

**Environment, Planning and Sustainable
Development Directorate**

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To:	Minister for Planning and Land Management	Tracking No.: 18/24616 09 OCT 2018
Date:	08/10/2018	
From:	Acting Executive Director, Planning Delivery	
Subject:	Ginninderry Urban Development Stage 2- Environmental Impact Statement (EIS) exemption application.	
Critical Date:	22/10/2018	
Critical Reason:	To allow the proponent to lodge estate development plans as soon as possible.	

DG 8/10/18

DDG, Sustainability and the Built Environment 8/10/18

Purpose

To recommend that you grant an EIS exemption under section 211H of the *Planning and Development Act 2007* (PD Act) for the proposed development of Ginninderry Urban Development Stage 2.

Recommendations

That you:

1. **Agree** to grant the EIS exemption;

Agreed / Not Agreed / Please Discuss

2. **Agree** to sign the notifiable instrument at Attachment B;

Agreed / Not Agreed / Please Discuss

3. **Agree** to sign the letter to the proponent advising of the EIS exemption decision at Attachment C.

Agreed / Not Agreed / Please DiscussMick Gentleman MLA  24/10/18

Minister's Office Feedback

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Background

1. On 9 March 2018 an application was lodged by Riverview Projects (ACT) Pty Ltd for an EIS exemption under s.211 of the PD Act.
2. On 23 August 2018 the applicant lodged a supplementary EIS exemption report addressing entity comments, public submissions and advice provided by the planning and land authority (the Authority).
3. The application (Attachment D) includes studies assessing the environmental impacts of the proposal, namely:
 - a) impacts on species and ecological communities;
 - b) native vegetation clearing;
 - c) nature reserves;
 - d) heritage; and
 - e) contaminated land.
4. The Ginninderry project is a joint venture between the ACT Government and Riverview Projects (ACT) Pty Ltd. The project is for urban development over the next 40 years to provide residential, community and commercial development in new suburbs in the ACT and NSW to cater for a population of 30,000 residents.
5. The project will be undertaken in a number of stages and includes urban development of land in West Belconnen, provision of future infrastructure and road upgrades.
6. The Ginninderry project has been subjected to a strategic assessment under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act).
7. The strategic assessment was accompanied by a number of studies that described and addressed the impacts of the Ginninderry project. These studies support the EIS exemption application (Attachment D).

Issues

8. The proposal triggers a number of items in Schedule 4 of the PD Act, which requires the preparation of an EIS, unless an EIS exemption is granted, including:
 - a) impacts on threatened species or ecological communities (Schedule: 4 Part 4.3 Item 1);
 - b) clearing of native vegetation (Schedule 4: Part 4.3 Item 2);
 - c) proposed development in a reserve (Schedule 4: Part 4.3 Item 3);
 - d) heritage places and /or objects (Schedule 4: Part 4.3 Item 6); and
 - e) contaminated lands (Schedule 4: Part 4.3 Item 7).
9. A summary of the key impacts of the project is provided below:
 - a) clearing of 7.18 ha of native vegetation, including Box Gum Woodland (BGW) and Natural Temperate Grassland (NTG);
 - b) removal of approximately 9.5 ha of high and 3.5 ha of low quality Pink Tailed Worm Lizard (PTWL) habitat; and
 - c) loss of approximately 10 ha of Golden Sun Moth (GSM) habitat.
10. The proposal includes a biodiversity offset package of 360 ha of the West Belconnen Conservation Corridor (WBCC) along the Murrumbidgee River and Ginninderry Creek across the ACT and NSW.
11. The WBCC will retain 67.8 ha of moderate quality BGW and 130 ha of PTWL habitat.

12. In addition to these mitigation measures, a number of conditions have been recommended in the EIS Exemption Consideration Report (Attachment A) to further reduce the impacts of the proposal and will be applied through conditions of approval on subsequent Development Applications (DAs).
13. The information submitted in support of the application provides an acceptable level of consideration of the likely impacts on environmental matters and this is outlined in the EIS Exemption Consideration Report (Attachment A).
14. If you decide to grant an EIS exemption, your decision will be publicly notified. A notifiable instrument has been prepared for your signature at Attachment B; and a letter to inform the applicant has also been prepared for your signature at Attachment C.

Financial Implications

15. There are no financial implications associated with granting an EIS exemption. This is a statutory planning decision.

Consultation

Internal

16. Not required.

Cross Directorate

17. The following entities were consulted on the EIS exemption application in accordance with the PD Act:
 - a) ACT Heritage Council;
 - b) Conservator of Flora and Fauna;
 - c) Environment Protection Authority;
 - d) Transport Canberra and City Services;
 - e) ACT Emergency Services Agency;
 - f) ACT Health Directorate;
 - g) Suburban Land Agency;
 - h) ICON Water;
 - i) National Capital Authority; and
 - j) Yass City Council.
18. During the entity referral stage of the application the Conservator requested further information on the impacts of the proposed sewer tunnel alignment on the GSM.
19. Condition 7 in Table 5 of the EIS Exemption Consideration Report (Attachment A) states that, prior to lodgement of any future development applications, studies will need to be prepared that demonstrate impacts on GSM resulting from construction of the future sewer tunnel.
20. During the entity referral stage of the application the ACT Heritage Council advised that Aboriginal heritage values had only been partially established and requested further information on the impacts on Aboriginal heritage values resulting from works in the WBCC, construction of the sewer tunnel, and the Ginninderra Drive extension.
21. After the entity referral stage had ended the ACT Heritage Council provided a second letter (Attachment G) with comments on the EIS exemption process and proposed conditions to form part of the EIS Exemption Consideration Report (Attachment A).

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22. Condition 12 in Table 5 of the EIS Exemption Consideration Report (Attachment A) states that, prior to lodgment of any future development applications, further information relating to development in the WBCC, the development of the sewer tunnel and extension of Ginninderra Drive, be provided to the ACT Heritage Council.
23. The proponent was provided with copies of the entity comments at the close of the consultation period (s.211F of the PD Act).
24. On 23 August 2018 the applicant lodged a supplementary EIS exemption report (Attachment D) which provided a response to the entity comments.
25. All entity comments have been summarised and addressed in the EIS Exemption Consideration Report at Attachment A.

External

26. Between 30 March 2018 and 1 May 2018 public consultation for the application was undertaken (s.211C of the PD Act). Twenty-three public submissions were received and made available on the EPSDD website until the end of the consultation period (s.211F of the PD Act). The key concerns raised in the public submissions were:
 - a) impacts on threatened species;
 - b) water quality of the Murrumbidgee River and Ginninderra Creek;
 - c) river reserve corridor including the WBCC;
 - d) cultural heritage;
 - e) bushfire management;
 - f) location of proposed residential development to existing businesses and infrastructure; and
 - g) suitability of the EIS exemption process to assess the proposal.
27. The public submissions are included at Attachment E.
28. On 23 August 2018 the applicant lodged a supplementary EIS exemption report (Attachment D) which provided a response to public submissions.
29. All public submissions have been addressed in the EIS Exemption Consideration Report at Attachment A.

Benefits/Sensitivities

30. The granting of the EIS exemption will allow the joint venture to progress estate development plans and future development applications for the project.
31. The Ginninderra Falls Association has previously raised concerns about the impacts of development on the Ginninderra Creek, the importance of retaining the natural and cultural heritage values of the area, and impacts on species such as the Little Eagle and Scarlett Robin.
32. As this is a staged project the final alignment and associated impacts of the Ginninderra Drive extension and the sewer tunnel will not be confirmed for approximately 10 - 20 years. The EIS Exemption Consideration Report (Attachment A) includes mitigation measures and conditions of approval on subsequent DA's to ensure ecological and heritage impacts are appropriately addressed and managed at the detailed design stage of the project.

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33. The proponent has provided mitigation measures to minimise the impacts associated with the proposal including the protection and management of approximately 360 ha of land along the river corridor in the WBCC.
34. Condition 13 of Table 5 of the EIS Exemption Consideration Report (Attachment A) states that at all stages of planning and development, as part of any subsequent development applications relying on this EIS exemption application, information must be provided detailing how the recommended mitigation measures and conditions in this report have been met.
35. If the exemption is granted there is a risk that the community may be critical that some information has not been provided, such as the studies requested by the ACT Heritage Council and the Conservator. However, on balance we are comfortable that there are already existing studies that address the impacts of the proposal.
36. To the extent that this additional information may be required, it can be done as part of subsequent DA processes. We take this view due to the long timeframe and staged nature of the development. In any event, we will not accept development applications before this information has not only been provided but also carefully examined by the ACT Heritage Council, the Conservator and the Authority.

Media Implications

37. If the EIS exemption is granted, public notification of the EIS Exemption Consideration Report (Attachment A) is likely to receive media attention. Talking points have been provided at Attachment F.
38. If you choose to grant an EIS exemption, a media release will be provided to announce that an EIS exemption has been granted.

Signatory Name: Brett Phillips

Phone: 6207 3520

Action Officer: Poppy McRae

Phone: 6207 0730

Attachments

Attachment	Title
Attachment A	EIS Exemption Consideration Report
Attachment B	Notifiable Instrument
Attachment C	Letter to Proponent
Attachment D	EIS Exemption Application (including supplementary report)
Attachment E	Public Submissions
Attachment F	Talking points
Attachment G	ACT Heritage Council advice Ginninderry Stage 2 s211 EIS Exemption Application

**Application for EIS exemption
Consideration Report**

FOR

Ginninderry Stage 2 Urban Development

September 2018

Environment, Planning and Sustainable Development Directorate

This report evaluates the application for an exemption under section 211 of the *Planning and Development Act 2007*, from requiring a completed Environmental Impact Statement in the development application for the Ginninderry Stage 2 Urban Development.

Ref no: 201800010

Document no: 1-2018/03744

Project: Ginninderry Stage 2 Urban Development

Date lodged: 09.03.2018

Proponent: Riverview Projects (ACT) Pty Ltd

Location: Multiple blocks, Belconnen, Dunlop and MacGregor, ACT

Table of Contents

1. Introduction	3
Project	3
Background.....	6
2. Environmental impact assessment	8
Impact track triggers	8
EIS exemption process.....	11
EIS exemption application.....	12
EIS exemption decision.....	12
Consultation	12
3. Matters of National Environmental Significance	16
EPBC Act Strategic Assessment	16
4. Impacts on Schedule 4 items	19
Schedule 4 Part 4.3 Item 1– Impacts on species or ecological communities.....	19
Schedule 4 Part 4.3 Item 2– The clearing of more than 5.0 ha of native vegetation in a native vegetation area	27
Schedule 4 Part 4.3 Item 3 – Proposal for development in a reserve.....	28
Schedule 4 Part 4.3 Item 6 – Heritage.....	29
Schedule 4 Part 4.3 Item 7 – Contaminated lands	30
5. Other potential environmental impacts	31
Jaramlee and West Macgregor offset areas.....	31
Green waste clearance zone	32
Sewer tunnel	32
Murrumbidgee River	32
Existing businesses and infrastructure	32
6. Mitigation measures	33
7. EIS exemption conditions.....	33
8. Conclusion.....	39
9. Appendix 1 – Entity Comments.....	40
10. Appendix 2 – Information submitted as part of the EIS exemption application	45
11. Appendix 3 – EPBC Approval Instrument.....	49

12. Appendix 4 – Summary of potential impacts and mitigation measures.....	51
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Figures

Figure 1 – Ginninderry Stage 2 Urban Development – area subject to s.211 EIS exemption application.....	4
Figure 2 - The EIS exemption process.....	11
Figure 3 - West Belconnen Project Area.....	17
Figure 4 - Moderate to high and low pink tailed worm lizard habitat (extract from Umwelt report, May 2017)	23
Figure 5 - Golden Sun Moth Habitat (extract from Umwelt report, May 2017)	24
Figure 6 - Little Eagle Clearance Zone (extract from Territory Plan Variation No. 351).....	26

Tables

Table 1 - Legal land description and tenancy	4
Table 2- Impact track triggers per Schedule 4 of the PD Act.....	8
Table 3 - Summary of entity comments	13
Table 4 - Ecological communities and threatened species (based on EIS exemption application and Program Report)	19
Table 5 - Conditions for development approval.....	34

Glossary and definitions

Term	Definition
ACT	Australian Capital Territory
ACAT	Australian Capital Territory Civil and Administrative Tribunal
BGW	Box Gum Woodland
The Authority	The planning and land authority
CEMP	Construction environmental management plan
CHA	Cultural Heritage Assessment
DA	Development application
DoEE	Commonwealth Department of the Environment and Energy
EDP	Estate development plan
EIA	Environmental impact assessment: the process of identifying, predicting, evaluating and mitigating the biophysical, social, and other relevant effects of development proposals before major decisions and commitments are made.
EIS	Environmental impact statement: a document prepared to detail the expected environmental, social and economic effects of a development, and state commitments to avoid, mitigate or satisfactorily control and manage any potential adverse impacts of the development on the environment. In the ACT, an EIS is required for proposals in the impact track as per Section 127 of the <i>Planning and Development Act 2007</i> .
EMP	Environmental management plan
EPA	Environment Protection Authority
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>
EPSDD	Environment, Planning and Sustainable Development Directorate
ESA	Emergency Services Agency
GSM	Golden Sun Moth
MNES	Matter of National Environmental Significance (as per the EPBC Act)
The Minister	The Minister responsible for Administering the <i>Planning and Development Act 2007 (ACT)</i>

Term	Definition
NCA	National Capital Authority
NC Act	<i>Nature Conservation Act 2014</i>
NTG	Natural Temperate Grassland
PD Act	<i>Planning and Development Act 2007 (ACT)</i>
PD Regulation	<i>Planning and Development Regulation 2008 (ACT)</i>
the Program Report	Urban Development at West Belconnen Program Report (April 2017)
the Project	Ginninderry Stage 2 Urban Development
the Proponent	Riverview Projects (ACT) Pty Ltd
PTWL	Pink Tailed Worm Lizard
RMP	Reserve Management Plan
TCCS	Transport Canberra and City Services
TPV	Territory Plan Variation
TPV No. 351	Territory Plan Variation No. 351 West Belconnen Urban Development Belconnen District
WBCC	West Belconnen Conservation Corridor

1. Introduction

1. This report is to the ACT Minister for Planning and Land Management on the assessment of the EIS exemption application in relation to the Project. The application was made by the Proponent under section 211B of the PD Act.
2. The application relates to works in the ACT Government and Riverview Projects (ACT) Pty Ltd joint venture urban development area.
3. If an EIS exemption is granted, a DA can be lodged in the impact track without a completed EIS. The DA process will also include a statutory public notification period.

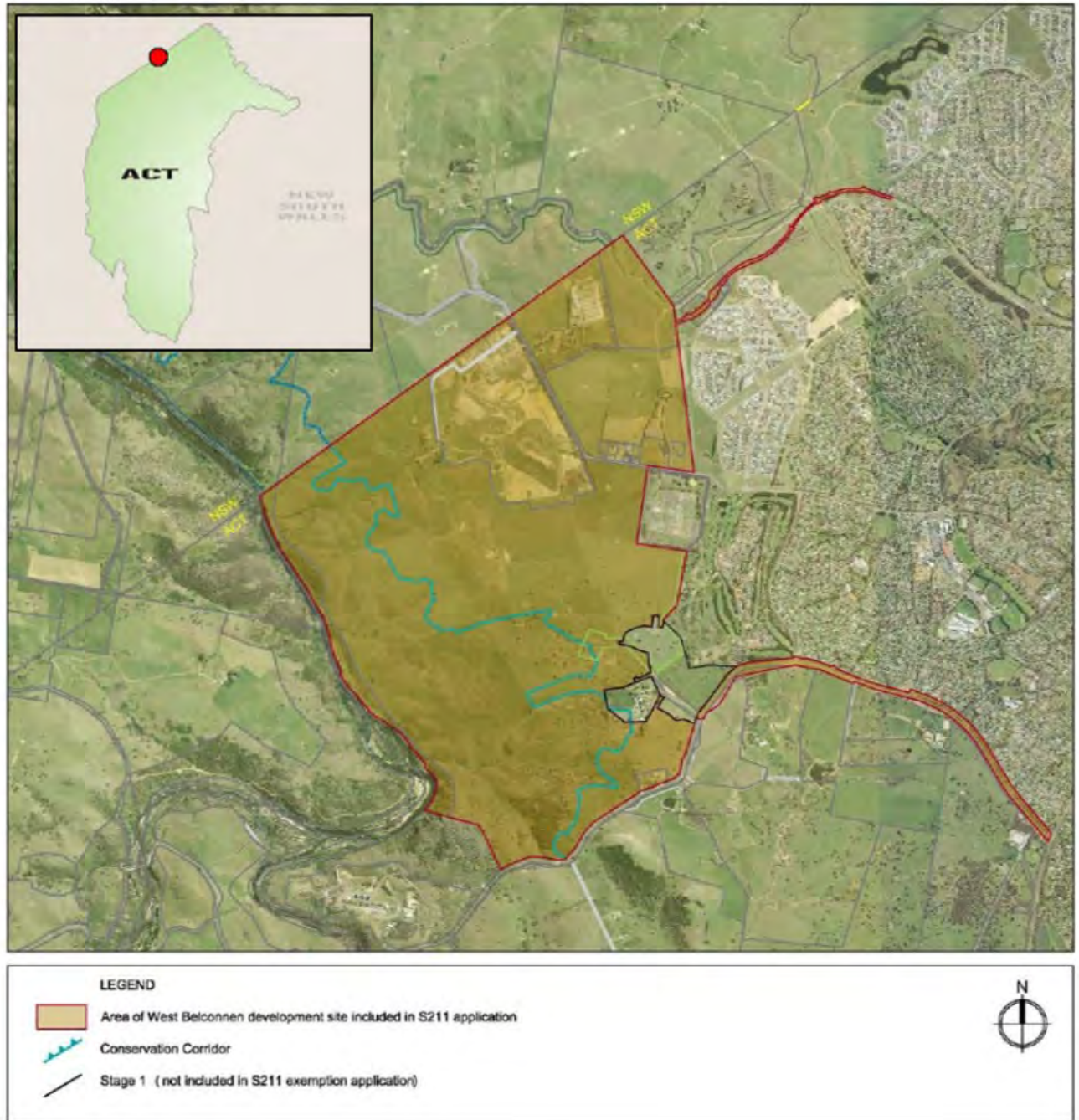
Project

4. The overall Ginninderry development will provide residential, community and commercial development in new suburbs in the ACT and adjacent land in NSW to cater for a population of 30,000 over the next 40 years.
5. On 9 March 2018, the Proponent formally lodged an application for an EIS exemption under section 211 of the PD Act for the Project. The activities proposed as part of the Project include, but are not limited to:
 - a. land clearing and earthworks;
 - b. contaminated land remediation;
 - c. construction of dwellings, community facilities, commercial buildings, light industry, open space and supporting infrastructure;
 - d. off-site road improvement works on surrounding local and arterial roads for the Ginninderry urban area;
 - e. provision of associated services and future infrastructure, including an extension to Ginninderra Drive and sewer mains; and establishing the WBCC.
6. On 13 June 2018 assessing officers from the ACT Government completed a site visit to the Project area as part of the assessment process.
7. It should also be noted that the Project is planned to be developed over a number of stages. Two stages in particular, namely the extension of Ginninderra Drive and construction of the sewer tunnel, are not likely to start for approximately 20 years. These stages of the development are contingent on the success of future NSW approval processes. Hence, the Authority does not require the Proponent to provide detailed information on the relevant matters at this point in time. Rather, the information (if relevant) relating to these stages of the development, are to be provided to the Authority as part of any future DA's that are lodged.

Project location

8. The Project area is located approximately 6 km west of the Belconnen Town Centre and 13 km northwest from the Canberra CBD. The Project covers a total area of 961.09 ha of land across Belconnen, Dunlop and McGregor in the ACT. Please refer to Figure 1 for a map of the area subject to the s.211 EIS exemption application.
9. Please note NSW land associated with the development is not included in the s.211 EIS exemption.

Figure 1 – Ginninderry Stage 2 Urban Development – area subject to s.211 EIS exemption application



Legal land description and tenancy

10. The Project will directly affect 36 blocks. Table 1 shows the legal land description for each block affected by the Project and the details of tenancy type and tenant.

Table 1 - Legal land description and tenancy

Block	District	Tenancy	Tenant
1633 (formerly 1605)	Belconnen	Unleased	Land Development Agency
1622	Belconnen	Unleased	EPSDD Environment - Vacant

Block	District	Tenancy	Tenant
1621	Belconnen	Unleased	EPSDD Environment - Vacant
1620	Belconnen	Unleased	EPSDD Environment- Public Land
1613	Belconnen	Retired Block	N/A
1607	Belconnen	Retired Block	N/A
1606	Belconnen	Unleased	Land Development Agency
1586	Belconnen	Leased Territory Land	Govt Lease - Not Public Land
1568	Belconnen	Unleased	Land Development Agency
1540	Belconnen	Leased Territory Land	Govt Lease - Not Public Land
1469	Belconnen	Unleased	EPSDD Environment - Vacant
1440	Belconnen	Unleased	Other ACT Government Agency - Not Public Land
1420	Belconnen	Unleased	Other ACT Government Agency - Not Public Land
1333	Belconnen	Leased Territory Land	Private Lease - Not Public Land
1329	Belconnen	Leased Territory Land	Private Lease - Not Public Land
993	Belconnen	Unleased	TCCS-Vacant - Municipal
860	Belconnen	Unleased	TCCS-Vacant - Municipal
859	Belconnen	Leased Territory Land	Private Lease - Not Public Land
858	Belconnen	Leased Territory Land	Private Lease - Not Public Land
857	Belconnen	Leased Territory Land	Private Lease - Not Public Land
856	Belconnen	Leased Territory Land	Private Lease - Not Public Land
853	Belconnen	Unleased	TCCS-Vacant - Municipal
2	Dunlop	Unleased	EPSDD (Environment)
S149	Macgregor	Unleased	EPSDD (Environment)

Block	District	Tenancy	Tenant
1565	Belconnen	Unleased	TCCS (Vacant)
Block 1 Section 80	Dunlop	Unleased	TCCS – Public Land
1582	Belconnen	Unleased	TCCS – Public Land
1600	Belconnen	Leased Territory Land	Private Lease – Not Public Land
1599	Belconnen	Leased Territory Land	Private Lease – Not Public Land
1339	Belconnen	Leased Territory Land	Private Lease – Not Public Land
1591	Belconnen	Leased Territory Land	Private Lease – Not Public Land
1592	Belconnen	Leased Territory Land	Private Lease – Not Public Land
Stockdill Drive			TCCS
Drake Brockman Drive			TCCS
Parkwood Road			TCCS
Studio Road			TCCS

Background

11. Urban development in the Project area has been identified in a number of strategic planning documents that guide future development in the ACT. The Canberra Spatial Plan (2004), which guides sustainable development in Canberra over the following 30 years, identified a portion of the Project area for future residential development. The subsequent strategic document guiding growth in Canberra, the ACT Planning Strategy (2012), also identified a portion of the Project area as a future urban investigation area. The 2018 -2019 ACT Government indicative land release program has identified residential and community development to occur in the Project area over the next three years.
12. On 23 October 2015 the ACT Minister for Planning approved TPV No. 351 which rezoned areas in West Belconnen for future urban development. TPV No. 351 also established a “Structure Plan” and “Concept Plan” (Notifiable Instrument NI2015-610) to set out the policies, principals and spatial requirements for future development within the Project area.
13. On 31 July 2017 the DA for Stage 1 of the Ginninderry project comprising an EDP for the subdivision of 356 dwelling blocks and associated infrastructure was approved by the Authority. The DA was appealed to ACAT, but was eventually dismissed by agreement. The works for the DA have commenced. It is noted the DA is not included in the Project area and does not form part of the s.211 EIS exemption application.

14. The Project area comprises habitat for a number of species and ecological communities listed as MNES under the EPBC Act. In accordance with the requirements of part 10 of the EPBC Act, the Proponent commenced a strategic assessment in June 2014.
15. On 1 September 2017 Ginninderry (then known as West Belconnen) EPBC assessment was completed and approved by a delegate of the Commonwealth Minister for the Environment. The decision was made under section 146B of the EPBC Act (strategic assessment provisions) and approved the taking of actions, or classes of actions, in accordance with an endorsed policy, plan or program. The approval enabled actions (subject to a number of conditions) to occur across the Project area without the need for EPBC approval on a site by site basis.
16. The Project has passed a number of approval processes to enable this s.211 EIS exemption application to be lodged. As part of previous approval processes extensive documentation has been provided to demonstrate the feasibility of the project and compliance with the relevant policies guiding development in the ACT.

2. Environmental impact assessment

17. Environmental impact assessment processes are used to identify, predict, plan for and manage the impacts of development proposals before a decision is made about the project going ahead. An environmental impact assessment process is required to be undertaken for projects in the impact track. An EIS exemption process is not an approvals process. Rather, it is an information gathering exercise about the potential impacts of the proposal.
18. Section 123 of the PD Act states that the impact track applies to a development if:
- the relevant development table states that the impact track applies;
 - the proposal is of a kind mentioned in Schedule 4 of the PD Act;
 - the Minister makes a declaration under section 124;
 - section 125 or section 132 applies to the proposal; or
 - the Commonwealth Minister responsible for the EPBC Act advises the Minister in writing that the development is a controlled action under section 76 of the EPBC Act.

Impact track triggers

19. The Project is in the impact track as it is a development of a kind mentioned in Schedule 4 of the PD Act. This Project triggers the Schedule 4 items listed in Table 2.

Table 2- Impact track triggers per Schedule 4 of the PD Act

Item	Description	Project Component
Part 4.3, item 1	<p>Proposal that is likely to have a significant adverse environmental impact on 1 or more of the following, unless the conservator of flora and fauna provides an environmental significance opinion indicating that the proposal is not likely to have a significant adverse environmental impact:</p> <p>(a) a critically endangered species;</p> <p>(b) an endangered species;</p> <p>(c) a vulnerable species;</p> <p>(d) a conservation dependent species;</p> <p>(e) a regionally threatened species;</p> <p>(f) a regionally conservation dependent species;</p> <p>(g) a provisionally listed threatened species;</p> <p>(h) a listed migratory species;</p>	<p>The Project could have a potential impact on endangered species, vulnerable species and threatened ecological communities.</p> <p>A full list of potentially impacted species and communities is provided in Table 4.</p>

Item	Description	Project Component
	<p>(i) a threatened ecological community;</p> <p>(j) a protected native species;</p> <p>(k) a Ramsar wetland; and</p> <p>(l) any other protected matter.</p>	
<p>Part 4.3, item 2</p>	<p>Proposal involving—</p> <p>(b) the clearing of more than 5.0 ha of native vegetation in a native vegetation area, on land that is designated as a future urban area (FUA) under the territory plan unless the conservator of flora and fauna produces an environmental significance opinion that the clearing is not likely to have a significant adverse environmental impact,</p>	<p>The Project will result in clearing of 7.18 ha of native vegetation, including:</p> <ul style="list-style-type: none"> a. 3.1ha of NTG; b. 3.8ha of poor BGW; and c. 0.28ha of forest and woodland (not BGW).
<p>Part 4.3, item 3</p>	<p>Proposal for development in a reserve, unless—</p> <p>(a) the conservator of flora and fauna produces an environmental significance opinion that the proposal is not likely to have a significant adverse environmental impact; or</p> <p>(b) the proposal is for minor public works to be carried out by or for the Territory in accordance with a minor public works code approved by the conservator of flora and fauna under the Nature Conservation Act 2014, section 318A</p>	<p>The Project will include works within a reserve, the WBCC, including:</p> <ul style="list-style-type: none"> a. construction of a sewer tunnel in the next ten years; b. recreation and tourist facilities including buildings picnic areas, car parking and access roads and walking and cycling tracks, c. bushfire and maintenance management access tracks, and d. bushfire management measures including vegetation management.
<p>Part 4.3, item 6</p>	<p>Proposal that is likely to have a significant adverse impact on the heritage significance of a place or object registered under the Heritage Act 2004, unless—</p> <p>(a) the heritage council produces an environmental significance opinion</p>	<p>The EIS exemption application has identified that sites of European and Aboriginal heritage significance are located in the Project area.</p>

Item	Description	Project Component
	<p>that the proposal is not likely to have a significant adverse impact; or</p> <p>(b) the proposal is the demolition of a building that is affected residential premises, and the heritage council has approved a statement of heritage effect in relation to the proposal.</p>	
<p>Part 4.3, item 7</p>	<p>Proposal involving land included on the register of contaminated sites under the Environment Protection Act 1997 unless the authority produces an environmental significance opinion indicating that the proposal is not likely to have a significant adverse environmental impact.</p>	<p>The EIS exemption application notes that the Project area includes a number of blocks were listed on the EPA Register of Contaminated Sites including:</p> <ul style="list-style-type: none"> a. Block 1606, Belconnen b. Block 1607, Belconnen c. Block 1469, Belconnen d. Block 1632, Belconnen

EIS exemption process

20. The flowchart below outlines the EIS exemption application process.

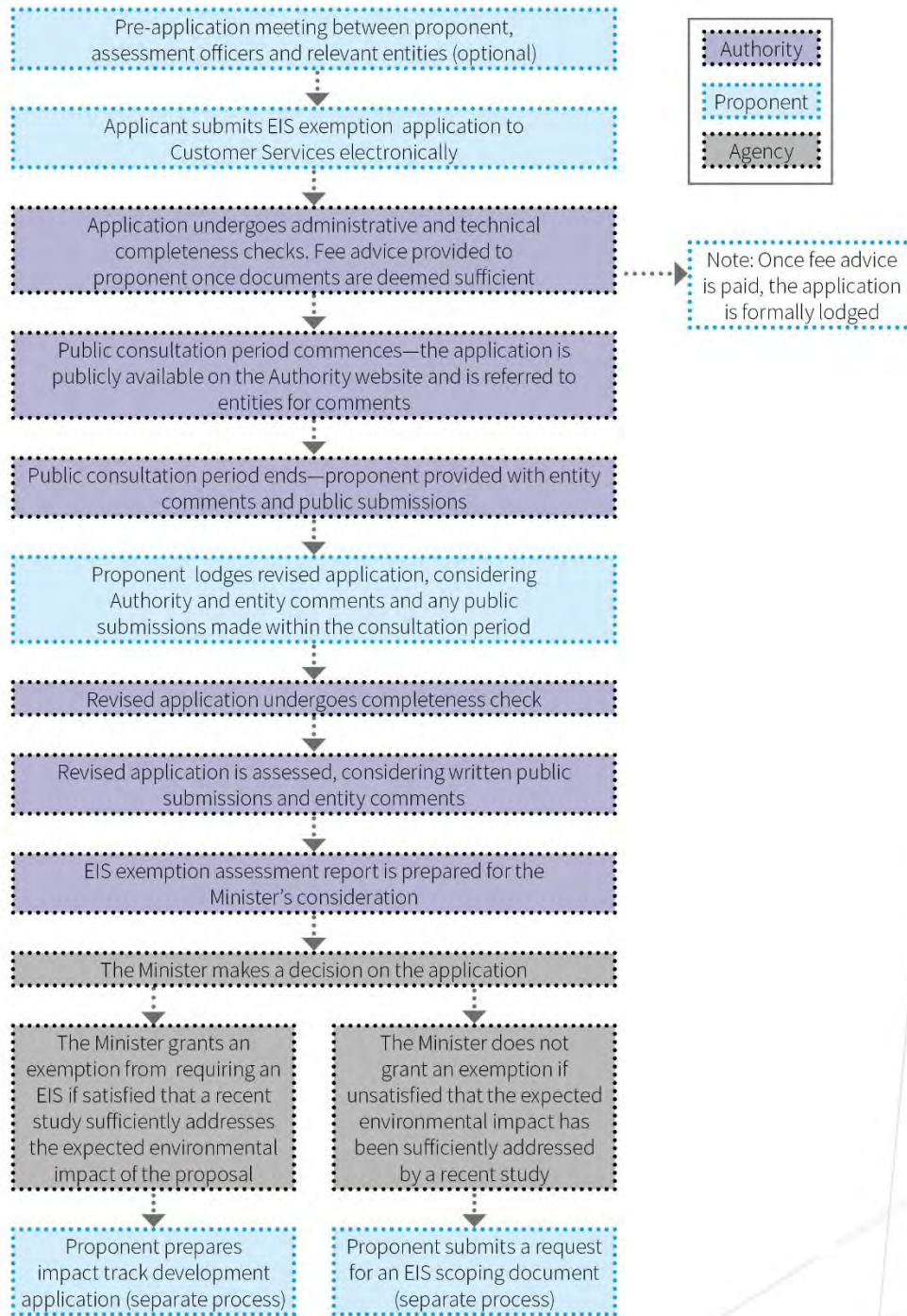


Figure 2 - The EIS exemption process

EIS exemption application

21. On 9 March 2018 the application for an EIS exemption was lodged by the Proponent to the Authority, in accordance with section 211B of the PD Act. The application provided information required by the EIS exemption application - *Form 1M*. Please refer to Appendix 2 for a full list of all documents submitted as part of the EIS exemption application.

EIS exemption decision

22. Section 211H of the PD Act states that the Minister may grant an EIS exemption for the proposal if satisfied that the expected environmental impact of the development proposal has already been sufficiently addressed by a recent study, whether or not the recent study relates to the particular development proposal.
23. In deciding whether the environmental impact of the development proposal has been sufficiently addressed by the recent study, the Minister must consider:
 - a. whether the recent study was conducted by an appropriately qualified person with relevant expertise and experience in relation to the environmental values of the land in the proposal;
 - b. if the recent study does not relate directly to the proposal—whether there is sufficient detail to allow an assessment of the environmental impacts likely to occur if the proposal proceeds;
 - c. whether the part of the recent study relevant to the proposal required public consultation through a statutory process or as part of a government policy development;
 - d. if the recent study is more than 18 months old—whether the Minister is satisfied that the information in the study is current; and
 - e. any submissions received during the consultation period for the EIS exemption application.
24. This report documents the information presented by the Proponent, information received during entity consultation and public notification to inform the Minister in making a decision.
25. For each impact track trigger an assessment of the supporting information will be made against the criteria above in the corresponding sub-sections under Section 4 of this report.

Consultation

26. Entity and public consultation were both undertaken for this application, as required by the PD Act.

Entity referral

27. Section 211E of the PD Act requires the Minister to consult with entities prescribed in the PD Regulation about the EIS exemption application. The Minister may also seek advice from additional entities.
28. Comments were received from referral entities during the consultation period, as noted below in Table 3.

Table 3 - Summary of entity comments

Referred entity	Entity response date
ACT Health	1 April 2018
Conservator of Flora and Fauna	11 April 2018
Emergency Services Commissioner	26 April 2018
EvoEnergy	5 April 2018
Environment Protection Authority	26 April 2018
Heritage Council	26 April 2018
ICON Water	9 April 2018
Evoenergy Gas	9 April 2018
Transport Canberra and City Services	3 May 2018
National Capital Authority	23 April 2018
Yass Valley Council	30 April 2018
Commonwealth Department of Environment and Energy	30 April 2018
Deed Management	14 May 2016
Territory Plan Team	10 May 2018
Strategic Planning	23 April 2018

29. Comments were received from fifteen entities during the consultation period. Entity comments are included in Appendix 1 of this report where they relate to an impact track trigger or potential impact. Any matters to be considered or conditions that have been recommended by a referral entity will be included in Section 6 of this report.

Public consultation

30. The PD Act requires the Minister to consult with the public on the EIS exemption application for 15 working days. Public consultation for the Project was extended to 20 working days under section 211D (2) of the PD Act. The EIS exemption application was publicly notified from 30 March to 1 May 2018 in accordance with Section 211C of the PD Act.
31. Twenty three submissions were received during the public consultation period and were made available on the authority's website until the end of the consultation period as per section 211F of the PD Act.
32. The Proponent was provided with a copy of all public submissions and entity comments. On 23 August 2018 the applicant lodged a supplementary EIS exemption report addressing matters raised in entity comments and public submissions.

Issues raised in submissions

33. The following key issues were raised in submissions during the public consultation period:

- a. the need for an EIS to be completed in order to assess the full impacts of the development;
- b. proximity of residential development to the existing West Belconnen landfill site, Green Waste facility, Parkwood Egg Farm and overhead power lines;
- c. further studies and research on the Scarlet Robin, Little Eagle and Rosenberg's Monitor;
- d. extent of development impacts on the unique river corridor and plateau area;
- e. adequacy of offsets provided for MNES, including GSM and NTG and PTWL;
- f. fire safety risks for future residential development due to the location of ingress and egress and proximity to forest areas;
- g. impacts on existing cultural values including significant sites of European and Aboriginal heritage;
- h. requirement for ongoing community consultation regarding ecological monitoring and ecological impacts of the development;
- i. impacts on the Murrumbidgee River Corridor, and potable water supply for the ACT;
- j. impacts on wildlife connectivity, animal habitat (including hollow bearing trees) and animal foraging areas;
- k. bushfire management in the WBCC;
- l. the role of the ACT legislative assembly to hold a public enquiry into the proposal;
- m. public consultation throughout the s.211 EIS exemption application process;
- n. reports submitted in support of the application and compliance with requirements of the PD Act;
- o. consistency with the ACT Planning Framework to undertake a s.211 EIS exemption application given the type of development proposed; and
- p. the role of the ACT Government as a joint partner in the residential development.

34. The applicant was required to address each matter raised in the public submissions received during the consultation period and provide a revised application to the Minister. Some of the issues are outside the scope of this EIS exemption application (for example, the role of the legislative assembly to hold a public inquiry). The issues relating to the Schedule 4 triggers s for the EIS exemption application are addressed in the following sections of the report.

The Revised EIS application

35. On 23 August 2018 the applicant lodged a supplementary report to the EIS exemption application to respond to comments from the Authority, entities and public submissions. Along with a supplementary report, the application included additional recent studies to support the exemption from an EIS. Please refer to Appendix 2 for the full list of documents.

Additional public consultation

36. Some of the supporting information for the Project has been publically exposed during TPV No. 351. The consultation was not directly related to this application, however it did

result in the information being publically available between 22 May 2015 and 6 July 2015. A consultation notice under section 63 of the PD Act was published on the ACT Legislation Register on 22 May 2015 and in the Canberra Times on 23 May 2015.

37. Sensitive heritage information in the supporting documentation was redacted for public notification as required by section 56 of the *Heritage Act 2004*. Only information pertaining to the location and details of heritage objects were removed from publicly available documents, with the full version lodged for assessment purposes. Some supporting studies involved consultation with representative Aboriginal organisations to determine the cultural values of the project site.
38. The Proponent did not undertake additional public consultation related to this EIS exemption application outside of the statutory notification conducted by the Authority.
39. However we note the Proponent has conducted a range of consultation and community engagement activities in relation to the Project that have been undertaken outside of the EIS exemption application process.

3. Matters of National Environmental Significance

40. Under the EPBC Act, a person must not take an action that has, will have, or is likely to have a significant impact on MNES without approval from the Commonwealth Minister for the Environment and Energy.

EPBC Act Strategic Assessment

41. Under section 146 of the EPBC Act, the Commonwealth Minister may agree to assess the impacts of actions under a policy, plan or program as a strategic assessment, this may include (but is not limited to):
 - a. regional-scale development plans and policies;
 - b. large-scale industrial development and associated infrastructure;
 - c. fire, vegetation/resource or pest management policies, plans or programs;
 - d. water extraction/use policies;
 - e. infrastructure plans and policies; or
 - f. industry sector policies.
42. Within this context a strategic assessment normally applies to multiple natured projects which may otherwise be assessed on a case-by-case basis under the EPBC Act.
43. Preliminary environmental investigations in West Belconnen identified several MNES. These included, but were not limited to:
 - a. PTWL (vulnerable);
 - b. BGW (critically endangered);
 - c. GSM (critically endangered);
 - d. NTG (critically endangered);
 - e. Superb Parrot (vulnerable); and
 - f. Swift Parrot (endangered).
44. Given the presence of these MNES, the impacts of development in West Belconnen were required to be assessed under the EPBC Act.
45. On 24 June 2014, an agreement was signed between Riverview Projects (ACT) Pty Ltd and the Commonwealth Government for the strategic assessment of West Belconnen under part 10 of the EPBC Act. This provided the potential to address cumulative impacts on MNES and to look for both conservation and planning outcomes on a much larger scale. Figure 3 illustrates the area of land covered by the strategic assessment.

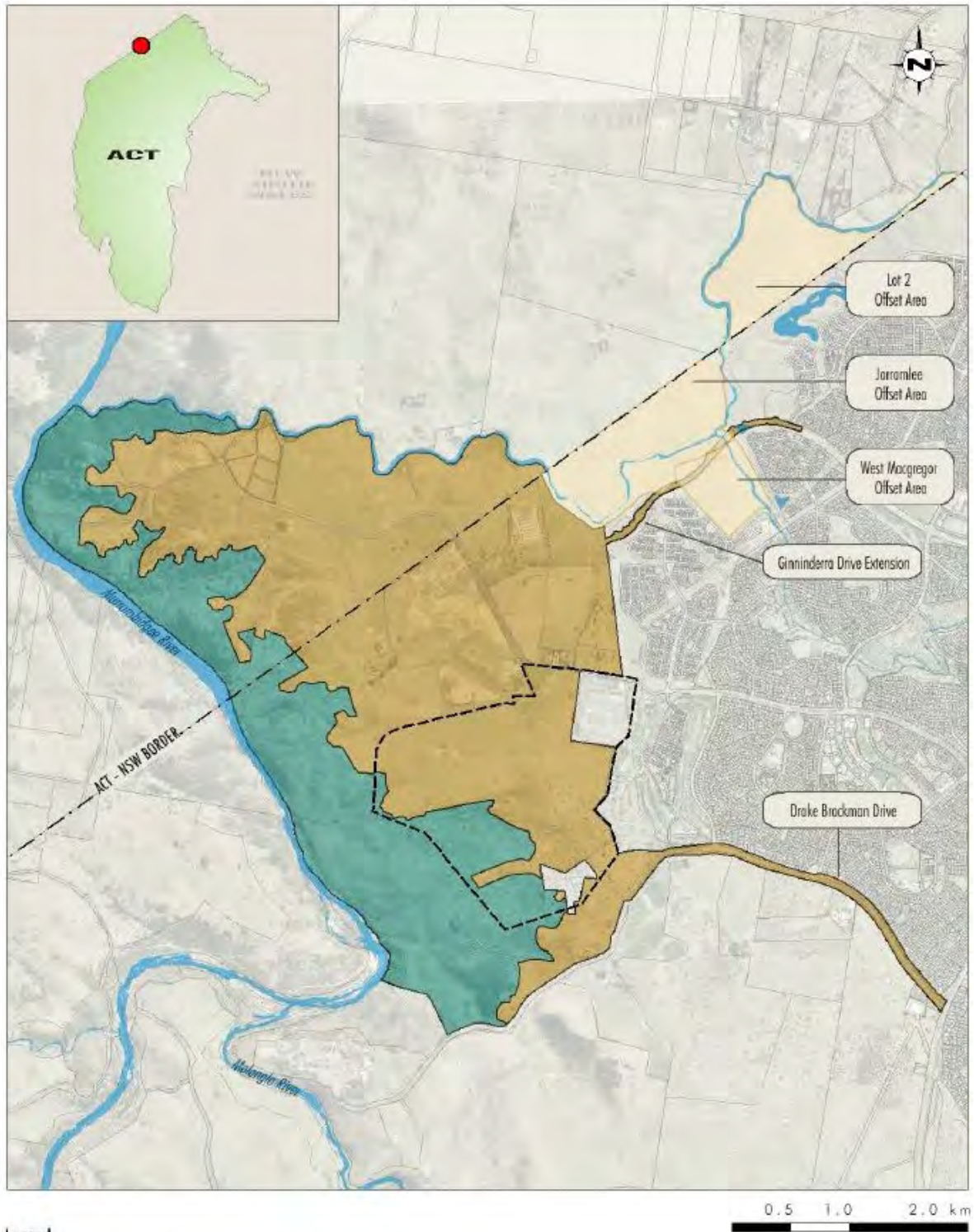


Figure 3 - West Belconnen Project Area

46. The West Belconnen Strategic Assessment Report (March 2017) was prepared to outline the activities required to complete urban development in West Belconnen and address the

impacts of the development by outlining commitments to a suite of avoidance, mitigation and offset measures..

47. On 18 July 2017, the Commonwealth Minister endorsed the Program Report for urban development and biodiversity conservation at West Belconnen. On 1 September 2017, the Commonwealth Minister approved actions associated with urban development in West Belconnen. This approval allows for urban development and biodiversity conservation at West Belconnen as identified in the Program Report to proceed without the need for further approval from the Commonwealth Minister.

4. Impacts on Schedule 4 items

48. This section summarises the impacts of the development on the relevant items from Schedule 4 of the PD Act. Mitigation measures for each of the relevant items from Schedule 4 of the PD Act are provided in Section 6 of this report.

Schedule 4 Part 4.3 Item 1- Impacts on species or ecological communities

49. The Project is likely to impact on listed species and ecological communities identified under NC Act and the EPBC Act. The EIS exemption application identified 30 listed threatened species and two endangered ecological communities with the potential to occur within the Project area.

50. Potential impacts associated with the Project include disturbance of vegetation, temporary or permanent clearing of habitat; and an increase in edge effects associated with urban development.

51. The Project has the potential to impact on 12 listed threatened species and two ecological communities, these are discussed in Section 4.1.1 below. The EIS exemption application considers that while impacts may occur on habitat for the remaining 16 species, it is unlikely that the impacts will be significant. Furthermore, the Program Report notes that habitat for these species occurs in the WBCC, which will be conserved.

