riparian zone and slopes, including willow and blackberry.
- Recreation impacts (such as vegetation damage, erosion, weed spread, lighting of fires, illegal fishing and overfishing) and conflicts between different recreational users.
- Visual intrusions in the landscape from infrastructure.
- Rises in river levels damaging infrastructure and creating hazards for visitors.

The waters of the river are outside the Corridor boundary and are managed by the ACT and NSW Governments. Liaison with ACT and NSW agencies will be needed to develop Corridor management measures that are compatible with ACT and NSW legislation, policies and strategies. In the ACT, management of riparian zones is specified in the ACT Aquatic Species and Riparian Zone Conservation Strategy.[18]

[18] ACT Government, 2007

3.4 Land and riparian ecosystems: management objectives and actions

The Corridor's natural landscape and scenic vistas will be protected and enhanced to foster community appreciation of the Corridor and its setting and contribute to the distinctive landscape identity of Canberra and the Murrumbidgee River Corridor.



Figure 28. CIT students undertaking macroinvertebrate surveys as part of the Ginninderry SPARK training and employment program

Table 12. Scenic landscape projection - Actions and Priorities

SCENIC LANDSCAPE PROTECTION		
Objectives • The Corridor is a natural landscape where the scenic views from within and into the Corridor are protected and enhanced. • Corridor structures, tracks and roads do not derogate from the natural landscape and scenic views.		
Actions		**Priorities**
L1	Ensure ongoing protection of significant views within and out of the Corridor with particular attention to Shepherds Lookout and Riverside Visitor Precinct.	Ongoing
L2	Liaise with Ginninderry urban development managers and relevant government agencies to minimise urban development impacts on Corridor landscape values.	Ongoing
L3	Liaise with the managers and relevant government agencies of any other land uses and developments potentially impacting on landscape values to minimise impacts on Corridor landscape values.	Ongoing
L4	Provide input into design proposals and other works to ensure visual intrusion on the landscape is minimised.	Ongoing

Table 13. Geology, soils and land surface conditions - Actions and Priorities

GEOLOGY, SOILS AND LAND SURFACE CONDITION		
Objectives • Geological values, soils and land surface condition are protected and improved.		
Actions		**Priorities**
L5	Identify, map and protect significant geological sites from disturbance.	2
L6	Minimise erosion through grazing management, fire management, revegetation, reinstatement of coarse wood debris and other appropriate mechanisms.	Ongoing
L7	Minimise activities that cause physical disturbance to geological features and soil and land surface condition and impacts on hydrology.	Ongoing

Table 14. Geology, soils and land surface condition - Actions and Priorities

GEOLOGY, SOILS AND LAND SURFACE CONDITION		
Objectives • The Murrumbidgee River and riparian ecosystems are protected and restored and contribute to regional management of the river. • Due to its narrow width and the sensitivity of the riparian environments the area will be managed for low impact recreation with minimal facilities compatible with enjoyment of the area's natural values.		
Actions		**Priorities**
MR1	Work with ACT and NSW government agencies, research institutions and community groups to: • ensure sustainable management of the riparian zone in the Corridor is consistent with relevant legislation, management strategies and management initiatives for the Murrumbidgee in the ACT and region. • achieve cooperative management of the Corridor, waters and bed of the river and enhancement of aquatic habitat.	Ongoing
MR2	Implement the Ginninderry Conservation Corridor Murrumbidgee Riparian Zone and Environs Management Plan, prioritising enhancement of the riparian zone by revegetation, feral animal and weed management.	
MR3	Liaise with managers of the Ginninderry urban development on implementation of urban stormwater management and retention ponds and minimising impacts on streams in the Corridor.	Ongoing
MR4	Apply best practice sediment and erosion controls to construction and infrastructure in the Corridor.	Ongoing
MR5	Locate visitor infrastructure (including tracks) and facilities outside of the riparian zone and in areas where damage from major floods and impacts on scenic landscape values is minimised.	Ongoing
MR6	Stock dams with native fish species.	Ongoing

HOW WE WILL EVALUATE OUTCOMES – PROTECTING THE LANDSCAPE
• Ecological enhancement of the riparian zones along the Murrumbidgee River is occurring. • Ecosystem enhancement is stabilising ground surfaces and improving the quality of water flowing from the Corridor. • Photographic monitoring of landscape and scenic view reference points.

4. Aboriginal Connection to Country

Aboriginal connection to Country

- Ngunnawal and Ngambri people have an ongoing deep connection to Country.
- All Aboriginal places and objects are protected and the Ginninderry Conservation Trust Cultural Heritage Management Plan outlines acceptable management actions.
- Significant Aboriginal sites have been located across the Corridor.

Management approach

- Connection to Country is maintained through land management activities.
- Access to Country for cultural and social purposes is supported.
- Interpretation of Aboriginal cultural heritage is led and delivered by Traditional Custodians.



Figure 29. Caring for Country ranger Kye Moggridge working with the Murrumbung Rangers

4.1 Aboriginal heritage

The Ginninderry Conservation Corridor is culturally significant to the Aboriginal community. It provides evidence and connection between past Aboriginal use of the Murrumbidgee River and the present community.[19] Traditional Custodians and their ancestors occupied and actively managed the landscape of the Canberra region for more than 25,000 years prior to pastoral settlement, through traditional burning and other sustainable land management practices.

In pre-European times, West Belconnen and the surrounding areas were heavily utilised by Aboriginal people due to the availability of water, food and material resources associated with the Murrumbidgee River and the woodlands and grassland of the undulating tableland landscape.[20] Ginninderry is also close to the Uriarra Valley and northern Brindabella Ranges which were important places for seasonal gathering of Bogong Moths and associated ceremonies. Bogong Moths were an important seasonal food source for the Aboriginal people living around the Australian Alps. Other Aboriginal groups also traditionally gathered in the region and utilised the Murrumbidgee River corridor for travelling and meeting.

Significant landscape features such as hills, mountains and ridgelines aided navigation and provided vantage points. In addition, many have cultural significance as features created by ancestral beings or as places of ceremony.

The Corridor is a significant place where connection to country can be maintained (including through participation in management and deriving socio-economic benefits) and culture communicated to younger generations. The Corridor is important to Aboriginal people who aspire to maintain their traditional connections with country and participate in its land management.

The Corridor's Traditional Custodians continue to feel a deep responsibility to preserve the spirit and stories of their ancestors, embedded throughout the landscape. Working on Country enables a sense of personal pride and affirms their identity through a cultural belonging and connection to the land.

The Ginninderry Conservation Trust acknowledges that connection to the Corridor holds spiritual, social, historical, cultural and economic importance for Traditional Custodians and that being actively engaged in managing land maintains their cultural identity and has direct benefits to community well-being.

To this end, the Traditional Custodians contribute to the management and conservation of the Corridor by sharing knowledge associated with traditional land management practices and undertaking a range of projects. They are also fostering a deeper understanding and appreciation of Aboriginal culture in the wider community in their work.

The interpretation framework for the Corridor showcases the cultural and natural values and respects the long history of the management of the landscape by the traditional custodians and their relationship with water and also tells more recent stories of landscape change.

4.2 Aboriginal places and objects

The environs of the Murrumbidgee River were used extensively by Aboriginal people as evidenced by the numerous Aboriginal archaeological sites found in the Corridor and nearby areas.

Evidence of Aboriginal occupation in the Ginninderry area is found in numerous archaeological sites (including artefact scatters) and other indications such as scarred trees and a rock shelter. The whole of the Ginninderra Creek catchment has been identified as an 'ancient pathway for Ngunnawal people' that is reflected in areas such as the axe grinding grooves in Umbagong District Park and the ochre grounds at Franklin.[21]

Surveys of archaeological sites in the Corridor and urban development areas occurred in 2013, 2014 and 2018 in conjunction with Representative Aboriginal Organisations (RAOs).

Management of the Aboriginal sites in the Corridor is subject to the requirements of ACT and NSW Aboriginal heritage legislation and the Aboriginal custodians.

Under the ACT Heritage Act, Representative Aboriginal Organisations have a formal, statutory role in Aboriginal heritage assessment and management in the ACT. Consultation with Aboriginal people (particularly Traditional Custodians) is a crucial first step in managing Aboriginal cultural heritage places. All Aboriginal places and objects, including artefact scatters, are significant for the Traditional Custodians and the Trust seeks to ensure sites are left in situ wherever feasible.

[19] Biosis (January 2013 and January 2014)
[20] Biosis (6 January 2013); Biosis (10 January 2014)
[21] www.ginninderralandcare.org.au/landcare/projects/aboriginal -heritage-ginninderra

The GCT Cultural Heritage Management Plan (inclusive of both Aboriginal and European heritage) was completed and submitted to ACT Heritage in November 2021.



Figure 30. Murrumbidgee River (Photo: Ginninderry Conservation Trust)

4.3 Management considerations

Recognition of Aboriginal culture, protection and conservation of Aboriginal heritage places and objects, and ongoing connection by Aboriginal people to their Country are important considerations for the Trust and this Management Plan.

Management of Aboriginal cultural heritage in the Corridor will consider:

- Aboriginal ecological knowledge and the interests of Traditional Custodians in managing the environment as a cultural landscape, this will make an important contribution to the Corridor's management.
- managing the Corridor to maintain and strengthen Aboriginal cultural connections to Country.
- how best to recognise the interests of Aboriginal people in the protection and conservation of their heritage.
- the provision for access by Aboriginal people to their sites and places, including access for transferring cultural knowledge or gathering materials for cultural or ceremonial purposes.
- the continued support for developing employment, education, training and economic opportunities for Aboriginal people.
- the best means to protect and conserve Aboriginal sites and objects and plan for risks through the Ginninderry Conservation Corridor Conservation Management Plan.
- the interpretation of Aboriginal cultural heritage place as part of the recreation, tourism and education activities in the Corridor and the desire of Traditional Custodians to undertake the interpretation of their cultural heritage within the Corridor.
- naming of landscape and other features in the Corridor in consultation with Traditional Custodians and Representative Aboriginal Organisations.

4.4 Aboriginal connection to country: Management objectives and actions

Table 15. Aboriginal connection to Country - Actions and Priorities

ABORIGINAL CONNECTION TO COUNTRY		
Objectives • Traditional knowledge is integrated into management of the Corridor to improve environmental and cultural outcomes. • Partnerships with Traditional Custodians have evolved and are recognised for respectfully and demonstrably acting to care for Country through shared roles and values. • Aboriginal cultural values, including places and objects, are protected and conserved and Traditional Custodians are actively involved in managing and conserving and interpreting Aboriginal cultural heritage. • The cultural landscape values and Aboriginal history of the Corridor are better understood and interpreted. • Community awareness of Aboriginal cultural heritage and connection to Country is increased.		
Actions		**Priorities**
AH1	Implement the Cultural Heritage Management Plan with Traditional Custodians to facilitate ongoing living cultural connections and access to natural resources and locations for cultural purposes, while guiding their sustainable use and conservation.	1
AH2	Incorporate and implement the aspirations, values, practices and protocols of traditional land management practices within the Corridor including traditional burning practices.	1
AH3	With Traditional Custodians, seek registration of Aboriginal objects and places in the Corridor under the ACT *Heritage Act 2004* and ensure objects and places in the Corridor are included in the NSW Aboriginal Heritage Information Management System.	Ongoing
AH4	Implement the Cultural Heritage Management Plan in partnership with Traditional Custodians and in accordance with ACT and NSW legislative requirements.	1
AH5	Consult with Traditional Custodians on the naming of the Corridor, places and significant landmarks within it, using local language.	2
AH6	Continue to assess Aboriginal heritage values with Traditional Custodians prior to works within the Corridor and modify proposals to ensure sensitive siting, to avoid interference with or damage to Aboriginal heritage places and/or objects, and report any Aboriginal sites or objects found to the ACT Heritage Council.	Ongoing
AH7	Prohibit off-track recreation activities with a high potential to impact on Aboriginal sites through disturbance and erosion (including mountain biking and horse riding) and implement management measures that minimise visitor impacts and other causes of damage to archaeological and significant heritage sites.	Ongoing

ABORIGINAL CONNECTION TO COUNTRY		
AH8	Provide general training in Aboriginal Cultural Heritage Management in consultation with Traditional Custodians.	2
AH9	Work with Traditional Custodians on land management activities led by the Caring for Country team.	1
AH10	Work with Traditional Custodians on interpretation, storytelling and cultural awareness programs to increase the cultural footprint and awareness of` cultural values in the Corridor.	1

HOW WE WILL EVALUATE OUTCOMES – ABORIGINAL CONNECTION TO COUNTRY

- Traditional Custodians participate in Corridor management decisions.
- Places within the Corridor are named by Traditional Custodians in local Aboriginal language and the cultural information is provided to visitors when on country.
- Adherence to the Conservation Heritage Management Plan for the protection of objects and sites in the Corridor.
- Progress in employment and contracts awarded to Aboriginal people for works within the Corridor.

5. European Heritage

The places of heritage interest in the Corridor include:

- evidence of the early boundary fencing and the ACT/NSW border alignment
- the heritage view from the adjacent Belconnen Farm historic precinct
- views to the distant ranges and the Murrumbidgee River valley.