Table 4 - Ecological communities and threatened species (based on EIS exemption application and Program Report)

Endangered Ecological Community	NC Act Status	EPBC Act Status	Potential Impact
Yellow box/red gum grassy woodland	endangered	critically endangered	yes
Natural Temperate Grassland	endangered	critically endangered	yes
Threatened species			
Flora			
Small purple pea	endangered	endangered	potential
Tarengo leek orchid	endangered	endangered	potential
Ginninderra peppercress	endangered	vulnerable	unlikely
Murrumbidgee Bossiaea	endangered	N/A	unlikely
Invertebrates			
Perunga grasshopper	vulnerable	N/A	unlikely

Golden Sun Moth	endangered	critically endangered	potential
Fish			
Macquarie perch	endangered	endangered	potential
Trout cod	endangered	endangered	potential
Silver perch	endangered	critically endangered	unlikely
Murray river crayfish	vulnerable	vulnerable	unlikely
Two spined blackfish	vulnerable	N/A	unlikely
Reptiles			
Pink-tailed worm lizard	vulnerable	vulnerable	potential
Striped legless lizard	vulnerable	vulnerable	unlikely
Grassland earless dragon	endangered	endangered	unlikely
Frogs			
Northern corroboree frog	endangered	critically endangered	No. habitat not present within project area.
Birds			
Regent honeyeater	endangered	critically endangered	potential
Brown treecreeper	vulnerable	vulnerable	unlikely
Hooded robin	vulnerable	vulnerable	unlikely
Little eagle	vulnerable	vulnerable	potential
Scarlet robin	vulnerable	vulnerable	potential
Varied sittella	vulnerable	vulnerable	unlikely
White-winged triller	vulnerable	N/A	unlikely
Glossy black cockatoo	vulnerable	vulnerable	No. habitat not present within project area.
Superb parrot	vulnerable	vulnerable	potential

Swift parrot	vulnerable	critically endangered	potential
Painted honeyeater	vulnerable	vulnerable	potential
Mammals			
Spotted tailed quoll	endangered	vulnerable	unlikely
Koonoom, smoky mouse	endangered	endangered	No. habitat not present within project area.

Impacts

Endangered ecological communities

52. Two endangered ecological communities, BGW and NTG were identified in the Project area. Impacts on these ecological communities are discussed below.

Yellow box/red gum grassy woodland (BGW)

53. The EIS exemption application notes that 71.8 ha of BGW occurs within the Project area. Due to previous impacts associated with agricultural and urban development, the condition of the BGW is identified as moderate to low quality.
54. The Project will result in the loss of 3.8 hectares BGW within the Drake Brockman Drive upgrade area. The Program Report notes that the BGW within the proposed road upgrade is considered to be poor quality, with a low diversity of native grasses and few native non-grass species.
55. Approximately 67.8 ha of moderate quality BGW will be retained as part of the WBCC. The EIS exemption application notes that indirect and cumulative impacts on the WBCC may occur as a result of increased public access and introduction of associated services and infrastructure. This may result in increased invasive species and other pollution.
56. The EIS exemption application states that the impacts will be avoided through detailed design during the planning stage, and through the implementation of CEMPs. The Program Report notes that impacts associated with the Project are not considered to be significant. Furthermore, management actions will be undertaken to improve the quality of BGW within the WBCC; the objective being to provide an overall net gain in BGW.

Natural Temperate Grassland

57. Approximately 114.4 ha of NTG were recorded within the Project area. In addition, approximately 5 ha of NTG were identified in the Jaramlee and Macgregor offset area.
58. The Project will result in the loss of 3.1 ha of NTG. The EIS exemption application notes that indirect impacts will be managed through the implementation of CEMPs that will provide measures to minimise run-off, waste disposal and weed management.

Threatened species

59. The Project has the potential to impact on 12 listed threatened species, as detailed in Table 4. Although, not discussed in the EIS exemption application report, the Rosenberg's Goanna was raised as a concern by entities and in public submissions. The details of potential impacts to threatened species (including the Rosenberg Goanna) are outlined below.

Flora

60. No threatened flora were recorded within the Project area, however, the EIS exemption identified potential habitat for two threatened plant species (Small Purple Pea and Tarengo Leek Orchid) within the BGW patches. The Program Report notes that this habitat has been subjected to long term agricultural activities and is of low to moderate quality.
61. The Project has the potential to impact on threatened plant species through clearance of habitat, increase in sedimentation and erosion, changes to microclimates and hydrological conditions, fire regimes, and an increase edge effects including weed invasions and pollution, and, The EIS exemption provides a range of mitigation measures to minimise the impacts of the Project on threatened flora. In addition, moderate to high quality habitat for these species will be retained in the WBCC.

Pink-Tailed Worm-Lizard

62. The EIS exemption notes habitat for the PTWL was established in studies by Wong and Osbourne (2008) and was assessed in the report prepared by SMEC (January 2018).
63. The EIS exemption application identified a total of 143.3 hectares of PTWL habitat in the Project area (Figure 4). The Project has the potential to directly remove approximately 9.5 ha of high quality PTWL habitat and 3.5 ha of low quality PTWL habitat. The areas affected by the Project occur in patches on the eastern edge of PTWL habitat. The Program Report considers the habitat patches to be small and isolated, therefore unlikely to be significant in maintaining the local population or contributing to the north-south habitat connectivity for the species.
64. Over 130 ha of PTWL habitat will be retained within the WBCC. The following potential indirect impacts on WBCC were identified in the Program Report: edge effects (weed invasion); changes to hydrological conditions; pollution; sedimentation and erosion; increased risk of predation, and disturbance to habitat from an increase in recreational activities. The EIS exemption application proposes a range of measures to avoid indirect impacts to PTWL habitat in the WBCC which are outlined in Appendix Four.

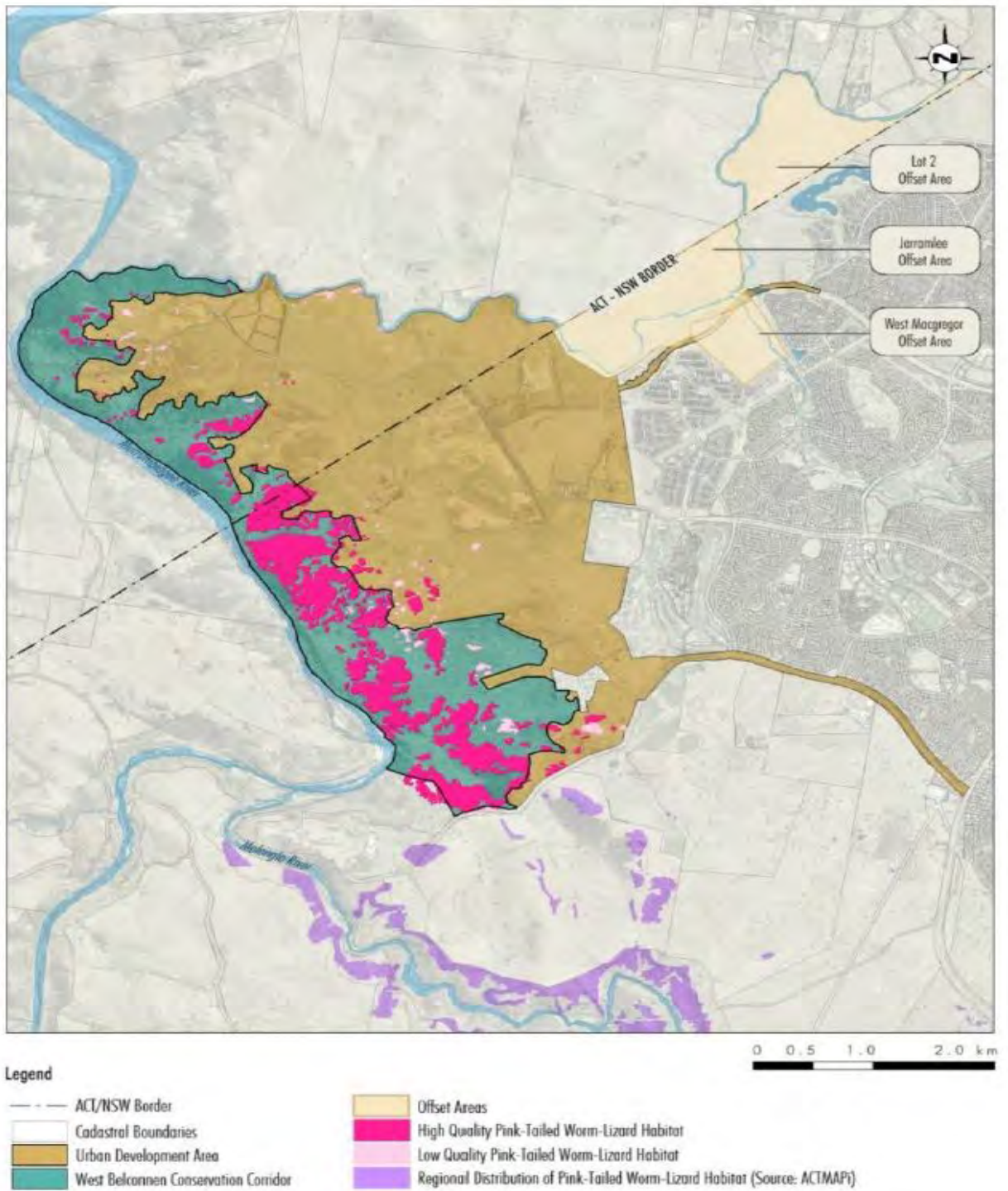


Figure 4 - Moderate to high and low pink tailed worm lizard habitat (extract from Umwelt report, May 2017)

Golden Sun Moth

65. The EIS exemption identified that a total of 1.8 ha of GSM habitat is located in the Project area, as illustrated in Figure 5. The EIS exemption states that direct impacts on GSM habitat will occur as a result of the proposed Ginninderra Drive extension. The current preferred alignment (option 5 in the Umwelt Strategic Assessment Report, May 2017) would remove approximately 9 ha of GSM habitat. A further 0.96 ha may be impacted on due to overshadowing by the proposed bridge over Ginninderra Creek.

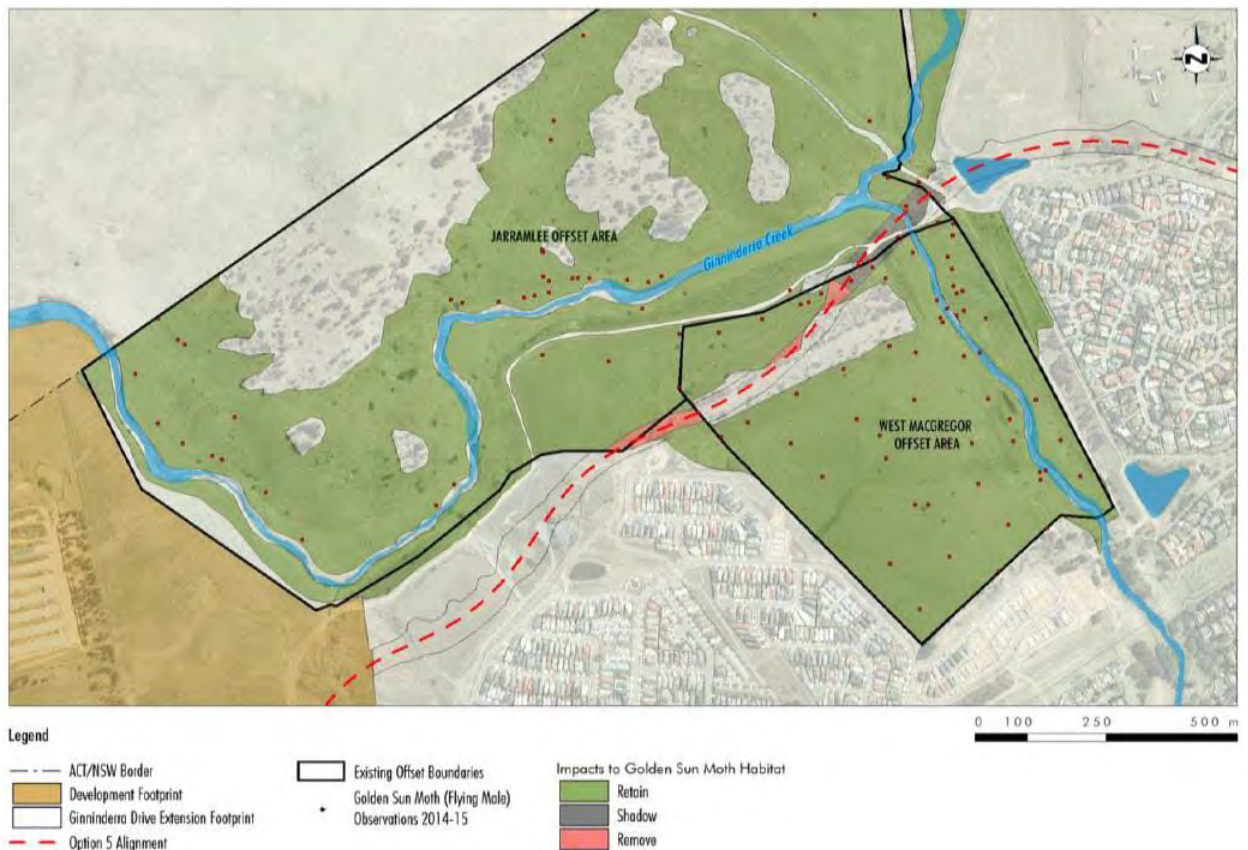


Figure 5 - Golden Sun Moth Habitat (extract from Umwelt report, May 2017)

66. It is noted the Ginninderra Drive extension is subject to future rezoning in NSW. The final alignment of Ginninderra Drive will be resolved within approximately 20 years. As such, the detailed design and environmental studies (as appropriate) will be provided subject to the requirements of the planning approval process and will inform any DA that is lodged for Ginninderra Drive.
67. The northern section of the proposed sewer alignment may impact directly on GSM habitat. The final sewer alignment will be resolved within approximately ten years. The final alignment will be determined at the detailed design phase of the Project, and environmental studies (as appropriate) will be provided to meet the requirements of the planning approval process. Notwithstanding, this sewer alignment will avoid impacts on GSM via:
- proposed tunnelling up to 20 m in depth to avoid surface and sub/surface enviros; and
 - location of man holes will be placed to avoid impacts to environmentally sensitive areas.

Woodland Birds

68. The EIS exemption application identifies potential habitat for a number of threatened woodland species within the Project area. Habitat for the Swift Parrot, Superb Parrot, and Regent Honeyeater has been identified in the woodland and forest patches within the project area, including WBCC. Habitat for the Painted Honeyeater was identified in the Murrumbidgee River Corridor, and will not be impacted by this Project
69. The Program Report states that approximately 0.28 hectares of woodland and forest habitat including the loss of 28 trees (nine high and three moderate quality trees, and the remainder of poor or unknown quality) will be removed for the proposed sewer alignment; and 0.7 ha of potential habitat will be removed within the proposed Drake Brockman Drive upgrade area.
70. Mitigation measures including the development of management plans, in conjunction with the protection of woodland and forest habitat within the WBCC is likely to minimise the impacts on the woodland bird species.

Fish

71. The Program Report notes that the Macquarie Perch has been recorded in the Murrumbidgee River, and the Trout Cod is considered likely to occur. Potential impacts associated with the proposal include:
 - a. damage to riparian vegetation;
 - b. increased public access (and its associated infrastructure) into the Murrumbidgee River and Ginninderra Creek for recreational purposes, including recreational angling;
 - c. altering flow regime; and
 - d. changes in water quality associated with increased run-off and sedimentation.
72. The EIS exemption application notes that potential impacts will be managed through the implementation of:
 - a. the WBCC Reserve Management Plan;
 - b. WSUD principles at design stage; and
 - c. CEMPs prior to construction commencing.
73. The Program Report concludes that, providing mitigation measures are implemented, impact on threatened fish species are unlikely to be significant.

Little Eagle

74. The EIS exemption application notes the Little Eagle was recorded within the Project area, including a nest pair of Little Eagles recorded at the Strathnairn Art Association property. The EIS exemption application states that no impacts on the Little Eagle will occur as part of the Project as a 200m clearance zone around the Strathnairn nest and foraging area will be implemented, see Figure 6 below.

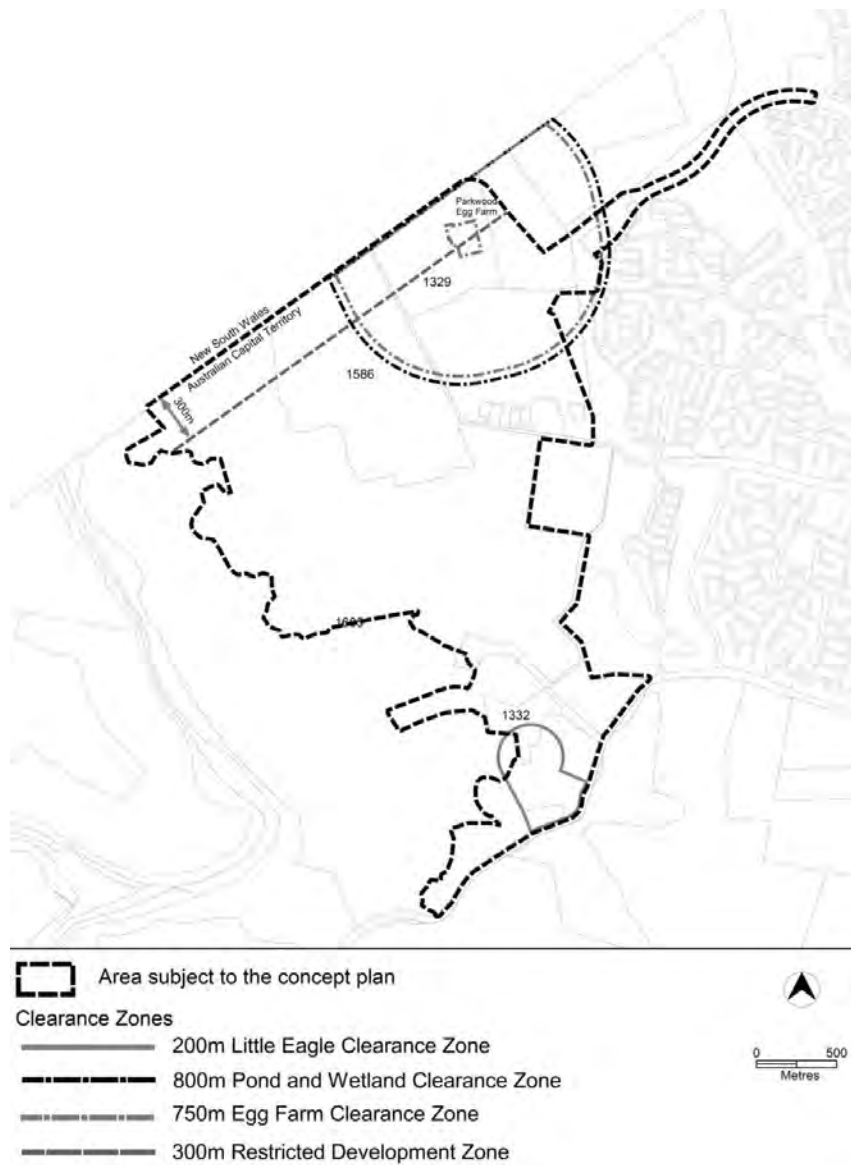


Figure 6 - Little Eagle Clearance Zone (extract from Territory Plan Variation No. 351)

Scarlet Robin

75. The Scarlet Robin occurs within the Murrumbidgee River Corridor. The Program Report states that the species has been recorded in the grassland areas of the Project area. The Project will result in the loss of grassland habitat for the Scarlet Robin. The Program Report notes that due to the high proportion of exotic grasses, the habitat is unlikely to be important habitat for the Scarlet Robin. Furthermore, a range of woodland and native grassland habitat of higher quality will be protected within the WBCC. The Program Report notes that the urban development is unlikely to result in a significant adverse impact on this species.

Rosenberg's Goanna

76. Rosenberg's Goanna is known to occur within the Project area, with habitat occurring in the woodland and forested areas along the Murrumbidgee River Corridor. This habitat will be retained within the WBCC. The Program Report notes the species may move across the exotic and native pasture grasslands within the Project area however, this is unlikely to be habitat for the species.

77. Potential impacts associated with the Project include an increase in predation or interference of habitat by feral animals, disturbance to habitat, and potential risk of road kill.

Previous studies and investigation

78. The Proponent has submitted six reports which address impacts on species and ecological communities in support of the EIS exemption application. The information submitted by the Proponent to support the application is listed and assessed for relevance against the requirements of section 211H of the PD Act in Appendix 2.
79. It is noted at the entity referral stage of the application the Conservator requested further information on the impacts of the proposed sewer tunnel alignment on the GSM. The information requested has been addressed through Condition 7 in Table 5 of this report.
80. In our view, the reports submitted adequately address the expected environmental impacts of the Project on species and ecological communities.

Schedule 4 Part 4.3 Item 2- The clearing of more than 5.0 ha of native vegetation in a native vegetation area

81. Native vegetation in the Project area includes NTG, BGW, forest and non-listed woodland.

Impacts:

82. The Project is expected to result in the clearing of 7.18 ha native vegetation. A summary of the impacts on each native vegetation species is provided below:
- a. a total of 3.8 hectares of poor quality BGW will be cleared as part of the Drake Brockman Drive upgrade, as recognised in the Program Report;
 - b. a total of 3.1 hectares of NTG will be cleared. The Ginninderry Natural Temperate Grassland Assessment Summary (SMEC 2018), identifies that these areas of NTG are associated with moderate and high quality patches of PTWL located in the urban development; and
 - c. a total of 0.28 hectares of forest and woodland (not BGW) in the WBCC resulting from drilling for the future sewer installation, as recognised in the Program Report.
83. The EIS exemption application identifies the following potential impacts arising from clearing of native vegetation:
- a. future infrastructure provision and maintenance activities;
 - b. edge effects such as weed invasion, increased recreational activities and urban development;
 - c. changes to hydrological conditions;
 - d. pollution; and
 - e. sedimentation and erosion.
84. Some impacts related to native vegetation clearing are covered in other sections of this report, for example, where native vegetation removal relates to habitat removal for protected species. The impacts and any mitigation measures are considered in Section 6 of this report.

Previous Studies and Investigations

85. The Proponent submitted five studies which addressed the impacts relating to clearing of native vegetation in support of the EIS exemption application. The information submitted by the Proponent to support the application is listed and assessed for relevance against the requirements of section 211H of the PD Act in Appendix 2.
86. In our view, the reports submitted adequately address the expected environmental impacts of the Project on clearing of native vegetation.

Schedule 4 Part 4.3 Item 3 – Proposal for development in a reserve

87. The Project area includes land located in a public nature reserve, including:
 - a. a total of 360 ha in the WBCC; and
 - b. a total of 11 ha in the riparian zone portion of Block 1621 Belconnen; and
88. The EIS exemption application states that works in the WBCC will relate to recreation, infrastructure, bushfire management and maintenance. It is noted the detailed design of these works will be resolved throughout the lifetime of the Project and will be subject to the required development application process.

Impacts

89. The identified impacts relating to undertaking works in the nature reserve include:
 - a. potential impacts to MNES and their habitat areas;
 - b. edge effects on urban areas;
 - c. potential impacts from human pressure due to recreational uses; and
 - d. potential impacts from construction of walking tracks and access routes.

Previous Studies and Investigations

90. The Proponent has submitted two reports in support of the impacts relating to development in a nature reserve in support of the EIS exemption application. The information submitted by the Proponent to support the application is listed and assessed for relevance against the requirements of section 211H of the PD Act in Appendix 2.
91. In our view, the reports submitted adequately address the expected environmental impacts of the Project within a public nature reserve.

Schedule 4 Part 4.3 Item 6 – Heritage

92. The Project area contains sites listed on the ACT Heritage Register. The EIS exemption application was accompanied by studies on sites of European and Aboriginal heritage significance. Please refer to Appendix 2 for further details on these studies.

Impacts

Sites of European heritage significance

93. The EIS exemption application states that no European heritage sites will be impacted on as part of the Project. The EIS exemption application proposes to retain the Belconnen Farm Precinct and manage the site with a CEMP.

Sites of Aboriginal heritage significance

94. Sites of Aboriginal heritage significance have been addressed in the studies prepared by Waters Consultancy (May 2017). This report identifies that Place 2: Corroboree Ground is located within the Project area.
95. The EIS exemption application states that there will not be any impact on existing Aboriginal heritage sites identified in the Waters Consultancy Report. The EIS exemption application proposes to undertake a Cultural Values Management Plan and implement its recommendations prior to works occurring within 100 metres of a place of cultural values.
96. The EIS exemption application identifies that impacts to unexpected finds will be managed through a range of mitigation measures which are outlined in Section 6 of this report.
97. The EIS exemption identifies that infrastructure within the Project area (the sewer tunnel and extension to Ginninderra Drive) will be finalised in approximately 20 years. The EIS exemption states that a Statement of Heritage Effects and detailed heritage studies will be provided to the ACT Heritage Council at the detailed design phase of infrastructure development. Please refer to Section 6 of this report for further discussion on the mitigation measures for potential impacts to sites of Aboriginal Heritage significance.
98. Conditions are proposed to ensure impacts on heritage places or objects are minimised. The conditions attached to this EIS exemption will be applied through conditions of approval for any subsequent development application.

Previous studies and investigation

99. The Proponent has submitted four studies which address impacts on heritage impacts in support of the EIS exemption application. The information submitted by the Proponent to support the application is listed and assessed for relevance against the requirements of section 211H of the PD Act in Appendix 2.
100. It is noted at the entity referral stage the ACT Heritage Council advised that Aboriginal heritage values had only been partially established and requested further information on the impacts on Aboriginal heritage values resulting from works in the WBCC, construction of the sewer tunnel, and the Ginninderra Drive extension
101. This request for information has been addressed through Condition 12 in Table 5 of this report.
102. In our view, the reports submitted adequately address the expected environmental impacts of the Project on relevant heritage values.

Schedule 4 Part 4.3 Item 7 – Contaminated lands

103. The EIS exemption application notes that an extensive assessment has been completed in regards to the contamination risk in the project site. At the time of lodgement, the assessment had identified blocks on the register of contaminated sites under the *Environment Protection Act 1997* including:
- a. Block 1606 Belconnen
 - b. Block 1607 Belconnen
 - c. Block 1469 Belconnen
 - d. Block 1632 Belconnen
104. It is noted that Block 1633 Belconnen is not included in the s.211 assessment area and was included in the Ginninderry Stage 1 EDP.
105. The West Belconnen Landfill site (Block 1586 Belconnen) is located in the project area and is currently managed by ACT NoWaste. This site is not currently located on the register of contaminated sites under the *Environment Protection Act 1997*. In accordance with the requirements of the Territory Plan (West Belconnen Structure Plan) any changes to existing land uses within the Belconnen Landfill site will be determined through a master plan for the site, subject to an appropriate audit process and approval of the EPA.

Previous studies and investigation

106. The Proponent has submitted two studies in support of the assessment of contaminated sites EIS exemption application. The information submitted by the Proponent to support the application is listed and assessed for relevance against the requirements of section 211H of the PD Act in Appendix 2.
107. The Proponent has also provided two site audit statements from an auditor, accredited and approved by the EPA as detailed below:
- a. The auditor's notification of commencement of blocks 1469, 1606, 1607, 1632 and 1633 (September 2017). The site auditors notification of commencement provided details of the remedial works to be undertaken and concluded the remedial strategy is appropriate for implementation, subject to satisfactory completion of relevant plans, obtaining of relevant permits and subsequent verification reporting.
 - a. The auditor's notification of commencement of audit, Block 1632 Belconnen - Strathnairn Sheep Dip (August 2017). The auditor's notification of commencement provided details of the remedial works to be undertaken and concluded the Douglas Remediation Strategy report is consistent with relevant EPA guidelines for environmental assessment and the remedial strategy is appropriate for the degree and extent of potential contamination that has been identified by the consultant.
108. In our view, the reports submitted adequately address the expected environmental impacts of the Project on contaminated lands.

5. Other potential environmental impacts

109. This section identifies other potential impacts of the development on the environment other than those impacts which are impact track triggers discussed in Section 4.
110. The EIS exemption application provided a response regarding other potential impacts of the development, identified by the Authority and referral entities. These matters included:
- a. traffic;
 - b. visual Impacts;
 - c. soils and geology;
 - d. water quality, ground water and water features;
 - e. noise, light spill and vibrations;
 - f. socio-economic and human health impacts;
 - g. climate change;
 - h. risks and hazards, including bushfire risks; and
 - i. waste and materials, including disposal and management of construction waste.
111. The EIS exemption application stated that a range of studies relating to the abovementioned items were already completed as part of TPV No. 351. In our view these matters are not Schedule 4 Triggers. Although not legally required in this process, the documents provide a useful background about the impacts, which may assist in subsequent DA processes.

Jaramlee and West Macgregor offset areas

112. The West Macgregor and Jaramlee offsets were established following Commonwealth approval under Part 9 of the EPBC Act for development at West Macgregor (EPBC 2010/5520) and Lawson South (EPBC 2010/5549) respectively. The preferred alignment for the Ginninderra Drive extension (option 5) will impact upon 0.85 ha of GSM habitat in the offsets areas. The EIS exemption application notes that an additional 86.8 ha site (lot 2 Wallaroo Road NSW) is proposed to compensate for the impacts on Jaramlee and West Macgregor.
113. A range of offsets were proposed in the Program Report. The offset package was developed in reference to the EPBC Act Environmental Impacts Policy. No further offsets are proposed for the Project.
114. The EIS exemption application provides mitigation measures to minimise the impacts of the Project. These are outlined in Section 6 of this report.

Green waste clearance zone

115. The EIS exemption application proposes to relocate composting activities, and leave the existing green waste shedding and sales activities at the existing West Belconnen Resource Management Centre. The EIS exemption application notes the composting activities will be relocated via a Technical Amendment to the Territory Plan (TPV 2018-08). On 14 May 2018 public notification of TPV 2018-08 closed. TPV 2018-08 is subject to approval from an auditor and relevant agencies.

Sewer tunnel

116. The EIS exemption application notes the proposed sewer tunnel was identified as future infrastructure servicing TPV No. 351, which proposed two sections of deep sewer tunnelling to mitigate against potential impacts on environmentally sensitive land.

117. The EIS exemption application notes construction of the future sewer tunnel is not required for approximately ten years. As such, the final alignment of the northern section of the sewer tunnel, and relevant mitigation measures, will be determined during the detailed design stage of development.

118. The EIS exemption application states that future development of the sewer tunnel will be accompanied by a detailed servicing plan, updated environmental studies (as appropriate) and subject to the requirements of a formal development application process.

119. Conditions in Table 5 of this Report have been provided to ensure that impacts are assessed and the required information is provided for future DA's that relate to the sewer tunnel.

Murrumbidgee River

120. The Project area is located within the catchments of Murrumbidgee River and Ginninderra Creek. These catchments provide habitat for a range of flora and fauna, and are considered an important movement corridor for reptiles, mammals and birds. The Program Report notes that both catchments, in particularly upstream of Ginninderra Falls, have been heavily modified by grazing, clearing and urban development. The Project has the potential to result in the following indirect impacts to the catchments:

- a. damage to riparian vegetation;
- b. increased public access (and its associated infrastructure) into the Murrumbidgee River and Ginninderra Creek for recreational purposes (including recreational angling);
- c. changes in hydrology; and
- d. changes in water quality associated with increased in run-off, sedimentation and pollution.

Existing businesses and infrastructure

121. The EIS exemption application notes clearance zones for the West Belconnen Precinct Code were established as part of TPV No. 351. The EIS exemption application identifies the following protection to adjoining land uses as follows:

- e. A 2.45 km clearance zone from the Lower Molonglo Water Quality Control Centre which permits compatible development with the treatment plant and excludes new residential, community or other sensitive uses.

- f. A 750 m clearance zone from Parkwood Eggs which prohibits any new residential, community or other sensitive uses within the clearance zone.
- g. An 800 m clearance zone from Parkwood Eggs that prohibits any new ponds, wetland and the like, within 800 m of buildings housing poultry without the endorsement of the EPA.
- h. A 500 m clearance zone from the Belconnen Landfill site that prohibits any new residential, community or other sensitive uses within the clearance zone.
- i. A 1000 m clearance zone from the existing Green Waste facility at Belconnen that prohibits any new residential, community or other sensitive uses within the clearance zone.

122. It is noted that the size of the abovementioned clearance zones may only be adjusted subject to an appropriate independent audit process and approval from relevant agencies.

6. Mitigation measures

123. The supplementary EIS exemption application provided a table of mitigation measures that addressed the impacts of the Project against the Schedule 4 triggers and other potential environmental matters. Please refer to Appendix 4 for a summary of the potential impacts and proposed mitigation measures provided by the Proponent in support of the EIS exemption application.

7. EIS exemption conditions

124. The following conditions are recommended to be imposed to ensure impacts on the matters identified in Section 4 and Section 5 of this report are appropriately addressed and managed through to any future DA stage. If a conditional EIS exemption is in force for a DA, section 128 (1) (b) (iv) of the PD Act requires the approval of the development proposal to be consistent with the EIS exemption conditions.

125. Table 5 details the conditions that are proposed to be set if an EIS exemption is granted. These conditions should be taken into account by the Authority when assessing a DA for the proposal.

126. It is noted the Project will be undertaken in a number of stages over the 40 year timeframe. As each stage of the Project progresses the Authority will consider which conditions will be applied (and to what extent) to future DAs.

Table 5 - Conditions for development approval

No	Condition	Endorsement/ approval	Development stage	Condition of approval
1	Program Report	EPSDD	All stages of planning and development	All works must be in accordance with the Urban Development Program Report, prepared by AT Adams Consulting (18 April, 2017).
2	Construction Environment Management Plans (CEMP)	EPSDD	Prior to the commencement of works	<p>A CEMP must be developed and implemented addressing the commitments made by the proponent in the EIS exemption application.</p> <p>CEMPs should be prepared in accordance with the requirements of Condition 10 of the EPBC approval for the West Belconnen Strategic Assessment area (as described in the endorsed Program Report) and the EIS exemption application.</p>
3	WBCC Reserve Management Plan	ACT Minister for the Environment	Prior to the commencement of construction	Prepare the WBCC Reserve Management Plan in accordance with the requirements set out in Condition 8 of the Commonwealth approval for the endorsed Program Report.
4	Offset Management Plans	ACT Minister for the Environment	Prior to the commencement of construction	Prepare the Offset Management Plan in accordance with the in accordance with the requirements set out in Condition 9 of the Commonwealth approval for the endorsed Program Report.

No	Condition	Endorsement/ approval	Development stage	Condition of approval
5	Bushfire Mitigation	ESA	Prior to lodgement of any future development application	<p>The Bushfire Inner Asset Protection Zone (APZ) must be located in any buffer provided within the Urban Development Area to the WBCC.</p> <p>All works must be consistent with the ACT Strategic Bushfire Management Plan 2014- 2019, or its successor.</p>
6	All works	EPSDD	Prior to planning and commencement of works	All works in the Project area must be consistent with the mitigation measures provided in the EIS exemption application.
7	Impacts on Golden Sun Moth	Conservator of Flora and Fauna	Prior to lodgement of any future development applications	Studies will need to be prepared that demonstrate the impacts on Golden Sun Moth resulting from construction of the future sewer tunnel.
8	Contamination Management	Environmental Protection Authority	Prior to construction	<p>The Project area must be assessed and remediated, as required, by a suitably qualified environmental consultant specialising in contaminated land assessment in accordance with the EPA Contaminated Sites Environment Protection Policy 2017, or successor policy, and EPA endorsed guidelines.</p> <p>The adequacy of the assessment and/or remediation works must be independently audited by an ACT EPA approved environmental auditor.</p> <p>The Auditor must notify the EPA of their engagement within 7 working days of receiving a request to carry out the audit.</p>

No	Condition	Endorsement/ approval	Development stage	Condition of approval
				<p>The findings of the independent audit into the site's suitability for its proposed and permitted uses (under the ACT Territory Plan or appropriate auditor interim advice where acceptable to the EPA) must be reviewed and endorsed by the EPA prior to the commencement of development works within the EDP area and prior to the site being used for other purposes.</p> <p>No soil is to be placed, reused or disposed elsewhere within the greater 'West Belconnen' development area (outside of the area covered by the EDP) or reused or disposed off-site without EPA approval.</p>
9	Sites of Environmental Concern	Health Protection Service	Prior to commencement of works	<p>Further investigations into sites of environmental concern are required for the following sites:</p> <ol style="list-style-type: none"> a. Current Foundry in Block 1632; b. Excavated spoil in Block 1540 and Block 1632, and spoil materials identified on road reserves; c. Storage yard in Block 1540 with construction and building materials; d. Fertilisers and pesticides use in nursery and landscape premises, and application on agricultural paddocks; e. Chemical storage within art precinct including flammable materials, former veterinary hospital/ pet centres and odour control units, and the usage of old oil drums in horse training paddocks; f. Potential hazardous materials found in aged buildings across the study area; and g. Potential off-site migration and contaminated run-off from the nearby West Belconnen Resource Management Centre.

No	Condition	Endorsement/ approval	Development stage	Condition of approval
10	Rainwater	Health Protection Service	During construction	Rainwater tanks provided to each residential property must comply with the Rainwater Tanks Guidelines 2010 and the taps and outlets utilising rainwater are clearly labelled as being provided with non-potable water.
11	Water quality control	Health Protection Service	During operation	<p>The design and construction of the water quality pond must minimise the potential for the water quality pond to become a mosquito nuisance.</p> <p>The applicant must contact HPS if the septic tank located at the Farmhouse is to be modified or decommissioned.</p>
12	Aboriginal sites of heritage significance	ACT Heritage Council	Prior to lodgement of future development applications	<p>Prior to lodgement of any future development applications the following information must be provided to the ACT Heritage Council:</p> <ol style="list-style-type: none"> a. a Cultural Heritage Assessment (CHA) of the proposed WBCC sewer tunnel; b. a CHA of the proposed Ginninderra Drive extension; c. a CHA of any currently planned tourist, recreation and bushfire management infrastructure within the WBCC, such as the Stage 1 tracks and trails project; d. all required CHA's must be prepared in accordance with Heritage Act 2004 provisions, the Council's 2015 Cultural Heritage Reporting Policy, or successor policy, and in consultation with representative Aboriginal organisations; and e. where a CHA considers the management of cultural places identified in the Waters Consultancy (2017) report, consultation is

No	Condition	Endorsement/ approval	Development stage	Condition of approval
				also required with the cultural knowledge holders as identified in that report.
13	DA documentation	EPSDD	All stages of planning and development	As part of any subsequent development applications relying on this EIS exemption application, information must be provided detailing how the recommended mitigation measures and conditions in this report have been met.

8. Conclusion

127. It is the Authority's assessment that the Proponent has provided sufficient information to the ACT Government and the community to allow an informed evaluation of potential environmental impacts which could be attributed to the Project.
128. The EIS exemption application and referral entities have proposed a range of mitigation measures and conditions to reduce or avoid potential environmental impacts arising from the Project. It is considered that any potential adverse impacts can be adequately addressed by implementing the conditions outlined in this Report.
129. It is noted that two referral entities, the ACT Heritage Council and the Conservator of Flora and Fauna, requested further information to be provided as part of the EIS exemption application.
130. It is considered that this information can be provided before any future development applications are lodged, due to the long timeframe and staged nature of the Project.
131. Conditions in Table 5 of this Report include requirements on subsequent DA's to ensure the required information is provided and ecological and heritage impacts are appropriately addressed and managed throughout the Project.
132. The Authority's recommendation is that the supporting information submitted with the EIS exemption application for this Project has adequately identified, and considered matters of potentially significant impact and that further environmental assessment is not required, unless stated in the relevant conditions in Table 5, as the expected environmental impact of the Project has already been sufficiently addressed.
133. The Authority's recommendation is that the Minister grants an EIS exemption for this Project under section 211H of the PD Act.