Management approach

- Knowledge about European heritage is included in interpretation and signage.
- Threats to heritage places are managed.



Figure 31. Original timber fence posts within the Conservation Corridor

5.1 Heritage

The broader Belconnen/Ginninderra area, including the West Belconnen region, has a rich history intertwined with European exploration, early pastoral settlement, and encounters between European settlers and Aboriginal communities dating back to the 1820s.

The first pastoralists to explore the Canberra region relied on the intimate knowledge of Aboriginal guides. Charles Throsby, Joseph Wild and James Vaughan are credited with the first European exploration of the 'Limestone Plains' around 1820, with further excursions extending Throsby's recording of the area over the next few years. Throsby's reports of fertile plains and well supplied rivers soon attracted settlers to the area.

Settlement of the region commenced in the 1820s, and over time became dominated by large pastoral properties, such as 'Lanyon', 'Tuggeranong', 'Yarralumla' and 'Duntroon', often held by absentee landlords. Closer settlement was encouraged by the NSW Government through the Crown Land Acts 1861, which allowed selectors to purchase government land in lots of moderate size, without auction. 'Free selectors', who were required to live on their properties, set up farms in the Ginninderra district and the Majura Valley.

The focus of early colonial settlement was grazing, with sheep grazed mainly on the eastern side of the Murrumbidgee River and cattle in the mountains west of the river. There was wheat farming on the plains at Tuggeranong and Ginninderra, and mixed farming on the Molonglo floodplain and in the valleys of the Ginninderra and Majura creeks. The significance of the Corridor is deeply connected to the history of European agriculture and livestock grazing practices in the Belconnen area.

These activities have played a role in shaping the modified ecosystems that define the Corridor today.

The Corridor itself was originally part of the land granted to the renowned explorer Charles Sturt in 1837, following his expeditions along the Murray and Darling Rivers. In 1838, Charles Campbell purchased the land from Sturt and named it 'Belconnen,' clearing it for sheep grazing. In 1913, the 'Belconnen' land in the ACT was acquired by the Commonwealth through resumption and subsequently leased. Under the Soldier Settlement Scheme, the land was leased to Austen Shepherd in 1927, and it remained under the stewardship of the Shepherd family, who farmed the land until the 1970s. Land was also cultivated by the Kilby family as part of 'The Falls' property near Ginninderra Falls.

The historic Belconnen property, known as 'Belconnen Farm,' features a homestead located just outside but adjacent to the Corridor, near its eastern boundary. The homestead comprises an 1850s stone cottage, along with other farm buildings of varying ages, plantings, and archaeological resources, all contributing to the understanding of the property's historical use and development. The Belconnen Farm precinct is recognized and listed on the ACT Heritage Register as a rare example of an ongoing working property and a successful soldier settlement lease. Notably, the 1850s stone cottage is one of only six stone residences in the ACT that date back to this period. The scenic vista, which spans from Belconnen Farm across the Corridor towards the Murrumbidgee River and the distant mountains, holds significant intrinsic value to the heritage significance of Belconnen Farm. Although Belconnen Farm itself is not located within the boundaries of the Corridor, its proximity offers possibilities for the interpretation of European heritage and the development of linked visitor experiences.

Strathnairn is a 1920s homestead and outbuildings located adjacent to the eastern edge of the Corridor. Since the 1990s it has been operated by the not-for profit Strathnairn Arts Association (supported by the ACT Government) as an artist community with a range of studio facilities, art programs and a creative precinct (including a gallery and café) open to the public. The property provides a reminder of the area's grazing history and is important for development of the arts and encouragement of artists in the region. There is potential for partnerships with Strathnairn Arts Association to contribute to the Corridor's visitor experiences.

5.2 Management considerations

European heritage assessments of the Corridor conducted in 2013 and 2014 did not find any areas or structures that satisfied the criteria for heritage listing on the ACT Heritage Register.

In summary, places of European heritage interest in the Corridor, include:

- the identified Heritage View Corridor from the adjacent Belconnen Farm historic precinct
- views to the distant ranges and the Murrumbidgee River valley
- the western boundary of the Sturt/Campbell land seen in a fence line near the Murrumbidgee River
- an early easement providing access to Cusack's Crossing
- the ACT/NSW border alignment which may include border markers which have been nominated to the ACT Heritage Register
- the adjacent Strathnairn Homestead
- a Cultural Heritage Management Plan (inclusive of both Aboriginal and European heritage) was submitted to ACT Heritage in November 2021 and, at the date of publishing this document, is pending approval.

The Cultural Heritage Management Plan provides the framework for the protection of the Corridor's heritage values.



Figure 32. Interpretative signage at Gruner's Vista

5.3 Heritage - Management objectives and actions

Table 16. Aboriginal connection to Country - Actions and Priorities

ABORIGINAL CONNECTION TO COUNTRY		
Objectives • European heritage places and objects are protected and conserved. • Awareness of European heritage, including past land use and the legacy for reserves today, is increased. • The community is engaged in managing and conserving heritage places.		
Actions		**Priorities**
HH1	Implement the Cultural Heritage Management Plan in consultation with the managers of the Belconnen Farm heritage precinct, the Strathnairn Arts Association, Yass Valley Shire, local grazing families and the community.	3
HH2	Protect, manage and interpret European heritage including: • encouraging research and promoting the results where appropriate • recognising community attachment to heritage places and involving the community in management and interpretation	3

HOW WE WILL EVALUATE OUTCOMES – EUROPEAN HERITAGE
• Implementation of the Cultural Heritage Management Plan for historic heritage. • Interpretation of European heritage is undertaken according to the Cultural Heritage Management Plan and the Interpretation Framework for the Corridor.

6. Connecting people with nature

Connecting people with nature

- The Corridor provides opportunities for nature-based recreation and education.
- The main visitor area is proposed to be developed at the Riverside Visitor Precinct.
- A network of walking tracks throughout the Corridor will be accessible to the community.
- A range of visitor programs are offered in the Corridor.

Management approach

- Recreation activities are compatible with protecting the Corridor's values.
- Visitor experiences are enriched through enhanced understanding of the Corridor's values.
- An active healthy lifestyle is promoted through experiencing nature.



Figure 33. School holiday program

6.1 Nature-based experiences

6.1.1 Welcoming visitors and managing impacts

The Ginninderry Conservation Corridor offers visitors an experience distinct from other peri-urban reserves in the region through its strong emphasis on community appreciation, learning and stewardship of natural and cultural values and ecological enhancement in a riverine landscape.

There are opportunities to experience the Corridor in a variety of ways such as walking, picnicking and social gatherings, active outdoor recreation, guided experiences, learning and education programs, and volunteer activities. The Murrumbidgee River offers settings for water based and associated recreation such as swimming, picnicking, canoeing, wildlife and bird watching and fishing.

Recreational activities in the Corridor support an active lifestyle for the local community maintaining physical and social health. The Corridor provides opportunities for active recreation aligned with the ACT Government Healthy Living Strategy.

6.1.2 Riverside visitor precinct

- A visitor precinct adjacent to the Murrumbidgee River will provide for enjoyment of the Corridor through picnicking, group activities and nature appreciation.
- The Riverside Visitor Precinct locality was identified as a recreational node for the Canberra community in the National Capital Plan (2014).

Major considerations in developing the Riverside Visitor Precinct:

- Minimisation of impacts on Box Gum Woodland, Pink-tailed Worm-lizard habitat and Natural Temperate Grassland, including the location of infrastructure, roads and tracks leading from the precinct in accordance with EPBC Act approval conditions.
- Conduct surveys for the existence of threatened flora and fauna and development of measures to avoid, minimise or manage impacts on threatened populations in accordance with EPBC Act approval conditions, ACT and NSW legislation and this plan.
- Impacts on river water quality and riparian and aquatic ecosystems.
- Compatibility with the provisions in this Management Plan which requires the riparian zone to be managed for low impact recreation with minimal infrastructure.
- Location of tracks and any river viewing area above the level of floods and in places where the visual and environmental impacts are minimised.
- Application of the Design Principles to Protect Natural and Cultural Landscape Values (Section 3.3.1) to reduce the intrusion of the visitor precincts into scenic views including the view from Shepherds Lookout.
- Application of sustainable design, energy efficiency and stormwater management standards to infrastructure and buildings equivalent to those used in the Ginninderry urban development.
- Avoidance and minimisation of impacts to Aboriginal heritage including the location of tracks and access in accordance with ACT Heritage approval conditions.
- Conduct heritage assessments and consultation with First Nations custodians prior to finalisation of design.
- Provide riverine landscape opportunities for people of all abilities.

6.1.3 Recreational tracks network

The Corridor's tracks Plan supports the design of a sustainable recreational tracks network for the Corridor. The track network contains a variety of track types and standards that provide for a diversity of visitor experiences and protection of the values of the Corridor.

In addition, the planning, design, construction and maintenance of all existing and new tracks will need to ensure:

- minimisation of impacts and protection of threatened species, biodiversity and ecological enhancement
- protection of cultural heritage sites and values
- use of best practice design and sediment and erosions controls to protect water quality
- links to the Ginninderry urban development, the Murrumbidgee River Corridor and the wider Canberra and regional track network
- quality interpretation of the Corridors values
- visitor safety and emergency management.

In addition to recreational tracks, to ensure consistency in overall tracks planning in the Corridor, the Track Master Plan (2022) (Appendix E) identifies

the location and use of management tracks that are to be used for vehicle access for management purposes and shared with cyclists and walkers.

6.1.4 Visitor access

Visitor access into the Corridor will be provided by vehicle roads to the Riverside Visitor Precinct, Shepherds Lookout track and track heads from the Ginninderry suburbs and the Belconnen Farm heritage precinct.

Motor vehicle access by visitors will be limited to the vehicle roads to visitor node precinct to maximise opportunities for visitors to have immersive experiences in a tranquil setting. Limited motor vehicle access will also minimise impacts on wildlife and ecological enhancement. A speed limit of not more than 40 km per hour will apply on the roads. Where feasible, the roads will be designed to provide for passage by wildlife.

Parts of the Corridor may be closed to the public at times for ecological enhancement, events, and pest and fire management activities. The Corridor may also need to be closed during fire danger periods.

6.1.5 Achieving sustainable visitor use

The population of the neighbouring Ginninderry suburbs is expected to reach 30,000 people while the wider ACT population is projected to reach approximately 784,000 persons by 2060.

While this growth will put pressure on the management to protect the values of the Corridor, it also presents an opportunity to raise awareness of the Corridor's natural and cultural values and the importance of conserving them.

Recreation opportunities will need to be managed in a way that both protects and showcases the nationally significant habitat, ecosystems, scenic landscapes and other natural and cultural heritage in the Corridor.

Sustainable visitor use proposed for the Corridor is as follows:

- **the concentration of facilities at Riverside Park** for larger numbers of visitors and higher intensity uses in the Riverside Visitor Precinct adjacent to the Murrumbidgee River in the ACT. This precinct will provide picnicking, group activities, nature activities, access to the river and tracks.

- the precinct will provide **road accessible recreation facilities** for larger numbers of people including disability access and higher intensity uses than dispersed recreation in other parts of the Corridor. The concentration of visitor facilities in this way aligns with best practice approaches to the management of small, protected areas. This strategy will assist in protecting the natural and cultural values of the Corridor, achieving a range of visitor opportunities and reducing the potential for conflict.

- **location of shared use tracks near the urban edge within the urban area and to the main visitor precinct.** This will provide for track activities for the local community with connections to the local and regional track network and track access to the visitor precinct within in the Corridor.

- **avoidance of high intensity or environmentally damaging visitor uses and activities** that are more appropriately located in urban parks or other facilities in the Region. Visitor use in the Corridor is focussed on low intensity activities conducted with minimal environmental impact or activities whose environmental impact is controlled by their location in suitable facilities in the visitor precincts.

- **limiting public motor vehicle access** to the paved road to the visitor precincts.

- **location, design and construction of visitor infrastructure and tracks** in a way that minimises impacts on natural and cultural values and is sensitive to the landscape while providing quality opportunities for a range of visitors to experience and appreciate those values.

- **providing quality, contemporary interpretation and learning experiences** that encourage visitor appreciation of Corridor values.

- **promoting the Corridor vision and information about sustainable recreational use** to the local community, visitors and user groups to encourage understanding, responsible behaviour and stewardship.

- **offering exclusive experiences which give visitors opportunities to do something different.** Such experiences include participating in monitoring, research, habitat enhancement, artistic programs, workshops and guided tours and conservation adventure elements to enhance the visitor experience and improve education around conservation.

6.1.6 New recreation activities

The introduction of new or unanticipated recreation activities in the Corridor will be assessed according to the following criteria:

- compatibility with the Corridor vision
- impacts on Corridor values, including ecological enhancement, ecosystem function, conservation connectivity, threatened species and communities and cultural heritage
- potential for conflicts with or loss of amenity for other Corridor users
- availability of other locations for the activity in the region
- low impact adventure experience including zip lines and rope bridges

6.1.7 Visitor safety

The Corridor will attract a range of visitors, not all of whom are familiar with risks in bushland, waterways or experienced in recreation in natural areas. Visitors will be informed and educated about safety issues in the Corridor and appropriate actions (such as design of infrastructure, safety barriers, signage, media announcements, emergency response arrangements, on-site supervision, and temporary closures) will be taken when necessary to address risks. In some cases, addressing risks will require cooperative actions with ACT and NSW authorities.