9. Appendix 1 – Entity Comments

Referred entity	Entity response
<p>ACT Health</p>	<p>The HPS supports the s.211 EIS exemption application for the Ginninderry Stage 2 residential estate subject to the applicant following the recommendations;</p> <p>The HPS supports the recommendations contained in the Sydney Environmental & Soil Laboratory (SESL) Environmental Site Assessment (ESA) and Site Suitability Recommendation (SSR) dated January 2018 that further investigations are required in relation to the following areas identified as being of environmental concern:</p> <ul style="list-style-type: none"> • Current Foundry in Block 1/632 • Excavated spoil in Block 154/0 and Block 1632, and spoil materials identified on road reserves • Storage yard in Block 1540 with construction and building materials • Fertilisers and pesticides use in nursery and landscape premises, and application on agricultural paddocks • Chemical storage within art precinct including flammable materials , former veterinary hospital/ pet centres and odour control units, and the usage of old oil drums in horse training paddocks • Potential hazardous materials found in aged buildings across the study area • Potential off-site migration and contaminated run-off from the nearby West Belconnen Resource Management Centre <p>The HPS also supports the recommendations in the SESL, ESA and SSR that further investigation work be implemented, subject to approval by the Site Auditor and EPA, prior to commencement of development work.</p> <p>The HPS advises the applicant that rain water tanks provided to each residential property must comply with the Rainwater Tanks Guidelines 2010 and the taps and outlets utilising rainwater are clearly labelled as being provided with non-potable water.</p> <p>The development proposes a water quality pond. The HPS advises the applicant that the design and construction of the water quality pond must minimise the potential for the pond to become a mosquito nuisance.</p> <p>The HPS notes a septic tank system is located within the area of the Farm house. The HPS advises the applicant must contact HPS if the septic tank is to be modified or decommissioned.</p>

Referred entity	Entity response
Conservator of Flora and Fauna	<p>The Strategic Assessment comprehensively considered and documented the distribution and relative significance of the proposed development area for all Commonwealth and ACT listed threatened species and ecological communities and other species of conservation concern within the ACT.</p> <p>It is noted that the s.211 application may have under estimated the impact on Golden Sun Moth as the report does not address impacts caused by the construction of the future Ginninderry Sewer Tunnel as shown on Plan 11.9 (Sewer Master Plan Sheet) Ginninderry Stage 2 Estate Development Plan - February 2018.</p>
Emergency Services Commissioner	<p>The ACT Fire and Rescue has reviewed the "Ginninderry Planning report for section 211 exemptions" and has no special considerations or objection at this time.</p> <p>ACTF&R will conduct a thorough review of the Development Application (DA) for Ginninderry Stage 2 when submitted by the proponent.</p> <p>At the DA stage, ACTF&R will review compliance with hydrant provisions, ACTF&R vehicle access, bushfire protection measures, compliance with the Strategic Bushfire Management Plan and any other matter relevant for emergency services.</p>
EvoEnergy	<p>No objection.</p>
Environment Protection Authority	<p>The EPA requested further information on</p> <ul style="list-style-type: none"> • The Murrumbidgee River for the development including mitigation measures and details of any ongoing management plans; and • Existing businesses and infrastructure in the area such as the Lower Molonglo Water Quality Control Centre, the egg production facility on Block 1329 Belconnen and the waste facilities on Block 1586 Belconnen. <p>The following contamination assessment and management provisions will be required to be appropriately dealt with in future planning instruments such as estate development plans for each stage of development.</p> <ul style="list-style-type: none"> • The area subject to development under the EDP (the site) must be assessed and remediated, as required, by a suitably qualified environmental consultant specialising in contaminated land assessment in accordance with the EPA Contaminated Sites Environment Protection Policy 2017 and EPA endorsed guidelines. • The adequacy of the assessment/remediation works must be independently audited by an ACT Environment Protection Authority (EPA) approved environmental auditor. • The Auditor must notify the EPA of his/her engagement within 7 working days of receiving a request to carry out the audit. <p>The findings of the independent audit into the site's suitability for its proposed and permitted uses under the ACT Territory Plan or appropriate auditor interim advice where acceptable to the EPA must be reviewed and endorsed by the EPA prior to the commencement of development works within the EDP area.</p>

Referred entity	Entity response
	<p>The findings of the independent audit into the site's suitability for its proposed and permitted uses under the ACT Territory Plan must be reviewed and endorsed by the EPA prior to the site being used for other purposes.</p> <p>No soil is to be placed, reused or disposed elsewhere within the greater 'West Belconnen' development area (outside of the area covered by the EDP) or reused or disposed off-site without EPA approval.</p>
<p>Heritage Council</p>	<p>Following review of the Section 211 EIS exemption application for the Ginninderry Stage 2 urban development, the Council provides the following advice: The Aboriginal heritage values of the application area have been partially established through heritage assessments (Biosis 2015 and Waters Consultancy 2017); however, the following aspects of the application have not been subject to heritage assessment:</p> <p>The sewer tunnel proposed within the WBCC has not been subject to heritage assessment, and this proposed infrastructure would directly impact an Aboriginal corroboree ground identified in Waters Consultancy (2017) and an associated archaeological site of heritage significance and high conservation value (recorded as MW5). On available information, the Council considers that this infrastructure would have a significance adverse impact on Aboriginal heritage, and in accordance with <i>Heritage Act 2004</i> provisions, requires that heritage effects be assessed and that reasonably practicable alternatives to heritage impacts be explored;</p> <p>The extension of Ginninderra Drive has not been subject to heritage assessment, and the potential heritage effects of this proposed infrastructure have not been established;</p> <p>The establishment of tourist and recreation facilities, and any bushfire management infrastructure, within the WBCC has not been subject to heritage assessment, and the potential heritage effects of this proposed infrastructure have not been established; and</p> <p>The application refers throughout to no Aboriginal places within the WBCC being impacted by proposed development. However, the Council understands that the proposed sewer tunnel and planned Stage 1 tracks and trails infrastructure will directly impact Aboriginal places and objects; and anticipates that future assessments may identify other heritage impacts resulting from WBCC infrastructure.</p> <p>In this context, the Council advises that the impact of proposed development on Aboriginal heritage has not been adequately assessed, and that the Council does not support the Section 211 EIS exemption application in its current form.</p> <p>The following further information is requested to demonstrate that the Aboriginal heritage values of place and the likely Aboriginal heritage impacts of the project have been adequately assessed:</p> <ul style="list-style-type: none"> • A CHA of the proposed WBCC sewer tunnel;

Referred entity	Entity response
	<ul style="list-style-type: none"> • A CHA of the proposed Ginninderra Drive extension; and • A CHA of any currently planned tourist, recreation and bushfire management infrastructure within the WBCC, such as the Stage 1 tracks and trails project. • All required CHAs must be prepared in accordance with Heritage Act 2004 provisions, the Council’s 2015 Cultural Heritage Reporting Policy and in consultation with representative Aboriginal organisations. Where a CHA considers the management of cultural places identified in the Waters Consultancy (2017) report, consultation is also required with the cultural knowledge holders as identified in that report. <p>The Council also requires the following amendments be made to the Section 211 EIS exemption application, to accurately identify Aboriginal heritage values of place, likely heritage impacts and the management of those impacts:</p> <ul style="list-style-type: none"> • Identification of the Aboriginal heritage values of the Stage 2 area, in a manner that does not make culturally sensitive information or information declared as restricted under Part 8 of the Heritage Act 2004 publically available. For example, the application should identify the number of recorded Aboriginal places and objects within the application area, and summarise the public version of the Waters Consultancy (2017) report. • Description of the Aboriginal heritage impacts expected to result from proposed development, including urban development and works proposed within the WBCC; • Description of the planned management of the above Aboriginal heritage impacts, spanning both conservation and impact mitigation; and identify the further investigation and salvage actions that would require Heritage Act 2004 approvals; and • Amendment of statements throughout that no Aboriginal places within the WBCC would be impacted by proposed development. <p>The Council understands that future infrastructure areas within the WBCC may be identified over the course of the project, and CHAs will also be required for those future works at the time of planning. Further heritage assessment may also be required by the Council for future urban development areas in addition to the Biosis (2015) CHA; reflecting the conditional endorsement of that report by the Council on 28 July 2015 – which required Riverview Projects to consult with the Council prior to each future stage of estate development to identify any additional heritage assessment or management requirements for those stages.</p> <p>Through the continued Aboriginal heritage assessment and management process, Aboriginal places of heritage and cultural significance and high conservation value may be identified; the appropriate management of which would be in situ conservation outcomes that are not anticipated at this time. In those instances,</p>

Referred entity	Entity response
	heritage conservation requirements would be identified through advice from the Council and through continued liaison with RAOs and heritage practitioners.
ICON Water	Icon Water has no specific feedback relating to the EIS exemption for the Ginninderry development. The scope of the documentation is in relation to the development footprint and does not affect utility interests.
Evoenergy Gas	No comment.
Transport Canberra and City Services	TCCS supports the proposed exemption application
National Capital Authority	No comment.
Yass Valley Council	No submission provided.
Department of Environment and Energy	<p>The Delegate of the Minister issued an approval under Part 10 of the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) on 1 September 2017 for a class of actions for urban development undertaken in accordance with the 'Urban Development at West Belconnen Program Report'. Actions taken in accordance with the program report do not require further approval under the EPBC Act.</p> <p>It is noted that section 3.3 of the program report anticipates that Riverview will seek the s211 exemption in relation to ACT development approval.</p>
Deed Management	No comment
Strategic Planning	No comment
Territory Plan	<p>Appendix O of the Ginninderry Planning Report for Section 211 Exemption (the Planning Report) and the draft Technical Amendment both state that the proposal is about moving the composting component to the north eastern corner of the existing landfill site, and the shredding and sale operations will remain at current location. The 2nd last paragraph on Page 28 of the Planning Report need to be corrected to reflect these.</p> <p>Territory Plan Section's understanding is a technical amendment process was only agreed for Greenwaste at this point in time. Process about any future changes to any clearance zone in Ginninderry would depend on the nature of the proposal and circumstance at the time. As such, we would like to see "will be" in the first sentence of paragraph 3 on Page 29 of the Planning Report to be changed to "may be" or "could be potentially considered".</p>

10. Appendix 2 – Information submitted as part of the EIS exemption application

TITLE & AUTHOR OF STUDY	QUALIFIED PERSON	RECENT STUDY	If recent study >18 months, is information current	INFORMATION DIRECTLY RELATED TO PROPOSAL?	Schedule 4 Trigger
'West Belconnen Strategic Assessment Report' (Umwelt)	Yes	Yes – March 2017		Yes	All Schedule 4 triggers
Assessment of mapped pink-tailed worm lizard habitat within Ginninderry for potential to meet criteria for classification as natural temperate grassland (SMEC)	Yes	Yes – January 2017	N/A	Yes	Schedule 4 Part 4.3 Item 1
West Belconnen Vegetation Survey Summary (Robert Jessop Pty Ltd.)	Yes	Yes – April 2017	N/A	Yes	Schedule 4 Part 4.3 Item 2
Ginninderry Conservation Zone Vegetation Unit Descriptions(Sarah Sharp	Yes	Yes – February 2017	N/A	Yes	Schedule 4 Part 4.3 Item 2
Ginninderry Natural Temperate Grassland Assessment Summary (SMEC)	Yes	Yes – April 2018		Yes	Schedule 4 Part 4.3 Item 2
Assessment of mapped pink-tailed worm, lizard habitat with Ginninderry for potential to meet criteria for classification as natural temperate grassland (Revision 1) (SMEC)	Yes	Yes – January 2018		Yes	Schedule 4 Part 4.3 Item 1
Urban Development at West Belconnen Program Report (AT Adams Consulting)	Yes	Yes – April 2017	N/A	Yes	All Schedule 4 triggers
Ginninderry Development Project Aboriginal Cultural Values Assessment Report Redacted Version for Public Release (Waters Consultancy) – (Redacted)	Yes	Yes – May 2017	N/A	Yes	Schedule 4 Part 4.3 Item 6
West Belconnen Future Residential Development:	Yes	No – May 2016	Yes	Yes	Schedule 4 Part 4.3 Item 6

Stage 1 West Belconnen Statement of Heritage Effects (SHE), (Past Trace)		The information is still considered to be current			
West Belconnen European Cultural Heritage Report Blocks 1605 and 1606 (Eric Martin and Associates Architects)	Yes	Yes – January 2018	N/A	Yes	Schedule 4 Part 4.3 Item 6
West Belconnen European Cultural Heritage Report ACT Parkwood Land: Blocks 853, 856, 857, 858, 859, 860, 1329, 1333, 1440, 1540, 1621, 1622 and Part Block Macgregor Block 7 Section 149, (Eric Martin and Associates Architects)	Yes	Yes – January 2018	N/A	Yes	Schedule 4 Part 4.3 Item 6
‘ESA1 & Site Suitability’ GHD	Yes	Yes – August 2017	N/A	Yes	Schedule 4 Part 4.3 Item 7
‘Stage 1 ESA and Site Suitability Recommendation’	Yes	Yes – November 2017	N/A	Yes	Schedule 4 Part 4.3 Item 7
West Belconnen Resource Management Centre and Canberra Sand and Gravel, Parkwood Road (Riverview Projects)	Yes	Yes – June 2017			Schedule 4 Part 4.3 Item 7
West Belconnen Strategic Environmental Assessment: Air Quality Review (AECOM)	Yes	Yes – February 2018			N/A
Ginninderry Planning Report for Section 211 Exemption (Knight Frank)	Yes	Yes – February 2018			N/A
Ginninderry Supplementary Planning Report for Section 211 Exemption (Knight Frank)	Yes	Yes – August 2018			N/A
Preliminary Risk Assessment (PRA), (Knight Frank Town Planning)	Yes	Yes – August 2018			N/A
EPBC Consultation Report, (Knight Frank Town Planning)	Yes	Yes – April 2017			N/A
Movements of the Little Eagle (<i>Hieraaetus morphnoides</i>) surrounding the proposed Riverview	Yes	Yes - 2016			Schedule 4 Part 4.3 Item 1

Development Area, Australian Capital Territory, (Brawata & Gruber)					
Paper "Invalid evidence for purported 'collapse' in the number of breeding Little Eagles in the Australian Capital Territory", (Olsen & Rae, ANU)	Yes				Schedule 4 Part 4.3 Item 1
Auditors notification of commencement of Audit (Blocks 1469, 1606, 1607, 1632 and 1633)	Yes	October 2017			Schedule 4 Part 4.3 Item 7
Auditors notification of commencement of Audit (Part Block 1632 Section 0 Strathnairn Sheep Dip)	Yes	August 2017			Schedule 4 Part 4.3 Item 7
Auditors notification of commencement of Audit (B1 S80, Dunlop, Part B2 S186 Dunlop, B7 S149 Macgregor, Blocks 853, 856, 857, 858, 859, 860, 993, 1333, 1440, 1469, 1540, 1568, 1621, 1622, 1632 Belconnen)	Yes	December 2017			Schedule 4 Part 4.3 Item 7
Drainage Flows in the Ginninderry Region Memorandum, (Air Environment)	Yes	November 2017			N/A
Proposal to adjust Clearance Zone: Greenwaste Shredding, Composting and Sales	Yes	N/A			N/A
Statutory Notification Periods for Recent Supporting Studies, (Knight Frank Town Planning)	Yes	February 2018			N/A
Map of blocks included in the s211 exemption application, (Knight Frank Town Planning)	Yes	February 2018			N/A
Conservation Corridor Reserve Management Plan (Draft), (TRC Tourism)	Yes	November 2016			

Ginninderry Community Needs Assessment, (SGS Economics and Planning)	Yes	September 2017			N/A
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11. Appendix 3 – EPBC Approval Instrument

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12. Appendix 4 – Summary of potential impacts and mitigation measures

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Planning and Development (Environmental Impact Statement – Ginninderry Urban Development Stage 2) Exemption 2018

Notifiable Instrument NI 2018 - 599

Made under the

Planning and Development Act 2007 s 211H (EIS exemption—decision)

1 Name of instrument

This instrument is the *Planning and Development (Environmental Impact Statement -Ginninderry Urban Development Stage 2) Exemption 2018*

2 Commencement

This instrument commences on the day after its notification day.

3 Grant


In accordance with section 211H of the *Planning and Development Act 2007* (the Act), I grant an Environmental Impact Statement (EIS) exemption for the Ginninderry Urban Development Stage 2 proposal.

Note 1 Under s 211H of the Act, the Minister may grant an EIS exemption if satisfied that the expected environmental impact of the development proposal has already been sufficiently addressed by a recent study.

Note 2 A copy of the EIS exemption consideration report considered by the Minister is available on the planning and land authority's website:
http://www.planning.act.gov.au/topics/design_build/da_assessment/environmental_assessment/exemption_from_requiring_and_eis_s211

4 EIS exemption - expiry

In accordance with Section 211I, the EIS exemption expires on 30 June 2067.


Mick Gentleman MLA
Minister for Planning and Land Management

29/10/18

October 2018



Mick Gentleman MLA

Minister for the Environment and Heritage
Minister for Planning and Land Management
Minister for Police and Emergency Services
Minister assisting the Chief Minister on
Advanced Technology and Space Industries
Manager of Government Business
Member for Brindabella

Aaron Oshyer
Knight Frank Town Planning
PO BOX 248
CIVIC ACT 2608

Dear Mr. Oshyer,

Aaron

I have reviewed the information provided in your request under section 211 of the *Planning and Development Act 2007* (the Act) for an exemption from the requirement to complete an Environmental Impact Statement for the Ginninderry Stage 2 Urban Development.

Having considered the information submitted in support of your application, the issues raised in submissions made during consultation and the conditions outlined in the assessment report, I consider that the expected environmental impact of the proposal has been sufficiently addressed.

As Minister responsible for the Act, I have granted you an EIS exemption. I advise that the proposed Ginninderry Stage 2 Urban Development will not require further environmental assessment in relation to this proposal with the Environment, Planning and Sustainable Development Directorate. Please ensure that you include a copy of this letter and the assessment report with your development application.

A copy of the EIS exemption is available on the ACT Legislation Register at <https://www.legislation.act.gov.au/>

Yours sincerely

Mick Gentleman MLA
Minister for Planning and Land Management

24/10/18

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MickGentleman



GINNINDERRY CONSOLIDATED SUPPLEMENTARY PLANNING REPORT FOR SECTION 211 EXEMPTION

August 2018

For the use of
Riverview Projects (ACT) Pty Ltd

For the purpose of a

**Application for EIS Exemption under Section 211 of the
*Planning and Development Act 2007***



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QUALIFICATIONS

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2. This report is current at the date on the cover only.
3. This report is to be read in its entirety and in association with other documentation submitted as part of the s211 exemption application.

Document Control				
Revision	Date	Author	Peer Review	Approved
Rev 0	13/06/2018	AO	LC	
Rev 1	15/06/2018	AO	LC	LC
Rev 2	13/08/2018	AO	SH	AO
Rev 3	23/08/2018	AO	SH	AO

Glossary

BGW	Box Gum Woodland
DA	Development Application
EDP	Estate Development Plan
EIS	Environmental Impact Statement
EPA	Environment Protection Authority
EPBC	Environment Protection & Biodiversity Conservation Act (Commonwealth)
EPSDD	Environment, Planning & Sustainable Development Directorate (ACT)
GSM	Golden Sun Moth
NC Act	Nature Conservation Act 2014
PTWL	Pink-tailed Worm-lizard
P&D Act	Planning and Development Act 2007 (ACT)
RMP	Reserve Management Plan
TPV	Territory Plan Variation
WBCC	West Belconnen Conservation Corridor

CONTENTS

1.	Introduction	5
2.	Section 211 Exemption Requirements	6
2.1	Requirements of a S211 exemption application	6
2.2	Expected environmental impact	6
3.	Section 211 Exemption Request	8
3.1	Consideration of Broader Potential Impacts on the Environment	8
3.2	Consideration of Additional Potential Impacts on the Environment	13
3.3	Consideration of Referral Entity Comments	17
3.4	Consideration of Public Representations	17
3.5	Consideration of Schedule 4.3 Item 2	18
3.6	Consideration of Extent of Potential Impacts on ACT land	19
4.	Preliminary risk assessment	20
4.1	Risk Assessment Methodology	20
4.2	Risk Assessment	21
5.	Conclusion	30

Tables

Table 1: Additional EIS Trigger.....	18
Table 2: Areas for S211 application matters on ACT land	19
Table 3: Evaluating Consequence	20
Table 4: Risk Assessment Matrix (likelihood and consequence).....	21
Table 5: Evaluating Likelihood	21
Table 6: Risk rating.....	21
Table 7: Risk Assessment.....	22

Appendices

Appendix A – Conservation Corridor Reserve Management Plan (Draft) Nov 2016	1
Appendix B – SGS Economics Community Needs Assessment, September 2017.....	2
Appendix C – Table Response to Agency Comments (KFPT), June 2018	3
Appendix D – Table Response to Public Consultation (KFTP), June 2018	4
Appendix E – Ginninderry Natural Temperate Grassland Assessment Summary (SMEC), April 2018	5
Appendix F – Ginninderry Conservation Zone Vegetation Unit Descriptions (Sharp S), Feb 2017.....	6
Appendix G – Assessment of mapped pink tailed worm lizard habitat within Ginninderry for potential to meet criteria for classification as natural temperate grassland (SMEC), Jan 2017	7
Appendix H – West Belconnen Vegetation Survey Summary, 2017 update (SMEC and RJPL), April 2017	8
Appendix I – Summary of Potential Impacts and Mitigation Measures	9
Appendix J – Combined Risk Assessment.....	10

1. INTRODUCTION

Knight Frank Town Planning (KFTP) has been engaged by Riverview Pty Ltd being 'the proponents', to prepare a section 211 Environmental Impact Statement (EIS) exemption application under the *Planning and Development Act 2007* (P&D Act) for the ACT Lands subject of the West Belconnen 'Ginninderry' development. Historically, the proposed development has been referred to as 'West Belconnen' and 'Riverview' before being given the project name 'Ginninderry'. These names all refer to the same area, which comprises the ACT portion of the development. This report will refer to the project hereon in as 'Ginninderry'. As the supporting studies have been prepared over the last few years, they may refer to the project as any of the abovementioned names.

Planning for development of Ginninderry, in Canberra's northwest, has been ongoing for several years and is now at the point where the first stage of residential development is approaching and an Estate Development Plan (EDP) for Stage 1 has already been approved.

An S211 EIS exemption application and s211 planning report (Feb 2018) was lodged for consideration in March 2018 and follows an endorsement of a Program for the site on (1st September 2017) by the Australian Government Environment Minister under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Entity comments and public submissions received following the close of public notification of the S211 application on 1 May 2018. This supplementary planning report addresses the broader potential impacts on the environment as raised by the entities and gives consideration to any potential risks associated with the matters identified. A summary of additional potential environmental issues which have been identified, are considered in a risk assessment inclusive of proposed mitigation measures to address the identified risks.

It is contended that many of the broader potential impacts on the environment were considered during the Territory Plan variation to rezone the project area for future urban development. Territory Plan Variation #351 was supported by and informed by a comprehensive suite of reports and West Belconnen Planning Study (AT Adams Consulting – 12 March 2015). In responding to the matters raised we make particular reference to the reports and sections of the Planning Study that addressed the item raised.

This supplementary report is to be read in conjunction with the S211 submission made and seeks exemption from an EIS under section 211 of the P&D Act because the expected environmental impact of the development proposal has already been fully addressed by extensive work and recently endorsed Program under the EPBC Act (Cwlth), pt 10 (Strategic assessments) and a Stage 1 Environmental Site Assessment with an auditor appointed to undertake site audits of all of the ACT project land.

The application for a Section 211 exemption has been prepared in acknowledgement of the extensive environmental, cultural and investigative studies and reports, already completed for the site and is not an application for approval of detailed works or development. Any *development* proposed, as defined by the *ACT Planning and Development Act*, and not exempted under the *ACT Planning and Development Regulations*, will be subject to the usual independent development assessment and approval process.

2. SECTION 211 EXEMPTION REQUIREMENTS

The following information sets out the requirements for an S211 exemption application as some of the public representations received

2.1 Requirements of a S211 exemption application

An EIS is required for any development application (DA) in the impact track under section 123 of the *Planning and Development Act 2007 (ACT) (the Act)* unless an exemption is granted. An EIS details the anticipated environmental impacts of a development on the environment as well as proposing avoidance, mitigation and offset measures. An EIS is prepared by a proponent to enable decision makers to understand the environmental consequences of a proposed development. The EIS must include sufficient information to ensure that all environmental, social and economic impacts associated with the proposal have been identified and assessed, and any adverse impacts are avoided, minimised, mitigated or as a last resort, offset. Subregulation 50(2) to the *Planning and Development Regulation* sets out the matters that an EIS must include.

The Minister may grant an EIS exemption for a proposal if satisfied that the **expected environmental impact** of the development proposal has already been sufficiently addressed by a recent study, whether or not the recent study relates to the particular development proposal. Recent study is defined to mean a study not more than 5 years old (s 211A). If the recent study is more than 18 months old, the application must also include a statement from an appropriately qualified person with no current professional relationship with the proponent verifying that the study contains current information (section 211B(3)(d)). Section 211H provides that examples of a recent study that may sufficiently address the expected environmental impact of a development proposal includes an endorsed policy, plan or program (referred to as a 'Strategic Assessment') under Part 10 of the *Environmental Protection and Biodiversity Conservation Act 1999 (Cth)*.

The Minister must consider the following when deciding whether the study provided has sufficiently addressed the expected environmental impact of the development proposal (section 211H(3)):

- (a) whether the study was conducted by an **appropriately qualified person** with expertise in environmental values of the land in question;
- (b) if the study does not directly relate to the proposal - whether there is **sufficient detail to allow assessment** of the likely environmental impacts;
- (c) whether the recent study required **public consultation** or was a part of government policy development;
- (d) if the study is more than 18 months old - whether the information is **current**; and
- (e) **submissions** received by the Minister in the consultation period.

2.2 Expected environmental impact

"Expected environmental impact" is not defined by the Act. Therefore, it is necessary to look to other parts of the Act for guidance as to the definition of "environment/environmental" and to the ordinary meaning of the word "expected".

The definition of "environment" under the Act provides that each of the following is part of the environment

- (a) *the soil, atmosphere, water and other parts of the earth;*
- (b) *organic and inorganic matter;*
- (c) *living organisms;*
- (d) *structures, and areas, that are manufactured or modified;*
- (e) *ecosystems and parts of ecosystems, including people and communities;*
- (f) *qualities and characteristics of areas that contribute to their biological diversity, ecological integrity, scientific value, heritage value and amenity;*
- (g) *interactions and interdependencies within and between the things mentioned in paragraphs (a) to (f);*
- (h) *social, aesthetic, cultural and economic characteristics that affect, or are affected by, the things mentioned in paragraphs (a) to (f).*

Note: Environmental has a corresponding meaning to environment (see Legislation Act, s 157).

Accordingly, "environment" and "environmental" are broad definitions and it is necessary to consider the expected impacts in relation to all of the matters within the definition of environment for the purposes of an EIS exemption application. The threshold for whether an environmental impact needs to be addressed is whether that impact is "expected". "Expected" is not defined by the Act and therefore it has its ordinary meaning which is 'seen as likely to happen' (Macquarie Dictionary).

Therefore, the EIS exemption application needs to address impacts on the environmental that are likely to occur as a consequence of the development proposal.

3. SECTION 211 EXEMPTION REQUEST

This report is seeking an exemption under section 211 of the ACT P&D Act on the basis the impacts of the proposed development have been addressed and will be managed appropriately and no significant short or long term effects will occur on ecological, contamination or heritage matters present within the project area.

3.1 Consideration of Broader Potential Impacts on the Environment

The planning and land authority within the Environment, Planning and Sustainable Development Directorate (EPSDD) requires, given the scale of the proposed development, that consideration of some of the broader potential impacts on the environment are to be included. Consideration is to be given to any potential risks associated with the list below. Where the risks may result in an impact on the environment this is to be considered in the risk assessment and commentary provided.

- Traffic and transport impacts on the environment (including existing offset areas);
- Visual impacts;
- Impacts related to soils and geology;
- Impacts related to water quality, groundwater and water features;
- Impacts related to noise, light spill and vibrations;
- Socio-economic and human health impacts;
- Climate change;
- Risks and hazards, including bushfire impacts; and
- Waste and materials, including disposal and management of construction waste.

Territory Plan Variation #351 was supported by and informed by a comprehensive suite of reports and West Belconnen Planning Study (AT Adams Consulting – 12 March 2015). In responding to the matters raised we make particular reference to the reports and Sections of the Planning Study that addressed each item.

Traffic and transport impacts on the environment (including existing offset areas)

Attention is drawn to Section 12 (Transport) and Section 18.2.1 (Traffic) of the TPV Planning Study, the AECOM Technical Traffic Report, and MR Cagney Integrated Sustainable Transport Plan submitted to government as part of TPV#351.

Increased traffic volumes and pressures on the existing network have been considered in detail and in consultation with government and the capacity of the network to cater for increased volumes, with the identified augmentations is accepted. Volume increases will be reported and revisited with each stage development application to ensure that appropriate mitigation measures are implemented in a progressive manner consistent with growth expectations.

The Planning Study and Umwelt Strategic Environmental Assessment also considered and discussed in detail potential impacts of the proposed future Ginninderra Drive extension. It is noted, as detailed in Section 10.2 of the TPV Planning Study, the Ginninderra Drive extension has been identified as highly desirable from a connectivity viewpoint but is not an essential pre-requisite for the development, hence remains a potential road connection and subject to more detailed assessment as the development progresses. The proposal however still considers the connection, and is subject to the future rezoning of the adjacent NSW lands. The decision to provide an extension of Ginninderra Drive extension will

be made in about 20 years and will be subject to more detailed assessment and additional studies that may be required at that time.

Attention is also drawn to Section 3.2.1 of the S211 Exemption Report which discusses impacts to offset areas, by the Ginninderra Drive extension, should it proceed, that are considered and addressed by the Umwelt Strategic Environmental Assessment (SEA). These reports will be the base document and guide to more detailed assessment with each future stage EDP.

Visual impacts

The Territory Plan Variation #351 was supported and informed by a Visual Impact Assessment Report prepared by Roberts Day and dated June 2014 and based on the development Master Plan which remains current (refer to Section 11.4 of the TPV Planning Study).

The key findings of that assessment were:

- The significant amount of land set aside for conservation and recreation purposes reduces the visual impact of the proposed development resulting in the overall visual impact of the draft Master Plan being predominantly low
- The retention of topography on the site preserves and enhances the visual amenity and reduces the visibility of sections of the draft Master Plan
- No development will be visible from the Parliamentary Triangle or the Stirling Ridge Yacht Club
- The draft Master Plan protects the views the heritage listed West Belconnen Farmhouse and therefore the visual impact from this viewing location is rated as nil
- The visual impact from most of the viewing locations at all three development phases were generally ranked as low, with some as nil
- The greatest visual impacts were found to be from the existing adjacent urban areas with the Hollows Circuit, West Macgregor revealing a 'Medium' visual impact by 2031 and at full development

Impacts related to soils and geology

The Territory Plan Variation #351 was supported and informed by Soils and Geology Assessment Reports (#3) prepared by Douglas Partners in 2014 for not only the lands subject to the Territory Plan Variation but a wider area of land proposed for development including adjacent NSW land. (refer to Section 11.1.1 of the TPV Planning Study).

In case of the site specific reports, the principal finding was that the majority of area assessed is considered suitable for residential development from a geotechnical perspective. These reports will inform and guide more detailed geotechnical assessments to be completed with each future stage EDP.

Impacts related to water quality, groundwater and water features

As part of the Territory Plan Variation #351, a risk assessment was prepared that included consideration of the potential impacts on the Murrumbidgee River. The identified mitigation to the assessment was the application of Water Sensitive Urban Design (WSUD) principles within the development. (refer to the TPV Preliminary Risk Assessment).

AECOM, in association with E2Designlab and University of Canberra were commissioned to prepare a Water Sensitive Urban Design (WSUD) Strategy for the development, which was completed in September 2014 and was included in the supporting documentation for the Variation #351 and the

EPBC referral to the Commonwealth.(refer to Section 14.4 of the TPV Planning Study).The strategy outlines how WSUD principles can be integrated into future communities to achieve overarching sustainable development objectives. The sustainability vision adopted for the development is characterised as “creating a sustainable community of international significance in the nation’s capital”

The development vision and identified principles, as detailed in the AECOM WSUD Strategy have been embedded into the adopted Master Plan for the proposed development. The project has also achieved status as a “pilot project” for the Green Building Council of Australia’s Green Star Communities Rating Tool, which has been adopted to guide and evaluate the delivery of sustainable design measures at the site.

The master plan of a water sensitive community at West Belconnen has been founded on the following principles:

- Working toward a ‘Water Neutral Community’ - Minimising potable water demand and wastewater discharges into the adjacent Murrumbidgee River , and mimicking predevelopment hydrology of the site to protect the ephemeral creek lines
- Understanding that ‘The City is your Catchment’ – Explore harvesting and using the stormwater as an alternative water source (e.g. as a ‘third pipe’ for irrigation and non-potable domestic uses), how deploying sensible onsite rainwater capture and use on blocks can reduce potable water demands, and whether the capture and reuse can prevent loads of contaminants entering waterways
- ‘Make the Landscape Work’ - Using functional landscapes for stormwater treatment and maintaining soil and vegetation health and contribute to more liveable urban environments
- ‘Produce the Food you Consume’ – Explore opportunities to use stormwater and/or wastewater to support urban planting and food production, noting that local food production is a component of a sustainable community and one of the beneficial uses of harvested stormwater
- ‘Make the Cities Work for Waterways’ – Develop a new model for urbanism, reduce and manage pollution to waterways and repair riparian corridors. Creating new communities does not need to come at the cost of our environment

It should also be noted that the adopted WSUD principles within the Master Plan are an integral part of the Commonwealths EPBC conditions of approval and approved Program. In accord with the Commonwealth Approval, a Conservation Corridor Reserve Management Plan is being prepared to achieve at minimum the outcomes as outlined in the approved Program. A Draft copy of the Conservation Corridor Reserve Management Plan is provided at [Appendix A](#) for information.

These reports will be the base document and guide to more detailed assessment with each future stage EDP.

Impacts related to noise, light spill and vibrations

The Territory Plan Variation #351 was supported and informed by various Noise Impact Assessments completed by SLR Consulting.

As detailed in the TPV Planning Study, it has been identified that a small number of existing activities on the site, which will continue after urban development has occurred, have the potential to impact on the development. (refer to Section 11.1.7 of the TPV Planning Study) Strategies are in place to revisit the details and potential impacts of each of these existing activities as development progresses, and detailed assessments will be completed as necessary for each staged development proposal.

In regards to light pollution the development has achieved Green Star Communities Initial Certification for its response to Light Pollution and made a commitment under the Green Star Communities program to ensure that 95% of all external public lighting luminaries within the project site boundary have an upward light output ratio less than 5%.

It is acknowledged that there are requirements under the National Capital Plan in regards to light pollution or vibration for development within a 5km radius of the Mount Stromlo Observatory. The Ginninderry development is 8.6km from the Mount Stromlo Observatory at its closest point.

Outside of the usual issues related to construction, there are no identified ongoing impacts from vibration by the proposed development. Assessment of adjoining existing uses will continue during phased development stages and applications. Each development stage Estate Development Plan (EDP) is required to complete a detailed Construction Environmental Management Plan (CEMP) and obtain endorsement from EPA prior to the commencement of any construction.

These reports will be the base document and guide to more detailed assessment with each future stage EDP.

Socio-economic and human health impacts

The Territory Plan Variation #351 was supported and informed by a number of documents that reflected a considerable body of work already completed at that point of rezoning and establishment of the West Belconnen Precinct Code. These reports included:

Urbis Retail Assessment

This report identified the expected socio economic mix as similar to Gungahlin (greenfield expansion area). It identified a staged delivery of commercial GFA with consideration to the ongoing operation and viability of the existing Kippax Centre.

Urbis Employment and Economic Resilience - Green Star Report

This report considered current employment matters such as local worker profile, local resident profile, work location of local residents, residential location of local workers and existing employment locations. It also considered employment opportunities afforded by the development.

TRC Indigenous Tourism Potential

This report considered tourism opportunities offered by the development, including employment

Roberts Day Master Plan

The visioning and guiding document for the development, the Roberts Day Master Plan establishes the design principles for development a community that focuses around an active, healthy design philosophy. Using robust urban design principles to promote walking and cycling creating healthier and connected communities. The design of West Belconnen has been informed by the Heart Foundation's 'Creating Healthy Neighbourhoods' Guidelines.

The development strives to maximising health, safety and comfort of the built environment to provide enduring quality of life. The Master Plan aims to establish a place led design approach focussing on walkable neighbourhoods, pleasant micro climate, CPTED principles and Green Building Council 6 Star criteria.

SGS Economics – Community Needs Assessment

Leading on from those informing documents, a Community Needs Assessment has recently been completed by SGS Economics (September 2017). A copy of this development Community Needs Assessment is provided for information.

All of these reports combine to form the base documents and guides to designing of the development as it progresses stage by stage and the principles identified and established by these documents are applied into each future stage EDP.

Climate change

The development has achieved Green Star Communities Initial Certification for Adaption and Resilience and made a commitment to finalise a Climate Adaption Plan and a Community Resilience Plan for West Belconnen prior to the first residents moving in to Stage 1 of the development. Draft plans have been prepared and submitted to the Green Building Council of Australia to achieve the initial accreditation.

Section 4.8.3.1 of the Umwelt Report (Strategic Assessment) (March 2017) also addresses climate change and states that the approach proposed is to focus on the conservation of larger (and hence more viable) habit areas by enhancing the existing reserve network with resulting improvements to connectivity, edge to core ratios and structural functionality. This approach will encourage the development of robust ecosystems with greater resilience to climate extremes and the uncertainties of climate change.

These plans will be the base documents and guide to more detailed assessment with each future stage EDP.

Risks and hazards, including bushfire impacts

The Territory Plan Variation #351 was supported and informed by a comprehensive Preliminary Risk Assessment Table (AT Adams Consulting - West Belconnen Preliminary Risk Analysis) and a suite of documents including a Ginninderra Creek Flood Study (Jacobs), Phase 1 Environmental Site Assessment (GHD) and a Bushfire Management Strategy Report (Ecological Australia).

Section 11.1.3 of the TPV Planning Study considered risks of flooding associated with adjacent Murrumbidgee River and Ginninderra Creek. The development as proposed by the adopted Master Plan has implemented responses to the risks identified by the earlier Jacobs works and more detailed investigations, as necessary, will be conducted as part of any development applications that have the potential to be impacted by flooding.

Section 11.1.4 of the TPV Planning Study considered risks regarding site contamination and the initial results of the Phase 1 assessment completed. Isolated sites, typical of the previous land uses were identified and a program of continual more detailed investigation and remediation as necessary is being implemented for the development as progress continues. Each development application will be accompanied by a detailed investigation and assessment of onsite contamination matters, which will subject to the usual review and endorsement by the EPA.

Section 11.1.2 of the TPV Planning Study has considered the findings and suggested strategies of the Ecological strategic management document, which has been used to inform the development of the adopted Master Plan and provides ongoing guidance and a number of strategies to be implemented that represent national best practice bushfire risk reduction. Detailed bushfire assessments are to be conducted for each staged development application.

It is noted that the comments by ACT Emergency Services Agency to the S211 application is that the proposal is supported.

Each development stage EDP is required to complete a detailed Construction Environmental Management Plan (CEMP) and obtain endorsement from the EPA prior to the commencement of any construction.

Waste and materials, including disposal and management of construction waste

The Territory Plan Variation #351 was supported and informed by a series of Strategic Waste Management Reports prepared by GHD (refer to Section 14.5 of the TPV Planning Study). Early assessments identified that with a development the size of this proposal, re-use or disposal of waste generated warrant careful consideration.

GHD were commissioned and completed a number of assessments of existing surrounding uses and also prepared ongoing Waste Management Strategies. These documents were all included in the TPV background reporting and propose responses to the issue of waste management to be implemented as part of the development.

The two key documents included in the TPV documentation are the proposal for a Strategic Construction Waste Reduction Plan (SCWRP) which will apply only during the progressive construction phases and a separate Waste Management and Resource Recovery Master Plan (WMRRMP) which will apply to the whole site during its on-going occupation.

These reports will be the base document and guide to more detailed assessment with each future development application.

3.2 Consideration of Additional Potential Impacts on the Environment

The following matters were raised by referral entities and additional consideration of the potential impacts on the environment of these matters is provided below.

Aboriginal Heritage

The application for a Section 211 exemption from preparation of an Environmental Impact Assessment has been prepared in acknowledgement of the extensive environmental, cultural and investigative studies and reports already completed for the site, and this S211 is not an application for approval of detailed works or development.

Any development proposed, as defined by the ACT Planning and development Act, and not exempted under the ACT Planning and Development Regulation, is subject to the usual independent development assessment and approval process.

When development progresses to a stage where the future sewer tunnel, or the potential Ginninderra Drive extension is required to service development, detailed servicing plans and updated environmental studies (as appropriate) will be prepared and submitted with any proposal for staged development EDP. Likewise, when development progresses to a stage where any tourist and recreation facilities, or bushfire management infrastructure are proposed within the WBCC, a detailed proposal and updated environmental studies (as appropriate) will be prepared and submitted with any proposal for staged development EDP.

Any development that has the potential to impact on currently known or future known environmental or cultural matters will be subject to the normal development approval process with all usual statutory requirements to adhere to. Any proposal will be informed by updated studies and investigations (as appropriate). All requested detailed assessments and any other reports, studies and investigations as deemed necessary by the proponent and government agencies will be prepared and submitted with the detailed development applications for assessment via the usual approval processes.

The Waters Consultancy (2017) report is the outcome of the Aboriginal cultural values assessment undertaken by Waters Consultancy. The focus of this assessment has been on identifying intangible cultural values through consultation with identified knowledge holders and associated historical research. Eight places of cultural value were identified, of which five are located within the Project Area and of these only Place 2: Corroboree Ground is located within the ACT.

As per the *Waters Consultancy (2017)* site specific recommendations, a Cultural Values Management Plan will be produced and its recommendations on site protection will be implemented prior to any construction activity occurring within 100m of the boundary of Place 2: Corroboree Ground. A Cultural Values Management Plan will also be produced and its recommendations on site protection will be implemented prior to any construction activity occurring within the West Belconnen Conservation Corridor.

As designs for each of the development stages of Ginninderry are lodged with the EPSDD a Statement of Heritage Effects (SHE) will be prepared in accordance with Part 8, 9 and 10 of the *Heritage Act*. The detailed heritage assessments will include specific actions to undertake for each item identified as well as protocols for unexpected finds. No Indigenous items within the WBCC are proposed to be impacted.

Jaramlee and West Macgregor Offset areas

The Territory Plan Variation #351 was supported and informed by a comprehensive Preliminary Risk Assessment Table (AT Adams Consulting - West Belconnen Preliminary Risk Analysis) which considered and addressed potential impacts on the existing offset areas. Attention is also drawn to Section 16.2.3 of the TPV Planning Study which discussed the issue in greater detail.

Subsequent to this, the West Belconnen Strategic Environmental Assessment (SEA) dated March 2017 clearly identified and considered potential impacts on matters such as the critically endangered GSM, and the listed ecological community Natural Temperate Grassland (NTG) by the possible future Ginninderra Drive extension. This included exploration of a number of Ginninderra Drive extension options to ensure that any potential future impacts were minimised (refer to Section 2.7.3 of the Umwelt SEA).

Attention is also drawn to Section 3.2.1 of the S211 Exemption Report which discusses the impacts to offset areas, by the Ginninderra Drive extension that are considered and addressed by the Umwelt Strategic Environmental Assessment (SEA). This included minimising the impact to 1.8ha and offsetting this by protecting and enhancing 11.9ha of existing habitat and compensating for the loss of strategic value of collocated areas by protecting and enhancing a further 19.4 ha of habitat (Wallaroo)

This report will be the base document and guide to more detailed assessment with each future stage EDP.

Green waste clearance zone

The disparity between the contents of the S211 report and Appendix O are acknowledged and clarified that the proposal before government is to relocate the composting activities whilst leaving the green waste shredding and sales activities at the current location for the short term.

Long term it is planned that all of the current activities at the existing Green Waste Facility will cease operation. The proposal to cease and relocate all operations will be dealt with at a later date and will be subject to further assessment and endorsement to the satisfaction of the EPA.

It is confirmed that the proposal currently before government is for relocation of the composting activities only from the existing Green Waste Facility to an identified alternative location. The current Technical Amendment addresses the current proposal only and any future changes in activities will be dealt with on a case by case matter at that time.

Sewer Tunnel

The application for a Section 211 exemption has been prepared in acknowledgement of the extensive environmental, cultural and investigative studies and reports already completed for the site and is not an application for approval of detailed works or development.

Any *development* proposed, as defined by the *ACT Planning and Development Act*, and not exempted under the *ACT Planning and Development Regulations*, is subject to the usual independent development assessment and approval process. The future sewer tunnel was identified as part of the original services master planning work that informed the rezoning of the land via Variation 351, which proposed two sections of deep sewer tunnelling to mitigate against potential impacts on environmentally sensitive lands.

It is noted that this future infrastructure is not part of the early Stages of development and it is not anticipated to be required for approximately 10 years. The final alignment of this northern section of sewer tunnel is yet to be determined and will be formed by more detailed design and mitigation measures as deemed necessary. The proposed tunnel will be in sections up to 20m in depth. The tunnelling will not impact on the surface / sub-surface environs. The location of manhole shafts will be coordinated to avoid environmental and heritage constraints.

When development progresses to a stage where the future sewer tunnel is required to service development a detailed servicing plan and updated environmental studies (as appropriate) will be prepared and submitted with any proposal for staged development EDP.

Murrumbidgee River

As part of the Territory Plan Variation #351, a risk assessment was prepared that included consideration of the potential impacts on the Murrumbidgee River. The identified mitigation to the assessment was the application of Water Sensitive Urban Design (WSUD) principles within the development.

AECOM, in association with E2Designlab and University of Canberra were commissioned to prepare a Water Sensitive Urban Design (WSUD) Strategy for the development, which was completed in September 2014 and was included in the supporting documentation for the Variation #351 and the EPBC referral to the Commonwealth.(refer to Section 14.4 of the TPV Planning Study). The strategy outlines how WSUD principles can be integrated into future communities to achieve overarching sustainable development objectives.

In accord with the Commonwealths EPBC conditions of approval, and in particular Section 5 of the Program, a Conservation Corridor Reserve Management Plan is being prepared to achieve at minimum the outcomes as outlined in the approved Program. A Draft copy of the Conservation Corridor Reserve Management Plan is provided at [Appendix A](#) for information.

Implementation of the Conservation Corridor Reserve Management Plan will be implemented in stages to coincide with the urban development. It will be operational prior to the first residents moving in so that strategies may form part of the community from the outset, and protect values from early visitor access. (4.3.1, Umwelt Strategic Assessment March 2017)

Control of the conservation corridor will be transferred to the proposed environmental management trust (EMT) in stages as the project development proceeds. The corridor transfer staging areas will be defined by catchment boundaries. Transfers will be timed to precede any construction on adjacent development zones occurring that would affect the catchment or catchments contained within each transfer stage area. (3.6.1, Urban Development at WB Program Rpt, April 2017)

The Commonwealth EPBC approval, for all areas in the ACT, other than the identified Stage 1 development, requires a Construction Environmental Management Plan (CEMP) to mitigate impacts that may occur throughout the construction phase of the Program to be prepared, and endorsed by the ACT Minister for the Environment.

Existing Businesses and Infrastructure

As part of the Territory Plan Variation #351, clearance zones are applied via the West Belconnen Precinct Code that protect each of the following adjoining activities

- There is a 2.45km clearance zone from the Lower Molonglo Water Quality Control Centre (LMWQCC) in which no new uses are permitted other than development which is compatible with and does not have adverse impact to the treatment plant. The Precinct Code prohibits any new residential, community or other sensitive uses with the LMWQCC clearance zone.
- There is a 750m Egg Farm clearance zone from Parkwood Eggs that prohibits any new residential, community or other sensitive uses with the clearance zone.
- There is an 800m Pond and Wetland clearance zone from Parkwood Eggs the prohibits any new ponds, wetland and the like, within 800m of the buildings housing poultry without the endorsement of the EPA

- There is a 500m clearance zone from the Belconnen Landfill Site that prohibits any new residential, community or other sensitive uses within the clearance zone.
- There is a 1000m clearance zone from the existing Green Waste facility at Belconnen that prohibits any new residential, community or other sensitive uses within the clearance zone.

Territory Plan Variation #351, was supported and informed by an Actew Water Vent Stack Odour Impact Investigation Report which concluded that only minor impacts could occur for residents and that more detailed technical studies should be carried out as development progressed.

This process is being followed with the Stage 2 EDP agency circulation proposal for instance being supported by a more recent assessment that looks specifically at mitigation measures required for the Stage 2 development. As with all detailed development approvals, a whole of government agency endorsement is required to obtain an approval.

Each development stage EDP is required to complete a detailed Construction Environmental Management Plan (CEMP) and obtain endorsement prior to the commencement of any construction.

3.3 Consideration of Referral Entity Comments

The matters raised by referral entities are addressed in the table found at [Appendix C](#).

3.4 Consideration of Public Representations

The public consultation period on the EIS exemption application commenced on 30 March 2018 and ended on 1 May 2018. The matters raised in the public submissions are addressed in the table found at [Appendix D](#).

3.5 Consideration of Schedule 4.3 Item 2

It has been identified that Schedule 4.3 Item 2 of the Planning and Development Act 2007 is a relevant EIS trigger that requires consideration. This is in addition to the EIS triggers listed in Table 1 of the Ginninderry Planning Report for Section 211 Exemption (February 2018).

The following table identifies the additional trigger for an EIS under the *Planning and Development Act* and where they have been addressed in accompanying studies.

Table 1: Additional EIS Trigger

Planning and Development Act 2007 Schedule 4 Development proposals in impact track because of need for EIS		"Other studies"	
		Umwelt report reference	Other report reference
Part 4.3 Development proposals requiring EIS—areas and processes			
Item 2	Proposal involving- (a) the clearing of more than 0.5ha of native vegetation in a native vegetation area, other than on land that is designated as a future urban area under the territory planT	Yellow box/red gum grassy woodland	4.4.1
		Natural Temperate Grassland	3.3.1.1, 5.4.2
	Proposal involving- (b) the clearing of more than 5.0ha of native vegetation in a native vegetation area, on land that is designated as a future urban area under the territory planT	Yellow box/red gum grassy woodland	4.4.1
		Natural Temperate Grassland	3.3.1.1, 5.4.2
			SMEC (2018) <i>Ginninderry Natural Temperate Grassland Assessment Summary</i>
			SMEC (2018) <i>Ginninderry Natural Temperate Grassland Assessment Summary</i>

In the urban development area (including offsite works) – 7.18 ha of native vegetation is recognised:

- 3.1 ha of Natural Temperate Grassland has been recognised by SMEC (2018) *Ginninderry Natural Temperate Grassland Assessment Summary Appendix E* – areas of natural temperate grassland that are associated with pink tailed worm lizard habitat will be assessed under the Defined Process Strategy as defined in the Umwelt report and under the EPBC Approval. Refer to mitigation measures for natural temperate grassland contained in the table found at [Appendix I](#).
- 3.8 ha of poor quality box gum woodland within the Drake Brockman Drive component (offset in the conservation corridor), and 0.28 hectares of forest and woodland (not box gum woodland) associated with sewer infrastructure installation, as recognised by Umwelt (2017) *West Belconnen Project Strategic Assessment, Strategic Assessment Report*. Refer to mitigation measures for natural temperate grassland contained in the table found at [Appendix I](#).

3.6 Consideration of Extent of Potential Impacts on ACT land

The 'Project Area' identified in the Strategic Assessment Report (Umwelt, 2017) of 1,583.3 ha includes both ACT and NSW land. This S211 application applies only to the ACT land and has an assessment footprint of 961.09 ha. The following table provides the area and number of ha for required matters on ACT land that are potentially impacted by the project.