Visitor safety concerns that may be encountered in the Corridor include:

- bushfires and hazard reduction burns
- impacts from weed and animal pest control measures such as herbicide and pesticide spraying
- personal injury, illness, snakebite
- flooding in the Murrumbidgee River and streams flowing into the River
- hazards of water-based activities
- health impacts of drinking water from the river and creeks
- pedestrians crossing access roads
- interaction with management activities and grazing cattle
- falling limbs of trees

These issues are addressed in the Corridor's Visitor Safety Plan.

6.1.8 Commercial partnerships

Some products will be offered by licensed commercial operators to extend opportunities for visitors to immerse themselves in and learn about the Corridor. This is already in progress. Potential products include:

- guided tours with interpretation of natural values, ecological enhancement
- ecotourism products
- Aboriginal cultural tours or experiences run by Aboriginal custodians and/or local Aboriginal enterprises
- guided history tours
- outdoor activities with an interpretation component
- voluntourism – exclusive experiences participating in research or ecological enhancement programs
- school and tertiary education programs
- photography and art programs
- kiosk and pavilion spaces.

Sustainably managed commercial activities will also contribute to the Corridor's revenue and can provide opportunities for Aboriginal-run businesses to benefit economically from the Corridor and simultaneously participate in communicating and fostering their culture.

All commercial activities in the Corridor will be licensed and will need to comply with licence conditions which include compatibility with Corridor values, environmental protection, minimal impact measures and meeting of certification standards.

6.1.9 Interpretation

Quality interpretation and storytelling will be critical to delivering enriching visitor experiences and achieving public understanding and appreciation of natural and cultural values and commitment to the Corridor vision. Interpretation in and about the Corridor will not be confined to traditional interpretative signage. A range of interpretation and storytelling methods that appeal to different visitor audiences will be considered, including use of digital apps, website information, guided tours, theatre and storytelling, other special events and learning through voluntary participation in research and monitoring programs.

Interpretation offers potential avenues for Aboriginal custodians and local Aboriginal communities to communicate their culture to visitors and potentially gain social and economic benefits through interpretative products and preparation of Aboriginal interpretation material. Partnerships with nearby facilities (such as Belconnen Farm and Strathnairn), agencies (such as ACT Parks and Conservation and the ACT Heritage Canberra Tracks interpretation) and service institutions may be utilised to develop and deliver interpretation material and link it to other interpretation in the region.

Interpretation will be offered in languages other than English to reflect the community of Ginninderry.

6.2 Management considerations

With an increasing population and the development of new suburbs in Canberra, the recreational pressure on the Ginninderry Conservation Corridor will continue to increase over coming years. In meeting this challenge, management approaches outlined in this plan include:

- limiting disturbance in areas that are of high value and/or sensitive to impact
- restricting mountain bike riding to identified tracks
- no dogs (or other pets) allowed
- considering the needs of key recreational activities and promoting good visitor behaviour
- limiting access when impacts are more likely to occur, such as not allowing large group events when tracks are wet and avoiding disturbance when birds are nesting
- facilitating recreational activities, including a central building, information centre, walking tracks and curating adventure experiences, to direct the areas of recreational activities
- recognising that it is only one of a diverse range of outdoor recreation areas in the ACT.

The Ginninderry Conservation Trust will continue to promote appropriate use of the Corridor by providing information including maps; permissible, restricted and prohibited activities; and details about the plants and animals, geological features and cultural heritage found in the Corridor.

Permissible uses of the Corridor and a summary of management considerations is provided in Table 17.

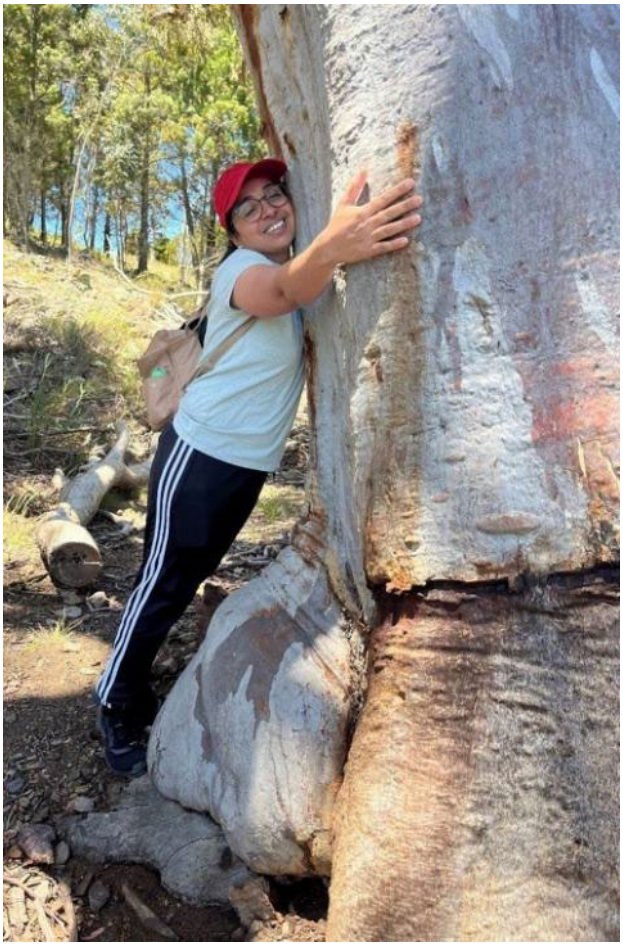


Figure 34. Weekend ranger, Dimple Dhaliwal, showing her love for our oldest Scribbly Gum (*Eucalyptus rossii*)

Table 17. Permissible and prohibited visitor uses in Ginninderry Conservation Corridor

VISITOR USE/ACTIVITY	MANAGEMENT CONSIDERATIONS AND CONDITIONS
Quiet observation and nature appreciation (such as bird watching, wildlife watching, visiting scenic and natural sites, photography, painting)	• This activity will be encouraged through provision of quality interpretation and visitor learning and volunteer programs. • Potential for impacts such as vegetation trampling, interference with habitat, ecosystem enhancement sites and Aboriginal sites will be managed through sensitive location of tracks and viewing points, selective fencing of sensitive sites where appropriate, and visitor education in minimal impact behaviour. Signage will clarify appropriate behaviour to minimise environmental and social impacts. • Appropriate facilities such as scenic view points and bird hides will be provided.
Walking and bushwalking	• Sustainable walking and bushwalking will be encouraged through provision of a range of walking tracks and collaboration with walking and health groups and programs that facilitate healthy exercise. • Potential for impacts such as vegetation trampling, interference with habitat and wildlife, ecosystem enhancement sites and Aboriginal sites will be managed through sensitive location of tracks and viewing points, selective fencing of sensitive sites where appropriate and visitor education on minimal impact behaviour. Walkers will be encouraged to keep to the formed tracks. There will be consultation with bushwalking groups about suitable off-track routes that avoid impacts on threatened habitat and ecological enhancement sites. • It is proposed to provide a range of tracks for different levels of visitor mobility and preferences to showcase and interpret the values of the Corridor. Tracks suitable for disability users, wheelchairs, children, families and seniors will be provided close to access points. • Track heads with parking (on street parking within the urban area) will be provided at selected tracks. • Walker-only tracks will be provided. Cycling will not be permitted on these tracks.
Picnicking	• Picnicking is an important way for visitors to enjoy nature and scenic landscapes and is often conducted in association with other activities. • Picnicking facilities, car parking and shelters will be provided at the visitor precincts as well as areas remote from parking areas.
Water-based activities and swimming	• With the opening of access to the Murrumbidgee River in the Corridor there may be opportunities for swimming, canoeing, kayaking and rafting along the river. • The Murrumbidgee River in the ACT is subject to periodic flooding at which times public warning notices are issued and the river is closed to swimming. • The portion of river adjoining the Corridor is downstream of the Molonglo River confluence. The ACT's sewage treatment facility, the Lower Molonglo Water Quality Control Centre operated by Icon Water, is located just upstream of the Corridor. The facility is operated according to high standards of physical, chemical and biological treatment in accordance with conditions under the ACT Environmental Protection Act 1997 to ensure that discharged water has minimal impact on downstream environments. Downstream water quality and ecological monitoring is conducted by ACT Waterwatch four times a year. • The Trust will liaise with Icon Water, the ACT Environment Protection Authority and Transport Canberra and City Services on water quality and flow conditions in the river and will impose any necessary restrictions on water-based activities on the advice of the relevant ACT authorities. • Signage for water-based activities will identify risks and hazards and clarify appropriate behaviour to minimise environmental and social impacts.

VISITOR USE/ACTIVITY	MANAGEMENT CONSIDERATIONS AND CONDITIONS
	• The range of activities to be undertaken will be discussed with the Aboriginal advisory body to ensure that activities are culturally appropriate with the heritage values of the Murrumbidgee River.
Fishing	• The improved access to the river and presence of Murray Cod is likely to attract a range of fishers, from experienced anglers to casual fishers. • Many fishers assist in protecting fish habitat and riverine environments and there are several such active fishing groups in the ACT and region. On the other hand, there is potential for uncontrolled fishing activities to have adverse impacts on fish populations (including threatened species) and the riverine environment. • A precautionary approach will be taken to fishing. The sustainable management of fishing, protection of aquatic ecosystems and threatened species and management of different regulations and fishing licence requirements in the ACT and NSW will be included in a Sustainable Fisheries Plan to be developed in conjunction with ACT and NSW agencies and the community (Action MR 6). The establishment of catch and release fishing (as a potential approach to sustainable fishing) will be investigated with the ACT Government and Fisheries NSW (Action MR 6). • Camping and campfires will not be allowed along the river foreshore to protect the quality of the environment and minimise illegal fishing activities. Signage will clarify appropriate behaviour to minimise environmental and social impacts. • As an alternative to river fishing, catch and release fishing of stocked native species at dams in the Corridor is anticipated. Partnerships with organisations such as with OzFish will strengthen the approach to educating and engaging recreational fisher people in riparian protection and enhancement to support healthy native fish populations.
Camping	• The Corridor will be primarily a day use area. Camping in this small area near a large population will be difficult to manage and has the potential to affect the condition of habitat, Aboriginal sites and ecological enhancement and increase the risk of fire. • Camping as part of Aboriginal cultural activities may be considered under arrangements with the Aboriginal community and subject to environmental protective measures.
Events, functions and large group activities	• Certain types of events and large group activities will be permitted subject to facilities for these activities being in place. Permission to conduct these activities will be assessed in accordance with: – relevance to the purpose of the Corridor and the protection and showcasing of its natural and cultural values – avoidance of adverse impacts on Corridor values, ecological enhancement and other visitors – the availability of adequate facilities and arrangements for access, parking, visitor amenities and waste management.
Non-commercial small group activities	• Naturalist, conservation, bushwalking, cultural, social, youth, tour and similar groups will be able to use the Corridor subject to the conditions related to the activities they undertake.
Commercial tours and adventure activities	• Commercial activities such as guided nature and culture tours, ecotourism experiences, voluntourism, education and adventure activities (ie zip lines, rope bridges) and facilities for functions may be undertaken and will follow the same principles as above, managed by the Trust or a third party.
Rock climbing and abseiling	• Public rock climbing has the potential to raise safety and liability considerations. Rock climbing will be prohibited.