Table 2: Areas for S211 application on ACT land

Area/Habitat (ACT land)	Quality	Development Area	Within WBCC	Total
Project Area (ACT)	---	---	---	961.09 ha
West Belconnen Conservation Corridor (WBCC)	---	---	---	360 ha
Riparian Area (Jarramlee Reserve)	---	---	---	11 ha
Box Gum Woodland Habitat	Moderate	---	67.8 ha*	67.8 ha*
Box Gum Woodland Habitat	Low	3.8 ha	---	3.8 ha
Golden Sun Moth Habitat	---	1.8 ha	---	1.8 ha
Natural Temperate Grassland	---	3.1 ha	111.3 ha	114.4 ha
Pink-Tail Worm Lizard Habitat	High	9.5 ha	125.6 ha	135.1 ha
Pink-Tail Worm Lizard Habitat	Low	3.5 ha	4.7 ha	8.2 ha

The habitat areas protected within the West Belconnen Conservation Corridor (WBCC) are as follows:

- Box Gum Woodland Habitat: 67.8 ha* of moderate quality habitat.
(*Some minor boundary adjustments to the Conservation Corridor, which will occur when the Estate Development Plans for the adjoining land areas are lodged and approved, will bring the relatively minor residual woodland areas into the Conservation Corridor)
- Natural Temperate Grassland: 111.3 ha of habitat.
- Pink-Tail Worm Lizard Habitat: 130.3 ha within the Conservation Corridor consisting of 125.6 ha of high quality habitat and 4.7 ha of low quality habitat

The area of land declared as 'public land nature reserve' by Draft Variation to the Territory Plan No.351 is the West Belconnen Conservation Corridor (360 ha) and the riparian zone portion of Block 1621 Belconnen District (11 ha). The s211 project area (ACT) (961.09 ha) includes the West Belconnen Conservation Corridor and the Ginninderra Drive extension. The Ginninderra Drive extension passes through the southern edge of the Jarramlee offset area, (Refer to Figure 6: of Ginninderry Planning Report for Section 211 Exemption (Feb 2018)).

4. PRELIMINARY RISK ASSESSMENT

4.1 Risk Assessment Methodology

Under section 211 of the P&D Act, a s211 exemption application requires a risk assessment to determine whether the proposed development will have a significant environmental impact prior to any mitigation measures being put in place.

The following tables (Table 3, Table 4 & Table 5) identify how a risk assessment would be carried out to determine levels of risks involved within a project. The risk assessment for Ginninderry has been carried out in accordance with *Proponents Guide to Environmental Impact Statement Exemptions; ACT Government 2017*.

The risk assessment for Ginninderry in section 5.2, identifies what risks would be present if no mitigation measures were proposed. The risk assessment also provides the level of risk once various mitigation measures are in place. Table 7 is set up to allow for a comparison to be made between the two.

Table 3: Evaluating Consequence

(source: *Proponents Guide to Environmental Impact Statement Exemptions, ACT Government 2017*)

CONSEQUENCE	MINIMAL	MINOR	MODERATE	MAJOR	CATASTROPHIC
MAGNITUDE					
SPATIAL	A single pool	A reach or river or part of a catchment	Multiple reaches or entire catchment	Multiple catchments	Whole of basin
INTENSITY	Low level behavioural, lifespan or condition effect	Acute impacts on some species	Moderate impacts on growth, recruitment or survival rates	Lethal impacts on some species	Lethal for individuals or communities
TEMPORAL					
DURATION	Single incident or transient event	Short term impact, single generation	Medium term	Long term, multiple generations	Permanent
TIMING	Occurs outside breeding times	Occasional interruption of feeding or breeding	Interrupts one life cycle	Regularly interrupts life cycle	Permanent interruption of life cycle
ECOLOGICAL					
VALUES	Previously disturbed areas	Parkland	Nature conservation area	Conservation area, listed species or other conservation feature of ACT significance	Wilderness, nationally threatened species or other conservation feature of national significance.
SENSITIVITY	Will recover completely	Will recover with some changes	Moderate change to ecosystem functioning	Significant change to ecosystem functioning	Will not recover
SOCIAL					
NUMBER OF PEOPLE	Some people indirectly impacted	Some people directly impacted or several indirectly	Several people directly impacted or many indirectly	Large number of people directly impacted	Loss of life
HERITAGE	Impact on item of minimal significance	Impact on multiple items of low significance	Impact on significant item	Impact on multiple significant items	Major impact on protected item
POLITICAL	Single negative press article	Multiple negative press articles	Significant public interest	Leads to an inquiry	Change of government

CONSEQUENCE	MINIMAL	MINOR	MODERATE	MAJOR	CATASTROPHIC
ECONOMIC	Minimal losses	Several thousand dollars lost revenue or remediation costs	Half million dollars in lost revenue or remediation costs	One million dollars in lost revenue or remediation costs	Several million dollars in lost revenue or remediation costs

Table 4: Risk Assessment Matrix (likelihood and consequence)

(source: Proponents Guide to Environmental Impact Statement Exemptions, ACT Government 2017)

Consequence	Minimal	Minor	Moderate	Major	Catastrophic
Likelihood					
Remote	Negligible	Negligible	Very Low	Low	Medium
Unlikely	Negligible	Very Low	Low	Medium	High
Possible	Very Low	Low	Medium	High	Very High
Likely	Low	Medium	High	Very High	Significant
Almost Certain	Medium	High	Very High	Significant	Significant

Table 5: Evaluating Likelihood

(source: Proponents Guide to Environmental Impact Statement Exemptions, ACT Government 2017)

LIKELIHOOD	DESCRIPTION	PROBABILITY	COMMUNITY ATTITUDE
REMOTE	May occur in an exceptional circumstances	<1%	Few people interested
UNLIKELY	Not expected to occur in most circumstances	1-20%	Some people affected
POSSIBLE	May occur	21-49%	Many people affected
LIKELY	Probably will occur	50-85%	Most people affected
ALMOST CERTAIN	Expected to occur	>85%	Almost everyone affected

The risk assessment for Ginninderry has been carried out using the above tables as a guide.

4.2 Risk Assessment

The following risk assessment has been carried out on those additional potential risks raised by the referral entities being: Aboriginal Heritage, Jaramlee and West Macgregor offset areas, Ginninderra Sewer Tunnel, existing businesses and infrastructure, and clearing of native vegetation.

Table 6 following, provides a key of risk rating which is based upon the 'consequence' and 'likelihood' factors listed in Table 4.

Table 6: Risk rating

Code	N	VL	L	M	H	VH	S
Meaning	Negligible	Very Low	Low	Medium	High	Very High	Significant

Table 7: Risk Assessment								
Specific risk area at West Belconnen	Potential risk/impacts	Likelihood	Consequence	Risk rating	Proposed action/mitigation measures	Likelihood of risk occurring	Consequence	Risk rating
1. Potential Impacts on Aboriginal Heritage								
Aboriginal heritage	Disturbance to existing heritage sites	Possible	Major	H	<p>None of the sites identified within the Waters consultancy report will be impact upon, and recommendations identified in the report will be carried out as development occurs. This includes that a Cultural Values Management Plan be produced and its recommendations on site protection be implemented prior to any construction activity occurring within 100m of the boundary of a Place of cultural value.</p> <p>In the Bosis report it identifies the types of activities that will impact the ground surface and sub-soils including excavation of infrastructure such as drainage, sewerage, communication and roads; and foundations trenches for residual structures. Lesser impact activities include the establishment of public open space and establishment of vegetation.</p> <p>As each of the stages occur, a SHE will be carried out to determine whether there will be any potential impacts from proposed development. As there are no designs for future stages yet, this cannot yet be determined.</p>	Unlikely	Moderate	L
	Discovery of unexpected finds	Possible	Major	H	<p>An unexpected discovery of isolated finds is outlined in the Bosis report which identifies the following is to occur:</p> <ol style="list-style-type: none"> 1. Work must immediately stop in the area within a buffer zone of 20 metres from the primary grid coordinate. 2. ACT Heritage (132281) must be informed of the suspected find within 5 working days. 3. A suitably qualified heritage advisor and the RAOs for the ACT need to be engaged to assess the potential site. 4. If the items are not considered to be Aboriginal, activity may recommence. 	Unlikely	Moderate	L

Table 7: Risk Assessment								
Specific risk area at West Belconnen	Potential risk/impacts	Likelihood	Consequence	Risk rating	Proposed action/mitigation measures	Likelihood of risk occurring	Consequence	Risk rating
					5. If the items are considered to be Aboriginal, the Proponent, archaeologist and RAOs will discuss the possibility of avoiding and minimising harm to the Aboriginal cultural heritage, and the Proponent must avoid or minimise harm to the Aboriginal cultural heritage, where possible 6. If the items are considered to be Aboriginal, an assessment report or letter of advice, will need to be prepared and submitted to the Heritage Council. After approval from the Heritage Council, the artefacts should be recorded and salvaged. 7. Following completion of the recording and salvage, the activity may then recommence.			

Table 7: Risk Assessment								
Specific risk area at West Belconnen	Potential risk/impacts	Likelihood	Consequence	Risk rating	Proposed action/mitigation measures	Likelihood of risk occurring	Consequence	Risk rating
2. Potential Impacts within the Jaramlee and West Macgregor offset areas								
Golden Sun Moth	<ul style="list-style-type: none"> Direct impacts include loss of habitat for the species from the proposed Ginninderra Drive extension (1.8ha in total) Overshadowing of habitat from the proposed bridge structure. Fragmentation of habitat from the construction of the Ginninderra Drive bridge Changes to hydrology Weed invasion and changes to species composition Pollution Mortality 	Possible	Major	H	<ul style="list-style-type: none"> Consideration of direct impacts to golden sun moth habitat throughout the design phase of the Ginninderra Drive extension. Mitigation measures which will further protect avoided areas of golden sun moth habitat include: <ul style="list-style-type: none"> Detailed design features of the road and bridge including: <ul style="list-style-type: none"> Measures to reduce water runoff Measures to allow adequate solar access to the verges to ensure native grass growth Post construction design such as landscaping with native grass species in order to restore golden sun moth habitat to sections that are 'at grade' Bridge placed at highest practicable height over densest area of golden sun moth to improve willingness of moths to pass underneath it. Bridge design will also allow for a clear view of suitable habitat on the other side, and has limited obstacles (i.e. piles spaced at 50m intervals) to entice moths to cross. Removal of all trees within the areas of the Macgregor offset that currently do not support golden sun moth. The planting of trees in this area has reduced viability of the habitat although the ground layer vegetation in this area retains the necessary native grasses that would otherwise be suitable for golden sun moth. By restoring this area to grassland, the Program seeks to improve the potential for movement across the road. This would occur prior to construction commencing. CEMP's implemented during the construction phase of the Ginninderra Drive extension, which include the following measures that are specific to golden sun moth: <ul style="list-style-type: none"> Erosion and sediment control Fencing to ensure avoidance of retained areas 	Unlikely	Moderate	L

Table 7: Risk Assessment								
Specific risk area at West Belconnen	Potential risk/impacts	Likelihood	Consequence	Risk rating	Proposed action/mitigation measures	Likelihood of risk occurring	Consequence	Risk rating
					<ul style="list-style-type: none"> of habitat o Flow controls; and o Weed management actions such as vehicle hygiene standards to ensure the control of the spread of weeds. 			
3. Potential Impacts by construction of sewer tunnel								
	<ul style="list-style-type: none"> Direct impacts include potential loss of golden sun moth habitat and disturbance of existing heritage sites from the proposed Sewer Tunnel 	Possible	Major	H	Mitigation measures include: <ul style="list-style-type: none"> The final alignment of this northern section of sewer tunnel is to be determined and informed by more detailed design and mitigation measures as deemed necessary. The proposed tunnel will be in sections up to 20m in depth. The tunnelling will not impact on the surface / sub-surface environs. The location of manhole shafts will be coordinated to avoid environmental and heritage sensitive areas. When development progresses to a stage where the future sewer tunnel is required to service development a detailed servicing plans and updated environmental studies (as appropriate) will be prepared and submitted with any proposal for staged development EDP. 	Unlikely	Moderate	L
4. Potential Impacts of the proposed development on the Murrumbidgee River								
	The WBCC will be managed as an IUCN Category IV reserve. The primary objective of a reserve managed in accordance with this standard is 'to maintain, conserve and restore species and habitats' (IUCN 201593). The IUCN description of the characteristics of such a reserve note that they are: <ul style="list-style-type: none"> not strictly protected from human use aim conservation efforts towards particular species or 	Possible	Major	H	Management strategies and principles that will be included in the WBCC RMP include: <ul style="list-style-type: none"> Identification of management zones so that impacts to MNES and their habitats are avoided as far as possible. This includes locating of visitor hubs and access routes in locations where impacts such as habitat fragmentation, isolation, and removal can be avoided. 	Unlikely	Moderate	L

Table 7: Risk Assessment

Specific risk area at West Belconnen	Potential risk/impacts	Likelihood	Consequence	Risk rating	Proposed action/mitigation measures	Likelihood of risk occurring	Consequence	Risk rating
	<p>habitats in a targeted manner</p> <ul style="list-style-type: none"> generally associated with landscapes where human pressure is comparatively greater; and rely on regular management intervention. <p>Given the intent of an IUCN Category IV reserve is on focussed conservation outcomes whilst not precluding human use, implementation of the WBCC RMP will be used to ensure that wherever practicable, that the avoidance of MNES will be maintained throughout the life of the Program (established as part of the EPBC approval)</p> <p>Where avoidance is not entirely possible such as for walking trail construction or access roads, measures to minimise and mitigate impacts will be implemented such that no net loss of habitat occurs within WBCC. These indirect impacts will be managed through the WBCC RMP</p>				<ul style="list-style-type: none"> Ensure that there is no net reduction in total MNES habitat areas. This includes ensuring picnic and other facilities will avoid known habitat areas. Ensure increased use of the WBCC does not impact upon threatened fish species. This includes implementing: <ul style="list-style-type: none"> Controls on recreational fishing such as bag limits, prohibitions on taking certain species, and licensing requirements in line with those that already exist within the ACT and NSW. Controls to public access and use of the riparian areas post construction. Recognise the importance of enhancing connectivity between MNES habitat areas. In particular, where complete avoidance of habitat for pink-tailed worm-lizard is not possible, roads and tracks will be targeted to poorer quality areas and incorporate raised grating (or similar) to enhance connectivity between habitat patches that they otherwise bisect. The design of such roads and tracks will provide for sufficient height and width considerations to permit adequate vegetation growth beneath the grating to establish suitable conditions so as to enhance connectivity. This will also be incorporated into roads and tracks to be upgraded which presently traverse pink tailed worm-lizard habitat resulting in improved connectivity of habitat beyond the current situation. Informed infrastructure design based on advice from relevant scientific experts, particularly with regard to protecting and avoiding impacts to MNES and their habitat areas as part of an adaptive approach to the management of ecological values. Utilisation of existing infrastructure and resources, including the knowledge and experience of existing conservation and land managers. In particular, roads and tracks will follow existing alignments where practicable. Vehicle track widths will be a maximum of six 			

Table 7: Risk Assessment								
Specific risk area at West Belconnen	Potential risk/impacts	Likelihood	Consequence	Risk rating	Proposed action/mitigation measures	Likelihood of risk occurring	Consequence	Risk rating
					metres, other tracks and trails a maximum of 2.5 metres with further design considerations that can further reduce widths of roads, for example, passing bays. Unused existing tracks will be rehabilitated to enhance connectivity between habitat areas where they fragment existing habitat paths. <ul style="list-style-type: none"> • Mechanisms that allows for integrated consideration of all values as facilitated through holistic management of the WBCC and associated offsets through the EMT with a clear priority for MNES where appropriate. • Consultation and collaboration with community, government, and expert stakeholders. • Compliance with legislative requirements • An adaptive management process based on monitoring regime that will address cumulative impacts and changing knowledge frameworks in future planning and management actions. • Prohibition of 'off-leash' dog areas within the WBCC. 			
5. Potential Impacts on existing businesses and infrastructure								
	Disturbance to existing businesses and infrastructure due to the introduction of residential development.	Possible	Major	H	As part of the Territory Plan Variation #351, clearance zones are applied via the West Belconnen Precinct Code that protect each of the following adjoining activities <ul style="list-style-type: none"> • There is a 2.45km clearance zone from the Lower Molonglo Water Quality Control Centre (LMWQCC) in which no new uses are permitted other than development which is compatible with and does not have adverse impact to the treatment plant. The Precinct Code prohibits any new residential, community or other sensitive uses with the LMWQCC clearance zone. • There is a 750m Egg Farm clearance zone from Parkwood Eggs that prohibits any new residential, community or other sensitive uses with the 	Unlikely	Minimal	N

Table 7: Risk Assessment								
Specific risk area at West Belconnen	Potential risk/impacts	Likelihood	Consequence	Risk rating	Proposed action/mitigation measures	Likelihood of risk occurring	Consequence	Risk rating
					clearance zone. <ul style="list-style-type: none"> • There is an 800m Pond and Wetland clearance zone from Parkwood Eggs the prohibits any new ponds, wetland and the I ke, within 800m of the buildings housing poultry without the endorsement of the EPA • There is a 500m clearance zone from the Belconnen Landfill Site that prohibits any new residential, community or other sensitive uses with the clearance zone. • There is a 1000m clearance zone from the existing Green Waste facility at Belconnen that prohibits any new residential, community or other sensitive uses with the clearance zone. The size of the clearance zone may only be adjusted subject to an appropriate independent audit process and approval of the Environment Protection Authority and where applicable Icon Water.			
6. ITEM 2 (a) – CLEARING OF MORE THAN 0.5 HA OF NATIVE VEGETATION - (OTHER THAN A FUTURE URBAN AREA)								
Native vegetation	<p>The road upgrade works to Drake Brockman Drive will impact approximately 3.8 hectares of native vegetation (in the form of box gum woodland) that occurs along the existing road reserve and within adjacent private properties (Drake Brockman Drive upgrade area).</p> <p>Indirect impacts that may affect retained native vegetation box gum woodland within the Project Area include edge effects, weed invasion, and changes in hydrological conditions that could affect species composition.</p> <p>Cumulative impacts to retained box gum woodland may arise from increased public access to the WBCC and the introduction of associated services and infrastructure. These may lead to damage to the understorey and regrowth success, invasive species introduction, and</p>	Likely	Moderate	H	Mitigation measures specific to native vegetation protection will include: <ul style="list-style-type: none"> • WSUD principles: <ul style="list-style-type: none"> ○ Stormwater flow retardation based on geotechnical, surface water, and groundwater assessments to reduce impacts to hydrological systems. • CEMPs that: <ul style="list-style-type: none"> ○ Define clearing procedures and boundaries, including the retention of selected significant trees, clearing outside of threatened bird breeding seasons, and fauna rescue procedures. ○ Implement weed management during construction. ○ Enforce sediment and erosion controls to prevent site run-off during construction. 	Likely	Minimal	N

Table 7: Risk Assessment								
Specific risk area at West Belconnen	Potential risk/impacts	Likelihood	Consequence	Risk rating	Proposed action/mitigation measures	Likelihood of risk occurring	Consequence	Risk rating
	eutrophication and other pollution. The provision of visitor infrastructure may also facilitate further impacts in the foreseeable future as it promotes the use of the WBCC for recreational purposes and makes it more accessible to the public; however, these are generally included in the range of activities proposed within the river corridor.				<ul style="list-style-type: none"> WBCC RMP (applicable to the WBCC patches only): <ul style="list-style-type: none"> ongoing habitat improvement; ongoing quality monitoring; and avoidance of box gum woodland patches. 			
7. ITEM 2 (b) – CLEARING OF MORE THAN 5.0 HA OF NATIVE VEGETATION – (IS A FUTURE URBAN AREA)								
Native vegetation	<p>3.1 ha of Natural Temperate Grassland has been recognised by SMEC (2018) Ginninderry Natural Temperate Grassland Assessment Summary Appendix E – areas of natural temperate grassland that are associated with pink tailed worm lizard habitat will be assessed under the Defined Process Strategy as defined in the Umwelt report and under the EPBC Approval.</p> <p>0.28 hectares of forest and woodland (not box gum woodland) associated with sewer infrastructure installation, as recognised by Umwelt (2017) <i>West Belconnen Project Strategic Assessment, Strategic Assessment Report</i>.</p> <p>Potential Impacts</p> <ul style="list-style-type: none"> Future infrastructure provision and maintenance activities Edge effects such as weed invasion, Changes to hydrological conditions, Pollution, Sedimentation and erosion. 	Likely	Moderate	H	<p>Areas of likely natural temperate grassland that are associated with pink-tailed worm-lizard habitat will be assessed under the Defined Process Strategy as there is insufficient information regarding the extent and quality of the community in these areas at present.</p> <p>Mitigation measures associated with sewer infrastructure installation include:</p> <ul style="list-style-type: none"> The final alignment of this northern section of sewer tunnel is to be determined and informed by more detailed design and mitigation measures as deemed necessary. The proposed tunnel will be in sections up to 20m in depth. The tunnelling will not impact on the surface / sub-surface environs. The location of manhole shafts will be coordinated to avoid environmental and heritage sensitive areas. When development progresses to a stage where the future sewer tunnel is required to service development a detailed servicing plans and updated environmental studies (as appropriate) will be prepared and submitted with any proposal for staged development EDP. 	Remote	Very low	M

A combined risk assessment is provided at [Appendix J](#).

5. CONCLUSION

The Ginninderry project is expected to carry on for a period of 40-50 years. Long term management strategies proposed in Ginninderry will minimise impacts to protected flora and fauna through the implementation of measures as per the program endorsed under the EPBC Act (Cwlth), pt 10 (Strategic assessments). This will ensure there will be no long term detriment to protected species present within the project area.

This supplementary planning report is to be read in conjunction with the application for exemption and the Program Report and the Strategic Assessment Report which, are based on numerous ecological studies undertaken for the project, and formed the basis of the submission under the EPBC Act (Cwlth), pt 10 (Strategic assessments).

This supplementary planning report has addressed the matters by government entities and public representations and on this basis completes the submission that seeks exemption from an EIS under section 211 of the *Planning and Development Act* because the expected environmental (fauna and flora) impacts of the development proposal have already been sufficiently addressed by way of the recent EPBC application and approval process, being:

- an endorsed policy, plan or program under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth), pt 10 (Strategic assessments)

In addition to the above detailed EPBC approval, this submission seeks exemption on the basis that the additional raised concerns of site contamination, air quality and odour issues that have been addressed by studies and supporting documents accompanying the S211 application.

It is recommended that the Minister grant an EIS exemption for the proposal as sought by this submission.

Appendix A – Conservation Corridor Reserve Management Plan (Draft) Nov 2016

Appendix B – SGS Economics Community Needs Assessment, September 2017

Appendix C – Table Response to Agency Comments (KFPT), June 2018

Appendix D – Table Response to Public Consultation (KFTP), June 2018

***Appendix E – Ginninderry Natural Temperate Grassland Assessment Summary (SMEC),
April 2018***

***Appendix F – Ginninderry Conservation Zone Vegetation Unit Descriptions (Sharp S), Feb 2017
[Ginninderry NTG Assessment Summary (Appendix A)]***

***Appendix G – Assessment of mapped pink tailed worm lizard habitat within Ginninderry for potential to meet criteria for classification as natural temperate grassland (SMEC), Jan 2017
[Ginninderry NTG Assessment Summary (Appendix B)]***

*Appendix H – West Belconnen Vegetation Survey Summary, 2017 update (SMEC and RJPL),
April 2017*

[Ginninderry NTG Assessment Summary (Appendix C)]

Appendix I – Summary of Potential Impacts and Mitigation Measures

Appendix J – Combined Risk Assessment

From: Geoff & Susan Davidson
To: [EPD, Customer Services](#)
Subject: Riverview EIS exemption must be refused
Date: Monday, 2 April 2018 8:11:05 AM

Please refuse the application by Reiverview for the EIS exemption. It's a planning requirement and if as they say there is little impact, why don't they submit the EIS?

Geoff Davidson

Braddon

From: apri98@gmail.com
To: [EPD, Customer Services](#)
Subject: Ginninderry Stage 2 - Application for EIS Exemption under Section 211 - No. 201800010
Date: Monday, 23 April 2018 7:55:29 AM

Ginninderry is unique in the ACT. It encompasses not only environmentally sensitive river corridors but a dissected plateau where many vulnerable and endangered fauna and flora species have survived due to the area's relative isolation. In view of this, the comprehensive reports already commissioned by Riverview still have to be reviewed to ensure full transparency of the ACT planning process. Examples of specific issues to be addressed by a full Environmental Impact Statement (EIS) report include:

Riverview acknowledges the endangered and vulnerable species that will be impacted by their development activities. Even so, an EIS is needed to evaluate the claims for environmental offsets and, if offsets are considered necessary, then the proposed offsets have to be shown to be adequate.

Furthermore, little research has been done for larger species and their ranges are more difficult to confirm. Two examples are the Little Eagle and the Rosenberg's Monitor. Others such as the Scarlet Robin are sensitive to the proximity of urban areas but the research is not yet clear.

The tip has been used for decades and is a 'hot spot'. Methane gas is being produced and monitored and every so often the tip smoulders and, on occasions, fire trucks are required to control fire flare-ups. There are many other disposal sites in the tip area, such as for cardboard, paper and oil, which will need to be remediated and monitored for safe habitation. The tip will need to be continuously monitored for OH&S concerns forever, even after it is closed and remediated. This area requires an EIS to be satisfied that no hazard is presented to increasing activities around it.

Building rubble, contaminated by loose-fill asbestos and wrapped in plastic (150,000 tons) from 1024 ACT homes, is being "layered" (not buried) in clay gullies at a separate site within the tip. This will produce a "Mr Fluffy" mound which is proposed to be "capped" and grassed for sporting activities. Other such "Mr Fluffy" capped and grassed areas in Melbourne and Sydney have not been successful. Over time, carcinogenic asbestos fibres have found their way to the surface.

Summary

The senior partner of the joint venture is the ACT Government and it is clear that this is an ACT Government residential development project. As such, especially for a complex development like Ginninderry, an independent EIS is critical.

Yours sincerely,

Robert Hunter
Postcode: 2614

From: penelopej58@gmail.com
To: [EPD, Customer Services](#)
Subject: Ginninderry Stage 2 - Application for EIS Exemption under Section 211 - No. 201800010
Date: Sunday, 22 April 2018 11:00:42 PM

Ginninderry is unique in the ACT. It encompasses not only environmentally sensitive river corridors but a dissected plateau where many vulnerable and endangered fauna and flora species have survived due to the area's relative isolation. In view of this, the comprehensive reports already commissioned by Riverview still have to be reviewed to ensure full transparency of the ACT planning process. Examples of specific issues to be addressed by a full Environmental Impact Statement (EIS) report include:

Riverview acknowledges the endangered and vulnerable species that will be impacted by their development activities. Even so, an EIS is needed to evaluate the claims for environmental offsets and, if offsets are considered necessary, then the proposed offsets have to be shown to be adequate.

Furthermore, little research has been done for larger species and their ranges are more difficult to confirm. Two examples are the Little Eagle and the Rosenberg's Monitor. Others such as the Scarlet Robin are sensitive to the proximity of urban areas but the research is not yet clear.

The tip has been used for decades and is a 'hot spot'. Methane gas is being produced and monitored and every so often the tip smoulders and, on occasions, fire trucks are required to control fire flare-ups. There are many other disposal sites in the tip area, such as for cardboard, paper and oil, which will need to be remediated and monitored for safe habitation. The tip will need to be continuously monitored for OH&S concerns forever, even after it is closed and remediated. This area requires an EIS to be satisfied that no hazard is presented to increasing activities around it.

Building rubble, contaminated by loose-fill asbestos and wrapped in plastic (150,000 tons) from 1024 ACT homes, is being "layered" (not buried) in clay gullies at a separate site within the tip. This will produce a "Mr Fluffy" mound which is proposed to be "capped" and grassed for sporting activities. Other such "Mr Fluffy" capped and grassed areas in Melbourne and Sydney have not been successful. Over time, carcinogenic asbestos fibres have found their way to the surface.

Summary

The senior partner of the joint venture is the ACT Government and it is clear that this is an ACT Government residential development project. As such, especially for a complex development like Ginninderry, an independent EIS is critical.

Yours sincerely,

Penelope McGregor
Postcode: 2582

From: snowgums@skymesh.com.au
To: [EPD, Customer Services](#)
Subject: Ginninderry Stage 2 - Application for EIS Exemption under Section 211 - No. 201800010
Date: Sunday, 22 April 2018 5:34:43 PM

Ginninderry is unique in the ACT. It encompasses not only environmentally sensitive river corridors where many vulnerable and endangered fauna and flora species have survived due to the area's relative isolation. In view of this, the comprehensive reports already commissioned by Riverview still have to be reviewed to ensure full transparency of the ACT planning process.

Riverview acknowledges the endangered and vulnerable species that will be impacted by their development activities however an EIS is needed to evaluate the claims for environmental offsets and, if offsets are considered necessary, then the proposed offsets have to be shown to be adequate.

Furthermore, the Little Eagle and the Rosenberg's Monitor and others such as the Scarlet Robin are sensitive to the proximity of urban areas but the research is not yet clear.

The process must be thorough and every study possible undertaken before irrevocable damage is done.

Yours faithfully,
Jan Peelgrane
Postcode: 2618

From: krspds@gmail.com
To: [EPD, Customer Services](#)
Subject: Ginninderry Stage 2 - Application for EIS Exemption under Section 211 - No. 201800010
Date: Sunday, 22 April 2018 4:44:46 PM

Ginninderry is unique in the ACT. It encompasses not only environmentally sensitive river corridors but a dissected plateau where many vulnerable and endangered fauna and flora species have survived due to the area's relative isolation. In view of this, the comprehensive reports already commissioned by Riverview still have to be reviewed to ensure full transparency of the ACT planning process. Examples of specific issues to be addressed by a full Environmental Impact Statement (EIS) report include:

Riverview acknowledges the endangered and vulnerable species that will be impacted by their development activities. Even so, an EIS is needed to evaluate the claims for environmental offsets and, if offsets are considered necessary, then the proposed offsets have to be shown to be adequate.

Furthermore, little research has been done for larger species and their ranges are more difficult to confirm. Two examples are the Little Eagle and the Rosenberg's Monitor. Others such as the Scarlet Robin are sensitive to the proximity of urban areas but the research is not yet clear.

The tip has been used for decades and is a 'hot spot'. Methane gas is being produced and monitored and every so often the tip smoulders and, on occasions, fire trucks are required to control fire flare-ups. There are many other disposal sites in the tip area, such as for cardboard, paper and oil, which will need to be remediated and monitored for safe habitation. The tip will need to be continuously monitored for OH&S concerns forever, even after it is closed and remediated. This area requires an EIS to be satisfied that no hazard is presented to increasing activities around it.

Building rubble, contaminated by loose-fill asbestos and wrapped in plastic (150,000 tons) from 1024 ACT homes, is being "layered" (not buried) in clay gullies at a separate site within the tip. This will produce a "Mr Fluffy" mound which is proposed to be "capped" and grassed for sporting activities. Other such "Mr Fluffy" capped and grassed areas in Melbourne and Sydney have not been successful. Over time, carcinogenic asbestos fibres have found their way to the surface.

Summary

The senior partner of the joint venture is the ACT Government and it is clear that this is an ACT Government residential development project. As such, especially for a complex development like Ginninderry, an independent EIS is critical.

Yours sincerely,

KS
Postcode: 2615

From: raging6@gmail.com
To: [EPD, Customer Services](#)
Subject: Ginninderry Stage 2 - Application for EIS Exemption under Section 211 - No. 201800010
Date: Sunday, 22 April 2018 11:59:54 AM

Ginninderry is unique in the ACT. It encompasses not only environmentally sensitive river corridors but a dissected plateau where many vulnerable and endangered fauna and flora species have survived due to the area's relative isolation. In view of this, the comprehensive reports already commissioned by Riverview still have to be reviewed to ensure full transparency of the ACT planning process. Examples of specific issues to be addressed by a full Environmental Impact Statement (EIS) report include:

Riverview acknowledges the endangered and vulnerable species that will be impacted by their development activities. Even so, an EIS is needed to evaluate the claims for environmental offsets and, if offsets are considered necessary, then the proposed offsets have to be shown to be adequate.

Furthermore, little research has been done for larger species and their ranges are more difficult to confirm. Two examples are the Little Eagle and the Rosenberg's Monitor. Others such as the Scarlet Robin are sensitive to the proximity of urban areas but the research is not yet clear.

The tip has been used for decades and is a 'hot spot'. Methane gas is being produced and monitored and every so often the tip smoulders and, on occasions, fire trucks are required to control fire flare-ups. There are many other disposal sites in the tip area, such as for cardboard, paper and oil, which will need to be remediated and monitored for safe habitation. The tip will need to be continuously monitored for OH&S concerns forever, even after it is closed and remediated. This area requires an EIS to be satisfied that no hazard is presented to increasing activities around it.

Building rubble, contaminated by loose-fill asbestos and wrapped in plastic (150,000 tons) from 1024 ACT homes, is being "layered" (not buried) in clay gullies at a separate site within the tip. This will produce a "Mr Fluffy" mound which is proposed to be "capped" and grassed for sporting activities. Other such "Mr Fluffy" capped and grassed areas in Melbourne and Sydney have not been successful. Over time, carcinogenic asbestos fibres have found their way to the surface. Please stop this action from ever taking place in our community.

Summary

The senior partner of the joint venture is the ACT Government and it is clear that this is an ACT Government residential development project. As such, especially for a complex development like Ginninderry, an independent EIS is critical.

Yours sincerely,

Pauline Small
Postcode: 2913

From: darryl@sego.id.au
To: [EPD, Customer Services](#)
Subject: Ginninderry Stage 2 - Application for EIS Exemption under Section 211 - No. 201800010
Date: Sunday, 22 April 2018 11:18:44 AM

Ginninderry is unique in the ACT. It encompasses not only environmentally sensitive river corridors but a dissected plateau where many vulnerable and endangered fauna and flora species have survived due to the area's relative isolation. In view of this, the comprehensive reports already commissioned by Riverview still have to be reviewed to ensure full transparency of the ACT planning process. Examples of specific issues to be addressed by a full Environmental Impact Statement (EIS) report include:

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Summary

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Yours sincerely,

Darryl Seto
Postcode: 2615

From: venamurray@homeemail.com.au
To: [EPD, Customer Services](#)
Subject: Ginninderry Stage 2 - Application for EIS Exemption under Section 211 - No. 201800010
Date: Sunday, 22 April 2018 10:35:48 AM

Ginninderry is unique in the ACT. It encompasses not only environmentally sensitive river corridors but a dissected plateau where many vulnerable and endangered fauna and flora species have survived due to the area's relative isolation. In view of this, the comprehensive reports already commissioned by Riverview still have to be reviewed to ensure full transparency of the ACT planning process. Examples of specific issues to be addressed by a full Environmental Impact Statement (EIS) report include:

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Summary

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Yours sincerely,

Vena Murray
Postcode: 2615

From: amrita.malhi37@gmail.com
To: [EPD, Customer Services](#)
Subject: Ginninderry Stage 2 - Application for EIS Exemption under Section 211 - No. 201800010
Date: Sunday, 22 April 2018 10:15:12 AM

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Yours sincerely,

Amrita Malhi
Postcode: 2602

From: chris.emery@optusnet.com.au
To: [EPD, Customer Services](#)
Subject: Ginninderry Stage 2 - Application for EIS Exemption under Section 211 - No. 201800010
Date: Sunday, 22 April 2018 9:58:13 AM

Ginninderry is unique in the ACT. It encompasses not only environmentally sensitive river corridors but a dissected plateau where many vulnerable and endangered fauna and flora species have survived due to the area's relative isolation. In view of this, the comprehensive reports already commissioned by Riverview still have to be reviewed to ensure full transparency of the ACT planning process. Examples of specific issues to be addressed by a full Environmental Impact Statement (EIS) report include:

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Summary

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Yours sincerely,

Chris Emery
Postcode: 2612

From: merlin_11@mac.com
To: [EPD, Customer Services](#)
Subject: Ginninderry Stage 2 - Application for EIS Exemption under Section 211 - No. 201800010
Date: Sunday, 22 April 2018 9:42:26 AM

Ginninderry is unique in the ACT. It encompasses not only environmentally sensitive river corridors but a dissected plateau where many vulnerable and endangered fauna and flora species have survived due to the area's relative isolation. In view of this, the comprehensive reports already commissioned by Riverview still have to be reviewed to ensure full transparency of the ACT planning process. Examples of specific issues to be addressed by a full Environmental Impact Statement (EIS) report include:

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Summary

The senior partner of the joint venture is the ACT Government and it is clear that this is an ACT Government residential development project. As such, especially for a complex development like Ginninderry, an independent EIS is critical.

Yours sincerely,

Merlin (Terry) Baker
Postcode: 2611

From: evabugledich@hotmail.com
To: [EPD, Customer Services](#)
Subject: Ginninderry Stage 2 - Application for EIS Exemption under Section 211 - No. 201800010
Date: Sunday, 22 April 2018 8:16:18 AM

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Summary

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Yours sincerely,

E Bugledich
Postcode: 2615

From: rhaslum@gmail.com
To: [EPD, Customer Services](#)
Subject: Ginninderry Stage 2 - Application for EIS Exemption under Section 211 - No. 201800010
Date: Sunday, 22 April 2018 6:48:42 AM

Ginninderry is unique in the ACT. It encompasses not only environmentally sensitive river corridors but a dissected plateau where many vulnerable and endangered fauna and flora species have survived due to the area's relative isolation. In view of this, the comprehensive reports already commissioned by Riverview still have to be reviewed to ensure full transparency of the ACT planning process. Examples of specific issues to be addressed by a full Environmental Impact Statement (EIS) report include:

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Yours sincerely,

Ruth Haslum
Postcode: 2581

From: mcchalk1@bigpond.com
To: [EPD, Customer Services](#)
Subject: Ginninderry Stage 2 - Application for EIS Exemption under Section 211 - No. 201800010
Date: Monday, 23 April 2018 10:23:10 AM

Ginninderry is unique in the ACT. It encompasses not only environmentally sensitive river corridors but a dissected plateau where many vulnerable and endangered fauna and flora species have survived due to the area's relative isolation. In view of this, the comprehensive reports already commissioned by Riverview still have to be reviewed to ensure full transparency of the ACT planning process. Examples of specific issues to be addressed by a full Environmental Impact Statement (EIS) report include:

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Summary

The senior partner of the joint venture is the ACT Government and it is clear that this is an ACT Government residential development project. As such, especially for a complex development like Ginninderry, an independent EIS is critical. After all, why have an EIS process if it is negated whenever convenient.

Yours sincerely,

Martin Chalk
Postcode: 2904

From: galla001@umn.edu
To: [EPD, Customer Services](#)
Subject: Ginninderry Stage 2 - Application for EIS Exemption under Section 211 - No. 201800010
Date: Tuesday, 24 April 2018 11:40:41 AM

No exemptions for developers when it comes to environmental threats!

Ginninderry is unique in the ACT. It encompasses not only environmentally sensitive river corridors but a dissected plateau where many vulnerable and endangered fauna and flora species have survived due to the area's relative isolation. In view of this, the comprehensive reports already commissioned by Riverview still have to be reviewed to ensure full transparency of the ACT planning process. Examples of specific issues to be addressed by a full Environmental Impact Statement (EIS) report include:

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Summary

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Yours sincerely,
Esther Gallant
Esther M Gallant
Postcode: 2614

From: thompson@webone.com.au
To: [EPD, Customer Services](#)
Subject: Ginninderry Stage 2 - Application for EIS Exemption under Section 211 - No. 201800010
Date: Tuesday, 24 April 2018 2:26:02 PM

I cannot believe that such a huge and ongoing development is claiming an exemption from having to undertake an Environmental Impact Statement.

It is bad enough that the development proposals have been allowed to 'creep into the remnant bushlands and river corridor and that the reality of offsets is always something considerably less than that which is lost to the public. The declining habitat for native species is hardly considered.

I live in Weston Creek and have had the experience of builder's rubble and dumps going back to the 1970s that were not picked up until after the 2003 fires and the extension of suburbia (although the consultants could have asked any local who had lived here since the 1970s and they would have told you about it). Ginninderry is fortunate to know where these dumps are, and has the full responsibility for remediation before housing is build on or near them.

Can the Chief Planner please ensure all due and appropriate processes and protections are undertaken, especially the EIS.

Dianne Thompson



Postcode: 2611

Customer Services

Environment and Planning Directorate

To whom it may concern:

REPRESENTATION: by P.R. Temple & advisors

The ACTPLA and Riverview JV has applied for an EIS (environmental impact statement) exemption (201800010) on Stage 2 of its development, under s211 of the Planning and Development Act.

We thank you for the opportunity to comment on the above exemption application.

Our brief comments follow:

Ginninderry - EIS Exemption Application - 201800010

By ACTPLA and Riverview

OVERVIEW

I wonder how many of our 25 MLAs and ACTPLA assessor staff have (or have not) personally visited THEIR Government's residential development to witness first-hand the 'Jewel in the Crown' in our ACT Landscape - a quick trip to Shepherd's Lookout is awe inspiring. We urge everyone go to have a 'look-see' before it is too late!

This rural, undeveloped, pristine, isolated land is unique in the ACT as it encompasses not only environmentally sensitive river corridors but a dissected plateau area. Both areas are blessed with many endangered fauna and flora species. The proposed development is "land locked" with one ingress/egress. This does not auger well safety wise for housing development, as this is a very high fire and ember risk area lying adjacent to a tinder dry sclerophyll forest (Sharples Report) The area is rich in cultural diversity – both indigenous and early settler – although the aboriginal site locations are not publically available - the Joint Venture has only released a redacted report without site maps! (Waters (redacted) Report).

There are four areas of man-made environmental concern slap-bang in the middle of the proposed cross-border towns. In their own right, each of these in the interest of public OH&S and potential environmental risks, is worthy of and MUST have separate Environmental Impact Statements EISs.

Background

The Ginninderry (proposed cross-border!) residential development in West Belconnen is a Joint Venture between the ACT Government and Corkhill Brothers. The rural/pasture land was purchased by Corkhill Brothers for approximately \$850,000 from the ACT Government in 2004 and resold by Corkhill Brothers to the

ACT Government in 2013 - for a large (500% - \$4.5 million) profit. We are unsure whether the 2004 sale to Corkhill Brothers was a solicited or unsolicited bid/deal?

Man-made Environmental and OH&S concerns - in ACT

There are four areas of man-made environmental concerns slap-bang in the middle of the proposed cross-border towns – all adjacent to Stages 2 to 10 of Ginninderry (the subject of ACTPLAs exemption application, 201800010) within the ACT. Each of these man-made “eyesores” merits an “Impact” track and EIS in its own right. OH&S is increasingly important especially as human habitation is proposed so close to each of these four sensitive, environmental and potentially harmful sites.

Belconnen Waste Disposal Site (Tip): The tip is currently still being used for disposal of household rubbish, paper cardboard, plastics, used oil, old tyres and green waste etc.). This tip has been used for decades and is a “hot spot”. Methane gas (and undoubtedly other foul inorganic and organic gases) is being produced and monitored. Every so often the tip smoulders and on occasions fire trucks are required to control fire flare-ups. The tip will need to be continuously monitored for OH&S concerns for ever, even after it is closed and remediated. Nobody knows exactly what has been disposed of at the Tip? Housing should not be allowed to proceed until an EIS is satisfied.

The other disposable sites in the Tip area will need to be remediated and continuously monitored for safe habitation.

“Mr Fluffy” Building Rubble Disposal Site: “Mr Fluffy” building rubble (150,000 tons) from >1000 ACT homes is being “layered” (not buried) in clay gullies at a separate site within the Tip. This will produce a “Mr Fluffy” mound/s which is proposed to be “capped” and grassed for public activities. Other such “Mr Fluffy” capped and grassed areas in Melbourne and Sydney have not been successful – over time carcinogenic asbestos fibres have found their way to the surface.

Parkwood Eggs: The Parkwood Eggs site (partly owned by the ACT Government!) is located in very close proximity to the proposed new residential development. The major concerns with Poultry Farms are the aroma (residents in West Belconnen complain about the smell), vermin, insects (especially mosquitoes) foxes and feral animals (wild cats and wild dogs). For these reasons, State Authorities have very strict regulations concerning the distance of residential development from Poultry Farms can be built, viz:

Minimum Distance: NSW – 3.5 to 4 km (which excludes all of the proposed NSW residential development!)

Minimum Distance: SA – 1.5km

Apparently the ACT does not have any regulations? According to the JV ACT has adopted the SA minimum safe distance for habitation of 1.5km.

Despite this and most strangely the proposed Stage 2 residential development has homes encroaching to within 750m of the Poultry Farm.

Overhead Very High Tension Power Lines and Substations

A number of very high tension power lines exist and are proposed across and adjacent to the residential development. It is well known that living in the immediate vicinity of power lines is detrimental to health. Hundreds of studies worldwide have shown that living next to high voltage power lines and other parts of a power transmission network increases the risk of cancer and other health problems. The closer you are the more you are bombarded with dangerous Electromagnetic Fields (EMFs). It is unclear whether the JV has commissioned EIS and OH&S studies on living under and near Overhead Very High Tension Power Lines and Substations?

Joint Venture

The initial Joint Venture partnership for residential development was established between ACTPLA and Corkhill Brothers. The senior partner is ACTPLA (60%) and Corkhill Brothers/Riverview (40%). The JV agreement is unclear as to whether the operator's, Riverview staff are funded by the ACT Government or are contractors employed by the ACT Government! However it is clear that **this is an ACT Government residential development project.**

Rural to Urban Rezoning

In September 2016, ACTPLA Minister Gentleman approved the rural to urban rezoning of Ginninderry without going through "Due Process". He used his "Call In" powers without referring or requesting the MLA Standing Committee to examine the proposal – even though it was pointed out that there was a perceived conflict of interest (a bit like having parents on a jury judging their son/daughter).

Perceived Conflict of Interest.....

Apparently Planning Minister Gentleman will decide whether **HIS OWN** Government's Residential Development Project will have to complete a full EIS based on **HIS OWN** Government sanctioned, environmental reports (Joint Venture chosen consultants) or, most unlikely, not! When the JV did not like the recommendations of some environmental reports – they commissioned 'second opinion' reports, with recommendations which suited its cause.

Surely it is imprudent and will not be seen as "Good Practice" allowing the ACT Government (Planning Minister Gentleman) to not only to decide on **HIS OWN** ACT Government proposal but even comment on it. An independent/apolitical environmental-expert, professional body (such as EDO) should be given the important and sensitive task.

Recommendation

If our Government is selling land for housing it has a 'Duty of Care and Disclosure' of all EIS and OH&S risks to purchasers. Publically released EISs on all must be made available on all subjects for public consultation and comment.

A model, ACT Government setting an example.....

Surely our ACT Government should be setting an example to all Developers by insisting that all new ACT developments, on once pristine, beautiful rural areas, like its own Ginninderry development, MUST act responsibly concerning natural and man-made, environmental impacts and concerns. Residential Development is an irreversible process and every step MUST be taken to protect our environment and the OH&S of new residents. EISs must be made mandatory for all developments.