VISITOR USE/ACTIVITY	MANAGEMENT CONSIDERATIONS AND CONDITIONS
Mountain biking	• Cyclists are permitted to ride on the management tracks in the Corridor but single-track mountain biking (covering downhill, cross-country and other riding genres) and mountain biking on walking tracks will not be permitted. Mountain biking is not a sustainable activity in the Corridor due to the steep terrain and extensive tracts of sensitive habitat (particularly Pink-tailed Worm-lizard habitat), ecological enhancement objectives and the potential for erosion and high maintenance costs in the steep terrain. • Information on cycling will clarify appropriate behaviour to minimise environmental and social impacts.
Horse riding	• Horse riding will not occur within the boundaries of the Corridor due to the potential impacts of horses on threatened habitat and ecosystem enhancement through vegetation trampling, interference with habitat and the introduction of weeds. • Horse riding will be catered for on the National Trail (formerly Bicentennial National Track) which follows the Corridor edge within the urban area for part of its route.
Lighting of fires	• The lighting of open fires by visitors poses a risk of fire spread and adverse impacts on ecosystems, fire sensitive vegetation, ecological enhancement and the safety of visitors and urban residents. The lighting of fires by visitors will be prohibited in the Corridor.
Dog walking	• Dogs can interfere with native fauna and flora habitat and breeding, destroy nesting sites, chase and kill wildlife and transmit diseases and parasites to native fauna. Impacts of dogs on Pink-tailed Worm-lizard habitat and Rosenberg's Goanna are of concern. No dogs (or other pets) are allowed in the Corridor. • Trained assistance dogs (such as guide dogs or hearing dogs) accompanying a person with a disability will be permitted in public areas. • There is open space for dog walking in the Ginninderry urban area.
Motorised activities and off-road vehicle use	• Motorised recreation such as motorbike riding and four-wheel driving will not be permitted due to the small size and steep slopes in the Corridor and the potential for adverse impacts on habitat, soils, ecosystem enhancement and other visitors. • The use of motor vehicles by visitors will be limited to road access to Riverside Visitor Precinct.
Hunting	• Recreational hunting, the carrying of weapons and the taking of animals will not be permitted due to the potential for adverse impacts on native wildlife and the safety of visitors and urban residents. The unauthorised use of weapons and the trapping and capture of animals in reserves is prohibited under ACT and NSW legislation. • Invasive animal management will be carried out by licenced qualified professionals in line with the ACT Pest Animal Management Strategy.
Aerial activities	• Low altitude aircraft, hang gliding and ballooning will not be permitted as they have noise impacts on fauna, affect the amenity of Corridor visitors and urban residents and pose safety issues and potential environmental impacts from landings and access. • The use of drones for ecological and cultural monitoring will be permitted subject to the ACT Nature Conservation Act and approval by the Trust.
Plant, rock and firewood collection	• Disturbance and picking of vegetation and the taking of firewood (including fallen logs) and rocks will not be permitted due to its impact on native species populations, ecosystem function and fauna habitat (especially Pink-tailed Worm-lizard habitat).
Orienteering and other off-track group sports	• The numbers of people involved in off-track sports have the potential for cumulative impacts on the condition of habitat and ecological enhancement. They will not be

VISITOR USE/ACTIVITY	MANAGEMENT CONSIDERATIONS AND CONDITIONS
	permitted in the Corridor. There are other places in the region where they can be conducted.
Geocaching	• This activity will not be permitted as it has potential to disturb habitat, ecological enhancement and Aboriginal sites. There are other places in the region where it can be conducted.

6.3 Connecting people with nature management and actions

Table 18. Management objectives and actions: connecting people with nature - Actions and Priorities

MANAGEMENT OBJECTIVES AND ACTIONS: CONNECTING PEOPLE WITH NATURE

Objectives

- Nature-based activities in the Corridor contribute to improved emotional, physical, spiritual health and well-being of our community.
- The accessibility and amenity of the Corridor is enhanced and community enjoyment of nature and the benefits it provides are increased.
- Residents and visitors have a greater appreciation of the natural and cultural values of the Corridor and the range of nature-based experiences available.
- Residents and visitors are welcomed to the Corridor through enjoyable, culturally appropriate, interactive experiences that encourage regular visits.
- Levels and types of visitor use are consistent with the conservation of natural and cultural heritage.
- High standards of sustainable design and construction (compatible with the sustainability goals of the Ginninderry community development) are used in the development of Corridor infrastructure and facilities.
- Monitoring and research provide a greater understanding of existing types and levels of recreation and visitor use.
- Hazards to visitors are minimised by appropriate infrastructure design, community information, warnings and management of access.
- Sustainable commercial activities contribute to enriching visitor experiences, Corridor revenue and management.
- Visitors conduct their activities in ways that are compatible with the Corridor and minimal impacts on natural and cultural values.

Actions		Priorities
CPN1	Support community involvement in nature-based experiences through provision of enhanced facilities and visitor programs, the use of innovative technology, and increased availability of information.	Ongoing
CPN2	Continue to deploy a visitor monitoring system, including methods for recording visitor numbers, a visitor satisfaction survey and methods of monitoring environmental impacts of visitors at selected sites.	2
CPN3	Review, update and Implement the Track Master Plan (2022), close informal tracks and construct and classify any new tracks in accordance with Australian standards.	1
CPN4	Review the Tracks Master Plan (2022) to provide details for subsequent Corridor development stages prior to the beginning of construction work in each stage.	2

MANAGEMENT OBJECTIVES AND ACTIONS: CONNECTING PEOPLE WITH NATURE		
CPN5	Construct the Riverside Visitor precinct in accordance with the National Capital Plan (2014), the Program Report and relevant approvals.	1
CPN6	Implement and regularly review the Visitor Safety Plan to ensure the assessment of risks remains current, risk mitigation measures are appropriate and measures to inform and educate the community and visitors about risks and appropriate behaviour in the Corridor are in place.	Ongoing
CPN7	Encourage partnerships and cooperation with relevant organisations to improve and promote the health and community benefits of nature-based activities.	Ongoing
CPN8	Provide culturally appropriate activities for new residents to experience nature, to feel safe and to develop an understanding of the Corridor's natural and cultural values.	Ongoing
CPN9	Liaise with Icon Water on plans for visitor infrastructure and activities in the area of the sewer vent on the Ginninderra Trunk Sewer in the ACT portion of the Corridor.	Ongoing
CPN10	Implement and update the Interpretation Framework in stages as the Corridor develops and update the core information and messages to be delivered to the range of audiences in a multilingual format.	Ongoing
CPN11	Prepare a commercial partnership framework that includes: • a licence approval system for commercial activities compatible with systems in the ACT and NSW. • criteria for assessing licence applications • asset acceptance and maintenance policy • licence conditions compatibility with Corridor values, environmental protection and minimal impact measures.	3
CPN12	Provide information to visitors on ways to minimise their impact on the Corridor and protect its natural and cultural values.	2
CPN13	Develop and install directional, safety and interpretive signage to enhance the visitor experience.	Ongoing

HOW WE WILL EVALUATE OUTCOMES – CONNECTING PEOPLE WITH NATURE

- The Riverside Visitor Precinct is established according to the requirements of this Management Plan and Figure 11 of the Program Report.
- The number of visitors to the Corridor is monitored and the values of the Corridor are protected from impact.
- Visitor attitudes to and experiences in the Corridor are high as assessed in a visitor satisfaction survey.
- Environmental impacts of visitor use are monitored at key sites.



Figure 35. Traditional weaving workshop with Ronnie Jordan from Culture on the Move

7. Community stewardship and partnerships

Community stewardship and partnerships

- There is a strong legacy of involvement in, and knowledge of, conservation management in the catchment by community members, community organisations and scientific and research institutions.
- Regular events involve the community to support ecological monitoring and assist in protecting reserve values by controlling pets and preventing the spread of weeds.

Management approach

- Encouragement of strong support for and understanding of the Corridor vision among residents and the wider community and their participation in the protection, enhancement and connection of biodiversity, habitats and landscapes is a high priority.
- Partnerships with community groups, organisations and institutions will be a core part of Corridor management.



Figure 36. School holiday program – macroinvertebrate identification

7.1 Community stewardship and partnerships

Conservation is a joint effort and the Trust relies on an integrated approach to interpretation and education through engaging and empowering students, volunteers and visitors to act at a local, regional and global level.

We will achieve this through strengthening relationships and developing innovative strategies to engage the community.

Through interpretation and environmental education activities, the community, including visitors to the Corridor, can gain a deeper understanding of and appreciation for its values and management objectives.

A key aspect of community engagement is providing visitors with comprehensive information that enables them to comprehend the potential impacts of recreational activities and the reasons behind certain limitations in specific areas. Various methods and media are employed to raise awareness about the Corridor's values, including the utilisation of websites, signage, smartphone apps, self-guided walks, guided events, and other online content. These channels effectively communicate the significance of the Corridor and facilitate a greater understanding among individuals.

7.1.1 Community stewardship

To foster community stewardship of the Corridor, the approach will focus on providing information, facilitating active learning and offering volunteer opportunities that highlight the Corridor's unique values and the rationale behind management actions.

New residents moving into the area will be encouraged to recognise the integration between the Corridor's vision and the sustainability goals and practices of the area. An induction package specifically designed for new residents will furnish them with essential information about the Corridor and its phased development. It will also explain ecological enhancement activities, outline access and recreation arrangements and actively promote volunteer participation. The Corridor's website will serve as a platform for more comprehensive details and notifications regarding volunteer opportunities.

As the Corridor expands and the local population and visitor numbers grow, the communication and promotion program will be regularly updated. The objective of this program will be to enhance community understanding, enthusiasm, and support for the Corridor. It will encompass promotional messages and campaigns, special activities such as tours and talks on notable features and ecological enhancement, engaging children through specific activities, and organising events that celebrate the Corridor's values.

Partnerships will play a crucial role in implementing this Management Plan. Already, local researchers, research institutions, community conservation groups, and landholders have contributed research and management advice to the Corridor's development. The Trust partners with Waterwatch, Frogwatch and other Bush on the Boundary groups to restore catchments and undertake other biodiversity enhancement projects. There is the potential to strengthen these collaborative efforts to include further scientific research, active participation in enhancement work (such as planting, seed collection, weed removal, and erosion control), testing of management methods, involvement in monitoring programs, and community education initiatives. By fostering these partnerships, we can leverage collective expertise and resources for the successful implementation of the plan.

The Corridor provides an opportunity to continue and extend community management partnerships. It provides a unique opportunity in the region for partnership between a proposed world’s best practice sustainable community and conservation management.

Volunteer programs can be strengthened to develop community volunteering opportunities and coordinate community volunteer activities conducted by different bodies.

With an increasing ACT population, there may be demand for more environmental education programs and sites in the region. Potentially, ecological enhancement, biodiversity management and Aboriginal cultural heritage in the Corridor could form a basis for environmental education programs.



Figure 37. Rangers leading a guided walk

7.2 Community stewardship and partnerships - Management objectives and actions

Table 19. Community stewardship and partnerships - Actions and Priorities

COMMUNITY STEWARDSHIP AND PARTNERSHIPS		
Objectives • Residents and the wider community are committed to the Corridor vision and are actively involved through a range of activities and volunteering. • Partnerships with the Ginninderry project, scientific community, research institutions, conservation groups, other community groups, Aboriginal people, Strathnairn and adjoining landholders are a core part of Corridor management. • Sponsorships and donations make an important contribution to revenue and promotion. • The Corridor is a focus for environmental education programs.		
Actions		**Priorities**
CS1	Contribute information to the development's induction package for new Ginninderry residents focusing on the vision, management activities, recreation and volunteer opportunities of the Corridor. Information should be periodically updated to reflect the growth of the Corridor.	Ongoing
CS2	Implement the Trust's Communications Plan to promote the Corridor vision and encourage community stewardship through a range of channels and activities. The Plan will be periodically reviewed to reflect the development of the Corridor and growth in opportunities.	Ongoing
CS3	Continue to develop the volunteer program to provide opportunities for engagement within the Corridor. The volunteer program should be expanded over time as the Corridor is developed and more opportunities emerge.	Ongoing
CS4	Strengthen partnerships with the Ginninderry project, researchers, research institutions, community groups and organisations, government agencies and adjoining landholders to form partnerships for Corridor management. Initial priority should be given to partnerships and projects required to lay the foundations for ecological enhancement in the Corridor.	Ongoing
CS5	Continue to develop a program for schools, adult education and community outreach programmes to provide inspiration and hands-on experiences to motivate and mobilise a new generation of environmental guardians.	2

HOW WE WILL EVALUATE OUTCOMES – COMMUNITY STEWARDSHIP AND PARTNERSHIPS
• Volunteer program continues to develop and number of volunteers engaged grows. • Education and outreach programs developed and delivered. • Number of partnerships involving researchers, community volunteers and community groups participating in Corridor management.

8. Innovation in conservation practice

Innovation in conservation practice

- The Corridor is a centre of excellence in conservation practice.
- A science-based approach will continue to be used to identify strategic opportunities, priorities and innovation.
- Research that improves knowledge and contributes to increased management effectiveness will be supported.

Management approach

- Ensure that the best available evidence is central to all decision making, delivery, advice and risk assessment.
- The Trust will be a learning organisation that evaluates the outcomes of its actions.
- Collaborative partnerships with universities and other research sectors and institutions inform and improve Corridor management.



Figure 38. Biomass monitoring

8.1 Innovation in conservation practice

Conducting scientific research will continue to be the bedrock of the Corridor's contribution to ending biodiversity loss and restoring and maintaining healthy ecosystems. Fostering a culture where high quality science and evidence is celebrated and is at the heart of the Trusts' operations and is key to delivering the vision for the Corridor.

To solidify the Corridor's stature as centre of excellence in conservation practice the Trust will:

- Use a science-based approach to identify strategic opportunities, priorities and innovation.
- Ensure that the best available science is central to all decision making, delivery, advice and risk assessment.
- Be a learning organisation that evaluates the outcomes of its actions.
- Develop a diverse and resilient specialist and technical expert cohort to ensure it can access expertise across its remit, investing in staff to ensure they have the skills they need to succeed in their work and adapt to future challenges and developing research partnerships.

Through cutting-edge research the Trust can generate the data, information, knowledge and understanding required to innovate in conservation practice.

A programme of research, exchange visits, seminars, workshops, publications and promotion will enable the Trust to be an active part of a much wider community of action for biodiversity conservation and enhancement.