A precedent will be set.....

If the Planning Minister approves the exemption of EIS for **HIS OWN** Residential Development it will have no choice but to do the same for all similar developments in the ACT including CSIRO's Ginninderra (chemically contaminated land) and the proposed development and the Molonglo Valley. What an example this could be by our Government and what a disaster this could be!

One would have thought/hoped that our Government would want to take every precaution for its citizens by minimizing the risks and concerns, by pulling out all stops for its OWN Residential Development, by viewing it in the Impact Track and producing an EIS for public consultation and scrutiny. Surely our Government owes this to potential residents!

Summary

This is an isolated area in the ACT with many environmental concerns re fauna and flora, aboriginal heritage and the massive impacts of a fire and ember front (we remember Saturday, 18th January 2003).

The proposed residential development is somewhat unique as man-made environmental impacts must be concerns to prospective purchasers. They need to be reassured by the ACT Government that these man-made sites, currently and in the future, are pristine and there are no potential OH&S concerns (in writing!).

The JV should furnish separate EIS reports on all environmental matters affecting endangered species, aboriginal sites and its own ACT-generated environmental disasters (West Belconnen Waste Disposal, "Mr Fluffy" layered disposal hills, the Parkwood Poultry Farm and Overhead High Voltage Power Lines).

The latest fire and ember threat report (Sharples Report) has not been discussed in detail by the JV. The 18th January 2003 catastrophic fire was contained on the Ginninderry boundary (near sewerage works). This threat is so important that it will impinge on whether fire insurance is available and if it is what the surcharge will be?

Homes should be built to fire risk standards (as other ACT Government 'Bush' Ranger Properties).

There is real, perceived conflict of interest. The ACT Government (AG) should not allow its OWN Government Minister to make a decision of judgement on its OWN development, especially on such sensitive and potentially harmful environmental matters where the OH&S of people is a major concern.

EISs required

NATURAL

Fire and Ember Risk (Sharples Report) – A Major concern

Aboriginal sites (Waters Report) – sites not made public – will they be covered by houses?

Endangered fauna and flora (native grasslands, little eagle, scarlet robin, golden sun moth, legless lizard, Rosenbergs Monitor just to name a few!)

MAN MADE

Parkwood Poultry Farm

West Belconnen Waste Disposal (Tip)

West Belconnen "layered" Mr Fluffy building rubble dump (at Tip)

High voltage overhead Power Lines across proposed development and close proximity to proposed new power grid site

Close proximity to proposed solar farms

It is rumoured that the carcinogenic bagged asbestos dust (and contaminated waters from the high power vacuum trucks) which was being buried at the Majura Tip is now being buried close to the Ginninderry residential development. I hope this is not true?

Although Riverview commissioned many environmental reports (with its own agenda – to suit its own outcomes) I don't believe it has produced separate "Impact" EISs on any of the above natural and man-made environmental concerns.

The Conservation Council's Board latest news update reported the following after their deliberations on the Ginninderry EIS avoidance situation. It is concerned!

*"The Ginninderry Development has applied for an EIS (environmental impact statement) exemption on Stage 2 of its development, under s211 of the Planning and Development Act. The Board noted that there had already been about five years of consultation with the Conservation Council **and others** on environmental matters and that the developers had come to the Conservation Council early in the planning stage to identify areas where environmental work was required. While the developers had already provided more that would be provided in most environmental impact statements **there***

were concerns that an exemption might be seen as a precedent. *The Board recognised and appreciated the developer's work and consultation, while still accepting that **an EIS is an important stage in developments.***

We look forward to your comments and answers to our questions.

P. R. Temple and advisors

30 April 2018

From: merrilynfahey@yahoo.com.au
To: [EPD, Customer Services](#)
Subject: Ginninderry Stage 2 - Application for EIS Exemption under Section 211 - No. 201800010
Date: Tuesday, 1 May 2018 1:08:02 PM

Ginninderry is unique in the ACT. It encompasses not only environmentally sensitive river corridors but a dissected plateau where many vulnerable and endangered fauna and flora species have survived due to the area's relative isolation. In view of this, the comprehensive reports already commissioned by Riverview still have to be reviewed to ensure full transparency of the ACT planning process. Examples of specific issues to be addressed by a full Environmental Impact Statement (EIS) report include:

Riverview acknowledges the endangered and vulnerable species that will be impacted by their development activities. Even so, an EIS is needed to evaluate the claims for environmental offsets and, if offsets are considered necessary, then the proposed offsets have to be shown to be adequate.

Furthermore, little research has been done for larger species and their ranges are more difficult to confirm. Two examples are the Little Eagle and the Rosenberg's Monitor. Others such as the Scarlet Robin are sensitive to the proximity of urban areas but the research is not yet clear.

The tip has been used for decades and is a 'hot spot'. Methane gas is being produced and monitored and every so often the tip smoulders and, on occasions, fire trucks are required to control fire flare-ups. There are many other disposal sites in the tip area, such as for cardboard, paper and oil, which will need to be remediated and monitored for safe habitation. The tip will need to be continuously monitored for OH&S concerns forever, even after it is closed and remediated. This area requires an EIS to be satisfied that no hazard is presented to increasing activities around it.

Building rubble, contaminated by loose-fill asbestos and wrapped in plastic (150,000 tons) from 1024 ACT homes, is being "layered" (not buried) in clay gullies at a separate site within the tip. This will produce a "Mr Fluffy" mound which is proposed to be "capped" and grassed for sporting activities. Other such "Mr Fluffy" capped and grassed areas in Melbourne and Sydney have not been successful. Over time, carcinogenic asbestos fibres have found their way to the surface.

Summary

The senior partner of the joint venture is the ACT Government and it is clear that this is an ACT Government residential development project. As such, especially for a complex development like Ginninderry, an independent EIS is critical.

Yours sincerely,

m fahey
Postcode: 2612

From: Larry O'Loughlin
To: [EPD, Customer Services](#)
Cc: [Rod Griffiths](#); [Ponton, Ben](#)
Subject: Ginninderry Stage 2 - application for an EIS exemption under section 211B
Date: Tuesday, 1 May 2018 4:50:22 PM

The Conservation Council ACT Region Board has approved the following position with respect to the Ginninderry Stage 2 - application for an EIS exemption under section 211B:

- 1) the Conservation Council does not oppose the EIS exemption application for the Ginninderry Stage 2 development recognising the significant environmental studies and consultation performed by the developer and that a statutory Strategic Assessment has been undertaken.
- 2) Nonetheless the Conservation Council would specifically oppose an s211 exemption for the Molonglo stage 3 development given that the development has not yet fulfilled requirements of the Molonglo NES plan to specify a buffer for the Kama Nature Reserve, among other matters, which were approval requirements arising from the Molonglo Strategic Assessment
- 3) the Conservation Council calls on the Ginninderry developers to consult on a process for engaging with the community on any new information on environmental impacts of the development, particularly in regard to base-line monitoring and annual outcomes of the Adaptive Management Strategy.

This is our short form response. A longer statement of reasons is in preparation.

Larry O'Loughlin
Executive Director, Conservation Council ACT Region

14/26 Barry Drive, Canberra ACT 2601 (GPO Box 544 Canberra ACT 2601)

T: (02) 6229 3202 M: 0419 266 110 E: director@conservationcouncil.org.au

W: conservationcouncil.org.au Fb:

www.facebook.com/conservationcouncilact Tw: <https://twitter.com/ConservationACT>

We are a voice for the environment in the ACT region. As a non-profit, non-government organisation we rely on donations to continue our work. Provide your support [here](#). Thank you!

World Environment Day dinner Saturday 2 June National Arboretum Canberra [BOOK NOW](#)

From: Rosemary Blemings
To: [EPD, Customer Services](#)
Subject: Ginninderry EIS Exemption Application
Date: Tuesday, 1 May 2018 4:01:00 PM

The EPSD Customer Service Centre
16 Challis Street
DICKSON ACT 2602

I wish to make this submission in response to the **Ginninderry Stage 2 Urban Development EIS Exemption Application. DA 201800010**

That the ACT Government, as the major partner in the Ginninderry development, is potentially providing EIS exemption for future stages of the development is beyond comprehension and utterly contemptuous of community expectations.

Any previous impact assessments and wildlife surveys may be valid if the status of ecosystems is static. Species, habitats, climate are each in constant states of evolution and change. EIS processes are needed to ensure appropriate responses to ecosystem conditions, habitat changes and species behaviour throughout the timespan of the Ginninderry development.

It is extremely arrogant, to assume that gases will not escape from the disused land-fill site off Parkwood Road to become toxic emissions. Chemicals will form leachates that will reach the Murrumbidgee River. Asbestos fibres will not remain contained by the processes associated with the Mr Fluffy demolition scheme. Ginninderry residents's lives will become increasingly polluted and at risk from these hazards over time. The Murrumbidgee River's water will become increasingly contaminated, with associated risks to those living downstream of the ACT and the NSW section of this development.

The ACT Government has already shown disregard for its own standards/regulations for Ginninderry Stage 1 with respect to threatened species, hollow-bearing (habitat) eucalypts.

The ACT Government continues to contemptuously demand that numerous native species surrender their habitats and life-cycles because humans demand their land.

The ACT Government has permitted re-zoning of land with scenic, cultural and agricultural significance for residential development and infrastructure in the Ginninderry area's Stages 8 & 10. EIS assessments will be critical for accountability and openness as public awareness increases as to the implications of the loss of this land's:

- magnificent views
- timeless wildness
- significance for wildlife connectivity

- importance for foraging areas and
- provision of animals' ranges

If exemption from EIS processes for Riverview's Ginninderry development is approved:

- The ACT Government will show, definitively, that the natural world around us counts for nothing
- The ACT Government's checks and balances will be seen to have no relevance for preserving biodiversity in the region and the majority of floral and faunal species in its jurisdiction
- The ACT Government will be joining other politicians/governments in ignoring the lessons of history by allowing residential expansion into the city's hinterland as other failed civilisations have done.
- The ACT Government will be ignoring the ACT communities' needs for safe and plentiful water supplies in the face of threats from global warming.
- The ACT Government will be seen to be ignoring the findings from Prof. Jason Sharples' bush fire research published in 2017* that indicates the likelihood of bush fire embers spreading ignitions into West Belconnen. Bush fires will be more likely with added human presence near the riverine corridors and flammable vegetation and the increasing impact of climate change.
- The ACT Government will be seen to be approving the waiver of controls for its own development; controls that prevent fatal impacts on other species and their habitats

There are documented benefits to human wellbeing from proximity to nature, woodlands, grasslands, water sources, open spaces, vistas and views. Unstructured play in natural settings and amongst natural materials is increasingly acknowledged as being vital to children's development and adults' health. EIS processes are essential through each stage of the development to ensure that open spaces and natural learning opportunities are not reduced by bureaucratisation and over-design.

ACT Government Land acquisition, apparently ad hoc planning, questionable land use and ill-conceived management decisions are all seen by many as destructive processes for the bush capital's uniqueness, ambience, heritage and liveability.

Removing the EIS process from the Ginninderry development's obligations will further destroy relations between individuals, communities, the representatives they elected and the parliament.

* UNSW bush fire scientist Dr Jason Sharples asserted in *Risk Implications of Dynamic Fire Propagation* that the relevant Australian Standard that applies for this development (AS 3959), is inadequate for the following reasons:

- a. AS 3959 does not adequately address the risk of fire from ember attack (Sharples, 2017 pp8, 18-19);
- b. AS 3959 does not adequately address new research about the effect of steep slopes on fire spread (Sharples, 2017 pp 9-12, 16-17, 20-24).
- c. There are currently proposed changes to AS3959 to address gaps in the standard[\[1\]](#)

Rosemary Blemings

Volunteer landcarer and amateur naturalist.

[REDACTED]

[REDACTED]

2615



Friends of Grasslands

supporting native grassy ecosystems

PO Box 440, Jamison Centre ACT 2614

phone: 02 6288 2413

email: advocacy@fog.org.au

web: <http://www.fog.org.au>

Environment, Planning and Sustainable Development Directorate Customer Service
GPO Box 158
Canberra ACT 2601
email: epdcustomerservices@act.gov.au

Dear Sir/Madam

EIS exemption 201800010: Ginninderry, Stage 2 and all subsequent stages in the ACT

Friends of Grasslands (FOG) is a community group dedicated to the conservation of natural temperate grassy ecosystems in south-eastern Australia, included related fauna species. FOG advocates, educates and advises on matters to do with the conservation of grassy ecosystems, and carries out surveys and other on-ground work. FOG is based in Canberra and also has members in surrounding New South Wales.

FOG recommends to the Minister that this approval for exemption from EIS not be granted.

FOG has engaged with matters in the Ginninderry development since they have been in the public domain. It has appreciated the privilege of a seat on the Bush on the Boundary consultation group convened through the Conservation Council (ACT) and has actively participated in considerations of that group.

FOG is well aware of the huge amount of environmental assessment, analysis, publication and consultation that has been undertaken by the Development Joint Venture. This urban development planning aspect is far ahead of any other in the region when it comes to environmental values, and the developers deserve community congratulations about the quality and convictions of intentions and objectives stated in their plans. However, the Suburban Land Agency and Riverview Developments are primarily concerned with developing and selling residential blocks, and much of the associated environmental intention still remains to be implemented.

Our understanding is that an EIS exemption can be granted if "recent studies have adequately addressed the expected environmental impacts of the proposal". FOG's view is that, to be adequate, the application needs to build on the studies by releasing, and having at least started to implement, plans for management of reserves and offset areas. Offering general statements about intention for the future of these matters is not sufficient - without details of plans, it is impossible for the Minister to determine the full environmental impacts of the Ginninderry development in the ACT or whether offsets in or out of the ACT are likely to be effective.

FOG also submits that the conditions of EPBC Approval for Ginninderry Stage1 issued by the Commonwealth Department of Environment 1-9-2017, and in force until 2067, must surely be the overriding instruction. That EPBC Approval required many actions to occur before any construction was to proceed on Ginninderry Stage 2 and beyond. From FOG's perspective of the set of conditions, the most important action required to occur is the establishment of the West Belconnen Conservation Corridor (WBCC) and particularly of its Management Plan and oversighting Trust.

Only once the WBCC has been planned, endorsed and approved with the range of authorities involved, and is actually operational, can the possible environmental impacts be known in detail. FOG argues that,

at least until the WBCC is operational, each of the 18 or so development stages envisaged in the ACT needs to be assessed via EIS.

FOG is particularly concerned about the following issues that are environmentally significant and need to be addressed with agreed and detailed plans as soon as possible:

- Bushfire management for the WBCC - this has obvious importance for the safety of the future residents of Ginninderry as well as environmental quality in the WBCC.
- Offset management for Golden Sun Moth Conservation Reserves. This must include writing, in conjunction with ACT authorities, a new operational plan to deal with dissection of Jaramlee and West Belconnen Reserves. With NSW Authorities, plans must be written for the proposed Wallaroo Road Reserve.
- The developers acknowledge that Native Grassland areas will be impacted by urban development in the ACT stages of Ginninderry, including some areas assessed to be protected Natural Temperate Grassland. Proposals to deal with these exist in scenario form only (Umwelt 2017, Strategic Assessment Report, section 4.7) for Defined Process Strategies. This a good first step, but clearly remains a MNES and so cannot be EIS exempt. Additionally, FOG's first hand experience is that even small moderate-to-high quality native grasslands can be quite resilient in an urban setting providing they are given a reasonable chance by sensitive management (e.g. mowing regimes) and urban design. In other words, offsetting should be a last resort.
- Similar comments apply to the Pink Tail Worm Lizard. In addition, for this species, the impact of road, track, and sewer building and of bushfire and weed management in the WBCC all need to be prescribed in specific plans before the full impact is known.
- Threats from loss of Hollow-Bearing Trees. The developer was very committed to mitigating this environmental threat in planning Stage 1, even though the nomination of the threat has not yet proceeded to be finally implemented in ACT legislation. For Stage 1, details were released and active community consultation undertaken. FOG hopes that this will continue stage by stage.
- The developer has consistently argued that the long life of the project meant that detailed design of management would be ongoing (e.g. Umwelt 2017, section 2.6.2 that extols virtues of adaptive management). Consequently, future developments in environmental best practice can be taken into consideration.

To summarise, FOG does not agree that EIS exemption is the way forward. There are extensive issues that require wide participation by not only government and other authorities but also by groups like FOG and individuals with ecological expertise. We cannot say that a merit-track approach to subsequent development stages will necessarily be to the detriment of the environment. However we can advocate that open and transparent planning is likely to give the best result, as onerous as that might be for the Joint Venture. Open process is also consistent with the aspirations of the developer and of government at all levels – consult and engage the community to the maximum extent.

Yours sincerely



Geoff Robertson
President

29 April 2018

Christopher L. Watson



2615

Environment, Planning & Sustainable
Directorate's Customer Service Centre
Dickson, ICT

11/5/18

Dear Sirs,

Re EIS Exemption: 201800010

I make objection to any
EIS exemption for both 'Preliminary Stage 2'
and further ongoing stages for development
in the ICT sector.

My submission, largely, involves
a number of attachments relating to the
many environmental issues involved in this
ICT/NSW cross-border housing development
proposal.

- National Park concept centred on
Murrumbidgee & Ginninderra Gorges (@ Falls)

Unfortunately there is virtually no
mention, or illustration of this vision, at
the 'link' showroom at Strathmore.

(18 Hask 1-4)

1 (of 31)

• Aboriginal Cultural Heritage

This whole area bounded by the Murrumbidgee Gorge and Ginninderra Gorge, & its upper & lower Falls, has very important significance to Aboriginal Culture over many millennia. The Report by 'Waters Consultancy' lists eight significant cultural places including pathways along both Gorges.

(Attach 5)

• Role of Assembly (ACT) Committee

Unfortunately, there has yet to be a public Inquiry of the Ginninderra Development. There have been previous Inquiries in relevant environmental matters in 2012. Moreover, in Aug 2013, there was a Ministerial Response on the tourism potential of this whole area.

(Attach 6-8)

• Environmental Role of Governments & Agencies.

The ACT Parks & Conservation Service, as a matter of urgency, must take an active role in the Ginninderra Project, especially along the Murrumbidgee Gorge corridor; in addition, this Service should be liaising with its NSW counterparts for the NSW section of both Murrumbidgee River & Gorge, as well as Ginninderra Creek & Gorge (& Falls).

(3)

Also, there are other regional bodies, such as the newly-formed Canberra Region Joint Organisation & the ACT and Region Catchment Strategy, which need to be consulted & involved. Unfortunately, the ACT Commissioner for Sustainability and the Environment has a statutory function limited to the ACT! (17/11/04)

The 'Trust', as proposed, to foster & manage conservation issues, is quite inappropriate! We have professional publicly-funded Bodies to do this work, now. They respond, immediately, as requested, by the democratic processes of the ACT Assembly, New Parliament, & Grass Valley Councillors.

Sincerely
L. L. Watson

(L. L. WATSON)

P.S. The submission of my colleague, P. R. Temple, also raises many other vital environmental issues & problems.

AMH 2

A Park for Ginninderra Falls (photo of falls)

Our Vision:

Ginninderra Falls is the little-known but outstanding natural feature of West Belconnen, which should become the centrepiece of a new park for all in the Canberra region, and visitors too, with walking tracks, viewpoints and nature interpretation. Not only is the area around the junction of Ginninderra Ck and the Murrumbidgee outstanding scenically, but it contains significant biodiversity, and is important for preserving the riverbank environment as well. There is a diverse range of habitats in the area including forest, woodland, riverbanks, grassland, an abundance of complex rocky habitat, and varied geology, which favors a rich wildlife. Important species include the threatened Pink-tailed Worm Lizard and Rosenberg's Monitor (among 21 reptile species recorded). Among the 207 plant species is the vulnerable Pale Pomaderris, the locally restricted waxflower *Crocea exalata exalata*, and a significant area of Black Cypress Pine, which is vulnerable to fire and needs protection.

The area is also culturally important, firstly to the local Ngunawal people, and later to European colonial history, having been partly a land grant to explorer Charles Sturt.

The Conflict between conservation and development:

The Riverview development, which straddles the NSW border and involves rezoning much of the area (on several private properties) from rural to residential, is already under construction close to the Murrumbidgee and Ginninderra Ck. A gateway agreement is needed for the provision of services from the ACT to residents in NSW. It is important for the people of Canberra, and adjoining New South Wales, to plan the new park before it is constrained by the development, rather than leave planning to the developer. The park can then be excluded from rezoning.

Our main objectives:

- 1: Aboriginal and European heritage should be respected and protected, and should reflect international law and human rights.
- 2: Ecological integrity and flora and fauna species should be protected.
- 3: Aesthetics and sightlines; preservation of the natural environment.
- 4: Conservation corridors should meet educational, ecological, cultural and recreational goals.
- 5: Urban development must not compromise the natural heritage values.

Supporting Organizations: (logos of groups)

Conservation Council of the ACT

Environmental Defenders Office ACT

Friends of Grasslands

Ginninderra Catchment Group

Ginninderra Falls Association

National Parks Association of the ACT

Nov 2016

12/15/17 2

Ginninderra Falls Association

Public Meeting 6th June 2017, Cook Community Hub

The Park For Ginninderra Falls: Best Care Options

Prof. Jenny Stewart, School of Business, UNSW-ADFA.

Prof. Stewart emphasized that there are human conservation values in addition to those of biodiversity conservation. There will soon be 150,000 people living in Canberra's Belconnen, Gungahlin and Molonglo districts. Namadgi National Park caters for the large open space needs of South Canberra, but the northern suburbs are a long way from it, and a suitable large reserve is needed in the north. The Ginninderra Falls region, first recognized as a reserve in 1835, and maintained for 80 years, is the ideal candidate for such a public open space.

Professor Stewart spoke of scientific illiteracy where developers cherry pick scientific facts, saying they're adhering to the requirements of science. Their reference base is part of a body of science reports that they themselves have commissioned. Human values such as the need for natural areas must also be considered.

Prof. Stewart compared the Ginninderra Falls campaign to that of Marie Byles in the 1930s which led to the declaration of Bouddi National Park on the NSW Central Coast, one of our earliest environmental campaigns. In that case, the future recreational needs of growing Sydney were emphasized, and the park reserved before housing development could pre-empt it. Society needs land that is available to the public.

Dr Brian Pratt, founder of the ACT Parks and Conservation Service.

Precedents for this are the Googong reserve near Queanbeyan, and fire management of the western slope of the Brindabella Range as far as the Goodradigbee River. In both cases, arrangements are made for ACT management of land in NSW. There is an ACT/NSW liaison committee, and ACT staff are authorized to work in NSW by their minister. He thinks it unlikely that land would be transferred from NSW to the ACT. He also thinks that a reserve run by a trust would not be practicable.

He emphasized that it is important for land to be reserved for the park as soon as possible, before development can pre-empt it, and especially before the land is rezoned to residential. Dr Pratt said that for a national park to occur, three things were needed: boundary delineations, legislation, and a management plan. The spectacular Ginninderra Falls incorporated into a national park could then be "one of the jewels in the crown of the ACT", the others being Namadgi and Tidbinbilla.

Mr Ed Wensing, National Centre for Indigenous Studies, ANU.

Mr Wensing couldn't attend, but provided a written statement. He proposes a new method of land-use planning which recognizes the system of land use planning and management used by Aboriginal and Torres Strait Islander people over thousands of years. This concept has been adopted in Queensland in its new Planning Act, which requires that all planning "recognize, protect and promote Aboriginal and Torres Strait Islander knowledge, culture and tradition". This principle is equally applicable to planning in NSW and the ACT. Such a process would be independent of land tenure status, and not dependent on a heritage register or sacred site determination.

Dr Ken Hodgkinson, Visiting Fellow, Fenner School, ANU.

After a career studying ecology of rangelands, Dr Hodgkinson concludes that man cannot improve on nature, that "nature is the best we've got".

Emphasizing the precautionary principle, he said, for example, that not enough is known about the ecology of Rosenberg's Monitor, a top predator, which is listed as Vulnerable in NSW. It depends on termite mounds, and exists in all vegetation types on Kangaroo Island (the best known study site). He added that we have to expect losses of biodiversity as a result of urban expansion close to the proposed reserve.

He said that there is a growing need for good environmental spaces, and that the wild experience is one of the best anyone can have. To this end, the park must be designed with sightlines such that a person walking along its trails does not see man-made structures.

Core, buffer and sightlines

- - world-best practice for the Ginninderra Falls Conservation Park

Doug Finlayson
Ginninderra Falls Association

July 2016

The Riverview Group development of the West Belconnen township is gathering momentum and final approvals have been given for work to start on the ACT part of the urban development. The approvals for the NSW part of the development still has to be approved by Yass Valley Council and signed off by the NSW Minister. The timetable for this process is expected to take until February 2017, not far away. The urban development ACT approval has been recently highlighted on the front page of the Canberra Times (CT) of 23 July and the CT Editorial of 25 July. The final West Belconnen population envisaged is about 30,000 people (11,500 homes), about the size of the whole Weston township in ACT.

Associated with the development is a conservation park proposal along the Murrumbidgee River and Lower Ginninderra Creek corridors. The Ginninderra Falls Association (GFA), the Ginninderra Catchment Group (GCG), the National Trust ACT (NT ACT) and the National Parks Association (NPA) have serious reservations about the design and limited extent of the current Riverview conservation park proposals.

In 2015 Graeme Worboys of the ANU Fenner School of Environment and Society, and numerous co-authors from around the world compiled guidelines for the design and management of "protected areas" such as conservation parks to coincide with a world congress meeting held in Sydney (Protected Area Governance and Management, ANU EPress, 2015).

The Ginninderra Falls Association and its supporters contend that these guidelines should be used in the design of the conservation park around the confluence of Ginninderra Creek with the Murrumbidgee River associated with the spill-over of West Belconnen urban development into neighbouring New South Wales private land. The waterfalls and cascades in this area are quite spectacular and should be incorporated into a world-class conservation park. The current urban footprint proposed for housing development clearly jeopardises the integrity of a world-class conservation park before it even gets started.

The current proposals by the Riverview Group for park boundaries are plainly ridiculous. Riverview reserves expensive blocks of land for private housing with sightlines that should be made freely available to the public and future generations of Australians. The current zig-zag boundaries create unsustainable isolated ecological pockets for native wildlife and flora. The currently allocated buffer zones are not wide enough to protect for posterity the core values of river and creek corridor ecology that will provide the "wow" factor for future visitors and tourists.

The development proposals by the Riverview Group are a rather transparent ploy to maximise the financial gain to the Riverview Group and Yass Valley Council from land that is currently designated as rural and protected as E3 within NSW legislation for environmental protection zones, i.e. - "for land where there are special ecological, scientific, cultural or aesthetic attributes". Yass Valley Council will be asked to approve rezoning of land from rural to urban in the next six months.

The Ginninderra Catchment Group have documented their ecological field work and wildlife monitoring over the last year that clearly makes the case for much wider conservation core corridors and buffer zones. Native wildlife corridors are currently plainly inadequate. Riverview should be persuaded to consider corridor boundaries at least 500 metres from the waterways. To this we should add the reservations GFA and support groups have for aboriginal heritage sites definition in the region.

Let's not waste any more time. Let's apply world class guidelines to redefine the core areas, buffer zones and sightlines for the Ginninderra Falls Conservation Park and create an outstanding tourist destination just to the north of Canberra.

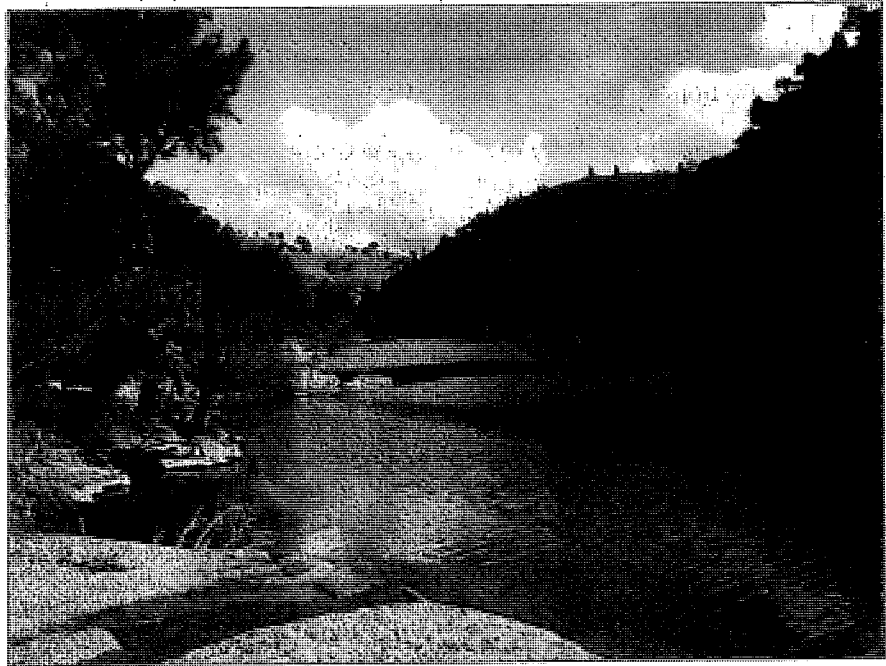
The Ginninderra Falls Association AGM, Tues 6 Sept, 4.30, Cook Community Hub (Old Primary School), 41 Templeton St, will be followed by a panel discussion at 5.30pm with candidates for the forthcoming ACT election on Ginninderra Falls issues.



*Upper Ginninderra Falls.
(Photo – Doug Finlayson)*

*Murrumbidgee River
waterhole near the
confluence with Ginninderra
Creek.*

(Photo – Doug Finlayson)



13/11/13 4

ML



**Office of
Environment
& Heritage**

Our reference: DOC13/38366
DOC13/55792
Contact: Anthony Evans
02 64505556

Dr Christopher Watson
President, Ginninderra Falls Association
79 Denny St
Latham ACT 2615

Dear Dr Watson

I refer to your correspondence on 12 September 2013 where you are seeking an update on the feasibility report into the area known as Ginninderra Falls.

The NSW National Parks and Wildlife Service (NPWS) has completed an assessment of the properties offered for sale and determined that purchase of this land for gazettal is not a current priority.

The assessment included consideration of the landscape, conservation, heritage and socio-economic value of the properties, along with the indicative establishment and ongoing management costs should they be acquired for gazettal as a national park.

While the conservation value and recreational opportunities are acknowledged, the establishment and management costs would be prohibitive. One of the key issues identified in the assessment of the properties was the cost of making the area safe for visitors. I understand the area was once a recreational facility but was closed following a number of serious accidents and subsequent litigation.

NPWS receives many requests to purchase land and these need to be prioritised according to a range of criteria including conservation value and representation across the landscape. At present, these lands are not a priority for purchase and local resources are better directed to management of existing reserves, such as the nearby Brindabella National Park.

Attached is a summary of the NPWS assessment report carried out for the area. As the full report contains sensitive and confidential information, I am not at liberty to provide you with a copy. I trust you can appreciate the need for this confidentiality for all the landowners involved.

I appreciate your interest in this proposal and should you require further information please feel free to contact the Area Manager Mr Anthony Evans on 02 6450 5556.

Yours sincerely

Ann King
Head - National Parks and Wildlife Service

12/11/13

Enclosure

Summary of property assessment conducted by National Parks and Wildlife Service at Ginninderra Falls

Introduction

The Ginninderra Falls area is located north west of the Australian Capital Territory (ACT) border in the vicinity of the Murrumbidgee River corridor and Ginninderra Creek confluence. Three parcels of land in this area totalling 274 ha's have been offered to NSW National Parks and Wildlife Service (NPWS) for potential acquisition.

The owner of another key property has offered access to their land, but has not made an offer to NPWS, to date. The creation of a national park in this area has been proposed by the Ginninderra Falls Association. The following points summarise the preliminary assessment:

About the area

The Area of Interest (AOI) is located within the Great Eastern Ranges Initiative corridor and within the Murrumbateman subregion (including 1.42% reserved lands) being part of the South Eastern Highlands Bioregion.

The mapped vegetation communities within the AOI, being Riparian Forest and Tablelands Dry Tussock Forest would contribute 5.1% and 2.6% respectively, to these communities under reservation within the Murrumbateman subregion. However, the field assessment identified a different vegetation community on site.

Although none of this community has yet been mapped in the Murrumbateman subregion (NSW) the AOI would represent a useful addition to the reserve system in NSW (although it is represented in the Murrumbidgee corridor of the ACT).

Fauna identified in the AOI

A preliminary assessment of the AOI identified a range of very likely threatened fauna such the Glossy black and Gang-gang cockatoo, Spotted-tailed quoll and Sooty and Masked owl. Other possible threatened fauna include Booroolong frog, Eastern pygmy possum and Rosenberg's goanna. An external survey has also identified the Pink-Tailed Worm Lizard, which is listed as vulnerable under TSC Act 1995 and the EPBC Act 1999. This habitat is considered to be of national importance.

Aboriginal sites in the AOI

The AOI traverses two Local Aboriginal Lands Councils, being the Brungle/Tumut and Onerwal. A previous survey has identified nine Aboriginal sites and two sites just south of this area.

Recreational use in AOI

Locals have used the Ginninderra Falls area recreationally since the 1920's and more formally since the early eighties. Some of the activities included picnicking, bushwalking, scenic lookouts, rock climbing, abseiling (courses), swimming, fishing, canoeing, children's playground, kiosk and an animal enclosure.

The site was attracting 15,000 visitors per annum and up to 35,000 visitors in one year when advertised. The site was closed in 2004 and three serious accidents had occurred prior to closure.

Due to a steep dissected landscape with many cliff edges, a formal risk assessment would be required.

Land acquisition costs

The estimated land acquisition costs for three properties are thought to be between \$1.5 and \$2 million. This is indicative only and would be subject to an independent market valuation.

To meet the community expectations for public use of this proposal, the indicative reserve establishment costs are thought to be in the range of \$1.8 to \$2.5 million with staffing of around \$840,000 over three years. These are indicative costs only. Significant expense items include visitors/recreational facilities, safety measures, sealing the internal access road and carpark, toilet amenities and property acquisitions costs.

Ongoing park management would include activities such as fire, weeds and pest control, visitor experiences and infrastructure (particularly roads), staffing, and potential entry fee collection. While it is very difficult to accurately identify management costs without detailed planning, initial estimates are thought to be in the range of \$260,000 for ongoing management costs \$280,000 for additional ongoing staffing. Some of these costs could be at least offset by park entry fees and other leasing revenue.

Legal access to all three properties would need to be negotiated if any acquisition was to proceed. Current internal roads and tracks would potentially need significant upgrade to meet management standards.

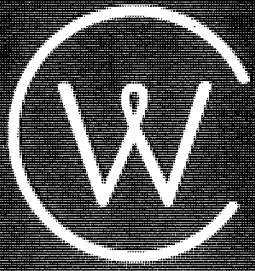
Planning issues in the AOI

In addition to negotiating legal access, subdivision is potentially required for all properties. The ACT Government recently approved the construction of 4500 homes in Canberra's north west near the AOI and the border of NSW.

The developer for this project has indicated there is potential for the development to expand into NSW at some point in the future. Such an expansion would bring it within close proximity to the AOI.

Based on population projections for Canberra to 2050, the Ginninderra Falls Association suggests that a national park for the Ginninderra Falls area could see in excess of 50,000 visitors per annum.

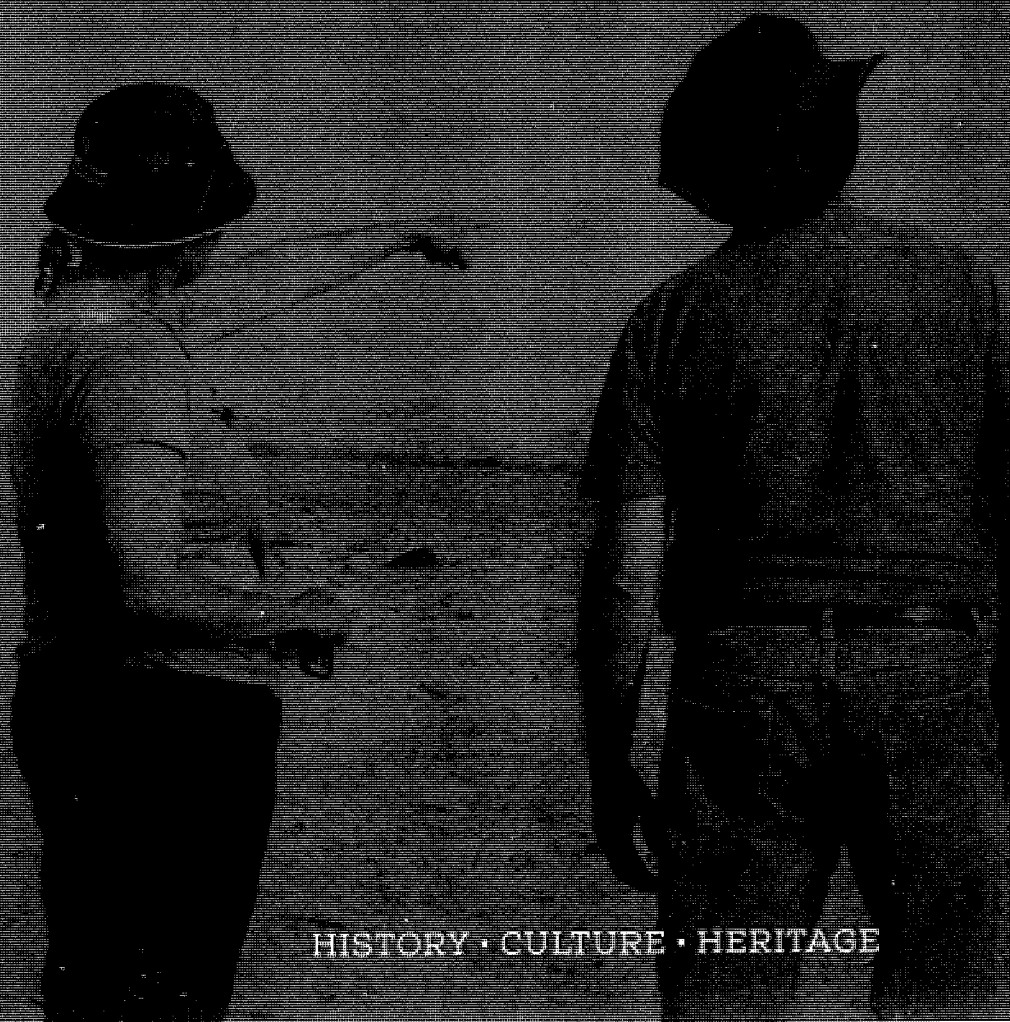
The Ginninderra Falls AOI contains significant scenic as well as natural and heritage values. The AOI has a range of recreational opportunities for the increasing population of the ACT and Yass Valley Council areas. Establishment of any reserve would require significant commitment from the NSW, ACT and local governments, the community and potentially private enterprise.



WATERS
CONSULTANCY

Ginninderry Development Project
Aboriginal Cultural Values Assessment Report
Redacted Version for Public Release

Riverview Projects (ACT) • v.3 • May 2017



HISTORY • CULTURE • HERITAGE

HISTORY • CULTURE • HERITAGE

Table 1: Summary of Significance of Identified Cultural Places

Site Name	Description	Cultural significance
Place 1: Ceremonial Area	Location of ritual activities traditionally undertaken as part of process of young men's initiation.	Place 1 is considered to be of high cultural significance to the Aboriginal community on the basis of its association with ceremonial activity.
Place 2: Corroboree Ground	A general community corroboree ground for cultural activities including singing, dancing, teaching, and story telling	Place 2 is considered to be of high cultural significance to the Aboriginal community on the basis of the corroboree ground's use for shared community cultural activities.
Place 3: Women's Business Hill & Ancestral Figure	A female ancestral figure in the landscape and the site of women's ceremonial business.	Place 3 is considered to be of high cultural significance to the Aboriginal community on the basis of its association with women's ceremonial business and the connection with aspects of the young men's initiation ceremony.
Place 4: Eaglehawk Ancestral Figure	An ancestral figure of the Eaglehawk lying in, or forming, the landscape.	Place 4 is considered to be of high cultural significance to the Aboriginal community on the basis of its association with the cultural figure of the Eaglehawk.
Place 5: Resource Area	An area utilized for the collection of resources by both women and men.	Place 5 is considered to be of moderate cultural significance to the Aboriginal community on the basis of its use as a resource area.
Place 6: Fish Trap Resource Area	Fish traps were understood to have been located in the bed of the Murrumbidgee River to the north of its junction with Ginninderra Creek.	Place 6 is considered to be of moderate cultural significance to the Aboriginal community on the basis of its association with resource gathering activities.
Place 7: Ancestral Figure & Women's Story Site	A female ancestral figure in the landscape that is a story site associated with young women's initiation rituals.	Place 7 is considered to be of high cultural significance to the Aboriginal community on the basis of the presence of an ancestral figure in the landscape and its role as a women's story site associated with young women's initiation.
Place 8: Ginninderra Creek & Murrumbidgee	A pathway that runs from the headwaters of the Ginninderra Creek near Mulligans Flat to its junction with the	Place 8 is considered to be of moderate cultural significance to the Aboriginal community on the basis of the importance of pathways as the

Pathways	Murrumbidgee River where it intersects with a pathway that runs along the Murrumbidgee River in both directions.	physical and symbolic linkages between people, country and sites and between different communities across the wider region.
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8.1 Overarching Recommendations

In addition to the site specific actions recommendations the following general recommendations are made in relation to the management of the eight identified cultural places:

- That a Cultural Values Management Plan be developed by a cultural heritage specialist, in consultation with the knowledge holders, to provide detailed management guidelines for the identified cultural places located within the Project Area;
- That interpretative signage for display in appropriate locations within the proposed Conservation Corridor is developed by a cultural heritage specialist, in consultation with the knowledge holders, in relation to Places 1-8. Although Places 3, 4 and 6 (and part of Place 1) are not located within the Project Area they form part of the same cultural landscape as Places 1,2, 5 and 7 that are located within the Project Area. Addressing all of the identified cultural places in the interpretative signage is culturally appropriate and will provide a better understanding of the cultural values of the landscape;
- That it is recommended to Yass Valley Council that they list Places 1, 3,4 and 6 on the Council's Local Environment Plan as Aboriginal places of heritage significance; and,
- That a research project is undertaken to determine the suitability of Places 1, 3, 4 and 7 for nomination as Aboriginal Places under the NSW *National Parks & Wildlife Act (1974)*.

From: Committees
Sent: Thursday, 10 May 2012 4:14 PM
To: Committees
Subject: Media Release: Inquiry into the Ecological Carrying Capacity of the Act and Region



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY
STANDING COMMITTEE ON CLIMATE CHANGE, ENVIRONMENT AND WATER

Meredith Hunter MLA (Chair), Mary Porter AM MLA (Deputy Chair), Zed Seselja MLA

MEDIA RELEASE

INQUIRY INTO THE ECOLOGICAL CARRYING CAPACITY OF THE ACT AND REGION

Today, the Standing Committee on Climate Change, Environment and Water presented its report on its inquiry into the ecological carrying capacity of the ACT and region.

"The Committee considers that the report's findings and recommendations provide a sound framework for building the ecological carrying capacity of the ACT and the rest of the region. The recommendations provide for several measures to enhance this capacity, by reducing the region's large ecological footprint, including its carbon footprint," Ms Meredith Hunter, the Committee Chair, said.

The report makes 23 recommendations and a number of findings regarding the environmental impacts of the region's current consumption of natural resources.

The report reflects the views of the majority of the Committee, with Mr Seselja MLA expressing dissenting comments. These comments are provided in the report.

"The Committee would like to thank everyone who contributed their time and expertise to the inquiry. We hope that many individuals, organisations, and community groups across the region will consider the report's evidence, findings and recommendations," Ms Hunter said.

The Committee received 36 submissions. The Committee also heard the evidence of 25 witnesses, in public hearings.

The inquiry report, submissions, witness evidence, and exhibits, can be read in full on the Legislative Assembly's website, here: <http://www.parliament.act.gov.au/committees/index1.asp?committee=112&inquiry=975>

For comment on the inquiry, please contact the Committee Chair, Ms Meredith Hunter MLA, on 02 6205 0106 or HUNTER@parliament.act.gov.au

If you have any accessibility requirements to read the report or other inquiry materials, or any general queries about the report, please telephone the Committee Secretary, Ms Sam Salvaneschi on 02 6205 0136, email sam.salvaneschi@parliament.act.gov.au

Thursday 10 May 2012

MEDIA RELEASE ENDS.

EMBARGOED UNTIL REPORT IS ACTUALLY TABLED ON THURSDAY 10 MAY.

From: Committees
Sent: Friday, 24 August 2012 11:12 AM
To: Committees
Subject: MEDIA RELEASE: REPORT ON CURRENT AND POTENTIAL ECOTOURISM IN THE ACT AND REGION TO THE ACT LEGISLATIVE ASSEMBLY



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY
STANDING COMMITTEE ON CLIMATE CHANGE, ENVIRONMENT AND WATER
Meredith Hunter MLA (Chair), Mary Porter AM MLA (Deputy Chair), Zed Seselja MLA

MEDIA RELEASE

REPORT ON CURRENT AND POTENTIAL ECOTOURISM IN THE ACT AND REGION TO THE ACT LEGISLATIVE ASSEMBLY

Today, the Standing Committee on Climate Change, Environment and Water has reported on its Inquiry into Current and Potential Ecotourism in the ACT and Region to the ACT Legislative Assembly.

“Ecotourism is important to conserving ecosystems and diversifying the economy throughout the ACT and surrounding areas”, Ms Meredith Hunter, the Committee Chair, said.

“This Report highlights the importance of advancing ecotourism in Canberra and neighbouring parts of New South Wales, so I think it’s useful reading for all the private, community and public sector organisations with a stake in nature based tourism wherever they are in the Region.”