8.2 Research partnerships

The Trust continues to invest in research to deepen the knowledge and evidence to improve conservation and management of the natural and cultural values in the Corridor. Facilitating partnerships between the Trust, research institutions and citizen scientists is a priority.

Numerous research projects are undertaken by the Australian National University, University of Canberra, and other agencies in the Corridor. Research provides the knowledge base for management. The ability to adapt management based on new research information will remain a key part of the management of the Corridor.

Citizen science is also recognised as making an increasingly important contribution to research, monitoring, and our knowledge of natural values in the Corridor. Platforms such as NatureMapr, Upper Murrumbidgee Waterwatch, Canberra Birds and Frogwatch support conservation efforts across the ACT.

Research that increases knowledge and helps in the conservation of Aboriginal and historic sites and places, and the ongoing connection by Aboriginal people to Country, will be further encouraged and supported.

8.3 Monitoring and evaluation

The Ginninderry Conservation Corridor Ecological Monitoring Framework provides a framework for evaluating the condition of ecosystems and the effectiveness of management in achieving conservation objectives.

This framework establishes the monitoring schedule, monitoring approach and thresholds for review of management measures for each of the MNES including:

- Box Gum Woodland and Derived Native Grasslands (Box Gum woodland) listed as critically endangered under the EPBC Act,
- Natural Temperate Grassland of the South- Eastern Highlands (Natural Temperate Grassland) listed as critically endangered under the EPBC Act and
- Pink-tailed Worm-lizard *(Aprasia parapulchella*) listed as vulnerable under the EPBC Act.

It also sets out specific monitoring requirements for a range of environmental factors which are not listed as MNES relating to vegetation mapping and vegetation condition monitoring.



Figure 39. University of Canberra work placement students identifying macroinvertebrates

8.4 Innovation in conservation practice – management objectives and actions

Table 20. Innovation in conservation practice - Actions and Priorities

INNOVATION IN CONSERVATION PRACTICE		
Objectives • Research provides a sound evidence base for land management and conservation decisions in the Corridor and support the Trusts' program of conservation excellence. • New technologies are used to inform conservation practice. • Universities in Canberra and elsewhere have established long term social and ecological research programs in the Corridor.		
Actions		**Priorities**
RP1	Strengthen research program and partnerships with universities and other research institutions to ensure an ongoing program of research to inform management decisions and contribute to the understanding and advice the Trust is able to offer to other agencies involved in conservation.	1
RP2	Prioritise research with a focus on the themes in the research program: • The role of large herbivores in the management of threatened ecological communities in the Corridor • The management of foxes using insight into diet, population dynamics and novel techniques as a coexistence conservation tool • Ecology, sociological considerations and management of eastern brown snakes • Understanding population ecology of PTWL and the impacts of development in the Corridor.	1
RP3	Continue to develop and implement the Ecological Monitoring Framework to inform adaptive management in the Corridor.	Ongoing
RP4	Support and promote the use of citizen science and integrate results into management.	2
RP5	Develop and maintain an ever-growing on-line knowledge centre, providing an open access resource for all. The centre will contain a growing body of research information and knowledge relating to the Corridor with material drawn from research and that of partners.	3
RP6	Collaborate with partners to develop education and training programs, as well as apprenticeships and short courses, to train staff, researchers and practitioners through both online and on-site.	3

HOW WE WILL EVALUATE OUTCOMES – INNOVATION IN CONSERVATION PRACTICE
• Partnerships with research institutions that meet the needs of the Corridor's Research program are formalised. • The number of research programs undertaken that inform and benefit management decisions within the Corridor is expanded. • The number of partnerships involving researchers, community volunteers and community groups participating in Corridor management is increased.

9. Management operations

The Trust's office and information centre are currently located in the Ginninderry urban area.

Additional facilities and storage for tools and equipment will be required and an expanded works depot will be required as the Corridor expands.

Day to day operations are conducted in accordance with an operational plan that guides the detail and scheduling for implementation of the Corridor Management Plan.

Management approach

- Management operations will be environmentally sustainable and culturally appropriate and provide employment and partnership opportunities for the local community, organisations and Aboriginal people.
- Construction Environment Management Plans will be prepared and implemented for all major construction activity in the Corridor.
- The Trust team will carry out management activities and operations in an effective manner that is consistent with this Management Plan.
- Investing in people by providing opportunities, professional development, training and support.
- Developing future leaders.

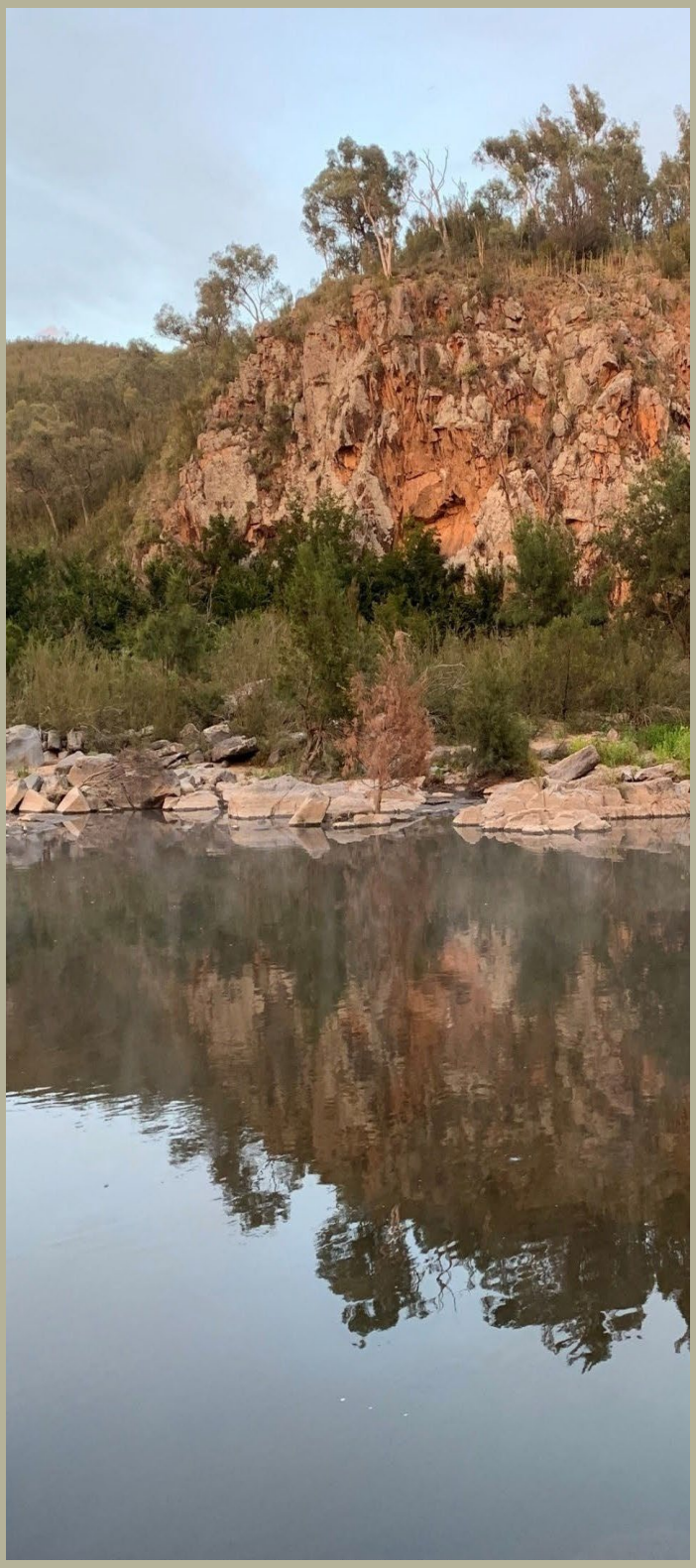


Figure 40. Murrumbidgee River

9.1 Conduct of Corridor operations

Management operations in the Corridor will be conducted in a way that:

- is environmentally sustainable and culturally appropriate
- provides employment and partnership opportunities for the local community, organisations and Aboriginal people
- minimises impacts of operations on visitors and residents
- collaborates with government agencies and utility managers to achieve outcomes acceptable for the protection of Corridor values and utility management requirements.

Arrangements for enforcement of conservation and related legislation in the Corridor will be developed in consultation with the ACT Government, the Yass Valley Council, the NSW Department of Primary Industries and the NSW Office of Environment and Heritage.

Cross-border cooperative arrangements for policing and emergency response by the ACT on behalf of NSW are being developed for Ginninderry and will be applied to the Corridor. Pending the outcome of those negotiations ACT Police and Emergency Services will be responsible for policy and emergency response in Stage 1 of the Corridor as in other parts of the ACT.

9.1.1 Employment and partnership policy

The Trust aims to achieve positive social and economic outcomes for the local community and Corridor stakeholders across the region.

The Trust aims to provide employment and partnership opportunities to the local community, the Aboriginal community and local organisations and institutions.

9.1.2 Management infrastructure and facilities

The Trust's office and information centre are currently located in the Ginninderry urban area.

As the Corridor expands over the next five years so too will the Trust's operational needs. Additional facilities and storage for tools and equipment will be required and it is envisaged that a works depot will need to be established as the Corridor expands.

Consideration will be given to location of the works depot outside of the Corridor to minimise impacts on cultural and biodiversity values protected by the Corridor.

9.1.3 Utilities

Electricity easements and a ventilation shaft on the trunk sewer that passes under the Corridor are located within the Corridor boundaries. Several new ventilation shafts will be constructed in the Corridor on the trunk sewer for the Ginninderry urban development and uses and vegetation in the easements must comply with clearance requirements for powerline safety and protection. Access to the ventilation shafts by Icon Water are needed for construction and maintenance.

The Belconnen District Policy provides for the control of new uses around the Lower Molonglo Water Quality Control Centre due to the potential impacts of odour in accordance with Figure 19 of that policy. Management of recreation and liaison with Icon Water in relation to the buffer zone is addressed elsewhere in the plan.

The Trust will coordinate with Icon Water, the ACT Environment Protection Authority, Transgrid and Evo Energy to manage infrastructure within the Corridor and establish collaborative arrangements to minimize utility impacts on Corridor values and protect critical infrastructure from inappropriate development.

9.1.4 Operational planning

Day to day operations is conducted in accordance with an operational plan that guides the detail and scheduling for implementation of this Plan and its sub-plans. Operations planning covers management operations such as ecological enhancement works; track and infrastructure construction and maintenance; weed, pest and fire management; and visitor management and safety activities.

The plan is periodically reviewed and updated to keep pace with operational requirements as the Corridor is developed.

Corridor operations will be conducted in a way that minimises impacts on visitors and residents.

9.2 Management operations-management objectives and actions

Table 21. Management operations - Actions and Priorities

MANAGEMENT OPERATIONS

Objectives

- Well informed management partners who carry out management activities and operations in an effective manner that complies with the Corridor Management Plan.
- Annual Operational Plans establish the priorities in accordance with the Management Plan.
- Employment and partnership opportunities are available to the local community, organisations and the Aboriginal community.
- Establishment of a Corridor works depot (located outside the Corridor if feasible).
- Facilities and services in the Corridor that apply best practice sustainability and energy efficiency design and techniques.
- Effective collaborative arrangements for conservation legislation, law enforcement, emergency response, electricity easements and sewer infrastructure with the relevant government agencies.

Actions		Priorities
MO1	Regularly review and update annual Works Plans in line with the land under Trust management. Ensure these plans are consistent with the requirements in the Corridor Management Plan. Revise annual Works Plans to reflect any new management requirements and the development of new Stages in the Corridor.	Ongoing
MO2	Develop and maintain partnerships with government agencies, research institutions, non-government organisations, specialist contractors, conservation groups, other community groups and volunteers.	Ongoing
MO3	Encourage employment of and partnerships with people from the local community, organisations and the Aboriginal communities.	Ongoing
MO4	Ensure the Trust team and partners are aware of the requirements of the Management Plan, relevant legislation and safety obligations to protect operators, contractors and visitors and the natural and cultural values of the Corridor.	Ongoing
MO5	Negotiate with government agencies and utility managers on arrangements for law enforcement, emergency response and utility management in the Corridor.	Ongoing
MO6	Consider the location of the operation works depot and staff facilities outside of the Corridor to minimise impacts on Corridor values.	Ongoing
MO7	Invest in professional development, training and support to develop future leaders.	Ongoing

HOW WE WILL EVALUATE OUTCOMES – MANAGEMENT OPERATIONS

- Preparation and implementation of annual Works Plans.
- Numbers of local people and organisations employed by the Trust or involved in management partnerships.
- Success of management outcomes assessed by the number of partnerships and their outputs (such as research reports, areas restored).
- Implementation of collaborative arrangements for law enforcement, emergency response and utility management.

Appendix A – References

The main references used in the preparation of this Management Plan are listed below.

ACT Government 2019. ACT Native Woodland Conservation Strategy and Action Plans. Environment, Planning and Sustainable Development, Canberra, ACT.

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Appendix B – Conditions and commitments for the Ginninderry Conservation Corridor

The following tables contain extracts from the relevant approval documents related to the Corridor and indicate the sections of the Management Plan where each requirement is addressed.

Table 22. ACT Government Requirements

APPROVAL CONDITION	RELEVANT SECTION
ACT WEST BELCONNEN STRUCTURE PLAN (*Superseded by the Belconnen District Strategy*)	
2. The landscape setting and values of the site should be recognised and enhanced. Existing significant landscape features will be retained and protected.	Section 3
10. The links between urban water management and potential impacts on flora, fauna, heritage and the conservation corridor should be recognised.	Section 3
11. Aboriginal and historic heritage place and objects will be recognised and significant sites conserved in public open space where appropriate.	Section 4 and 5
27. The landscape setting and values of Ginninderry will be recognised and sensitively incorporated into the urban design of the area. This includes the visual connection to the range of hills immediately west of the Murrumbidgee River, the distant Brindabella Ranges and the group of hills to the north of Ginninderra Creek.	Section 3
29. Best practice water sensitive urban design principles will be adopted at all levels of the development to minimise potable water usage, manage overland flows, protect water quality and aquatic habitat in the Murrumbidgee River and Ginninderra Creek.	Section 3
31. Aboriginal and European heritage places will be recognised and significant sites conserved in a manner agreed by the ACT Heritage Unit and in consultation with Registered Aboriginal Organisations.	Section 4 and 5
32. Bushfire risk assessments and management plans will be prepared and implemented in accordance with relevant Government guidelines for bushfire mitigation.	Section 2
37. The Murrumbidgee River corridor is recognised as an important natural and cultural asset to the ACT and wider region. It will be planned as an integral part of the National Capital Open Space System by providing for continuity of recreation use with surrounding open space and the river corridor.	Section 3 and 6
39. Provision will be made in the conservation corridor to create a balance between spaces allocated for recreational activities and protecting the area's natural and cultural values in a sensitive manner.	Section 6
42. Provision will be made for open space links between the Conservation Corridor, Ginninderra Creek and the urban area, suitable for cycling pedestrian and equestrian use (via National Trail).	Section 6
69. The Murrumbidgee River corridor and associated conservation area are to be managed to protect water quality, classified species and communities, bird habitats, high value woodlands and grasslands, and natural and cultural assets.	Section 2

APPROVAL CONDITION	RELEVANT SECTION
75. Provision will be made in the conservation corridor for recreational activities appropriate to the characteristics of the river and adjacent land, and in a manner that provides bushfire protection and reinforces and protects the natural and cultural values of the river corridor.	Section 6
76. The inner asset protection zone is to be located outside the river corridor boundary, within the urban area.	Section 2
77. Conservation Management Plans are to be prepared for Aboriginal heritage places and objects.	Section 4
89. Strong recreational links are to be facilitated within Ginninderry and surrounding suburbs to allow safe, appropriate and convenient access to the Murrumbidgee River and conservation corridor.	Section 6
109. Shared paths (bicycle/pedestrian) will provide access to key features within Ginninderry including the conservation corridor, Murrumbidgee River and Ginninderra Creek corridors, the group centre, schools and Strathnairn. The paths will also connect to existing shared paths that link Ginninderry with the wider Belconnen district, Canberra City and beyond.	Section 6
101. A water sensitive urban design (WSUD) strategy will be adopted to control stormwater runoff from the Ginninderry development. The strategy will comply with current ACT WSUD policy documents and will comprehensively address issues relating to the management of water quality control and minimise adverse impacts on flow regimes into the Murrumbidgee River and Ginninderra Creek. Flow regimes should reduce the number of run- off days to replicate, as closely as possible, predevelopment peak flows.	Section 3
111. The proposed conservation corridor and Murrumbidgee River offer opportunities for research, education, recreation and ecotourism. The potential of these places will be further explored as part of a separate master planning exercise.	Section 6
WEST BELCONNEN CONCEPT PLAN (PART 2) (*Superseded by the Belconnen District Policy)*	
10. Identified Aboriginal heritage places and objects are to be managed in accordance with Heritage Act 2004 provisions.	Section 4
18. Sewer Vents. No recreation activity that will encourage people to congregate within 130m of the sewer vent within the river corridor is permitted. A reduction in the dimension may be permitted with the endorsement of Icon Water.	Section 6 and 9
19. Lower Molonglo Water Quality Control Centre Clearance Zone. New uses are not permitted within the 2.1km clearance zone from the Lower Molonglo Water Quality Control Centre, as shown in Figure 19 (Clearance Zone Map C page 37 of the Belconnen District Policy), other than development which is compatible with, and does not have an adverse impact on the treatment plant, as determined by Icon Water. The size of the clearance zone may be adjusted subject to an appropriate independent audit process and approval of the Environment Protection Authority and Icon Water.	Section 6 and 9
28. The provisions of the Domestic Animals Act relating to cat containment apply.	Section 2

Table 23. Actions and Commitments of the Endorsed Program under EPBC Act

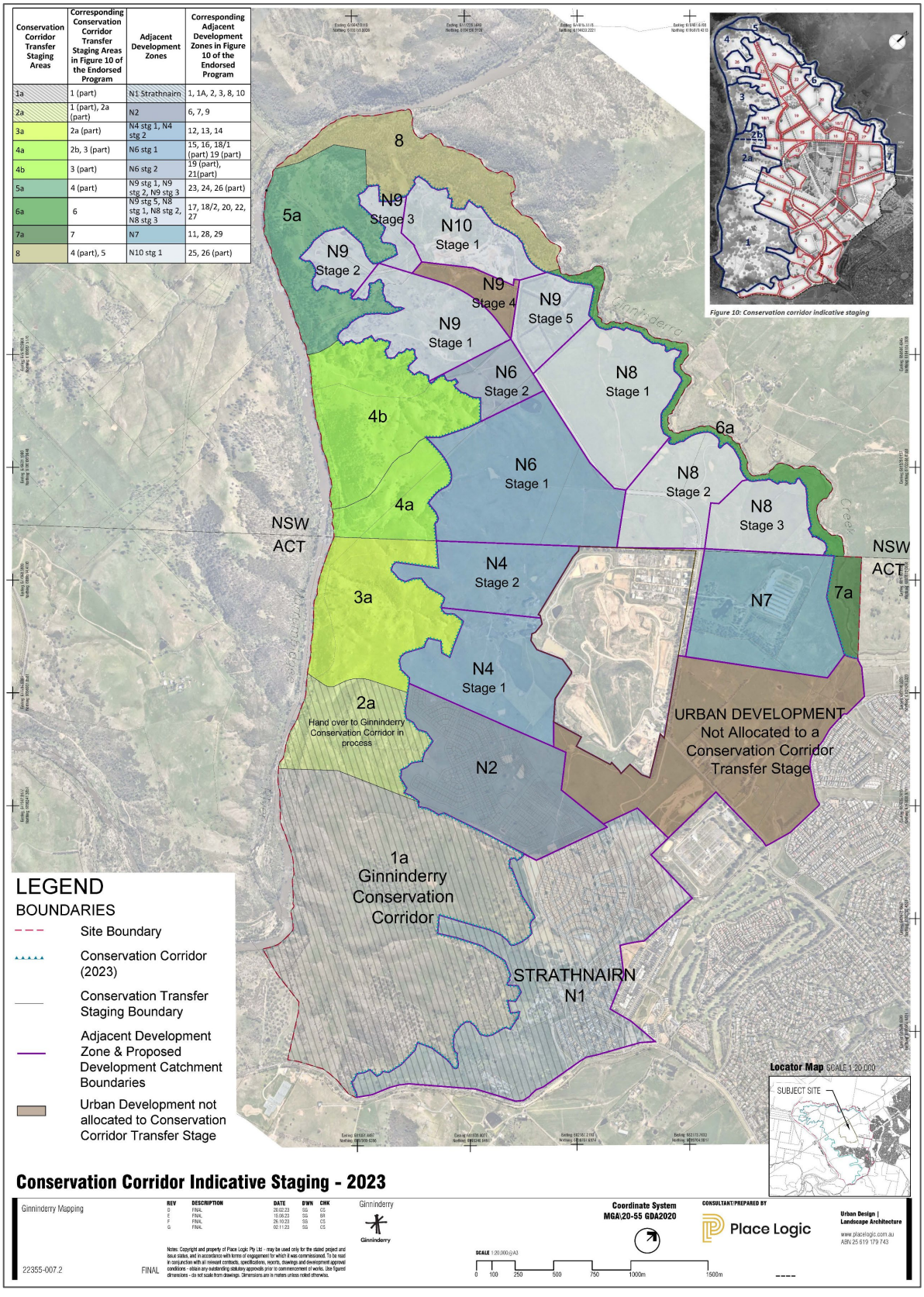
CONSERVATION OUTCOME SOUGHT	COMMITMENT	RELEVANT SECTION
PREVIOUSLY UNIDENTIFIED MNES		
Protection of MNES that are identified in pre-construction surveys for permitted construction work. [EPBC PR4-1]	Prior to development of Conservation Corridor infrastructure, site surveys of threatened flora and fauna species will be conducted and populations of threatened flora and fauna species will be avoided or impacts managed in accordance with the Reserve Management Plan. The EPBC Approved Program Report (5.3.4) provides a Defined Process Strategy to address new information, newly listed MNES, or adjustments to the development program.	Section 2
BOX-GUM WOODLAND		
A conservation area that includes 100% of identified Box Gum Woodland (70.7 ha to be protected) [EPBC PR4-12]	Vary the Territory Plan, amend the National Capital Plan for all proposed land use changes. Zoning to be in place prior to commencement of construction in the ACT.	Section 2
Preservation and enhancement of woodland habitats. [EPBC PR4-13]	Manage activities in the Ginninderry Conservation Corridor in accordance with the Management Plan. The land manager is to seek approval of and implement the Plan. The Plan is to be approved by the ACT Conservator and Minister for the Environment (ACT component) and endorsed by the ACT Conservator (NSW component) in consultation with the NSW Office of Environment and Heritage. The Plan is to be finalised within 2 years of Ministerial endorsement of MNES plan and reviewed at intervals of no more than five years thereafter.	Section 1
Establishment of a land management governance regime. [EPBC Con6, EPBC PR4-14]	Establish an Environmental Management Trust for management of the Ginninderry Conservation Corridor within 2 years of Ministerial endorsement of the MNES plan and prior to commencement of construction.	Section 1
Maintenance and enhancement of connectivity between Box Gum Woodland habitat areas. No appreciable long-term net reduction in total Box Gum Woodland habitat areas. [EPBC Con9, EPBC PR4-15]	All works that may affect Box Gum Woodland to be informed by relevant scientific expert advice. Roads and tracks to follow existing alignments where feasible and incorporate appropriate design techniques such as raised grating.	Section 2

CONSERVATION OUTCOME SOUGHT	COMMITMENT	RELEVANT SECTION
	Vehicle tracks are to be a maximum of 6 metres wide and other tracks a maximum of 2.5m wide. Unused existing tracks are to be rehabilitated. Picnic and other facilities involving buildings and car parking are to avoid known high value habitat areas. Managed in accordance with the appended habitat and offset plan.	
Protect habitat from domestic predators. [EPBC Con13, EPBC PR4-15]	Impose a cat containment policy in the ACT portion of the West Belconnen urban area and prohibit off-leash dogs in the Conservation Corridor. Cat Containment is to be mandated by the Territory Plan variation prior to commencement of any works. The dog control regime is to be established by the Trust.	Section 2 and Section 6
Monitoring of impacts on habitat is ongoing. Monitoring will be consistent with Box Gum Woodland monitoring across the ACT. [EPBC PR4-15]	Adopt field data recorded by Nash & Hogg (2013) as baseline data. Conduct periodic field research to assess change in the extent and quality of Box Gum Woodland habitat every two years from the date of endorsement. The monitoring period can be reviewed if impacts have stabilised. *Note: Nash and Hogg (2013) is superseded by Capital Ecology (2020).*	Section 2
Establishment of a process of independent third party review. [EPBC Con16, EPBC PR4-18]	Within 2 months of the end of each financial year, preparation of an annual report addressing MNES outcomes achieved in the previous year; lessons learned; and including an independent financial audit. The annual report is to be made publicly available and to be submitted to the ACT Conservator of Flora and Fauna.	Section 2
A conservation area that includes 90% of identified PTWL habitat (144.7 Ha to ultimately be protected). [EPBC Con9, EPBC PR4-19]	Variation to the Territory Plan was completed in 2023 in accordance with the ACT Planning Act 2023. Amendments to the National Capital Plan and the Yass Valley Local Environment Plan have been completed for all proposed land use changes. ACT and NSW zoning in place d NSW planning control documents to be in place prior to commencement of construction in NSW.	Section 2