The Inquiry examined a number of issues including the:

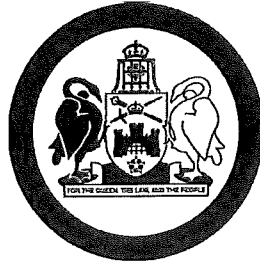
- extent of ecotourism activities in the Region and how they contribute to, or detract from, the Region’s ecosystems and the Region’s economy.
- industry self-regulation and government regulation, most likely to incentivise ecotourism that assists in the protection and enhancement of the Region’s ecosystems.
- industry and government measures that are most likely to promote understanding of the benefits of ecotourism being based on principles of ecological sustainability.

A wide range of individuals and private- and public-sector organisations and community groups made written submissions and/or gave oral testimony to the Inquiry. The Inquiry Report and all the evidence given to the Committee for the Inquiry are available in full on the Inquiry webpage at the following location:

<http://www.parliament.act.gov.au/committees/index1.asp?committee=112&inquiry=1052&category=19>

A map of the Region covered by the Inquiry is also on the Inquiry webpage.

For further information please contact the Committee Secretary, Ms Sam Salvaneschi on (02) 6205 0136 or committees@parliament.act.gov.au or the Committee Chair, Ms Meredith Hunter MLA on (02) 6205 0106.



ACT
Government

Government Response

Standing Committee on Climate Change, Environment and
Water Inquiry into Current and Potential Ecotourism in the
ACT and Region

August 2013

Presented by
Andrew Barr MLA
Minister for Tourism and Events

The Committee recommends that the ACT Government consider creating a new nature park in the northern part of the ACT, in order to conserve local woodland environments and expand the ACT's range of nature park assets.

Government Position – Agreed in principle

The ACT Government agreed in principle to a recommendation of the Commissioner for Sustainability and the Environment concerning the possible establishment of a northern ACT national park. The Government noted that further consideration will be given to a northern ACT national park, including through canvassing all the relevant issues such as legislation, biodiversity values, review of the International Union for Conservation of Nature (IUCN) categories, management implications and planning. Implementation arrangements and likely resourcing needs will require further consideration and examination.

If such a reserved area was to be created, it would require additional recurrent funding to the ACT Parks and Conservation Service to provide an adequate level of land management capacity.

Any park development would need to be considered in the context of potential land release in the nearby area aligned with any consequent offset requirements.

Consultation with traditional custodian groups in a culturally sensitive manner will be undertaken in the implementation of this recommendation.

RECOMMENDATION 4

The Committee recommends that the ACT Government consider creating a new nature park to preserve, maintain and make accessible Ginninderra Falls with sufficient surrounding land to constitute a sustainable nature park asset.

Government Position - Noted

Ginninderra Falls lies within private property in NSW and is outside of ACT jurisdiction. The Chief Minister has commenced discussions with the NSW government on this matter. Options are being jointly developed by the ACT and NSW Governments to support this initiative.

Consultation with traditional custodian groups in a culturally sensitive manner will be undertaken in the implementation of this recommendation.



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LEGISLATIVE ASSEMBLY
FOR THE AUSTRALIAN CAPITAL TERRITORY

STANDING COMMITTEE ON PLANNING AND URBAN RENEWAL
Caroline Le Couteur MLA (Chair), Suzanne Orr MLA (Deputy Chair)
Tara Cheyne MLA, Nicole Lawder MLA, James Milligan MLA

Chris Watson; Robyn Coghlan
Ginninderra Falls Association Inc.

Dear Sir/Madam,

On behalf of the Standing Committee on Planning and Urban Renewal (the Committee) I would like to thank you for your recent correspondence, dated 21 June 2017 and 22 June 2017, requesting that the Committee inquire into the Ginninderry proposal arising from DA 201731203.

Whilst the Committee understands your interest in the progress and outcome of DA 201731203, Development Application (DA) processes are an independent public administrative process and it would be inappropriate for the Committee, as a part of the ACT Legislative Assembly, to inquire into, offer any advice on or otherwise be involved in any DA process.

Consequently, the Committee will have to formally decline your request to conduct an inquiry into the Ginninderry proposal. However, if you do have any queries, about the current state of the relevant DA or concerns about the environmental management of the location which is the subject of the DA, the Committee would encourage you to contact the relevant areas of the Environment, Planning and Sustainable Development Directorate.

Kind Regards,

Caroline Le Couteur MLA
Chair
2 August 2017

1 May 2018

Chief Planning Executive,
Environment, Planning and Sustainable
Development Directorate Customer Service
GPO Box 158
Canberra ACT 2601

By email: epdcustomerservices@act.gov.au

**Objection to the Application for EIS Exemption for Ginninderry
Project Stages 2, 3, 4, 5, 5A, 6, 7, 8, 9, 10, 11, 12, 13, 24, 28, 29 –
EIS exemption number DA201800010
(notifiable instrument number NI2018-164).**

Objection to the EIS Exemption application

This submission is in response to the Application(s) for an EIS Exemption for the Ginninderry Project in West Belconnen, EIS Exemption 201800010 made by Knight Frank Town Planning on 8 February 2018. The application consists of one overarching Form 1M, 23 further Form 1Ms, a Ginninderry Planning Report for the purposes of section 211 exemption and its appendices.

The application seeks an exemption from the requirement to include an EIS in the development application for proposal for 32 blocks or part thereof and three roads. The proponent has applied for an exemption for the same time period as the EPBC approval, that is, till 30 June 2067.

The Ginninderra Falls Association objects to the EIS exemption for what constitutes an EIS exemption for the entire ACT portion of the Ginninderry development. In doing so, it brings to the Minister's attention the following:

1. The environmental impact of the development proposal is not addressed by the studies submitted by the proponent. In particular, these studies fail to address impacts on (see 2.1):
 - a. Biodiversity;
 - b. Reserve;
 - c. Heritage;
 - d. Contaminated land;
 - e. Fire risks;
 - f. Climate change;
2. There has not been sufficient public consultation throughout these studies (see 2.2);
3. A number of reports relied upon are more than 18 months old (and are not accompanied by the necessary statement) (see 2.3); and,
4. There are procedural defects with the EIS exemption application (see 2.3).

1. Legislative framework

1.1 EIS requirements in the *Planning and Development Act 2007*

The *Planning and Development Act 2007* (PD Act) provides the legislative basis for planning and development in the ACT. The PD Act provides some provisions for the protection of the environment, including native vegetation and listed vulnerable species and ecological communities (in the ACT and Commonwealth jurisdictions). These provisions contain the very basic environmental protections in the planning and development process, characterised by some consideration to the likely environmental impacts through the planning and development process.

Where proposed developments are likely to have a significant impact on the environment, provision is made under section 123 of the PD Act details to lodge such an application in the impact track. This requirement includes the provision of an Environmental Impact Statement to detail the likely impacts of a development on the environment as well as proposing avoidance, mitigation and offset measures. An EIS is prepared by a proponent to enable decision makers to understand the environmental consequences of a proposed development. The EIS must include sufficient information to ensure that all environmental, social and economic impacts associated with the proposal have been identified and assessed, and any adverse impacts are avoided, minimised, mitigated or as a last resort, offset.

The proponent has acknowledged that the development proposal is likely to cause a significant impact on the environment and identified the following items in Schedule 4.3 in Schedule 4 as applying to the Ginninderry proposal, such that an EIS is required:¹

- Column 1, Item 1: This is a proposal likely to have a significant adverse environmental impact on 1 or more species listed. The requirement in Schedule 4 is that an EIS is required unless the conservator of flora and fauna provides an environmental significance opinion to indicate that the proposal is not likely to have an adverse environmental impact;
- Column 1, Item 3: This is a proposal that includes development in a reserve, and the requirement in Schedule 4 is that an EIS is required unless the conservator of flora and fauna provides an environmental significance opinion that the proposal is not likely to have a significant adverse environmental impact, or that proposal is for minor works;
- Column 1, Item 6: This is a proposal that is likely to have a significant adverse impact on the heritage significance of a place or object registered under the *Heritage Act 2004*. The requirement is that an EIS is required unless the Heritage Council produces an environmental significance opinion that the proposal is not likely to have a significant adverse impact;
- Column 1, Item 7: This is a proposal involving land included on the register of contaminated sites under the *Environment Protection Act 1997*. An EIS is required unless the authority produces an environmental significance opinion indicating that the proposal is not likely to have a significant adverse environmental impact.

If these significant impacts were not to take place in the development proposal area, then the application would be assessed under the merit track.

1.2 EIS exemption legislation

Division 8.2.1 of the PD Act sets out circumstances where an application can be made to exempt the requirement to include an EIS in the development application for the proposal. Section 211B was added to the PD Act 2014.

¹ These sections above have been quoted in each of the EIS exemption (Form 1M) applications.

We specifically highlight that in 2016, the following note was added with regards to EIS exemptions: “*there has been a common misconception that if an ‘exemption’ under section 211B is granted then the proposal does not have to address environmental matters. The note clarifies that this is not the position*”.² The 2016 amendments were added to emphasise that an EIS exemption is required to address the environmental issues that would otherwise be addressed by a recent EIS. It is our strong submission that the reports annexed to the EIS exemption application does not address environmental issues that would otherwise be addressed by a recent EIS.

Section 211B(a) states that an EIS exemption applies “*if the expected environmental impact of a development proposal has been addressed by a recent study, whether or not the recent study relates to the particular development proposal*” (emphasis added). For the reasons discussed in Part 2 of this submission, the studies annexed to the EIS exemption application, including but not limited to the Ginninderry Planning Report for Section 211 Exemption (hereafter “Ginninderry Planning Report”) (Knight Frank Town Planning, February 2018), the West Belconnen Project Strategic Assessment Report (hereafter “Strategic Assessment Report”) (Umwelt, March 2017), the Urban Development At West Belconnen Program Report (hereafter “Program Report”) (A T Adams Consulting, 18 April 2017), the EPBC Consultation Report (hereafter “Consultation Report”) (April 2017) and the other attachments to the application, do not adequately address the expected environmental impact of the development proposal.

Section 211H grants the Minister discretion to allow an EIS exemption for a development proposal. Specifically, section 211H(2) states:

“The Minister may grant an EIS exemption for the proposal if satisfied that the expected environmental impact of the development proposal has already been sufficiently addressed by a recent study, whether or not the recent study relates to the particular development proposal” (emphasis added).

Section 211H(3), details the considerations that the Minister must address when deciding whether the environmental impact of the development has been sufficiently addressed by recent studies:

Section	Factor that must be considered by the Minister	Issues discussed in this submission in Part 2
211H(3)(a)	Whether the recent study was conducted by an appropriately qualified person with relevant expertise and experience in relation to the environmental values of the land in the proposal	See 2.4 below.
211H(3)(b)	If the recent study does not relate directly to the proposal— whether there is sufficient detail to allow assessment of the environmental impacts likely to occur if the proposal proceeds; and	See 2.1 below.
211H(3)(c)	Whether the part of the recent study relevant to the proposal required public consultation through a statutory process or as part of a government policy development	See 2.2 below.
211H(3)(d)	If the recent study is more than 18 months old—whether the Minister is	See 2.3 below.

² Per 2016 Amendment Explanatory Memorandum:

	satisfied that the information in the study is current; and	
211H(3)(e)	any submissions received during the consultation period for the EIS exemption application.	

The submission will address section 211H(3)(a) – (d) below.

2. Objections to the EIS exemption application

2.1 Section 211H(3)(b): The recent studies do not directly relate to the proposal, and there is insufficient detail in the studies to allow assessment of the environmental impacts likely to occur if the proposal proceeds.

In making a decision to grant an EIS exemption, the Minister must be satisfied that any likely significant adverse impact on species and ecological communities is addressed by the studies provided by the proponent in sufficient detail.

An adverse environmental impact is ‘significant’ if the cumulative or incremental effect of a proposed development might contribute to a substantial adverse impact on an environmental function, system, value or entity (section 124A(1) PD Act). An EIS is required where a proposal is likely to have significant adverse environmental impacts on 1 or more of the listed species/ecological communities, unless the Conservator of flora and fauna provides an environmental significance opinion indicating that the proposal is not likely to have a significant adverse environmental impact. The conservator has not given an environmental significance opinion detailing that any proposed development will not have a significant impact as per Part 4.3, Item 1 and Item 3. Any likely impacts on the species set out in Schedule 4, Part 4.3 Item 1 will be significantly impacted by the proposed development and an EIS is necessary.

2.1.1 Reports offered only address Commonwealth-listed species and not species considered under PD Act Schedule 4, Part 4.3, Item 1:

2.1.1.1 Objectives of the Strategic Assessment Report

The development proposal is likely to have significant adverse impacts on species and ecological communities which are not sufficiently addressed by existing studies, as the Strategic Assessment Report does not sufficiently address ACT-listed species.

The Objective of the Strategic Assessment Report is noted at 1.1 of the report as:

“to assess the impacts to and outcomes for matters of national environmental significance (MNES)... from the ‘Urban Development at west Belconnen’... in relation to the requirements of the Commonwealth Environment Protection and Biodiversity Conservation Act 1999.

It should be read in conjunction with the Program Report (AT Adams Consulting 2016) which set out the proposed development and commitments, associated works and actions, and management and funding arrangements that are included in the Program to achieve appropriate outcomes for matters protected under the EPBC Act³ (emphasis added).

The purpose of the Strategic Assessment Report is to assess the impacts of the development proposal on Commonwealth-listed species set out in the EPBC Act. This is consistently stated throughout the Strategic Assessment Report and the Program report, including at page 4 where it states at 1.1:

³ Strategic Assessment Report, (Umwelt, March 2017) page 1.

“The focus of the agreement is to assess the potential impacts from development of the West Belconnen project area (referred to as “the development” in this report), on Matters of National Environmental Significance (MNES) protected under the EPBC Act”.

Whilst the Strategic Assessment Report notes that it includes species and ecological communities listed under Commonwealth, NSW and ACT legislation, in order to “achieve the best environmental outcomes”,⁴ ACT and NSW-listed species are not considered in sufficient detail to allow assessment of the environmental impacts. Additional reports have only been provided with respect to one ACT listed species (the Little Eagle) – and these reports do not set out environmental impacts likely to occur.

2.1.1.2 Impacts to ACT-listed species to be considered with Territory approval processes

Whilst “an endorsed policy, plan or program under the *Environment Protection and Biodiversity Conservation Act 1999*” might be an example of a report that sufficiently addresses the expected environmental impact of a development proposal, with respect to vulnerable species in Part 4.3 Item 1, the Strategic Assessment Report only deals with Commonwealth-listed species in sufficient detail. The Ginninderry Planning Report states that the Strategic Assessment Report considers all species and ecological communities within the Commonwealth, ACT and NSW jurisdictions⁵ and provides sufficient protection for ACT species and ecological communities though this is simply not true.

ACT-listed species and ecological communities such as the regent honeyeater, golden sun moth, little eagle, scarlet robin, varied sittella, white winged triller, perunga grasshopper, superb parrot, swift parrot, painted honeyeater, spotted tail quoll, pink-tailed worm lizard, yellow box/red gum grassy woodland and natural temperature grasslands will be significantly impacted by the development proposal.

Yet, it is clear that the authors of this report did not intend that the Strategic Assessment Report be considered a sufficient impact assessment for the purpose of Schedule 4 of the PD Act. For example, the Strategic Assessment Report acknowledges with respect to several vulnerable species such as the Little Eagle, Rosenberg’s goanna and the perunga grasshopper, that the report is not intended to address the impacts on such species.⁶ For example, at 6.1.2.9 of the report, it states that ‘*A full assessment of impacts to little eagle will be included within State and Territory approval processes as appropriate.*’⁷

Whilst the Strategic Assessment Report considers Commonwealth listed species in depth, addressing each over multiple pages assessing impact according to nine criteria, ACT and NSW listed species are discussed in one half to two thirds of a page *at best*. A report that seeks to address environmental impacts with respect to vulnerable and endangered species and ecological communities cannot sufficiently address the impacts and mitigation measures in such a limited way. The very fact that these species are listed as vulnerable or endangered means that extra care must to be taken to ensure that these species are protected from further harm. The differences between the way the Strategic Assessment Report addresses Commonwealth-listed species as opposed to ACT-listed species illustrates that the Strategic Assessment Report was never intended to provide more than a cursory discussion on the impacts of the project on the ACT-listed species.

⁴ Strategic Assessment Report, (Umwelt, March 2017) page 6.

⁵ Strategic Assessment Report, (Umwelt, March 2017) Page 6.

⁶ Strategic Assessment Report, (Umwelt, March 2017) 6.1.2.9 (Little Eagle); 6.1.5.1 (Perunga Grasshopper); 6.1.7.1 (Rosenberg’s Goanna).

⁷ Strategic Assessment Report, (Umwelt, March 2017) 6.1.2.9 (Little Eagle).

Indeed, an independent assessment by leading experts of potential impacts on species with proximity to development in the Ginninderra Falls area has shown that a significant number of ACT, NSW and Commonwealth-listed species are predicted to be adversely affected by the development⁸. Independent experts predict that the potential impact on species with a close proximity to development in the NSW portion of the development and species on the ACT side are likely to be similarly impacted. For example, a recent report indicates species such as the Scarlet Robin and Speckled Warbler, whose habitat occurs in the ACT section of the development, are expected to decline as a result of the development even kilometres away from development.⁹ However, the current Strategic Assessment Report avoids ACT-listed species in any detail, simply using the creation of the West Belconnen Conservation Corridor (WBCC) to justify and/or offset any impacts of the development. This is highly problematic, because the WBCC isn't planned to be an untouched nature corridor for such species to find a reprieve from encroaching development. Instead, it too will be developed as a tourist attraction, with infrastructure such as a sewer tunnel, recreation and tourist facilities. In addition, the reserve is long, narrow and not big enough for the large-home range species that occur in the area. Therefore, it does not comply with well-established ecological principles of good reserve design.¹⁰ Potential impacts on species are glossed over, ignored or to be "further researched" with no definitive discussion on the impacts on flora and fauna species, nor mitigation measures.

The decline of vulnerable and endangered species in the ACT has largely been as a result of the impacts of development and other forms of habitat destruction or disturbance on habitat. The decline of species such as the Scarlet Robin is not inevitable, and could be halted in part by ensuring appropriate habitat is protected, including much larger areas within future reserves for favourable habitat, as well as significantly improving reserve design (e.g. increasing reserve size and reducing perimeter to area ratio) and increasing the distance between vulnerable species and development (see Soule and Simberloff 1986 and Rayner *et al* 2015). These mitigating measures are, however, likely to result in a reduction in land for residential development – and are therefore not favoured. A thorough, independent EIS is required for ACT-listed species such as the Little Eagle, Scarlet Robin, Speckled Warbler and box gum to ensure that all likely impacts are researched and sufficient mitigation measures are put into place. ESD principles such as the precautionary principle must be applied here, to ensure that no further destruction of habitat, and therefore decline of this species, continues. As well as habitat protection, significantly increasing the distance between development and threatened species habitat is required in order to effectively conserve threatened species (see Rayner *et al* 2015).

2.1.1.3 The impacts on large home range species have not been addressed

The impacts on large home range species such as the Little Eagle have not been addressed by the studies provided. Whilst the Strategic Assessment Report discusses the impacts of the project on the Little Eagle, it fails to take into consideration the cumulative and incremental impacts of the development on its habitat and foraging areas. For example, Stage 1 of the Ginninderra project is now commencing right on the northern edge of the 200 metre buffer zone of the Little Eagle's nest (at Strathnairn) and the Little Eagle has used most of the development area. Stage 8 is planned for the area encompassing the exclusion zone if the little eagle does not return to the nest in two consecutive years. Construction in Stage 1 and other stages will continue during this two-year period and heavy vehicles will continue to use the major road being built barely 250m from the nesting tree. These conditions are not conducive to the return of the Little Eagle. When Stage 8 proceeds, followed by Stage 10, this

⁸ Analysis of expert comments, September 2017 (Appendix A); Yass Tribune 8 September 2017 <https://www.yasstribune.com.au/story/4910691/ecologists-scrutinise-yass-valley-settlement-strategy-no-development-zone-on-nsw-act-border/?cs=1554>

⁹ Laura Rayner et al; 'Avifauna and urban encroachment in time and space' (2015) 21(4) *Diversity and Distributions* 428-440.

¹⁰ Soule, M. E. and Simberloff, D. (1986). What do genetics and ecology tell us about the design of nature reserves? *Biological conservation*, 35(1), 19-40.

will cut across the foraging grounds and open access routes for wildlife. The planned new 330kV power line associated with the proposed new substation in the area [ActewAGL DA 201732400 & DA 201732485] will also cut across the foraging areas. The cumulative effect of this is a significant impact that has not been addressed in the Strategic Assessment Report in any detail at all. An EIS for each stage of the development is therefore essential.

In addition, contrary to the bulk of academic and on-site studies, the proponent has claimed that the Little Eagle will not be impacted because of the 200m clearance buffer around the nesting site.¹¹ However, the 200m clearance buffer established has been based on an erroneous interpretation of studies not directly related to the little eagle. The following are anomalies in the information provided by the proponent:

- The information presented as evidence to demonstrate adequate research into the Little Eagle is selective and contradictory. To justify the small, 200m buffer around Little Eagle nests, the proponent has relied on a 2005 report by Stephen Debus for ACTPLA in late 2005¹² which referred to a buffer figure in the “range of 200 to 800 m (average 570 m)” for surrogate overseas species of similar size and/or ecology, in the absence of data on Australian species. However, subsequent reports by the author stating that his research had been inappropriately used have not been included. For example:
 - o in September 2008 Debus stated that his 2005 paper had been inappropriately used to justify development. He noted that: *“Both of my papers [from 2005 and 2006] are tempered in several places with caveats about the need for adequate foraging habitat around nest sites. For instance, in 2005, I said “The more sensitive species retreat from expanding suburbia, as it does not provide their prey, foraging habitats, nest sites or security from disturbance” [my emphasis], and “the development proposal will remove the foraging habitat ... of ... one or more pairs of Wedge-tailed Eagles and Little Eagles, and so displace [effectively eliminate] some pairs.”*¹³
 - o In August 2017 Debus further stated that the 2005 paper discussed buffers solely in relation to the *‘avoidance of acute, direct human disturbance, intrusion or presence on raptors nesting in otherwise natural or semi-natural situation, not the preservation of nesting populations in the face of major landscape-changing developments such as urbanisation’*.¹⁴
- Ginninderry Planning Report used purported advice from Jerry Olsen and David Shorthouse in 2015 to justify a small buffer for Little Eagle nests.¹⁵ However, Jerry Olsen has repeatedly stated that the 200m buffer the proponent has allocated is insufficient to protect the Little Eagle.¹⁶ In particular:
 - o In 2014 Olsen stated that buffer zones are of *‘little use ... because they don’t consider the size of the whole home range’*.¹⁷

¹¹ Ginninderry Planning Report for Section 211 Exemption (Knight Frank Town Planning, February 2018), page 24.

¹² Stephen Debus, *Potential impacts of Proposed Urban Development on Raptors in the Molonglo Valley, ACT: Report to ACT Planning and Land Authority*, 10 Feb 2005.

¹³ Stephen Debus, ‘Raptors and the Proposed Central Molonglo Development’ (2008) 33(2) Canberra Bird Notes 82.

¹⁴ Stephen Debus, ‘Little Eagles in the ACT’ (Paper, 5 August 2017).

¹⁵ *Ginninderry Planning Report for Section 211 Exemption*, Knight Frank Town Planning, page 24.

¹⁶ Jerry Olsen and Susan Trost, ‘Little Eagles in the ACT during Two Breeding Seasons: 2015 and 2016, and the Myth of ‘Buffers’ and ‘Corridors’ (2017) *Australasian Raptor Association News*.

¹⁷ Jerry Olsen and Susan Trost, ‘Little Eagles in the ACT during Two Breeding Seasons: 2015 and 2016, and the Myth of ‘Buffers’ and ‘Corridors’ (2017) *Australasian Raptor Association News*.

- In 2017 Olsen stated that “None of the ‘buffers’ observed by ACT real estate developers and planners are based on science. They are arbitrary and always too small.”¹⁸
 - In August 2017, Olsen stated that Little Eagles “were never seen foraging within 200 m of their nest.”¹⁹
- Though the proponent has sought to rely on the work of Debus to justify impact mitigation measures, it also submitted, as part of its EIS exemption application, a 2017 report by Olsen (P) and Rae, seeking to discredit the work of Olsen (J) and Debus, despite the proponent’s earlier reliance on their work. Only one academic research report was included in the EIS exemption documents that supports the proponent’s position.²⁰ Other expert studies that have been omitted that justify a more cautious approach for the protection of the Little Eagle include:
- Jerry Olsen, Mark Osgood and Geoffrey Dabb, ‘Little Eagles in the Australian Capital Territory in 2014’ (2015) 40(3) *Canberra Bird Notes* 208
 - Jerry Olsen, ‘Little Eagles in the ACT’ (paper dated 24 July 2017)
 - Stephen Debus, ‘Little Eagles in the ACT’ (Paper, 5 August 2017).
 - Stephen Debus, ‘Raptors and the Proposed Central Molonglo Development’ (2008) 33(2) *Canberra Bird Notes* 81-83
 - Jerry Olsen and Susan Trost, ‘Little Eagles in the ACT during Two Breeding Seasons: 2015 and 2016, and the Myth of ‘Buffers’ and ‘Corridors’ (2017) *Australasian Raptor Association News*.
 - Stephen Debus, ‘Little Eagles and Development in the ACT’ (Media Release, 10 May 2017).

It is clear that the efficacy of buffers, the 200m clearing zone and what constitutes sufficient protections for the Little Eagle is clearly a contested academic area. The approach currently considered disregards the need to retain suitable nesting trees, foraging areas and open access routes into the future so that it will be possible for Little Eagles to return to the area after construction activities have ceased and suburbia has settled down. A precautionary approach, set out in ESD principles in the PD Act, is not being followed. Continual removal of suitable open grassy woodland habitat (including grazing land) is driving this species out of the ACT as they only inhabit areas in the vicinity of water courses and have to compete with larger raptors. Indeed, the Little Eagle report provided by the proponent (Olsen and Rae) notes the “absence of rigorous data” regarding Little Eagle breeding pairs in the ACT. The report concludes that “there is a pressing need for a reliable, scientifically robust study of the status of the eagle in ACT.”

In this regard, it is relevant to examine the protections set out in the *Nature Conservation (Threatened Ecological Communities and Species) Little Eagle Action Plan 2013 (No 1)*, prepared by the ACT Conservator of Flora and Fauna under *Nature Conservation Act 1980*, section 42 and created on 7 November 2013 (Instrument no DI2013–276). The Action Plan for the Little Eagle relevantly notes that “Protecting nest trees e.g. placing a buffer around them, is not necessarily sufficient for conservation. Foraging areas also need to be protected. Nesting and foraging areas may be disjunct, with foraging areas several kilometres away from the nest tree, which is typically located in woodland”.²¹ How has this worked in practice? The Ginninderra Estate development, immediately north of Ginninderry Stage 1, commenced in early 2017, 600m from the Strathnairn little eagle nest. A pair of birds appeared in this nest in

¹⁸ Jerry Olsen, Susan Trost and Geoffrey Dabb, “Little Eagles in the Australian Capital Territory during two breeding seasons: 2015 and 2016”, *Canberra Bird Notes* 42(2) (2017): 134-139.

¹⁹ Jerry Olsen and Susan Trost, Reports & News, *Journal of the Australasian Raptor Association*, Vol. 35(1), August 2017, page 4.

²⁰ Penny Olsen and Stuart Rae, “Invalid Evidence for Purported ‘Collapse’ in the Number of Breeding Little Eagles in the ACT,” *Canberra Bird Notes* 42(3) (2017): 245-249.

²¹ Nature Conservation (Threatened Ecological Communities and Species) Little Eagle Action Plan 2013 (No 1) 35 page 3.

2017, but did not nest there. It is unclear as to why the birds did not settle in that nest, though disturbance from works in progress is unlikely to have encouraged much activity, particularly given the academic research and legislated Action Plan that clearly sets out the issues. Any future EISs will need to address impacts and mitigation measures in conjunction with Action Plans for species developed by the ACTG. The fact that Action Plans have been largely ignored is assessing the impacts of these species is a major oversight.

Criterion 44 of the West Belconnen Concept Plan relates to the Little Eagle Clearance Zone and provides that *“Urban development is not permitted until such time as research on the Little Eagle has been completed and confirms that the site is suitable for development”*.²² By the time research has been completed, it is likely that Stage 1 development will have changed the landscape and discouraged Little Eagles from the area altogether. The selection of an area close to the Little Eagle’s known nesting tree as the first stage of the Ginninderry development, despite acknowledgment of inadequate research to date, was contrary to C44. Whilst we cannot address the inadequacies of the Stage 1 process now, we can ensure that moving forward with the rest of the development, adequate surveys and environmental impact statements record the likely impact of the development on this and other species, and ensure that sufficient mitigation measures are put into place to avoid significant impact.

Comparing the Strategic Assessment Report with the Biodiversity Report for ActewAGL’s DA 201732500 is instructive. The Biodiversity Report includes measures to mitigate impact of development on the Little Eagle such as: *“No clearing of breeding habitat or trees or shrubs within 800 m of nests. Only foraging habitat would be impacted. The likelihood of electrocution on new lines would be minimised with line marking.”*²³ It is evident that a larger clearance for Little Eagle nests to allow for short-range foraging is not regarded as unreasonable or unachievable for other developments. This development must take a similar approach.

2.1.1.4 Proposed offsets will not address likely environmental impact

The proponent argues that concerns for biodiversity highlighted above have been addressed through offsets. This is highly problematic. Firstly, the logic of offsets is highly flawed generally but, in particular, in this instance such that there is an ultimate loss of habitat (and species) and the habitat now claimed as an “offset” has long been earmarked for conservation within a special purpose reserve prior to rezoning – so there are no actual gains. Instead, there is an expectation that all vulnerable and endangered species will migrate or co-exist in the WBCC, having foregone a large area of its habitat and territory for development, even though the WBCC will be developed further down the track.

Secondly, the destruction of habitat “offset” by the already-existing nature reserve directly contravenes the ACT Government’s own Action Plan for the protection of a vulnerable species. As set out in Table 1, in the case of the Pink-tailed Worm-lizard, 16 football fields worth of habitat²⁴ is earmarked for destruction (a large area for any species, let alone a small, vulnerable species). The ACT Government’s Action Plan for the Pink-tailed Worm-lizard²⁵ undertakes to conserve all populations within the Murrumbidgee and Molonglo River Corridors as well as high and moderate quality habitat outside these corridors. The habitat earmarked for destruction is habitat of high and moderate quality outside, and linked with, the Murrumbidgee River Corridor.

²² West Belconnen Concept Plan (ACT Government Environment and Planning, July 2016) page 12.

²³ TransGrid and ActewAGL, *ACT Second Electrical Supply Project: Biodiversity Impact Assessment*, February 2018, page 78.

²⁴ Canberra Times 2 April 2018: <http://www.canberratimes.com.au/act-news/riverview-applies-for-eis-exemption-for-ginninderry-with-act-planning-authority-20180330-h0y5s8.html>

²⁵ Nature Conservation (Pink-tailed Worm-lizard) Action Plan 2017
<http://www.legislation.act.gov.au/di/2017-67/current/pdf/2017-67.pdf>

Table 1: Key Objectives, Actions and Indicators taken directly from the Pink-tailed Worm-lizard Action Plan.

Objective	Action	Indicator
1. Conserve all populations that occur in large conservation corridors (Murrumbidgee and Molonglo River Reserves) and all habitat outside these corridors that is moderate to high quality or medium to large area.	1a. Apply formal measures to ensure all populations that occur in large conservation corridors and all habitat outside these corridors that is moderate to high quality or medium to large area, are protected.	1a. All populations that occur in large conservation corridors, and all habitat outside these corridors that is moderate to high quality or medium to large area, are protected by formal measures.
Protect all other populations from unintended impacts (unintended impacts are those not already considered through an environmental assessment or other statutory process).	1b. Protect all other populations from unintended impacts.	1b. All sites where other populations occur are protected by appropriate measures from unintended impacts.

Given the Strategic Assessment Report does not sufficiently take into consideration adequate protections for the pink worm-tailed lizard, particularly when an aspect of the development directly contradicts the ACT Government's Action Plan drafted to protect this species, it is essential that an environmental impact assessment be prepared to properly address significant issues of habitat loss.

2.1.2 Proposed reserve does not address environmental impacts required under PD Act Schedule 4, Part 4.3, Item 3

The Minister must exercise its functions in a way that gives effect to the precautionary principle, as encompassed in sustainable development (section 12(3)(a) and section 9 PD Act). The precautionary principle sets out that when there is a plausible risk of potential impacts of actions, then a precautionary approach should be taken. There is good evidence to suggest that a much more precautionary approach should be taken, namely:

- Proximity to development is known to have impacts on a range of threatened bird species (Rayner *et al.* 2015)
- Large home range species, that require large reserves with low perimeter to area ratio are present in the area (see Soule and Simberloff 1986)

The proposed reserve fails to implement ecological principles, including reserve design principles and the precautionary principle. It fails to take a holistic approach to conservation planning in the area. Independent assessment by leading experts (see APPENDIX A for list of the experts consulted) has shown the planning to be deficient in the NSW section. This is a clear signal for further scrutiny in the ACT section as well. There should be a concerted attempt made to ensure that such scrutiny is thoroughly independent and not controlled by the proponents. The reserve does not adequately cater for large home range species such as Little Eagle and Rosenberg's Goanna, nor does it adequately take into account species sensitive to proximity of urbanisation (e.g. Scarlet Robin, Speckled Warbler, and a range of other woodland birds) all listed as vulnerable or endangered species in ACT legislation.

By way of example, the entire proposed reserve is smaller than the life home range of a single Rosenberg's Goanna based on work in Kangaroo Island²⁶ and local work underway is also recording very large movements for this species²⁷ While this species is a NSW listed species, a holistic and precautionary approach should not neglect these issues (and indeed, the issue of the migratory nature of the Rosenberg's goanna was noted by the ESD itself, as set out in the Consultation Report discussed at 2.2 below. There are also a range of raptors including the ACT listed Little Eagle that have large home ranges and are losing much of their foraging land as a result of this development.

The Minister must be satisfied that any reports discussing the impact of the development on a reserve must contain sufficient detail to allow assessment of the environment impacts likely to occur if the proposal proceeds. It is clear that there insufficient reports discussing the impact on a reserve – and that an EIS must be produced in order to assess these impacts.

2.1.3 Proposed studies do not address Heritage impacts required under PD Act, Schedule 4, Part 4.3, Item 6

The Ginninderry Planning Report states that:

“The project site has been surveyed and this, together with detailed research, has enabled all matters of significance related to European heritage to be identified. These are recorded in two reports by Eric Martin and Associates which also include recommendations for the treatment of matters of heritage significance as the project proceeds. These reports have been endorsed by the ACT Heritage Council... The project site has been surveyed and this, together with detailed research, has enabled all matters of significance related to aboriginal heritage to be identified. These are recorded in a report by Biosis Pty Ltd which also includes recommendations for the treatment of matters of heritage significance as the project proceeds. These reports have been endorsed by the ACT Heritage Council.”

The West Belconnen European Cultural Heritage Report identified items of European heritage that should be retained. The Aboriginal Cultural Values Assessment on the Ginninderry Area identified eight places of cultural heritage significance, five of which are within the project area and made several recommendations, including that an Aboriginal Cultural Management Plan be produced and implemented. And, whilst the 2018 Report maintains that the project is not proposing to impact on any of these sites, it is difficult to ascertain whether or not this is likely to be the case, given there is little information on the project and where it intersects with these sites.

The Minister should note that reports endorsed by the ACT Heritage Council do not fulfil the criteria set out in Part 4.3 Item 6 of the PD Act, that *the heritage council produces an environmental significance opinion that the proposal is not likely to have a significant adverse impact*. An EIS is therefore ordinarily required under the PD Act.

2.1.4 The studies do not address the impacts of contaminated land in the proposed development required under PD Act, Schedule 4, Part 4.3, Item 7

The Ginninderry Planning Report states that *“An auditor, accredited by and approved by the ACT Environment Protection Authority (EPA) has been appointed to oversight all aspects of the project and ensure that, where required, matters related to contamination will be the subject of audit processes and resolved to the satisfaction of the EPA. This will occur*

²⁶ Ginninderra Catchment Group (2016). [https://ginninderry.com/wp-content/uploads/2016/08/GCG Biodiversity Report Ginn Falls Area FINAL 2016 06 15.pdf](https://ginninderry.com/wp-content/uploads/2016/08/GCG_Biodiversity_Report_Ginn_Falls_Area_FINAL_2016_06_15.pdf)

²⁷ Monitoring the Monitor, (NPA Bulletin, March 2018)

http://ginninderra.org.au/sites/default/files/Rosenberg%20Study_NPA%20Bulletin_Mar2018.pdf

progressively as the project proceeds. This process meets the requirements of the EPA and obviates the need for an EIS."²⁸

However, the process described above, mandatory through the EPA is unrelated to the requirement for an EIS under the PD Act. This is the reason why there is a specific section within Part 4.3 Item 7 that specifically deals with proposals involving land included on the register of contaminated sites under the EPA. The auditor was appointed by the EPA for the purpose of identifying and remediating contaminated land contained in the *Environment Protection Act*.²⁹ This is a different process from the EIS required under the PD Act. In order to dispense with the EIS requirement under the PD Act, the EPA must provide an *environmental significance opinion indicating that the proposal is not likely to have a significant adverse environmental impact* (part 4.3 item 7). This has not occurred.

The Ginninderry Planning Report prepared for the EIS exemption states that the Ginninderry development area includes a number of sites that are on the register of contaminated sites under the *Environment Protection Act*. Furthermore it states that a number of sites have not been investigated and require further research. In particular *"there are a number of sites present within the Ginninderry project area which have been identified as having the potential for contamination and require further investigations to occur. These blocks include 1469, 1606, 1607, 1632 and 1633"*.³⁰

The Minister can only provide an EIS exemption where the Minister is satisfied that the environmental impact of a development study has been addressed by a recent study. By the proponent's own admission, that study has not taken place, and in fact further investigations need to occur. It is appropriate for the EIS exemption application be refused, and that these further investigations occur in the context of a proper EIS. Given that the proponent has lodged an EIS exemption for the whole development, including contaminated sites, without an accurate understanding of the contamination risks, it is only appropriate that the exemption be refused and a proper EIS be formulated.

In particular, our concerns include (but are not limited to):

2.1.4.1 Belconnen Waste Disposal Site (Tip)

The tip is currently still being used for disposal of household rubbish. It has been used for decades and is a "hot spot". Methane gas is being produced and monitored and every so often the tip smoulders and, on occasions, fire trucks are required to control fire flare-ups. There are many other disposal sites in the Tip area, such as for cardboard, paper and oil, which will need to be remediated and monitored for safe habitation. The tip will need to be continuously monitored for OH&S concerns in perpetuity, even after it is closed and remediated. This area requires a proper assessment of the impacts its operations will have on the community that emerges around it, including an assessment that no hazard is presented by increasing activities around it.

2.1.4.2 "Mr Fluffy" Building Rubble Disposal Site

Building rubble, contaminated by loose-fill asbestos and wrapped in plastic (150,000 tons) from 1,024 ACT homes, is being "layered" (not buried) in clay gullies at a separate site within the Tip. This will produce a "Mr Fluffy" mound which is proposed to be "capped" and grassed for sporting activities. Other such "Mr Fluffy" capped and grassed areas in Melbourne and Sydney have not been successful – over time, carcinogenic asbestos fibres have found their

²⁸ Ginninderry Planning Report for Section 211 Exemption (Knight Frank Town Planning, February 2018).

²⁹ Statutory site audit notification form (Environmental Protection Authority, 2017).

³⁰ Ginninderry Planning Report for EIS Exemption (Knight Frank Town Planning, February 2018) page 27.

way to the surface. It is essential that any future environmental impact assessment addresses these potentially dangerous risks.

2.1.4.3 Commercial Egg Farm

The Parkwood Eggs site is located in very close proximity to the proposed new residential development. The major concerns with Poultry Farms are the aroma (residents in West Belconnen currently complain about the smell), vermin, insects (especially mosquitoes) and feral animals (foxes). For these reasons, State Authorities have strict regulations concerning the distance of residential development from Poultry Farms, viz: Minimum Distance: NSW – 3.5 to 4 km (which would exclude all of the proposed NSW residential development in nearby Parkwood); and South Australia – 1.5 km.

Despite this, the proposed residential development has homes encroaching to within 750m of the farm. The farm will eventually be resumed so that further development can occur on the farm site. It is expected that the lease will not be renewed after the end of 2033.³¹

2.1.4.4 Very high tension power lines and substation

A Transgrid substation is located in the north-eastern section of the Ginninderry area. Two 330 kV powerlines from Lower and Upper Tumut in the Snowy Mountains Scheme bring power into the substation. A 330 kV line stretches from the substation to Yass, one to Williamsdale in the south and one to the north. Five 132 kV lines radiate from the substation to various parts of Canberra, including one running south along the eastern side of the new Ginninderra Estate, formerly part of the golf course. It is proposed to run another 330kV line parallel to this latter and closer to the residences, southwards to a new substation near where the Williamsdale line crosses Stockdill Drive.³² It is not obvious that any research has been done on the combined effects of such a concentration of very high tension power lines in a residential area.

The new substation is proposed for an area opposite where the southern part of the conservation corridor meets Stockdill Drive. The new 330kV power line running down from the existing substation in the north will enter the new substation along with the 330kV power line to Williamsdale coming in from the west, thus encircling the area known to be frequented by little eagles. These lines will cross their flight path to foraging areas in the Pegasus and Lands End vicinities south of Drake Brockman Drive.

2.1.5 Reports provided do not take into consideration other impacts on the environment

The Ginninderry Planning Report helpfully considers a number of other environmental considerations that are not triggers for an EIS under the PD Act, upon request of the Environmental Protection Authority. These environmental considerations include air quality (from wood-fire heaters, vehicular transport and odours from bushfires) and a green waste clearance zone.

There are, however, a number of other environmental considerations that are either not dealt with, or dealt with in a cursory manner. It is important to remember that whilst these items listed are not a trigger for an EIS in the PD Act (like air quality above), they are extremely important considerations when assessing the function of an EIS to identify all environmental, social and economic impacts related to a proposal, and an assessment to ensure that adverse impacts are avoided, minimised, mitigated or, as a last resort, offset.

These considerations are discussed below.

³¹ Egg farm odour will hit residents of West Belconnen, says Parkwood owner (Canberra Times, 2015) <http://www.canberratimes.com.au/act-news/egg-farm-odour-will-hit-residents-of-west-belconnen-says-parkwood-owner-20151113-gkycj7.html>

³² ActewAGL, DA 201732500.

2.1.5.1 Impacts of potential fire not addressed by the studies

The Ginninderry Planning Report and its attachments omit any detailed discussion on mitigating the risks of potential hazardous fires in the region.

On page 28 of the Ginninderry Planning Report, it is acknowledged:

“Bushfires are a known hazard in the ACT due to the dry summers and flammable vegetation. Severe, damaging fires occur on a regular basis, generally every 6-27 years. The most serious fires occurred in 2003, and affected the Molonglo and Mount Stromlo areas, just south of the proposed development.

The risk of bushfires occurring is most prominent when strong winds from central Australia are directed towards Canberra. The most dangerous wind direction for Canberra and its surrounding regions (north-west) is also a common wind direction for the area (ACTPLA, 2007). Mitigation measures to address the above concerns have been provided under ‘6.9 Management of Air Quality & Odour’.³³

Further, in Table 7 of the Ginninderry Planning Report, mitigation measures from odour produced by bushfires is addressed as follows: *“From air quality assessments, current legislation has been identified as being sufficient to address any potential odour issues associated with bushfire emissions.”³⁴* Mitigation measures to address bushfire concerns cannot be located at ‘6.9 Management of Air Quality & Odour’, because this sub-section cannot be found. Perusing the *West Belconnen Strategic Environmental Assessment Air Quality Review – 2018 Update*, it too does not address the bushfire risk, only similarly quoting the paragraphs above, and commenting on bushfires as an air pollution issue only.

This response does not sufficiently address likely fire dangers asserted by fire experts. A report entitled “Risk Implications of Dynamic Fire Propagation, A case study of the Ginninderra region, Preliminary Report”³⁵, was commissioned by the GFA in April 2017 and publicised on 20 June 2017 through a media release which was circulated to all relevant bodies including Riverview and Yass Valley Council (YVC). In that report, UNSW bushfire scientist Dr Jason Sharples asserted that the relevant Australian Standard that applies for this development (AS 3959), is inadequate for the following reasons:

- a. AS 3959 does not adequately address the risk of fire from ember attack (Sharples, 2017 pp8, 18-19);
- b. AS 3959 does not adequately address new research about the effect of steep slopes on fire spread (Sharples, 2017 pp 9-12, 16-17, 20-24).

There are currently proposed changes to AS3959 to address gaps in the standard³⁶

The GFA acknowledge that the developer has added a 10 metre buffer zone to the Asset Protection Zones around the proposed residential area to assist in defending against fire. However, expert information assesses this buffer zone as insufficient in addressing risk of fire from ember attack, particularly with respect to steep slopes, characteristic in the area. The reports provided by the proponent do not address this risk. Given the impact of the recent

³³ Ginninderry Planning Report for EIS Exemption (Knight Frank Town Planning, February 2018), page 28.

³⁴ Ginninderry Planning Report for EIS Exemption (Knight Frank Town Planning, February 2018), pages 28 and 66.

³⁵ Incorporating ember attack in bushfire risk assessment: a case study of the Ginninderry region (Melanie E. Roberts, Jason J. Sharples, Andrew A. Rawlinson, 2017) was provided to YVC on 3 Nov 2017 and has been publicly available since December 2017 on the web at <https://www.mssanz.org.au/modsim2017/H10/roberts.pdf>.

³⁶ Seeking comments on early-stage analysis of the impacts associated with draft changes to AS 3959, Construction of buildings in bushfire-prone areas (Standards Australia, September 2017) <https://www.standards.org.au/news/seeking-comments-on-early-stage-analysis-of-the-impacts-associated-with-draft-changes-to-as-3959,-construction-of-buildings-in-bushfire-prone-areas>

Tathra fires, the impacts on families and communities in Canberra as a result of the 2003 fire, a specific EIS is required to appropriately address fire risks.

2.1.5.2 Impacts of this development on climate change and the ACT's emission reduction targets

The object of the PD Act is to *provide a planning and land system that contributes to the orderly and sustainable development of the ACT* (section 6). ACTPLA must exercise principles of sustainable development, as defined in section 9 (section 12 (3)(a)). This includes ensuring that climate change impacts are addressed in major developments such as Ginninderry.

There has been no study included in the report that addresses, or seeks to address, the impact of this development on ACT's overall commitment to net zero emissions target, set out in the *Climate Change Act 2010* (ACT). The large-scale nature of land clearing in this project, and the development of infrastructure (a population of 30,000 with approximately 11,500 dwellings across the ACT and NSW) is likely to have significant impacts on the ACT's interim emission reduction targets. The Ginninderry Planning Report acknowledges that there will be air quality impacts from wood fire heaters, diesel buses and potential fires once the development is in place, yet there is no discussion of this impact on the ACT's obligations to reduce its emissions.

The ACT Climate Strategy Discussion Paper (2018) notes the importance of sustainable land use, including designing cities that increase the natural uptake of carbon, and limiting deforestation through greenfield development. The ACT Greenhouse Gas Inventory 2016-2017 indicated that last year was the first time that land use in the ACT was a net contributor to GHG emissions,³⁷ partially due to land clearing for development. An EIS would allow for the climate impacts of development proposal to be addressed. Further information on this issue will be provided as an annexure to this submission.

2.2 Section 211H(3)(c): The part of the recent study relevant to the proposal required public consultation through a statutory process or as part of a government policy development

There have been no public consultations with respect to impacts of the development on ACT-listed species for any part of the Ginninderry project. The process of lodging an application in the impact track elicits public consultation through the drafting of an EIS, unless, of course, the proponent applies for an EIS exemption. As Stage 1 of the development was erroneously lodged in the merit track, there was no formal opportunity for the public to comment on a number of these matters at all at the ACT level, given no EIS was lodged or considered as part of the development proposal. An EIS is required to ensure that the public has opportunity to comment to the development proposal.

The Consultation Report has been submitted as part of the EIS exemption process in an attempt to prove that public consultations relevant to the current EIS exemption application have been completed. Whilst it is true that public consultations were held for the Strategic Assessment Report and the Program Report on 19 and 21 May 2016, these consultations gave the public the opportunity to comment on Commonwealth-listed species only. There have been no opportunities for public consultation on ACT-listed species. This is evident in the questions and concerns posed by members of the public, and the proponent's responses, set out in Table 3.2 of the Consultation report. Whilst the Ginninderry Planning Report attempts to conflate the assessment with respect to Commonwealth, ACT and NSW-listed species, the Consultation report makes it clear that the author's intentions were to discuss Commonwealth-listed species only. A number of examples below illustrate this point:

³⁷ ACT Greenhouse Gas Inventory 2016-2017 (October 2017) section 3.7.

2.2.1 The concern raised at A5 of the report that the report “only really considers 3 endangered species and ignores others”

The following response was given:

*“The **Strategic Assessment Report assesses in detail all EPBC Act listed threatened species and communities likely to occur.** The report also discusses the potential presence of all other matters of national environmental significance as determined from a search of the EPBC protected matters search tool. The species that have not been assessed in detail are discussed in the assessment report with reference to the specialist ecological reports... Further, locally important species listed under the National Conservation Act, Threatened Species Conservation Act or Fisheries Management Act have been discussed in section 6.1 of the Strategic Assessment Report”³⁸ (emphasis added).*

It is clear from this response that only Commonwealth-listed species were dealt with in sufficient detail in the Strategic Assessment Report.

2.2.2 Concern was raised by 6 parties at C1 relating to the known occurrence of the Rosenberg Goanna and insufficiency of reserve size.

Whilst this relates to a NSW-listed species and is not directly relevant to this submission, it illustrates the point being made. The following response was given:

*“Rosenberg’s monitor is not listed under the EPBC Act therefore it **did not warrant specific consideration as part of the Strategic Assessment Report process.** Some discussion on Rosenberg’s monitor and its occurrence is provided in section 6.1.7.1 of the Strategic Assessment Report”³⁹ (emphasis added).*

2.2.3 Concern was raised at C9 that there is insufficient distance from urbanisation for species sensitive to disturbance.

The following response was given:

*“The Program (section 3) describes an overall footprint that is inclusive of services, transport, dwellings and other components of an urban development such as open space. Detailed design for each stage of the proposal **will require consideration of adjacent ecological values** and in order to meet with commitments established under the Program will include design responses that avoid and mitigate indirect impacts. The distance of the WBCC to urbanisation is discussed in section 2.6.2 of the Strategic Assessment Report”⁴⁰*

It is appropriate that “detailed design for each stage of the proposal” includes a detailed EIS, as per the usual process for all developments lodged in the impact track, to ensure that adequate consideration of adjacent ecological values are taken into account.

2.2.4 Concern was raised at C10 that Commonwealth endorsement should be conditional upon an ACT assessment of ACT listed threatened species (particular reference to the little eagle).

The following response was given:

³⁸ EPBC Consultation Report (Knight Frank Town Planning, April 2017) pages 10-11.

³⁹ EPBC Consultation Report (Knight Frank Town Planning, April 2017) pages 15-16.

⁴⁰ EPBC Consultation Report (Knight Frank Town Planning, April 2017) pages 18.

“...the Minister may attach conditions to an approval however these must relate to matters protected by Part 3 of the Act (matters of national environmental significance).

As little eagle is not protected by Part 3, it is inappropriate for conditions to be put upon the project under the EPBC Act in relation to this species.

Regardless of any potential approval under the EPBC Act, consideration of the little eagle must still occur under the Planning and Development Act 2007 (PD Act) in the ACT and under the Environment Planning and Assessment Act 1979 (EP&A Act) in NSW. As little eagle is listed in both these jurisdictions, development cannot occur unless outcomes under State and Territory legislation satisfies the regulator in those jurisdictions” (emphasis added).

The effect of a successful EIS exemption by the proponent is that consideration of the little eagle will not occur under the PD Act, despite the fact that it hasn't really been considered, by the developer's own admission, through this consultation process.

2.2.5 Concern was raised at D5 that there appeared to be a general view that concerns brought by the community had not been addressed.

The following response was given:

*“This is not correct. Whilst some matters are still subject to discussion and the possibility that an “agree to disagree” position may be the final outcome, a generally expressed view from all stakeholder groups and individuals is that the engagement process and responsiveness of the West Belconnen project has been exemplary...”*⁴¹

An “agree to disagree” position is never the best outcome when applied to the assessment of impacts on vulnerable and critical species. Species listed as critical and vulnerable are listed for a reason – and they require special protections to ensure their status is not further compromised. We have sought to provide and rely on scientific findings to support and inform our view that stronger protections ought to be in place for, not only the Commonwealth listed species, but the ACT and NSW listed species also. Indeed, Ecologically Sustainable Development principles that underpin the PD Act, necessitate a precautionary approach be taken, particularly where it applies to the conservation of biodiversity and ecological integrity.

2.2.6 The ACT Environment and Planning Directorate (EPD)'s comments with respect to Rosenberg's goanna.

In particular, the EPD specifically stated that the Rosenberg's goanna is a “*wide ranging species, with individuals from Ginninderra Falls likely to move into the ACT at times, and the river corridor being an important habitat link connecting the NSW animals to a wide population across the northern areas of Namadgi and the Lower Cotter Catchment*”.

The following response was given:

“Noted. Commentary on the Rosenberg's Monitor has been included in Section 6.3.7.1 where the Strategic Assessment Report identifies a full assessment of impacts to the Rosenberg's goanna will be included within State and Territory approval processes as appropriate”.

Again, further evidence that the EPBC-related processes, both in terms of the consultation, but also with respect to the ultimate Strategic Assessment Report was never intended to address ACT-listed species in any depth.

⁴¹ EPBC Consultation Report (Knight Frank Town Planning, April 2017) pages 19-20.

2.3 Section 211H(3)(d): Some of the recent studies are more than 18 months old and draw on dated data

The Minister must be satisfied, per section 211H(3)(d) of the PD Act, that the “recent study” relied upon is current – and if more than 18 months old, include a statement from an appropriately qualified person with no current professional relationship with the proponent, verifying that the information in the recent study is current. As set out in 2.1 above, the reports relied upon are insufficient for the purposes of assessing the impacts of development on ACT-listed species. Where these reports do comment on ACT-listed species, there are a number of issues:

2.3.1 Strategic Assessment Report and the Program Report

The Strategic Assessment Report notes, at 1.1, that it should be read in conjunction with the Program Report (AT Adams Consulting 2016). The footnoted reference to this report gives the full reference as “*AT Adams Consulting (2016) Urban Development at West Belconnen Program Report, prepared for The Riverview Group, Canberra (January 2015)*”.

However, the report uploaded for the purposes of the EIS exemption application is not the report quoted in the Strategic Assessment Report. The Program Report uploaded is dated 18 April 2017, a month after the Strategic Assessment Report was produced. The 2017 Program Report is almost identical to the report submitted for EPBC consultation, dated 12 May 2016. It is effectively the same report as one submitted over 18 months ago for EPBC Consultation. The only changes to the 2017 Program Report from the 12 May 2016 Program Report are small sentence changes, formatting, and the addition of content copied from the Umwelt report. In particular, the two reports are identical except for:

1. an additional sentence on page 38;
2. an additional word on page 44;
3. one additional sentence on page 45, and one sentence removed;
4. two sentences removed on page 46, and one word changed (from ‘should’ to ‘may’);
5. one sentence added on page 47;
6. one sentence removed on page 49;
7. one sentence removed on page 50;
8. two additional items on pages 52-53;
9. Additional pages 58-66 are added. These are identical to the content of the Umwelt report.

These changes are highlighted in the attached report at Appendix A.

Either the 2017 report was erroneously uploaded as supporting documentation when the 2016 document (as quoted in the Strategic Assessment Report) was the most appropriate. The 2016 report would have required a statement from an appropriately required person with no current professional relationship with the proponent, verifying that the information in the recent study is current. Instead, the 2017 report was submitted, though it is almost identical. The changes made to the 18 April 2017 cannot be considered an update. The 2017 report is then, in effect, more than 18 months old and a statement is required under section 211B(3)(d). The Minister must take this into account when considering section 211H(3)(d) of the PD Act.

2.3.2 Movements of the Little Eagle report, 2016

The report entitled “Movements of the Little Eagle (*Hieraaetus morphnoides*) surrounding the proposed Riverview Development Area” by Brawata and Gruber was published in 2016, with no specific indication as to the month of publication. This report is likely to be more than 18 months old, and yet there was no statement required under section 211B(3)(d) attached.

2.3.3 Target surveys relied upon are dated

The Strategic Assessment Report relies on targeted surveys of species that were undertaken up to 13 years ago. Whilst reports commenting on these target surveys are more recent, and it is necessary to assess incidences of fauna and flora over time, it raises concerns that the reports to which this data relates does not sufficiently capture the vulnerability of these species, and instead judges the inevitability of decline as opposed to the value of habitat protection:

*Birds*⁴²

- KMA (2013c) West Belconnen Woodland Project ACT and NSW Land Targeted Bird Surveys;
- KMA (2014) Ecological Studies West Belconnen Australian Capital Territory;
- KMA (2013a) West Belconnen Project NSW Land Flora and Fauna Studies;
- KMA (2009b) West Belconnen Project ACT and NSW Land Flora and Fauna Studies; and
- Geoff Butler and Associates (2000) The Revegetation of Ginninderra Creek Between Barton Highway and Macgregor, ACT.

*Fish*⁴³

No targeted survey research quoted.

*Amphibians*⁴⁴

No targeted survey, although data used from preliminary frog survey through KMA (2009b).

*Golden sun moth*⁴⁵

- Rowell, A. (2013) West Belconnen Golden Sun Moth Surveys, October to December 2012, prepared for The Riverview Group, Canberra;
- Biosis (2015) Golden Sun Moth Monitoring Report – Jarramlee Nature Reserve, prepared for Territory and Municipal Services Directorate, Canberra;
- Braby, M.F. (2005) Distribution and Provisional Management Plan of the Golden Sun Moth *Synemon plana* (Lepidoptera: Castniidae), in Remnant Grasslands of Macgregor West, ACT, prepared for the Australian Capital Territory Planning and Land Authority, Canberra;
- Rowell A (2015) Riverview Project: Ginninderra Drive extension Golden Sun Moth Surveys, prepared for Umwelt Pty Ltd (February 2015).

*Pink-tailed worm lizard*⁴⁶

Information for the assessment of impacts to pink-tailed worm-lizard predominantly used data from targeted surveys conducted by Osborne and Wong (2013).

Flora

- KMA (2014) Ecological Studies West Belconnen Australian Capital Territory;
- KMA (2013a) West Belconnen Project NSW Land Flora and Fauna Studies;
- KMA (2009a) Further Flora and Fauna Studies: Land at West Molonglo and Ginninderra Creek New South Wales Australian Capital Territory;
- KMA (2009b) West Belconnen Project ACT and NSW Land Flora and Fauna Studies
- David Hogg Pty Ltd (2013) West Belconnen Woodland Areas: Confirmatory Ecological Assessment; and

⁴² Strategic Assessment Report (Umwelt, March 2017) part 4.5.1

⁴³ Strategic Assessment Report (Umwelt, March 2017) part 4.5.2

⁴⁴ Strategic Assessment Report (Umwelt, March 2017) part 4.5.3

⁴⁵ Strategic Assessment Report (Umwelt, March 2017) part 4.5.4

⁴⁶ Strategic Assessment Report (Umwelt, March 2017) part 4.5.5

- Geoff Butler and Associates (2000) The Revegetation of Ginninderra Creek Between Barton Highway and Macgregor, ACT.

The targeted surveys were conducted between three and twenty years ago. Surveys are a snapshot in time and changes can occur to habitat over time. Additional surveys may identify species that were not recorded in the original surveys or areas of habitat that have subsequently recovered. It is therefore imperative that a proper environmental impact statement be undertaken so as to ensure a proper survey of affected species, including likely impacts as a result of the development and a proper mitigation program to address these impacts.

2.4 Section 211H(3)(a): Concerns that the surveys and reports are not completely independent

In general, across all developments in the ACT, there are serious concerns with the independence of the planning and assessment process with respect to assessing environmental impacts. The general process is highly flawed given that the Minister in most cases relies on reports commissioned and overseen by the proponent in order to make its decisions. This provides the opportunity for proponents to influence the terms of reference and scope of reports, to engage consultants likely to be more favourable to development, and to expert shop if results of reports are likely to adversely affect development.

In this case, as has been demonstrated above, a Little Eagle study justifying a certain measure (e.g. 200m buffer zone) has been quoted, favourable to the development, despite the breadth of reports indicating otherwise. This is a clear indicator that an independent EIS is required.

3 Procedural issues with the EIS exemption application

In addition to the substantive issues outlined below, there are several procedural issues in EIS application(s). For example:

- (a) A number of Form 1Ms appear to be unsigned in several places;
- (b) A number of Form 1Ms have insufficient descriptions of the land to which the EIS exemption applies. Specificity is required when applying for an EIS exemption (otherwise, how can anybody providing an opinion or object turn their mind to whether or not an EIS exemption is appropriate or not?).

Where an application is made on an EIS exemption, unless a block of land is considered in its entirety, applications for blocks "in part" or for roads, must include GPS coordinates of the area to which the EIS exemption relates.

Block number	Defects in 1M form
1540 Belconnen	Government custodian signature not dated
1582 Belconnen	No ACN number for company included
1599 Belconnen	Details not included, written 'as previous'
1600 Belconnen	Signature is unclear (signed electronically?)
1607 Belconnen	Lessee signature signed 'as above'
1469 Belconnen	Lessee signature signed 'as above'
1621 Belconnen	Lessee signature signed 'as above'
1620 Belconnen	Lessee signature signed 'as above'
Drake-Brockman Drive	No precise location given
Studio Road	- No precise location given - No zone given - No lessee or custodian details filled in - No signature

Parkwood road	- No precise location given - No zone given - No lessee or custodian details filled in - No signature
Drake-Brockman Drive	No certainty as to what portion of the road this application relates.
Studio Road	- No certainty as to what portion of the road this application relates. - Lessee signature signed 'as above'
Parkwood road	- No certainty as to what portion of the road this application relates. - Lessee signature signed 'as above'
7 (part) Macgregor	No certainty as to what portion of the block this application relates to.
2 (part) Dunlop	- No certainty as to what portion of the block this application relates to. - Lessee signature signed 'as above'
1	Lessee signature signed 'as above'
856	- 2 third lessee signatures? - There have been 2 sites signed for, but only one site identified in the form
860	Lessee signature signed 'as above'
857	Lessee signature signed 'as above'
Exemption to DA application	Refers to attached forms only

In addition, the procedural requirements set out in section 211B (3) have not been fulfilled. Section 211B(3) requires that the EIS exemption application:

- a. be in writing;
- b. Include information about the development proposal;
- c. Identify the recent study;
- d. If the recent study is more than 18 months old, include a statement *from an appropriately qualified person with no current professional relationship with the proponent verifying that the information in the recent study is current.*

Our concerns relate to section 211B(3) (b), (c) and (d) above. I note that section 211B(3)(d) is addressed above at 2.3 above.

In particular, the EIS exemption application must include information about the development proposal as per Section 211B(3)(b). This clause was originally inserted into the Act to assist the public, because "*without information about the development proposal it is difficult to establish if the environmental impact of a proposal has been sufficiently addressed in a recent study*".⁴⁷ In the current EIS exemption application, there is no information provided that outlines the nature of development in each of the blocks the EIS exemption applications relate to. Indeed, the defects in the Form 1Ms are such that there is no certainty as to what part of the blocks the EIS exemption relates (as per the table above). If the locations cannot be identified with any certainty, it is difficult to prove that any documentation provided to support an EIS exemption addresses the impacts on particular blocks of land.

Section 211B(3)(c) requires that a recent study must be included in the application to provide evidence that environmental impacts have been considered and will be addressed. However, because of the haphazard nature of the application and the bundle of documents attached, it is not clear as to which reports apply to which blocks. Whilst a large-scale approach has been taken in terms of assessing impacts (for Commonwealth-listed species), this has a real impact

⁴⁷ *Planning and Development (Efficiencies) Amendment Bill 2016, Explanatory Statement.*

on the ground and detail needs to be paid attention to in order to ensure harms are realised and mitigation measures are in place.

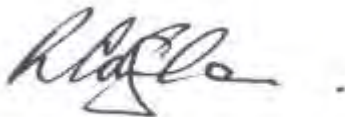
Conclusion

The application for an overarching EIS exemption for a 50-year period, for an entire 16-stage development over at least 32 blocks to take place over the next 37 years is egregious to begin with. What's more the application for an exemption is unjustified, given the criteria for the Minister to grant an EIS exemption has simply not been satisfied. In the pages preceding, evidence has been provided that:

- the primary documents relied upon to satisfy PD Act Schedule 4, Part 4.3 with respect to biodiversity protection, heritage protection, reserve protection and contamination of land do not sufficiently address the likely impacts of the development on vulnerable and endangered ACT-listed flora and fauna or have not begun investigations into the nature of contamination;
- reports have been selectively submitted with respect to species such as the Little Eagle, as a means to an end, rather than providing an accurate, well-rounded assessment of the impacts to the species and the best practices to mitigate harm;
- the threat of bushfires, noted as a specific risk, have not been sufficiently addressed in or as part of an EIS, despite experts articulating significant risk;
- there has been no consideration of the impacts of the development on climate change, or the ACT's emission reduction targets;
- there have been no public consultations on the development with respect to the ACT-listed species and ecological communities;
- Some of the reports and data drawn upon are either older than 18 months (and are not accompanied by a statement from an independent person) or contain survey data that is dated;
- Procedural requirements have not been met in that forms and other documents provided do not set out the nature of the impact of the development on each block, its impacts on ACT-listed flora and fauna, or a clear indication as to where the reports relate.

The large-scale nature of this project means that impacts on ACT-listed flora and fauna will be cumulative and incremental. This project requires ongoing monitoring, assessment and mitigation of environmental impacts on protected species at each stage of the project. Such is our concern about the inappropriateness of this application that we are seeking expert legal advice on this issue. It is appropriate for any decision on this matter to be delayed until this legal advice is received (within the next two weeks).

Yours faithfully,



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List of Appendices

Appendix A: Analysis of experts comments (September 2017)

Appendix B: Ecologists scrutinise Yass Valley Settlement Strategy's no-development zone on NSW-ACT border (September 2017)

Appendix C: Laura Rayner et al; 'Avifauna and urban encroachment in time and space' (2015) 21(4) *Diversity and Distributions* 428-440

Appendix D: Soule, M. E. and Simberloff, D. (1986). What do genetics and ecology tell us about the design of nature reserves? *Biological conservation*, 35(1), 19-40

Appendix E: Stephen Debus, *Potential impacts of Proposed Urban Development on Raptors in the Molonglo Valley, ACT: Report to ACT Planning and Land Authority*, 10 Feb 2005.

Appendix F: Stephen Debus, 'Raptors and the Proposed Central Molonglo Development' (2008) 33(2) *Canberra Bird Notes* 82.

Appendix G: Stephen Debus, 'Little Eagles in the ACT' (Paper, 5 August 2017).

Appendix H: Jerry Olsen and Susan Trost, 'Little Eagles in the ACT during Two Breeding Seasons: 2015 and 2016, and the Myth of 'Buffers' and 'Corridors' (2017) *Australasian Raptor Association News*.

Appendix I: Jerry Olsen, Susan Trost and Geoffrey Dabb, "Little Eagles in the Australian Capital Territory during two breeding seasons: 2015 and 2016", *Canberra Bird Notes* 42(2) (2017): 134-139.

Appendix J: Jerry Olsen, Mark Osgood and Geoffrey Dabb, 'Little Eagles in the Australian Capital Territory in 2014' (2015) 40(3) *Canberra Bird Notes* 208

Appendix K: Jerry Olsen, 'Little Eagles in the ACT' (paper dated 24 July 2017)

Appendix L: Stephen Debus, 'Little Eagles and Development in the ACT' (Media Release, 10 May 2017).

Appendix M: Preliminary Biodiversity of the Ginninderra Falls Area, (Ginninderra Catchment Group, 2016)

Appendix N: Monitoring the Monitor, (NPA Bulletin, March 2018)

Appendix O: Incorporating ember attack in bushfire risk assessment: a case study of the Ginninderry region, Melanie E. Roberts, Jason J. Sharples, Andrew A. Rawlinson (2017)

Appendix P: Annotated copy of Program Report (AT Adams Consulting, 2017)

Analysis of experts' comments – threatened species – West Belconnen area – 10 September 2017

Following a discussion paper produced by Ginninderra Catchment Group on planning in the NSW section of the Ginninderry development, experts were consulted about predicted responses of threatened species with respect to the range of scenarios discussed in the discussion paper (Figure 1).

Experts were chosen based on their prominence in their field of study, relevance of their research and ecological knowledge with respect to the species concerned. Where research had been applied in the ACT region, the experts who had conducted the most relevant research to the current planning situation being assessed were consulted. The expert advice is based on a combination of data and, in most cases, decades of experience in the species concerned.

The experts that were consulted were as follows:

Rosenberg's Goanna: Peggy Rismiller (Pelican Lagoon Research and Wildlife Centre) and Will Osborne (UC) – Peggy Rismiller has been studying Rosenberg's Goanna on Kangaroo Island for approximately 30 years. Over this time she has radio-tracked the species and recorded increasing home ranges over time.

Pink-tailed Worm Lizard: Will Osborne – Will Osborne is one of the foremost experts on reptiles, particularly in the ACT area. Is a specialist on reptiles and frogs and has undertaken or been involved in research on threatened species such as Rosenberg's Goanna, Pink-tailed Worm Lizard as well and Green and Golden Bell Frog.

Raptors: Jerry Olsen (UC) and Stephen Debus (UNE) – Jerry Olsen and Stephen Debus are both leading raptor experts.

Birds: Karen Ikin (ANU) and Laura Rayner (ANU) – Karen Ikin and Laura Rayner are bird experts who have conducted extensive research into birds in the ACT region and their responses to urban development.

Water birds: Chris Davey (Canberra Ornithologists Group) – Chris Davey is a local bird expert with extensive experience and knowledge about a wide range of bird species.

Fish and Aquatic Invertebrates: Mark Lintermans (UC) – Mark Lintermans is one of the foremost experts on freshwater ecology of fish and aquatic fauna.

It should be noted that the Figure 2 and Table 3 only deal with the species that have *recently* been recorded in or near the development area. Many of the fauna surveys that were conducted largely did not focus on the forested areas around the Ginninderra Falls and Ginninderra Gorge. A more extensive list of species that may occur in the area (based on previous records or records in the nearby area) is shown in Figure 3 and Table 2.

Implications

The findings of this analysis indicate that rezoning as currently proposed is likely to cause significant numbers of threatened species to be put at risk of local extinction, significant decline or decline (Figure 2, Table1). The intermediate option is also judged by experts as likely to put at least seven threatened species at risk of decline. Even the more precautionary scenarios could result in declines or significant declines of some species. When all species that have been identified as possibly occurring are included in the analysis (Figure 3; Table 2) more species are judged by experts as being put at risk of local extinction, significant decline or decline (most notably for the currently proposed reserve scenario and the intermediate reserve scenario).

This indicates that there is a mismatch between currently promoted characteristics of the development in the West Belconnen area (respecting biodiversity etc.) and the likely response of species as judged by leading experts.

An examination of reserve design that takes into account all the ecology and life history of **all** the species is critical and should be undertaken before rezoning goes ahead. This information should inform this exercise.

Based on this preliminary analysis, retaining the land proposed for rezoning in an environmental zoning and even adding to this area appears to be the most appropriate action with respect to biodiversity.

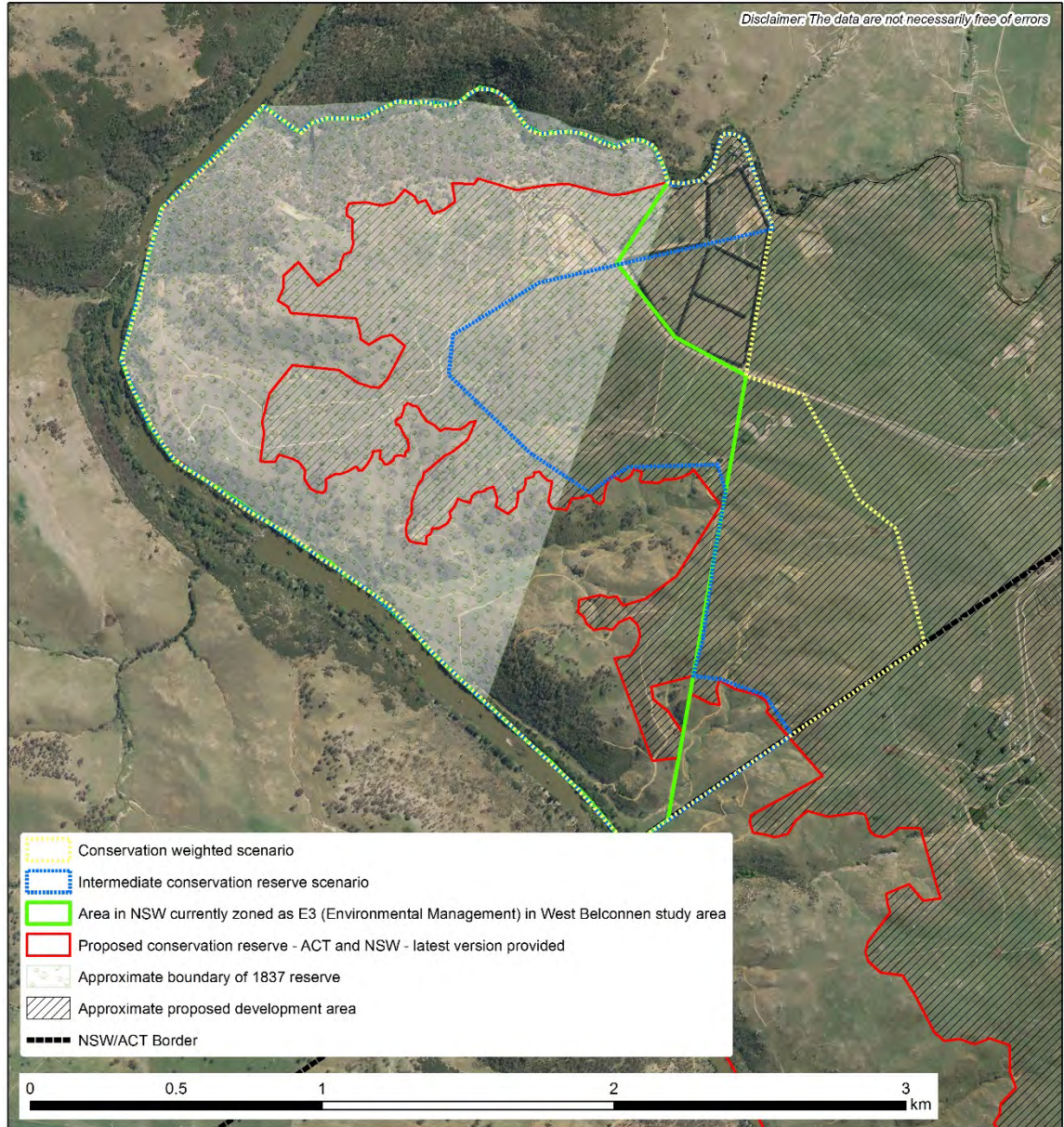


Figure 1: Reserve scenarios presented to experts for assessment of likely species response

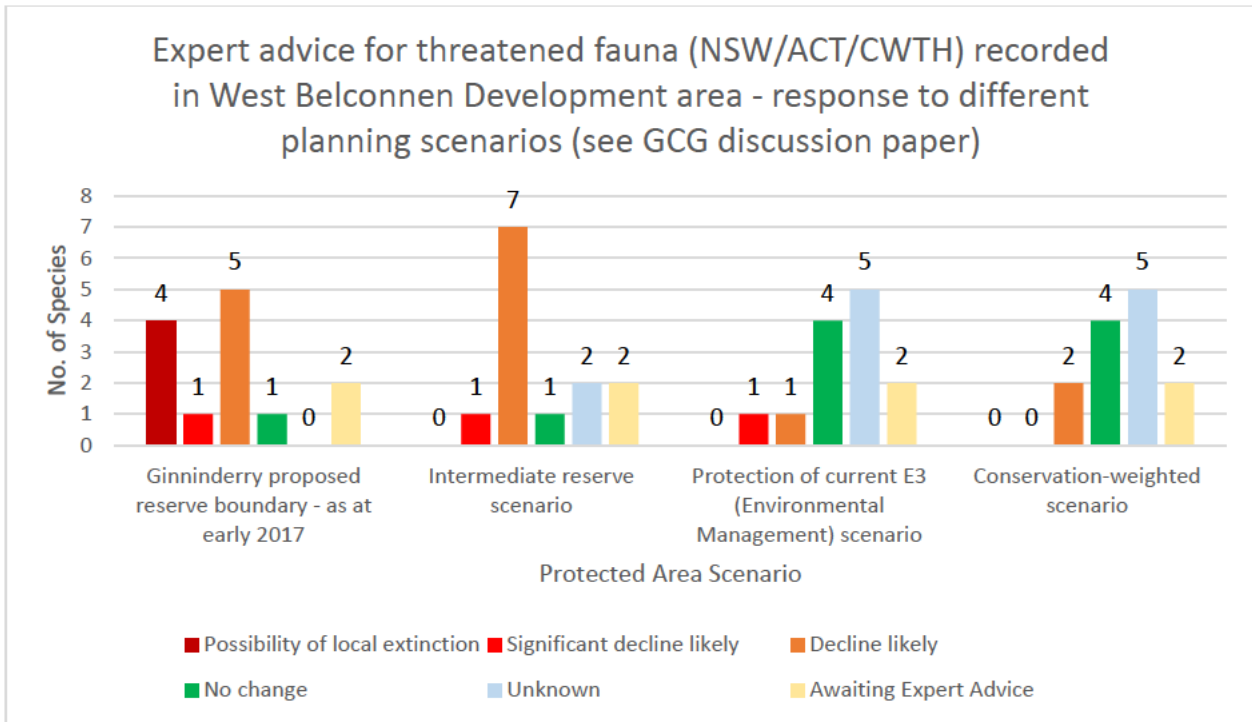


Figure 2: Expert advice on predicted response of threatened fauna species in relation to different planning scenarios presented in Ginninderra Catchment Group discussion paper

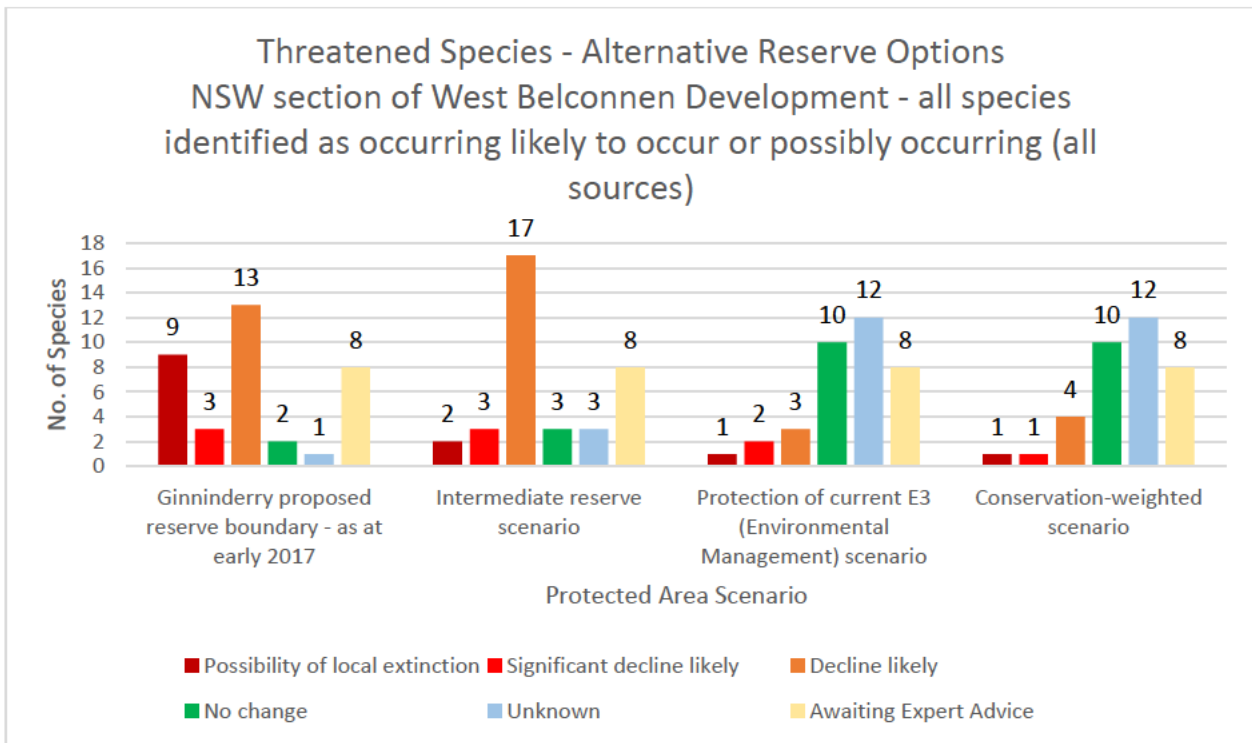


Figure 3: Expert advice on predicted response of threatened fauna species in relation to different planning scenarios presented in Ginninderra Catchment Group discussion paper – all species identified from all sources as being present, likely to be present, or possibly present in the study area.

Table 1: Threatened species that have been recorded in the Ginninderry Development area and expert advice on predicted response of these species in relation to different planning scenarios presented in Ginninderra Catchment Group discussion paper

.Species	Threatened Cwth	Threatened NSW	Threatened ACT	Likely response - Currently proposed line (Red line)	Likely response - Intermediate Reserve Option (Blue line)	Likely response - Current E3 (Green line)	Likely response - Conservation weighted option (Yellow dotted line)
Rosenberg's Goanna		Vulnerable		Possibility of local extinction	Decline likely	No change	No change
Pink-tailed Worm Lizard	Vulnerable	Vulnerable	Vulnerable	No change	No change	No change	No change
Superb Parrot	Vulnerable	Vulnerable	Vulnerable	Decline likely	Decline likely	No change	No change
Little Eagle		Vulnerable	Vulnerable	Possibility of local extinction	Decline likely	Unknown	Unknown
White-bellied Sea-eagle		Vulnerable		Significant decline likely	Decline likely	Unknown	Unknown
Gang-gang Cockatoo		Vulnerable		Decline likely	Decline likely	No change	No change
Flame Robin		Vulnerable		Decline likely	Unknown	Unknown	Unknown
Scarlet Robin		Vulnerable	Vulnerable	Possibility of local extinction	Significant decline likely	Significant decline likely	Decline likely
Speckled Warbler		Vulnerable		Decline likely	Unknown	Unknown	Unknown
Spotted Harrier		Vulnerable		Possibility of local extinction	Decline likely	Unknown	Unknown
Eastern Bent-wing Bat		Vulnerable		Awaiting expert advice	Awaiting expert advice	Awaiting expert advice	Awaiting expert advice
Golden Sun Moth	Critically Endangered	Endangered	Endangered	Awaiting expert advice	Awaiting expert advice	Awaiting expert advice	Awaiting expert advice
Murray Cod		Vulnerable		Decline likely	Decline likely	Decline likely	Decline likely

Table 2: List of all species identified as present, likely to be present, or possibly present from all sources and expert advice on predicted response of these species in relation to different planning scenarios presented in Ginninderra Catchment Group discussion paper. The assessment of species as “unlikely to be present” in the table is based on expert opinion, however, these species were identified as possibly being present in other sources so are included for completeness.

Species	Threatened Commonwealth	Threatened NSW	Threatened ACT	Likelihood of Occurrence	Likely response - Currently proposed line (Red line)	Likely response - Intermediate Reserve Option (Blue line)	Likely response - Current E3 (Green line)	Likely response - Conservation weighted option (Yellow dotted line)
Rosenberg's Goanna		Vulnerable		Confirmed recently	Possibility of local extinction	Decline likely	No change	No change
Pink-tailed Worm Lizard	Vulnerable	Vulnerable	Vulnerable	Confirmed recently	No change	No change	No change	No change
Superb Parrot	Vulnerable	Vulnerable	Vulnerable	Confirmed recently	Decline likely	Decline likely	No change	No change
Little Eagle		Vulnerable	Vulnerable	Confirmed recently	Possibility of local extinction	Decline likely	Unknown	Unknown
White-bellied Sea-eagle		Vulnerable		confirmed recently	Significant decline likely	Decline likely	Unknown	Unknown
Gang-gang Cockatoo		Vulnerable		Confirmed recently	Decline likely	Decline likely	No change	No change
Flame Robin		Vulnerable		Confirmed recently	Decline likely	Unknown	Unknown	Unknown
Scarlet Robin		Vulnerable	Vulnerable	Confirmed recently	Possibility of local extinction	Significant decline likely	Significant decline likely	Decline likely
Speckled Warbler		Vulnerable		Confirmed recently	Decline likely	Unknown	Unknown	Unknown
Spotted Harrier		Vulnerable		Confirmed recently	Possibility of local extinction	Decline likely	Unknown	Unknown
Eastern Bent-wing Bat		Vulnerable		Confirmed recently	Awaiting expert advice	Awaiting expert advice	Awaiting expert advice	Awaiting expert advice
Golden Sun Moth	Critically Endangered	Endangered	Endangered	Confirmed recently	Awaiting expert advice	Awaiting expert advice	Awaiting expert advice	Awaiting expert advice
Murray Cod		Vulnerable		Confirmed recently	Decline likely	Decline likely	Decline likely	Decline likely
Spotted-tailed Quoll (Cwth/NSW/ACT)	Endangered	Endangered	Endangered	Likely to occur				
Hooded Robin (NSW/ACT)		Vulnerable	Vulnerable	Likely to occur	Possibility of local extinction	Significant decline likely	Decline likely	Decline likely
Brown Treecreeper		Vulnerable	Vulnerable	Likely to occur	Possibility of local extinction	Possibility of local extinction	Significant decline likely	Significant decline likely

Species	Threatened Commonwealth	Threatened NSW	Threatened ACT	Likelihood of Occurrence	Likely response - Currently proposed line (Red line)	Likely response - Intermediate Reserve Option (Blue line)	Likely response - Current E3 (Green line)	Likely response - Conservation weighted option (Yellow dotted line)
Regent Honeyeater	Critically Endangered	Critically Endangered	Endangered	Likely to occur	Possibility of local extinction	Possibility of local extinction	Possibility of local extinction	Possibility of local extinction
Glossy Black Cockatoo		Vulnerable	Vulnerable	Likely to occur	Decline likely	No change	No change	No change
Varied Sittella		Vulnerable	Vulnerable	Likely to occur	Significant decline likely	Decline likely	No change	No change
White-winged Triller			Vulnerable	Likely to occur	Decline likely	Decline likely	No change	No change
Diamond Firetail			Vulnerable	Likely to occur	Decline likely	Decline likely	No change	No change
Painted Honeyeater	Vulnerable	Vulnerable	Vulnerable	Likely to occur	Possibility of local extinction	Significant decline likely	Unknown	Unknown
Trout Cod	Endangered		Endangered	Likely to occur	Unknown	Unknown	Unknown	Unknown
Silver Perch				Likely to occur	No change	No change	No change	No change
Murray River Crayfish			Vulnerable	Likely to occur	Decline likely	Decline likely	Decline likely	Decline likely
Koala	Vulnerable	Vulnerable		Possibly occurs	Awaiting expert advice	Awaiting expert advice	Awaiting expert advice	Awaiting expert advice
Eastern Pygmy Possum		Vulnerable		Possibly occurs	Awaiting expert advice	Awaiting expert advice	Awaiting expert advice	Awaiting expert advice
Powerful Owl		Vulnerable		Possibly occurs	Decline likely	Decline likely	Unknown	Unknown
Barking Owl		Vulnerable		Possibly occurs	Possibility of local extinction	Decline likely	Unknown	Unknown
Swift Parrot	Critically Endangered	Endangered	Vulnerable	Possibly occurs	Decline likely	Decline likely	Unknown	Unknown
Booroolong Frog	Endangered	Endangered		Possibly occurs	Awaiting expert advice	Awaiting expert advice	Awaiting expert advice	Awaiting expert advice
Macquarie Perch	Endangered		Endangered	Possibly occurs	Awaiting expert advice	Awaiting expert advice	Awaiting expert advice	Awaiting expert advice
Masked Owl (NSW)		Vulnerable		Unlikely to occur	Decline likely	Decline likely	Unknown	Unknown
Sooty Owl (NSW)		Vulnerable		Unlikely to occur	Decline likely	Decline likely	Unknown	Unknown
Australian Painted Snipe	Endangered			Unlikely to occur	Significant decline likely	Decline likely	No change	No change
Green and Golden Bell Frog				Unlikely to occur	Awaiting expert advice	Awaiting expert advice	Awaiting expert advice	Awaiting expert advice

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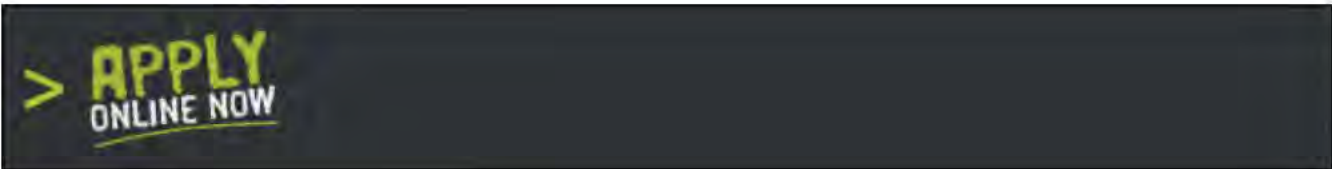
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 EXEMPT: The Parkwood planning proposal is exempt from the 5km transition zone. Pictured are Riverview Developments' director David Maxwell and planning consultant Tony Adam at Shepherds Lookout, overlooking the Murrumbidgee River. Photo: Sithixay Dithavong

Ecologist Dr Saan Ecker and the Environmental Defenders Office (EDO) ACT are reviewing environmental-management reports about the Parkwood planning proposal—the NSW component of the Ginninderry development, which is a cross-border joint venture between the ACT Government and Riverview Developments.

The review of the reports, by the developers' consultants, comes after Yass Valley Council's decision at the August meeting to adopt a 5km buffer zone on the NSW–ACT border, which Dr Ecker said is 'inconsistent' in its conservation value reasoning.

In rezoning the land adjacent to the NSW–ACT border to an RU6 Transition Zone for a width of about 5km, it aims to protect conservation values and prevent residential development spilling over into NSW.

A stated objective of the transition zone is “to protect the significant environmental values of the Mulligans Flat and Goorooyaroo Nature Reserves within the ACT”.

However, the Parkwood planning proposal, which consists of Ginninderra Falls and Murrumbidgee River, is exempt from the transition zone.

Dr Ecker commended council on “protecting the conservation values of Mulligans Flat”, but she also said that Ginninderry conservation values also needed consideration.

“The ecological reports offered by the consultants for Ginninderry fail to apply the precautionary principle of good ecological management,” she said.

However, Riverview Developments' director David Maxwell said the organisation was satisfied that the planning proposal, based on the Environment Protection and Biodiversity Conservation Act 1999, met the requirements of the

“As a conservation ecologist. I’m horrified at the design of the proposed nature reserve at the edge of the land they want rezoned.”

She said the reports were biased towards why they should get rid of the current protection and “allow development right up to the edge of the Murrumbidgee”.

“The edge effects of this narrow reserve doom the plant and animal species, several of which are threatened, to certain ecosystem decay,” Dr Ecker said.

Species, conservation values at risk

In December 2016, findings by eight environmental and wildlife researchers showed that the Parkwood planning proposal was likely to cause seven threatened species to be put at risk of extinction.

Dr David Wong, researcher and ecologist at the Institute for Applied Ecology at the University of Canberra, said the findings indicated “a mismatch between currently promoted characteristics of the development...and the likely response of species as judged by leading experts”.