CONSERVATION OUTCOME SOUGHT	COMMITMENT	RELEVANT SECTION
Preservation and enhancement of PTWL habitats. [EPBC Con9, EPBC PR4-20]	Preparation of a habitat and offset management plan.	Section 2
Establishment of a land management governance regime. [EPBC Con6, EPBC PR4-21]	Establishment of a Trust and partnership arrangements to deliver conservation program outcomes.	Section 1
PINK -TAILED WORM-LIZARD		
Maintenance and enhancement of connectivity between PTWL habitat areas. No appreciable long term net reduction in total PTWL habitat areas. [EPBC PR4-22]	All works that may affect PTWL habitat to be informed by relevant scientific expert advice. Roads and tracks to follow existing alignments where feasible and incorporate appropriate design techniques such as raised grating. Vehicle tracks are to be a maximum of 6 metres wide and other tracks/tracks a maximum of 2.5m wide. Unused existing tracks are to be rehabilitated. Picnic and other facilities involving buildings and car parking are to avoid known high value habitat areas.	Section 2
Pink-tailed Worm-lizards are protected from domestic predators. [EPBC Con13, EPBC PR4-23]	Impose a cat containment policy in the ACT portion of the Ginninderry urban area and in the NSW portion in the future if suitable legislation comes into force. Prohibit off-leash dogs in the Conservation Corridor.	Section 2 and Section 6
Ongoing monitoring of impacts on PTWL habitat. [EPBC PR4-24]	Adopt field data recorded by Osborne & Wong (2013) as baseline data. Conduct periodic field research to assess change in the extent and quality of PTWL habitat every 2 years from the date of endorsement. The monitoring period may be reviewed if impacts have stabilised. Note: Osborne & Wong (2013) is superseded by Capital Ecology (2020).	Section 2
Establishment of a process of independent third party review. [EPBC Con16, EPBC PR4-25]	Within 2 months of the end of each financial year, preparation of an annual report addressing MNES outcomes achieved in the previous year; lessons learned; and including an independent financial audit. The annual report is to be made publicly available and to be submitted to the ACT Conservator of Flora and Fauna.	Section 2

Appendix C – Ginninderry Conservation Corridor Staging Plan

Figure 41. Ginninderry Conservation Corridor Staging Plan 2023



Appendix D – Clarification letter – Defined process strategy, Ginninderry Project

Ginninderry

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John Gorton Building, King Edward Terrace, Parkes ACT 2600

08 November 2023

Clarification Letter – Defined Process Strategy, Ginninderry Project

Dear,

Following the ongoing meetings, liaison, and assessment of the Defined Process Strategy (DPS), the purpose of this letter is to clarify the implementation of the DPS for the Ginninderry Project in accordance with Section 5.3.4 of the Program Report.

Impacts in the Ginninderry Conservation Corridor (GCC) have been described in the Program Report (s.3.12 p11, Section 3.6 (p18), and Section 3.6.2 (pp24-25)) and visually represented in Figure 11 of the Program Report.

The Program Report acknowledges 16.4 ha of Pink Tailed Worm Lizard (PTWL) habitat and 3.8 ha of EPBC Act Box-Gum Woodland habitat are impacted by the urban development. The creation of the conservation corridor that incorporates 100% of the Project area of the box gum woodland and 145.8ha of PTWL habitat will result in enhancements in connectivity between PTWL areas and an increase in overall habitat area which will offset the loss of 16.4 ha of PTWL from the urban area (Program Report p12).

To manage the impacts on the 3.8ha Drake Brockman Drive woodland patch, the Program Report (p30) identifies that the impacts will be offset by enhanced management of the West Molonglo patch. Management of the West Molonglo patch, as described in the Program Report, will be reported on in Annual Reports.

Determination of the exact size of the offset requirements for impacts to MNES for the Ginninderry Project has been undertaken per Appendix G – Table 4 in accordance with the *Offsets Assessment Guide,* under *the Environment Protection and Biodiversity Conservation Act 1999* for Pink-tailed Worm-lizard and Box-Gum Woodland. NTG TEC habitat quality scores for use in the Offsets Assessment Guide were determined using the methodology detailed in Section 5.2.4 of the Strategic Assessment Report (refer to Table 1 in Appendix A for further information).

Since the Strategic Assessment report, the Ginninderry Conservation Trust has actively managed the GCC. Accordingly, Table 2, Appendix B, captures the variables that are considered likely to have changed since the Strategic Assessment was completed. These values have been used to calculate the impacts on MNES for the GCC and will be used to calculate impacts on MNES in the future.

Direct, indirect, and cumulative impacts from activities on the GCC on MNES are described in Section 4 of the Program Report and are expanded upon in Section 3 of the Program Report. The below identifies these impacts on MNES –

- NTG TEC (p27): Direct impacts to natural temperate grassland will be avoided by the Program of urban development and the alignment of Ginninderra Drive and is not discussed further in this section;
- BGW TEC (p29): Cumulative impacts to retained box gum woodland may arise from increased public access to the WBCC and the introduction of associated services and infrastructure;

- PTWL (p39)): Cumulative impacts will arise from increased public access to the WBCC for recreational purposes. Disturbance to small areas (20m x 20m) to enable tunnelling and shaft construction will occur.

The impacts on MNES from relevant actions identified in Figure 11 of the Program (Section 3.6.2) have been calculated using Figure 11, and the Osbourne and Wong (2013) and David Hogg Pty Ltd (2015) mapping.

The impacts are calculated per the Program Report for the following actions –

- 20m x 20m construction area for seven vertical shafts – sewer tunnel alignment (p14 & p39);
- 2.5m walking track width – walking track network (p24, p48 & p50);
- 6m vehicle track width – sealed road (p24, p48 & p50). The road is assumed to require a 20m wide disturbance corridor;
- The physical area as shown in Figure 11 calculated for Riverside Park and the Living River Discovery Centre & Conservation Corridor Headquarters.

The above actions and associated impacts on MNES have been calculated in Table 3, Appendix C.

Figure 11 (Figure 1 in (Appendix D)), of the Program Report, identifies the actions described above. Figure 2 (Appendix E) and Figure 3 (Appendix F) identify the Osborne and Wong 2013 mapping (PTWL) and David Hogg Pty Ltd 2013 mapping (EPBC Act BGW), respectively against the actions represented in Figure 11 of the Program Report. Tables 3 & 4 (Appendix C and Appendix G) are evidence to DCCEWW that the Program Report's impact budgets have been calculated in accordance with Figure 11 of the Program Report.

Actions that trigger the DPS and their associated offset requirements are identified in Table 4. Table 4 calculates the offsets required for approved or proposed actions undertaken since the Strategic Assessment. Further, Table 4 indicates that whilst the MNES impact budgets identified in Table 3 have been exceeded the overall offset impact budgets available in the corridor have not been exceeded. Future annual reporting will provide the mapping of the associated offsets attributed to the actions per Table 4 (Appendix G).

Based on the above considerations the majority of further actions taken in the GCC that impact MNES will trigger Criterion 2 of the DPS because they will impact MNES beyond what is already described in the Program.

The outcome of future actions must be considered in line with the Program Report, including Section 5.3.4, and the DPS process. Any future development will be subject to assessment against the DPS and will be reported on in the Annual Report.

Yours Sincerely,

Development Manager (Planning)

Figure 42. Letter Appendix A: Table 1. NTG-SHE Habitat Quality scores for use in the EPBC Act Calculator

Habitat Quality	NTG-SEH	
	Moderate to High Quality	High to Very High Quality
Start Habitat Quality	5	7
Future Habitat Quality (without offset)	4	6
Future Habitat Quality (with offset)	6	8

Table and calculations prepared by Capital Ecology, September 2023.

Figure 43. Letter Appendix B: EPBC Act Offset Calculator variables that are considered likely to have changed since the Strategic Assessment was completed

EPBC Act Offset Calculator variable	Previous value	Proposed value	Justification for change
Risk of loss without offset	5%	0%	As per advice from the Commonwealth, the risk of loss should be lowered to 0% as the GCC is under protection and not at risk of development.
Risk of loss with offset	5%	0%	
Confidence in result	90%	95%	The GCC has been managed by the GCT since 2019. As such, effective management processes have been established and implemented. The successful management of the GCC is supported by the proven track record of the GCT[8], which shows that the targeted management actions are having the desired impact. This in turn is considered likely to reduce the expected time until ecological benefit and increase the confidence in the result for both the success of the offset and the estimated improvement in habitat quality.
Time until ecological benefit	20 years (BGW) 5 years (PTWL)	15 years (BGW) 2 years (PTWL)	
Confidence in result	90%	95%	

Table and calculations prepared by Capital Ecology, September 2023.

Figure 44. Letter Appendix C: The impact on MNES in the GCC from actions identified in Figure 11 of the Program Report (i.e. the Program Report impact budget)

Facility Type	MNES		
	Pink-tailed Worm-lizard		EPBC Act Box-Gum Woodland
	Low Quality Habitat	Mod- High Quality habitat	
Sewer Tunnel	0 ha	0.00 ha	0.02 ha
Tracks and Trails	0 ha	0.30 ha	0.85 ha
Riverside Park and Living River Discovery Centre	0 ha	0.34 ha	0.02 ha
TOTAL	**0 ha**	**0.64 ha**	**0.89 ha**

Table and calculations prepared by Capital Ecology, September 2023.

Figure 45. Letter Appendix D: Actions identified in Figure 11 of the Program Report

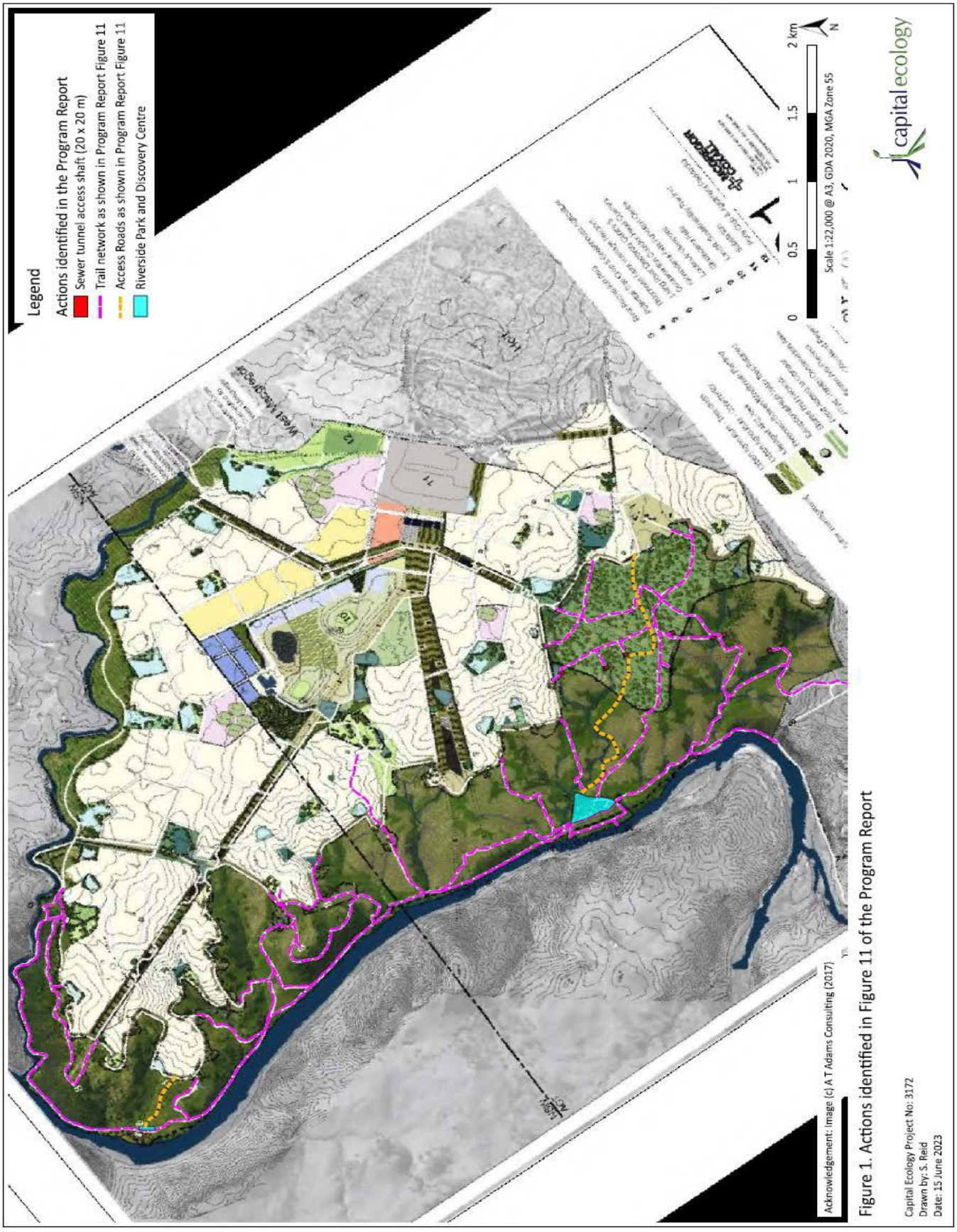


Figure 46. Letter Appendix E: The impact of actions identified in Figure 11 of the Program Report on Pink-tailed Legless Lizard

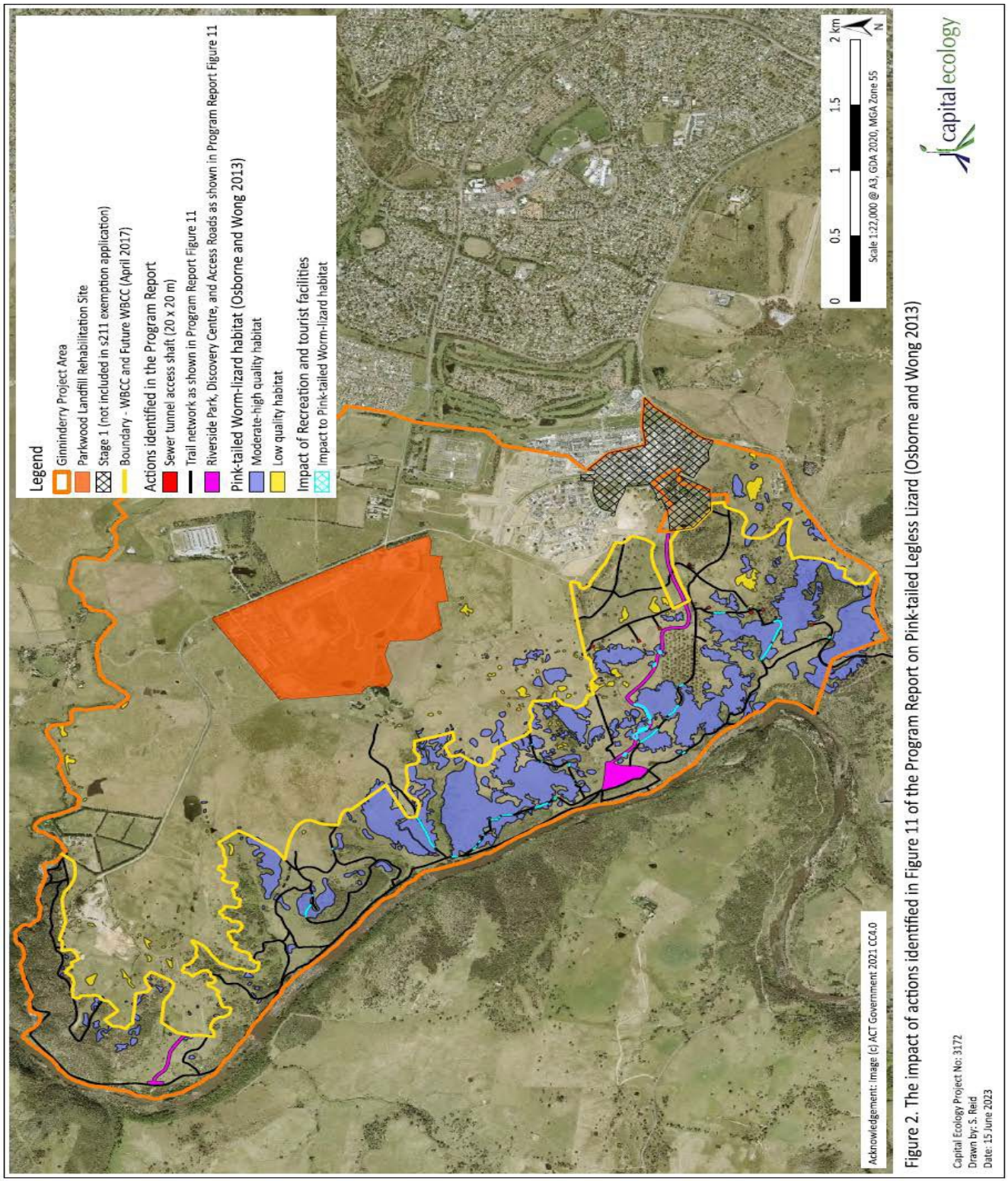


Figure 47. Letter Appendix F: The impact of actions identified in Figure 11 of the Program Report on EPBC Act Box-Gum Woodland

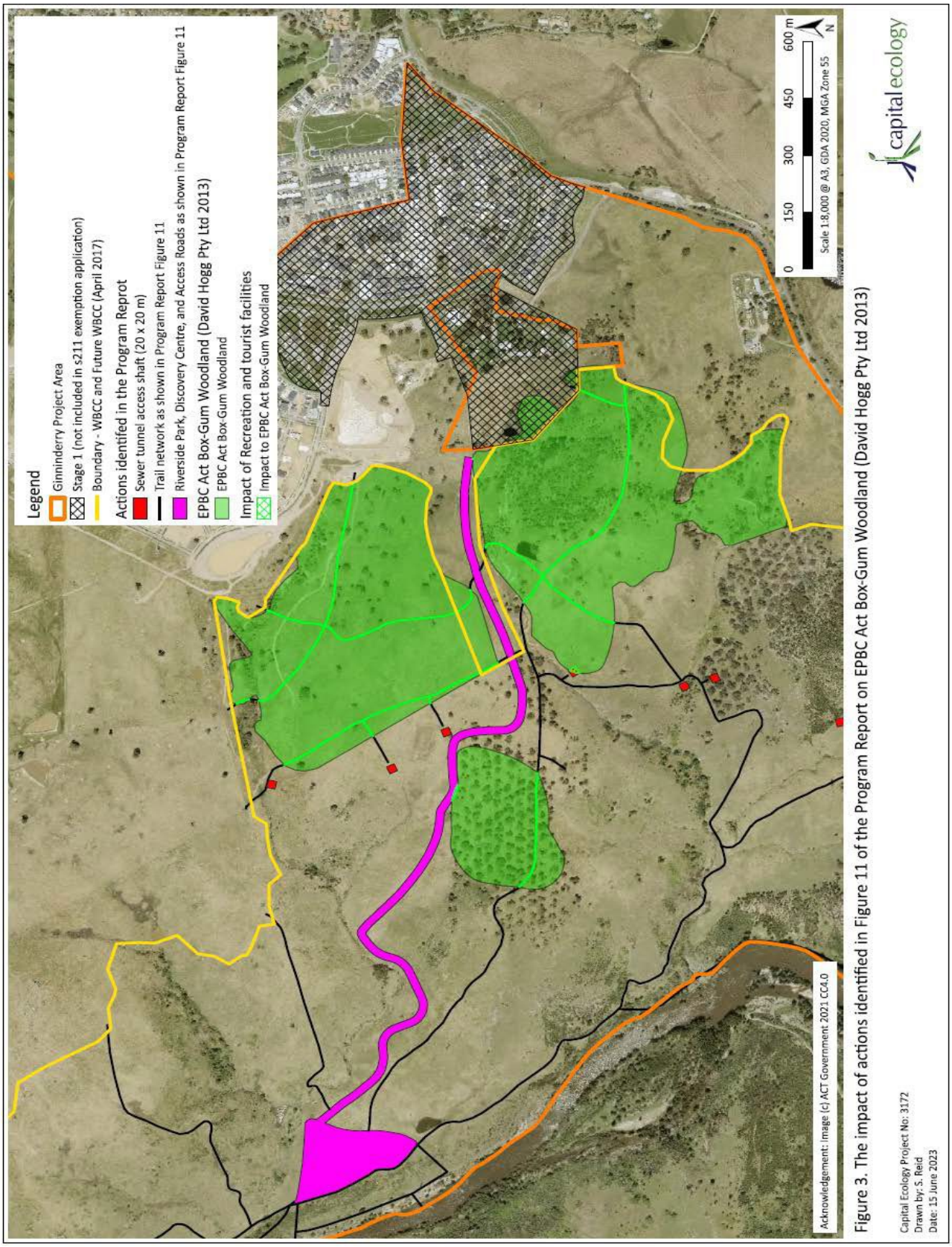


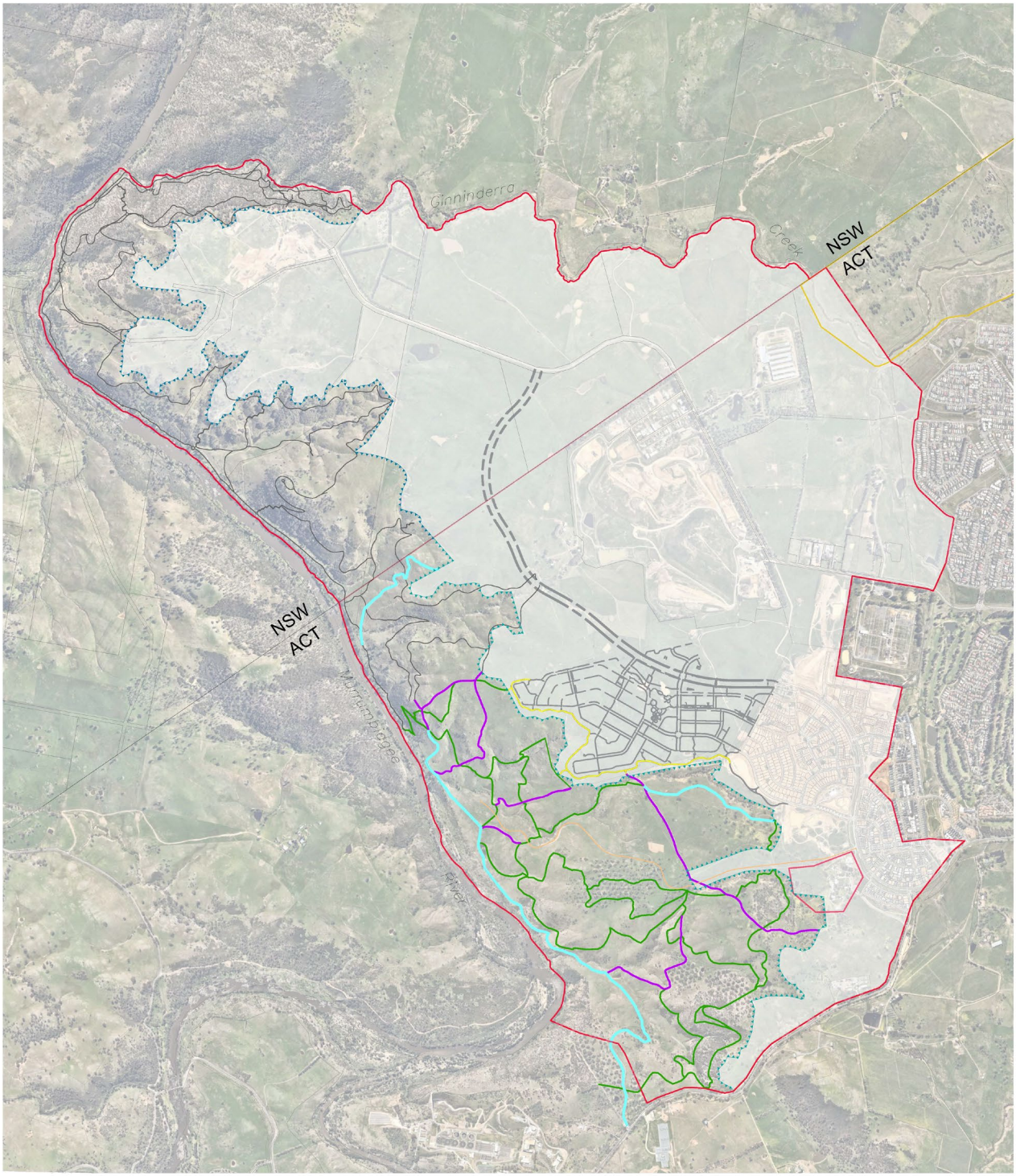
Figure 48. Letter Appendix G: The impact and associated offset for all DPS related work in the Ginninderry Project

Facility Type	MNES			
	Pink-tailed Worm-lizard	EPBC Act Box-Gum Woodland	NTG-SEH	
			Mod- High Quality	High-Very High Quality
Initial direct offsets available in the GCC	**161.00 ha**	**60.20 ha**	**29.11 ha**	**15.36 ha**
Strategic Assessment / Program Report – offset	96.90 ha	16.60 ha	0.00	0.00 ha
Murrumbidgee Trunk Sewer – impact	0.03 ha	0.17 ha	0.00 ha	0.00 ha
Murrumbidgee Trunk Sewer – offset	0.26 ha	1.28 ha	0.00 ha	0.00 ha
Strathnairn Residents Trail – impact	0.18 ha	0.24 ha	0.00 ha	0.00 ha
Strathnairn Residents Trail – offset	0.00 ha	0.00 ha	0.00 ha	0.00 ha
Ginninderry Trails Phase 2 – impact	0.99 ha	0.39 ha	0.18 ha	0.12 ha
Ginninderry Trails Phase 2 – offset	7.36 ha	0.00 ha	1.28 ha	1.19 ha
Riverside Park – impact	0.55 ha	0.18 ha	0.98 ha	0.05 ha
Riverside Park – offset	1.78 ha	1.36 ha	6.92 ha	0.50 ha
Remaining direct offsets available in the GCC	**52.95 ha**	**39.98 ha**	**19.75 ha**	**13.50 ha**

Table and calculations prepared by Capital Ecology, September 2023.

Appendix E – Track Master Plan 2022

Figure 49. Track Master Plan 2022





Ginninderry
Conservation Trust