The findings showed that rezoning of environmental land to urban land in the Parkwood site could lead to the local decline, significant decline or decline of 77 per cent (10 of 13) of the threatened species recorded in the area.

As well, up to 30 pc (4 of 13) could be lost from the area.

“The approach to planning in the Ginninderra Falls area falls well short of best environmental practice and does not follow basic principles of reserve design,” Dr Wong said.

“It is in their [Yass Valley Council and NSW Government] power to take a truly precautionary approach to planning and decide to leave a legacy for future generations by retaining a much enlarged protected area and not rezoning environmental land to urban.

“Let's hope they buck the trend and exercise this power,” he said.

Mr Berry said the issues raised in the findings (which were submitted to council) and the expert studies undertaken by the proponent have been and continue to be considered.

“The experts in threatened species who we rely upon for advice is the Office of Environment and Heritage.

“All of the information is made available to them and we will continue to be guided by their comments,” he said.

Analysis of expert advice on possible species responses to planning scenarios

Analysis of experts' comments – threatened species – West Belconnen area – 13/12/2016

Following a discussion paper produced by Ginninderra Catchment Group on planning in the NSW section of the Ginninderry development, experts were consulted about predicted responses of threatened species with respect to the range of scenarios discussed in the discussion paper (Figure 1).

Experts were chosen based on their prominence in their field of study, relevance of their research and ecological knowledge with respect to the species concerned. Where research had been applied in the ACT region, the experts who had conducted the most relevant research to the current planning situation being assessed were consulted. The expert advice is based on a combination of data and, in most cases, decades of experience in the species concerned.

The experts that were consulted were as follows:

Rosenberg's Goanna: Peggy Rismiller (Pelican Lagoon Research and Wildlife Centre) and Will Osborne (UC) – Peggy Rismiller has been studying Rosenberg's Goanna on Kangaroo Island for approximately 30 years. Over this time she has radio-tracked the species and recorded increasing home ranges over time.

Pink-tailed Worm Lizard: Will Osborne – Will Osborne is one of the foremost experts on reptiles, particularly in the ACT area. Is a specialist on reptiles and frogs and has undertaken or been involved in research on threatened species such as Rosenberg's Goanna, Pink-tailed Worm Lizard as well as Green and Golden Bell Frog.

Raptors: Jerry Olsen (UC) and Stephen Debus (UNE) – Jerry Olsen and Stephen Debus are both leading raptor experts.

Birds: Karen Ikin (ANU) and Laura Rayner (ANU) – Karen Ikin and Laura Rayner are bird experts who have conducted extensive research into birds in the ACT region and their responses to urban development.

Water birds: Chris Davey (Canberra Ornithologists Group) – Chris Davey is a local bird expert with extensive experience and knowledge about a wide range of bird species.

Fish and Aquatic Invertebrates: Mark Lintermans (UC) – Mark Lintermans is one of the foremost experts on freshwater ecology of fish and aquatic fauna.

It should be noted that the Figure 2 and Table 3 only deal with the species that have *recently* been recorded in or near the development area. Many of the fauna surveys that were conducted largely did not focus on the forested areas around the Ginninderra Falls and Ginninderra Gorge. A more extensive list of species that may occur in the area (based on previous records or records in the nearby area) is shown in Figure 3 and Table 2.

Implications

The findings of this analysis indicate that rezoning as currently proposed is likely to cause significant numbers of threatened species to be put at risk of local extinction, significant decline or decline (Figure 2, Table 1). The intermediate option is also judged by experts as likely to put at least seven threatened species at risk of decline. Even the more precautionary scenarios could result in declines or significant declines of some species. When all species that have been identified as possibly occurring are included in the analysis (Figure 3, Table 2) more species are judged by experts as being put at risk of local extinction, significant decline or

The adoption of the buffer zone is one of many key recommendations that form the draft Yass Valley Settlement Strategy by planning firm Elton Consulting, who was engaged by council in January 2016.

Elton Consulting also provides planning services to Riverview Developments.

The Parkwood planning proposal is scheduled for presentation at the September council meeting and will include discussion about this issue (among others).

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Avifauna and urban encroachment in time and space

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ABSTRACT

Aim Urban expansion significantly alters fringe environments often with undesirable impacts on biodiversity. Consequently, there is a need to define clear conservation objectives for areas subject to urban encroachment. Urban fringe development is a highly dynamic process, both spatially and temporally, but few studies are equipped to examine its temporal effects on biota. We aimed to explore the impacts of urban encroachment on avifauna through space and time.

Location The Australian Capital Territory, Australia.

Methods We used records from an extensive 14 year monitoring programme undertaken in temperate woodland. We fitted hierarchical generalized linear models to assess individual species responses to the distance from monitoring sites to the urban boundary, and the temporal rate of change in this distance through time. We used factorial analysis on mixed data to examine trait group responses to these predictors.

Results Our results indicated that the occurrence of approximately half of the study region's avifauna is strongly linked to the proximity of their habitat to the urban fringe, but that the impact of urban fringe development on the occurrence of some species changed through time. We identified several species of conservation concern that respond negatively to large annual increases in urban fringe development, irrespective of its proximity to suitable habitat. Species responses to urban proximity were linked to life history traits, with small, migratory, woodland dependent species that rely on mid and upper canopy structures, clearly disadvantaged by urban environments.

Main conclusions Our findings demonstrate the breadth of species responses to urban encroachment over much larger distances than is typically investigated in urban ecological studies. We identify guilds vulnerable to the impacts of urban fringe development and therefore in need of ecologically sensitive urban design. We argue that future urban expansion towards important fringe habitats will need to be planned strategically through space and time.

Keywords

Australian birds, biodiversity, conservation, protected areas, urbanization, woodland.

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INTRODUCTION

Urban areas occupy a relatively small proportion of terrestrial land (Grimm *et al.*, 2008), but impact disproportionately on biologically productive landscapes (Luck, 2007). Consequently, highly populated environments and biodiversity

hotspots show strong spatial congruence at broad scales (Güneralp & Seto, 2013). In these species rich environments, human population growth exceeds that of global background levels (Cincotta *et al.*, 2000; Seto *et al.*, 2012). Urban expansion is spatially concentrated at the edge of major urban centres (Fisher, 2003; Robinson *et al.*, 2005), significantly and

disproportionately altering fringe ecosystems (Radeloff *et al.*, 2005) often with undesirable impacts on biodiversity (Marzluff *et al.*, 2001; Pautasso, 2007).

Urban fringe development threatens biodiversity through habitat loss (Foley *et al.*, 2005), fragmentation (Crossman *et al.*, 2007) and the introduction of invasive species (Marzluff & Ewing, 2001; Fors & Allen, 2005). If persistent, these threats can ultimately lead to biotic homogenization (McKinney, 2006) and species population declines (Aronson *et al.*, 2014) in affected environments. Urban encroachment into rural or wild lands also can undermine the effectiveness of nearby protected areas to abate such threats (Radeloff *et al.*, 2010) and to safeguard species populations in perpetuity (Rayner *et al.*, 2014). However, evidence also exists for species that are promoted by urbanization (e.g. Wania *et al.*, 2006). This is particularly the case where important or rare habitats occur within urban landscapes (Sorace & Gustin, 2010).

Conflicting data on the impacts of urban fringe development on biodiversity means it is difficult to define clear conservation objectives for peri urban environments (Turner *et al.*, 2004). This is pertinent to Australia, where over 50% of nationally listed threatened species occur in vulnerable urban fringe habitats (Bekessy *et al.*, 2012). In response to this challenge, many researchers have examined the effects of urbanization on neighbouring ecological communities, primarily using sites located along urban rural gradients (reviewed in McKinney, 2002). However, few studies have explored the ecological effects of urbanization through time (Chace & Walsh, 2006; Garden *et al.*, 2006; Chamberlain *et al.*, 2009; Luck & Smallbone, 2010).

Understanding the temporal patterns in responses of biota to urban fringe development is important because the process of land use change is dynamic, both spatially and temporally (Fig. 1), and because faunal communities are assumed to change with ongoing development (Scott, 1993). Therefore, an important consideration when evaluating the effects of urban fringe development on neighbouring species

populations may not only be the *extent* and *proximity* of development, but the *rate* of land use change. In this study, we used records from a 14 year biodiversity monitoring programme to explore the impacts of urban fringe development on a vulnerable assemblage of species: Australian temperate woodland birds. Our systematic survey design enabled us to examine the response of birds to both the spatial extent and temporal rate of urban fringe development (Fig. 2) and test two key hypotheses:

Hypothesis 1: The proximity of urban development will influence observed patterns of bird occurrence in neighbouring woodland habitats. Many short term studies have found distance to the urban boundary to be a driver of species abundance, occurrence and community structure (Brearley et al., 2010; Dallimer et al., 2012; Ikin et al., 2013), and that the tolerance of species to urban development is often linked to life history traits and resource use (Sol et al., 2014). For example, species requiring more complex environments (e.g. specialist species, small bodied species) may be disadvantaged by the simplified structure of urban systems and may present as 'urban avoiders' (sensu Blair, 1996). We postulated that the incidence and abundance of urban avoiders would increase with increasing distance from the urban fringe and that the converse would be found for 'urban exploiters' which favour urban zones (sensu Blair, 1996; Fig. 2b).

Hypothesis 2: The negative impact of urbanization on urban sensitive species will be greater in areas of rapid encroachment than in areas of static or gradual change. Urban fringe development significantly modifies existing habitats (Grimm et al., 2008) with considerable levels of disturbance during the construction of human infrastructure. Human induced disturbance significantly reduces bird densities and adversely affects foraging and breeding behaviour (Burton et al., 2002; Reijnen & Foppen, 2006). We assumed that the

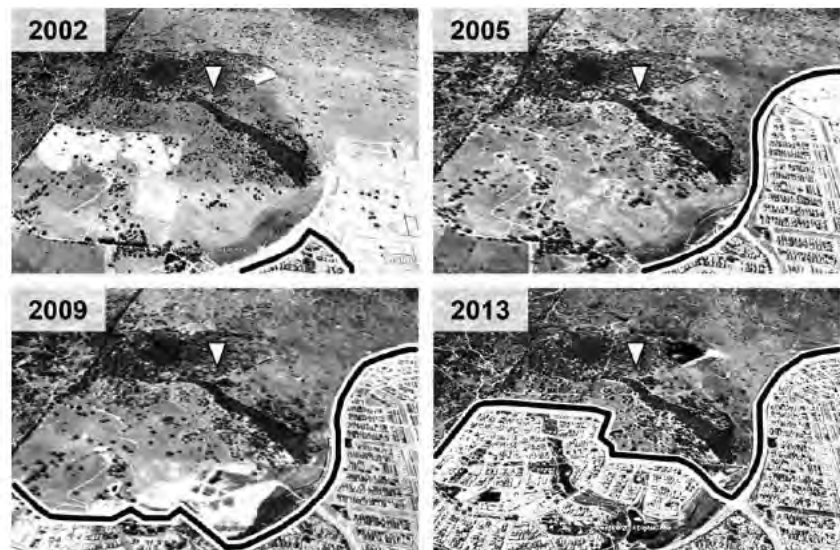


Figure 1 Example of the spatio temporal change associated with urban fringe development in North Canberra, Australia. The urban boundary is indicated by the bold black line, with development encroaching into an endangered ecological community found in the study area (box gum grassy woodland arrow) over a period of 12 years. Image source: Google Earth.

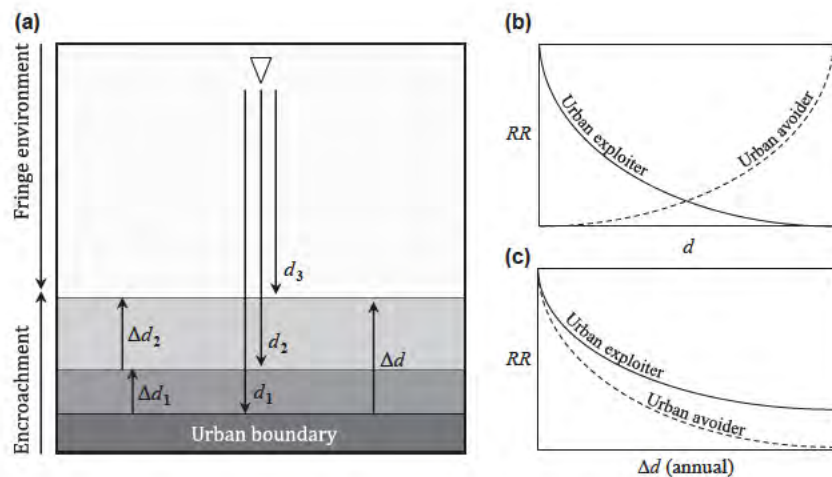


Figure 2 Conceptual model showing (a) the measures of urban encroachment used in this study, where: d is the distance from a permanent field monitoring site (arrow) to the urban boundary recorded at annual time steps (1,2,3), and Δd is the distance that the urban boundary has moved in time, recorded at annual time steps (1,2) and over the full period of observation (d_1 , d_n). The hypothesized relationships between species reporting rate 'RR' (the proportion of surveys in which a species was recorded out of the total number of surveys conducted at a site in a given year) and our measures of urban encroachment are shown in figure panels (b) and (c).

larger the annual change in urban extent, the more pronounced the effects of disturbance would be, because more of the existing habitat is altered with little time for species to adapt. Correspondingly, we postulated that the incidence of all species, but especially urban avoiders, would decrease with larger annual changes in urban proximity due to displacement effects (e.g. Pearce Higgins *et al.*, 2012; Fig. 2c). However, over longer periods, we expected urban exploiters to respond positively to large changes in urban extent because the process of urban encroachment creates favourable habitat (post disturbance) that will continue to be inhospitable to urban avoiders.

Our aim in testing these two hypotheses was to determine whether the rate of urban change had a distinct and significant effect on species inhabiting urban fringe ecosystems above that of spatial proximity alone. To our collective knowledge, this effect has not been previously examined with empirical field data.

METHODS

Study region

Our study area comprised a 20×40 km area (bounded by -35.1° , 149.3° and -35.6° , 148.9°) in the subhumid region of the Australian Capital Territory, south eastern Australia (see Appendix S1 in Supporting Information). The city of Canberra covers ~ 800 km² and contains a population of $\sim 380,000$ people (ABS, 2013). Population density in 2013 was 162 people km⁻², but is variable across the Territory (ABS, 2013). Strongest population growth has occurred in the northern fringe suburbs of Canberra, shifting the centre of population north by 1.5 km over the last decade. In areas

adjacent to our study sites, population density ranged from 0.44 to 14.54 residents per hectare of urban area (mean 8.63, median 10.28). Residential density in these areas ranged from 0.28 to 6.58 dwellings per hectare of urban area (mean 3.48, median 3.70). All new developments (areas measured as encroachment in this study) were uniformly higher in residential density, ranging from 3.89 to 6.58 dwellings per hectare of urban area (mean 4.95, median 4.64).

The dominant vegetation type in peri urban zones of the study area was temperate eucalypt woodland. These woodlands once covered vast areas of the Australian continent, but have been heavily cleared since European settlement in the mid 1800s (Lindenmayer *et al.*, 2010). Some large intact remnants of critically endangered box gum grassy woodland remain in the study area (ACT, 2011), but most have been perturbed by grazing, altered fire regimes, and invasion by weeds and feral animals. Urbanization presents ongoing threats to woodland extent in the region and significant challenges for protecting the ecological integrity of remnants on the urban fringe (Ikin *et al.*, 2014; Rayner *et al.*, 2014).

Bird data

We sourced records of bird occurrence and abundance from a long term woodland bird monitoring project undertaken by the Canberra Ornithologists Group. We used data from 92 permanent field sites nested within 10 broader survey locations. Sites were at least 100 m apart, ranging from a minimum of 105 m to a maximum of 2473 m (mean 357 m). All sites were located in temperate grassy woodland ($n = 86$) or dry forest contiguous with temperate

grassy woodland ($n = 6$) for the duration of the study (i.e. no sites were consumed by urban development). Sites were surveyed every year for 14 years from 1999 to 2012. Surveys were 10 min point counts conducted seasonally (four surveys/site/year) with no changes to survey protocol and little appreciable variation in effort. During surveys, experienced observers counted all birds seen or heard within a 50 m radius. Detailed site descriptions and further information on bird survey protocols can be found in Bounds *et al.* (2010). Only species occurring in $> 1\%$ of surveys were included in formal analysis.

Urban data

Spatio temporal data on the changing extent of urban Canberra were sourced from the Australian Capital Territory Government for the period 1999 to 2010. For our purposes, change in urban extent was recorded at the commencement of urban development. This included areas cleared of native vegetation for the construction of human infrastructure. From these data, we identified the location of the urban boundary at annual time steps. Geographic information system (GIS) software was used to calculate Euclidean distances from each of the 92 survey sites to the nearest point along the urban boundary corresponding with each year of bird survey data. Three metrics were calculated from these data for analysis (Fig. 2a): *Urban Distance* (the distance from each site to the urban boundary for a given year), *Urban Annual Change* (the annual incremental change in Urban Distance through time, for example $\text{Urban Annual Change}_{2005} = \text{Urban Distance}_{2005} - \text{Urban Distance}_{2004}$) and *Urban Long term Change* (the total change in Urban Distance over the period 1999–2010).

Statistical analysis

We fitted hierarchical generalized linear mixed models (HGLM) to examine the separate effects of our three urbanization metrics on individual species reporting rates and abundances. Reporting rates are defined as the proportion of surveys in which a species was recorded out of the total number of surveys conducted at a site in a given year. This response variable provides a measure of change in species site occurrences, accounting for small variations in survey effort directly. For each year, we also pooled multiple visits to a given site to calculate annual abundances for each species. We assumed quasi binomial distributions for models using reporting rate, and Poisson distributions for models using relative abundance. We standardized all predictor variables prior to modelling. We modelled the variables Urban Distance and Urban Annual Change together (i.e. in the same model) to examine the independent effects of these predictors. For our investigation of long term change, we related reporting rates and relative abundances calculated for the last 2 years of the dataset (2011/2012) to the total change in the urban boundary recorded between 1999 and 2010. We

also provide long term trend estimates based on simple linear models of species abundances to assist ecological inference of long term encroachment effects. For all models, we accounted for spatial and temporal dependence in the data that resulted from location, site and year specific variations in occurrence and abundance by including these factors as random effects. We assumed a beta distribution with a logit link function for the random component in binomial models, and a gamma distribution with a log link function for the random component in Poisson models. We fitted HGLMs in GenStat 15th edition statistical software package (VSN International Ltd, UK).

We used factorial analysis on mixed data (FAMD) to examine the effect of Urban Distance and Urban Annual Change on functional trait groups. FAMD is a principal component method that explores similarities among trait groups in terms of their responses to environmental predictors. We included only those species that showed significant responses to either Urban Distance or Urban Annual Change in FAMD, analysing each predictor separately. Prior to analysis, we assigned each bird species to functional trait groups based on life history attributes. These groups included habitat specialization (woodland specialist, woodland generalist), mobility (sedentary, migratory, dispersive), body size (small, intermediate, large) and nesting substrate (hollow, understorey, arboreal, opportunistic). We provide details of trait assignment for individual species, including sources of information for classification, in Supporting Information (see Appendix S2). We applied FAMD in the R statistical program (R Development Core Team) using the FactoMineR software package (Husson *et al.*, 2014).

RESULTS

A total of 4750 surveys were undertaken at the 92 permanent field monitoring sites between 1999 and 2012. We analysed data for 59 species that occurred in $> 1\%$ of surveys (Appendix S2). We excluded waterbirds from our analysis because their primary habitat is under represented in the dataset. The distance from survey sites to the urban boundary ranged from 16 to 5363 m between 1999 and 2010. The distance of urban encroachment ranged from 0 to 1052 m annually, and from 0 to 2330 m between 1999 and 2010.

Hypothesis 1: Effects of urban proximity

Individual species responses

We identified 32 species whose reporting rates or abundances were significantly related to Urban Distance (Table 1). Responses were mixed with 15 species increasing (hereafter *urban exploiters*) and 17 species decreasing (hereafter *urban avoiders*) with urban proximity. The distance over which species were affected by urbanization also varied (Fig. 3a–d). For example, the Common myna responded strongly within 1 km of development (e.g.

Common myna, Fig. 3a), while the Red Wattlebird showed an urban response that extended up to 5 km away (Fig. 3b). Only two exotic bird species were recorded during surveys (the Common myna and Common Starling), and both showed significantly higher reporting rates proximal to the urban boundary. We found no observable effects of Urban Distance on the reporting rates or abundances of the remaining 27 bird species.

Trait based responses

Dimensions one and two of our FAMD explained 45% of variability in trait based responses to Urban Distance. We found a clear pattern in the response of trait groups along an urban proximity gradient (Dimension 1, Fig. 4). Sites located nearest to the urban boundary supported larger bodied species not strictly dependent on woodland habitats

and opportunistic in their nesting requirements. In contrast, sites located at increasing distances from the urban boundary supported more smaller bodied, woodland dependent birds that rely on mid and upper canopy structure for nesting. Hollow dependent species (also known as 'cavity nesters') showed a stronger association with sites located near to the urban boundary, as did sedentary species. Migratory and dispersive species were more likely to be observed on sites at increasing distances from the urban fringe.

Hypothesis 2: Effects of urban change

Individual species responses to annual change

We identified 15 species whose reporting rates or abundances were significantly related to Urban Annual Change

Table 1 Relationships between Urban Distance and species (a) reporting rates and (b) relative abundances

Response	Species	(a) Reporting rate				(b) Relative abundance			
		Est.	SE	Wald	<i>P</i>	Est.	SE	Wald	<i>P</i>
Urban exploiters	Australian King Parrot	-2.656	0.658	16.29	< 0.001	-2.724	0.595	20.98	< 0.001
	Brown Treecreeper					-3.698	0.824	20.16	< 0.001
	Common myna*	-2.160	0.429	25.40	< 0.001				
	Red rumped Parrot	-1.565	0.444	12.42	< 0.001	-4.006	0.738	29.46	< 0.001
	Welcome Swallow	-1.248	0.205	37.03	< 0.001				
	Common Starling*	-0.769	0.162	22.55	< 0.001				
	Crested Pigeon	-0.686	0.249	7.62	0.006	-0.852	0.252	11.39	< 0.001
	Striated Pardalote	-0.317	0.112	8.10	0.004	-0.256	0.086	8.82	0.003
	Eastern Rosella	-0.324	0.131	6.18	0.013	-0.281	0.097	8.35	0.004
	Crimson Rosella	-0.188	0.073	6.73	0.009				
	Grey Butcherbird	-0.443	0.142	9.74	0.002				
	Red Wattlebird	-0.286	0.132	4.70	0.030	-0.477	0.122	15.35	< 0.001
	Silvereye	-0.392	0.182	4.66	0.031				
	Australian Raven	-0.289	0.142	4.15	0.042				
	Mistletoebird	-0.278	0.137	4.12	0.042				
Urban avoiders	Sacred Kingfisher	1.310	0.247	28.04	< 0.001				
	Superb Fairy wren	0.958	0.179	28.51	< 0.001				
	Dusky Woodswallow	0.874	0.257	11.56	< 0.001				
	White plumed Honeyeater	0.757	0.218	12.02	< 0.001	0.579	0.232	6.21	0.013
	Common Bronzewing	0.509	0.163	9.80	0.002				
	Noisy Miner	0.498	0.171	8.45	0.004				
	Western Gerygone	0.478	0.124	14.81	< 0.001				
	Willie Wagtail	0.476	0.165	8.34	0.004				
	Scarlet Robin	0.412	0.123	11.25	< 0.001	0.422	0.117	13.12	< 0.001
	Brown Treecreeper	0.371	0.071	27.47	< 0.001				
	Striated Thornbill	0.344	0.100	11.76	< 0.001				
	Tree Martin	0.317	0.064	24.43	< 0.001				
	Brown headed Honeyeater					0.432	0.158	7.51	0.006
	Rufous Whistler	0.239	0.104	5.29	0.022				
	Golden Whistler	0.230	0.115	3.97	0.046				
Mistletoebird					0.197	0.084	5.46	0.019	
Weebill					0.139	0.070	3.93	0.047	

Positive estimates represent increasing reporting rate/abundance with increasing distance from the urban boundary. Only species showing a significant response to Urban Distance ($\alpha = 0.05$) are listed. Exotic species are denoted by an asterisk (*). Scientific names for species are provided in Appendix S2.

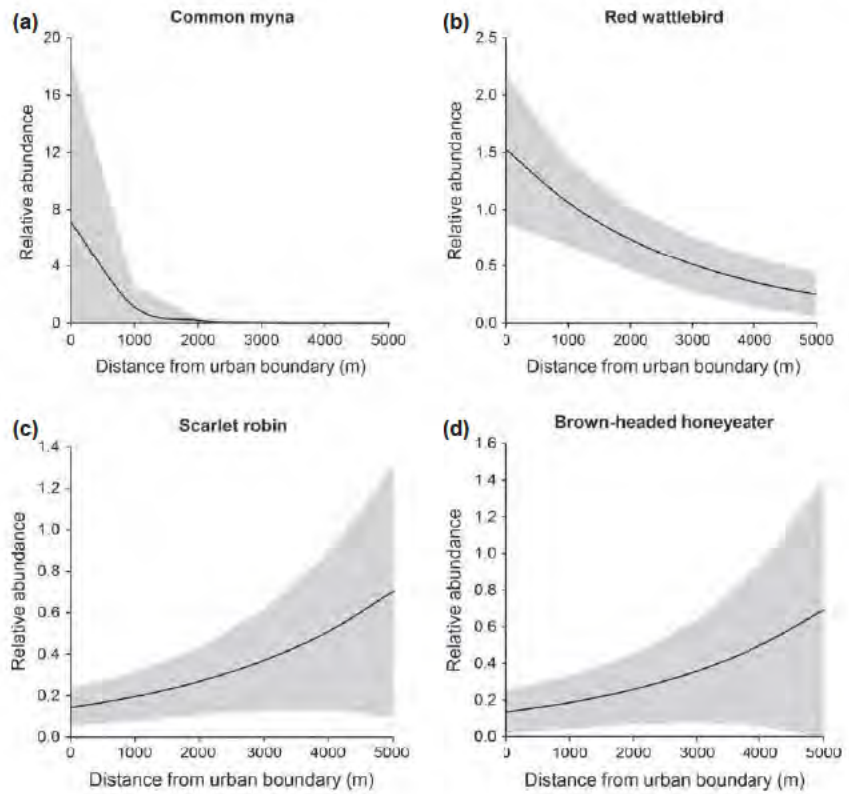


Figure 3 Examples of two species responding positively to urban proximity (a, b), and two species responding negatively to urban proximity (c, d). Plots show predicted trends (bold line) with 95% confidence intervals (shaded grey). All responses are significant at $\alpha = 0.05$. Note: y axes are scaled to best visualize responses and vary between species.

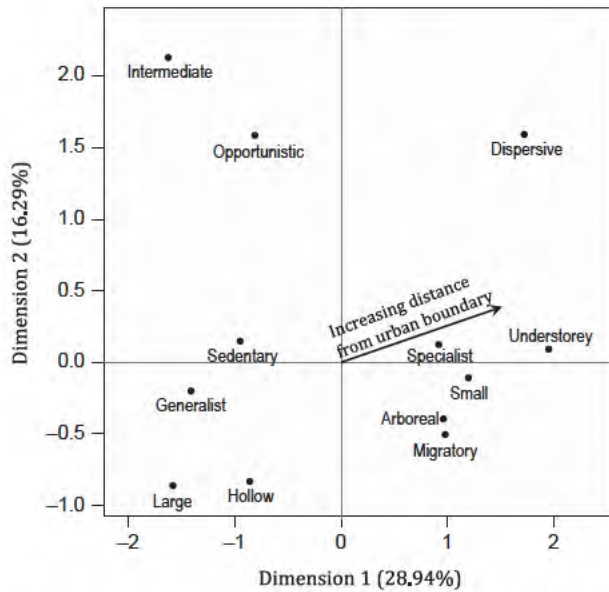


Figure 4 Factorial analysis on mixed data ordination indicating a clear shift in species trait groups along a gradient of urban proximity (Dimension 1). Traits included in the ordination were as follows: habitat specialization (generalist, specialist), body size (small, intermediate, large), mobility (sedentary, migratory, dispersive) and nesting substrate (hollow, arboreal, understorey, opportunistic).

(Table 2). Responses to annual change were primarily negative with reporting rates or abundances of 12 species decreasing as rate of change in urban proximity increased

(hereafter *rapid change intolerant*, for example Fig. 5a, Brown Treecreeper). However, three species showed the opposite effect, responding positively to increasing annual changes in urban proximity (hereafter *rapid change tolerant*, for example Fig. 5b, White plumed Honeyeater). Most species that were influenced by annual change also exhibited a significant relationship with distance (9/15 species), but these associations were not always intuitive. For example, the White plumed Honeyeater and Rufous Whistler both responded negatively to urban proximity, but positively to increasing annual change. Two species, the Grey Currawong and Varied Sittella, showed negative responses to annual change with no significant response to Urban Distance. Overall, we found no observable effects of annual change on the reporting rates or abundances of most species in the dataset ($n = 44$).

Trait based responses to annual change

Dimensions one and two of our FAMM explained 56% of variability in trait based responses to annual urban change. However, patterns in the response of trait groups were less clear for change than for distance (see Appendix S3). This may be due to the small number of species included in the ordination (15 species listed in Table 2). There was no clear association between annual change and species body size. However, we found some evidence to suggest that sites experiencing lower rates of annual change support more generalist, sedentary and hollow dependent species.

Individual species responses to long term change

We identified 15 species whose reporting rates or abundances calculated in the final 2 years of surveys (2011/2012) were significantly related to Long term Urban Change (Table 3). Species with positive associations tended to be urban exploiters (Table 3) that typically occupied sites located near to the urban boundary at the start of the observation period, where limited encroachment had taken place over the preceding 12 years. Species with negative associations tended to be urban avoiders (Table 3) that typically occupied sites further from the urban boundary at the start of the observation period, which were sites subjected to higher rates of encroachment over the preceding 12 years.

We found no strong link between the population trends of species that exhibited positive associations with long term urban change. These species showed a combination of increasing, stable and declining trends in our study area. However, species negatively associated with long term urban change showed only stable or declining population trends in our study area. Three urban avoiding species (the Scarlet Robin, Striated Thornbill and Rufous Whistler) showed both negative association with long term urban change and a long term declining population trend.

DISCUSSION

In this paper, we tested two hypotheses of how woodland bird occurrence might be directly influenced by urban fringe development: (1) via the spatial proximity of urban development and (2) via the rate of change in urban proximity.

Based on data from a spatially replicated long term monitoring project, our study shows that the occurrence of approximately half of the region's avifauna is strongly linked to the proximity of their habitat to urban fringe development, but that the impact of urban fringe development on the occurrence of some species is also temporally dependent. These findings, and their implications for conservation management, are discussed below.

Hypothesis 1: Proximity of urban fringe development

More than half of our study species showed a clear relationship to urban proximity, and within that group of species, positive and negative responses were almost evenly split. Most urban exploiters identified in this study were species that we would expect, and possessed traits that we would expect, based, on the literature (e.g. Luck & Smallbone, 2010). The tendency for urban exploiters to be woodland generalists is supported by Bonier *et al.* (2007) who demonstrated that, globally, urban birds have broad environmental tolerances (as indicated by their larger geographical ranges). There is also substantial support for urban exploiters being larger, exotic and sedentary (McKinney, 2002; Garden *et al.*, 2006; Kark *et al.*, 2007; Croci *et al.*, 2008; Luck & Smallbone, 2010), as found in this study.

Conversely, our finding that urban exploiters were more likely to be hollow dependent is interesting, and both supported (Kluza *et al.*, 2000; Miller *et al.*, 2003; Chace & Walsh, 2006) and contradicted (Sandström *et al.*, 2006; Pidgeon *et al.*, 2007) by the literature. Within Australia, the

Table 2 Relationships between annual incremental change in urban proximity and species (a) reporting rates and (b) relative abundances

Response	Species	(a) Reporting rate				(b) Relative abundance			
		Est.	SE	Wald	<i>P</i>	Est.	SE	Wald	<i>P</i>
Rapid change tolerant	Eastern Spinebill	-0.125	0.045	7.69	0.006				
	White plumed Honeyeater	-0.207	0.087	5.67	0.017	-0.234	0.079	8.80	0.003
	Rufous Whistler	-0.087	0.044	3.99	0.046				
Rapid change intolerant	Brown Treecreeper	0.877	0.225	15.17	< 0.001	1.299	0.218	35.40	< 0.001
	Tree Martin	0.734	0.160	21.15	< 0.001				
	Grey Currawong	0.313	0.109	8.26	0.004				
	Red rumped Parrot					0.319	0.130	6.06	0.014
	Varied Sittella	0.338	0.116	8.50	0.004				
	White naped Honeyeater					0.212	0.104	4.11	0.043
	Mistletoebird	0.156	0.057	7.45	0.006	0.119	0.053	5.04	0.025
	Brown headed Honeyeater					0.170	0.065	6.92	0.009
	White winged Chough					0.159	0.064	6.11	0.013
	Common Starling*	0.247	0.103	5.78	0.016				
Golden Whistler	0.187	0.085	4.84	0.028	0.173	0.084	4.26	0.039	
Galah					0.128	0.059	4.75	0.029	

Positive estimates indicate higher reporting rates/abundances on sites where the annual rate of urban change is slower. Only species showing a significant response to Urban Annual Change ($\alpha = 0.05$) are listed. Exotic species are denoted by an asterisk (*). Scientific names for species are provided in Appendix S2.

Figure 5 Examples of two species responding to increasing Urban Annual Change: one negatively (a) and one positively (b). Plots show predicted trends (bold line) with 95% confidence intervals (shaded grey). All responses are significant at $\alpha = 0.05$. Note: y axes are scaled to best visualize responses and vary between species.

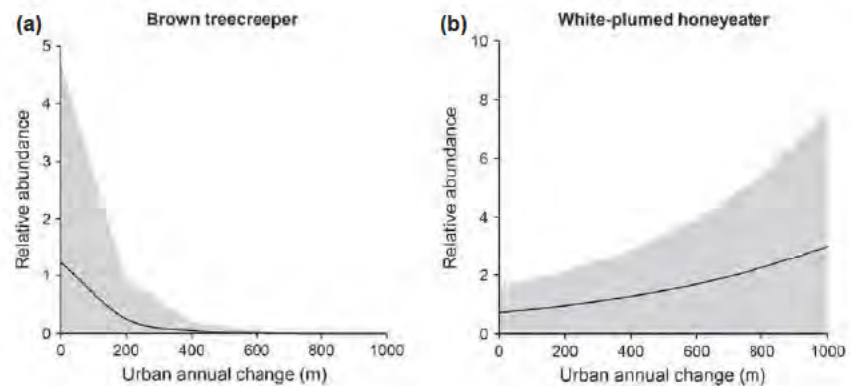


Table 3 Relationship between the total long term change in urban proximity (1999–2010) and species (a) reporting rates and (b) relative abundances in the 2 years following (2011/2012), along with long term species trends for the full study period (1999–2012)

Response	Species	Trend	Class	(a) Reporting rate				(b) Relative abundance			
				Est.	SE	Wald	P	Est.	SE	Wald	P
More common on sites near to urban, with limited encroachment	Australian King parrot	Increase	Urban exploiter					2.935	1.220	5.79	0.016
	Common Starling*	Decreaser	Urban exploiter					2.377	0.616	14.89	< 0.001
	Pied Currawong	Increaser		1.114	0.407	7.50	0.006	1.135	0.422	7.22	0.007
	Superb Fairy wren	Decreaser	Urban avoider	1.110	0.453	6.02	0.014	1.066	0.394	7.31	0.007
	Crested pigeon	Increase	Urban exploiter					0.774	0.393	3.88	0.049
	Red Wattlebird	No trend	Urban exploiter	0.939	0.453	4.31	0.038	0.735	0.358	4.21	0.040
	Galah	Increaser		0.658	0.234	7.91	0.005	0.661	0.185	12.81	< 0.001
	Sulphur crested Cockatoo	Increase						0.456	0.233	3.84	0.050
More common on sites far from urban, with greater encroachment	Scarlet Robin	Decreaser	Urban avoider					-0.460	0.161	8.15	0.004
	Buff rumped Thornbill	No trend						-0.513	0.239	4.61	0.032
	Golden Whistler	No trend	Urban avoider					-0.625	0.203	9.52	0.002
	Brown Treecreeper	No trend	Urban avoider	-0.674	0.267	6.38	0.012				
	Striated Thornbill	Decreaser	Urban avoider	-0.702	0.324	4.71	0.030				
	Rufous Whistler	Decreaser	Urban avoider	-0.774	0.364	4.53	0.033				
	White throated Treecreeper	No trend		-1.234	0.399	9.56	0.002	-0.972	0.384	6.42	0.011

Positive estimates indicate higher reporting rates/abundances on sites where urban encroachment has been smallest (i.e. sites located near to the urban boundary at the start of the study period). Only species showing a significant response to long term urban change are listed ($\alpha = 0.05$). Exotic species are denoted by an asterisk (*).

relationship between hollow nesters and urbanization is suggested to be negative due to the mechanisms underlying hollow development and the removal of senescing trees from urban landscapes (Shanahan *et al.*, 2013; Le Roux *et al.*, 2014). Indeed, within our study area, previous research indicates that hollow nesters decline in occurrence from the suburb reserve interface to the suburb core (Ikin *et al.*, 2014). However, our results suggest that this relationship is one of more complex urban adaptation (*sensu* Johnston, 2001), where hollow nesters are attracted to novel resources within the urban boundary, but critically rely on natural resources (i.e. remnant trees) that are more abundant outside the urban boundary (McKinney, 2002; Blewett & Marzluff, 2005). This would explain why hollow nesters appear to

favour urban fringe habitats in our study, declining as distances increase both into the suburbs and away from the urban fringe.

A key outcome of our study was the identification of urban avoiders, because these species may require greater conservation effort as urban centres continue to expand and opportunities for protection through new reserves become limited (McDonald *et al.*, 2009). Perhaps unsurprisingly, a number of urban avoiders identified in this study are woodland dependent species that have shown declines in the study area (Table 3) or in various parts of south eastern Australia over the last decade (e.g. Dusky Woodswallow, Sacred Kingfisher, Scarlet Robin, Striated Thornbill, Superb Fairy wren, Tree Martin; Barrett *et al.*, 2007; Szabo *et al.*, 2011).

Specialized habitat requirements, and a reliance on natural resources, are common traits among urban avoiding species (McKinney, 2002; Møller, 2009; Luck & Smallbone, 2010).

In addition to their habitat specialization, urban avoiders were found in this study to be small bodied, migratory or dispersive, and dependent on mid and upper canopy structures for nesting. This is consistent with the literature (Lim & Sodhi, 2004; Garden *et al.*, 2006; Kark *et al.*, 2007). It is documented that mid and upper canopy structures are reduced in urban environments (Chace & Walsh, 2006; Le Roux *et al.*, 2014), but the avoidance of urban areas by migrants is also suggested to be linked to nesting requirements (Kark *et al.*, 2007). Specifically, sedentary species may occupy the limited number of nest sites during the absence of migratory species, thus gaining a competitive advantage in urban systems (Kark *et al.*, 2007). This also supports arguments that nesting requirements are a strong determinant of urban tolerance for birds (Lim & Sodhi, 2004; Marzluff & Neatherlin, 2006).

Another important interspecific interaction to consider involves the presence of the Noisy Miner (*Manorina melanocephala*). The Noisy Miner is an abundant species commonly found in urban areas, but was identified as an urban avoider because its reporting rate significantly increased with distance from the boundary. Given the documented impact of this hyperaggressive species on woodland bird communities (Montague Drake *et al.*, 2011) and its strong increasing trend in our study area (L. Rayner *et al.* unpublished data), additional work is needed to examine the relative effects of Noisy Miner occurrence and urban fringe development on sites where other avoider species co occur. In the present study, the occurrence of the Noisy Miner is unlikely to have biased our definition of urban avoiders because this species shows strong site fidelity and was absent from, or rare in (present in < 10 surveys over 12 years) the majority of our study sites ($n = 72/92$).

Hypothesis 2: Change in urban fringe development

Species responses to urban fringe development are not driven by proximity alone. For some species, the rate of change in urban proximity also contributes to observed patterns of occurrence. For example, the Common Starling (exotic and declining; Barrett *et al.*, 2007; L. Rayner *et al.* unpublished data) and Mistletoebird (declining; Szabo *et al.*, 2011; L. Rayner *et al.* unpublished data) both responded positively to urban proximity, but were negatively impacted by increasing rates of urban change. That is, the greater the annual change in urban proximity, the less likely we were to observe these species on a site. Other species, such as the Grey Currawong and Varied Sittella did not exhibit significant relationships with Urban Distance at all, but also showed suppressed reporting rates with rapid changes at the urban fringe. Both of these species are declining more broadly (Barrett *et al.*, 2007). Of greatest concern are species that exhibited both a negative response to urban proximity *and* change, such as

the Brown Treecreeper (listed as near threatened; EPBC, 1999), Tree Martin (declining; Barrett *et al.*, 1994; Paton *et al.*, 2004; Szabo *et al.*, 2011) and Golden Whistler. These examples demonstrate that urban fringe development is having a detrimental impact on those bird species which are often of conservation concern, but in a way that is not captured by static distance metrics alone.

Common traits were generally lacking among species responding to urban change. However, our results indicate that generalist, sedentary and hollow dependent species, which are typically favoured by urban environments (Fig. 4), are negatively affected by large annual shifts in proximity. If the response of these trait groups to urban fringe development is driven primarily by resource availability (McKinney, 2002), it is possible that the human subsidized resources favouring these species groups are not available in the initial phase of urban construction (i.e. within 1 year). This supports arguments that species responses to urban fringe development are likely to change through time (Scott, 1993) and that the age of a suburb is a strong determinant in how communities respond to urbanization (Møller *et al.*, 2012). Indeed, we found little congruence between the responses of species to rapid, short term changes in urban fringe development and the delayed, longer term effects of an established urban suburb. Pearce Higgins *et al.* (2012) found a similar pattern of response for birds inhabiting areas adjacent to wind farms in the United Kingdom, where population declines were linked to immediate construction disturbance rather than subsequent operation. Unfortunately, we found no comparative studies examining this effect in urban fringe environments elsewhere around the world.

When relating species population trends to the extent of urban change in the preceding 12 years, we found little support for a linear association. That is, species in areas subject to minimal urban encroachment showed variable long term trend responses, including population increases and declines. However, areas of most extensive change in urban fringe development were more often associated with species exhibiting stable or declining trend patterns, and these species were more likely to be urban avoiders. This finding suggests that long term changes in urban fringe development may be influencing woodland bird persistence, but that its effects could be spatially dependent on other landscape factors.

One such factor influencing species responses to urban fringe development may be the spatial distribution of protected areas. In our study system, protected areas have been established around most of the sites that were subject to the highest rate of urban change over the last decade (Rayner *et al.*, 2014). Direct conservation action within reserves that target the protection of woodland avifauna (such as predator removal and the addition of coarse woody debris; Manning *et al.*, 2011; Shorthouse *et al.*, 2012) may have influenced our results on long term responses to urban change by reducing the detectable impact of rapid, large scale urban encroachment. While this result has the potential to be an encouraging conservation outcome, the role of protected

areas for abating the impacts of urban fringe development remains inconclusive without further replication of areas subject to high urban change in the absence of formal protection.

Management implications

Defining conservation objectives in urban fringe environments remains an important challenge for conservation biology (Miller & Hobbs, 2002; Battisti & Gippoliti, 2004). There is an urgent need for long term monitoring data to assist the management of species urban interactions (Chace & Walsh, 2006). Our study is one of the first to track species responses to urban fringe development through time using empirical data from permanent field monitoring sites. Temporal replication in our surveys lends additional rigour to our assessment of species urban tolerance as significant relationships are based on a consistent response to urban proximity through time.

However, this investigation shows that the examination of proximity alone will not reveal all that we need to know about the impact of urban fringe development on those species occupying fringe habitats. We have discovered that several species respond to the rate of change in development at the urban fringe. Given that these species are frequently of conservation concern regionally and nationally, we argue that testing the response of species to urban change provides critical insight into those taxa that are particularly vulnerable to urban related disturbance. We provide examples of where our results might be regionally specific and encourage careful consideration of ecological context when examining the effects urban fringe development elsewhere (Luck & Smallbone, 2010).

The adverse effect of urban fringe development on the reporting rates and abundances of vulnerable species warrants careful attention in terms of conservation management and planning. At a minimum, our findings suggest that vegetation (specifically mid and upper canopy structures) should be retained wherever possible in urban environments, particularly during the construction phase of development. In addition, future urban expansion towards important fringe habitats (e.g. endangered ecological communities or areas supporting threatened species) will need to be planned strategically through space and time. Spatially, we detected urban proximity effects on species frequently beyond 3 km (and up to 5 km) from the urban boundary. Decision makers will need to consider this distance when acquiring land for future urban fringe development in areas of high conservation value. Planners will need to do their best to minimize construction related disturbance, particularly on large development blocks. Ideally, the spatial scale of suburbs also would be considered prior to establishment. Avoiding blocks of development that result in large advances towards sensitive habitats would be preferable so that species sensitive to urban fringe development can benefit from smaller incremental changes in urban encroachment.

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REFERENCES

- ABS (2013) Australia bureau of statistics. *Regional population growth, Australia, 2012 13 Australian Capital Territory*. Available at: http://www.abs.gov.au/ausstats/abs@.nsf/Products/3218.0~2012_13~Main+Features~Australian+Capital+Territory?OpenDocument (accessed 28 May 2014).
- ACT (2011) Australian Capital Territory Government. *ACT state of the environment report 2011*. Available at: <http://www.envcomm.act.gov.au/actsoe2011/index.html> (accessed 28 May 2014).
- Aronson, M.F., La Sorte, F.A., Nilon, C.H., Katti, M., Goddard, M.A., Lepczyk, C.A., Warren, P.S., Williams, N.S., Cilliers, S. & Clarkson, B. (2014) A global analysis of the impacts of urbanization on bird and plant diversity reveals key anthropogenic drivers. *Proceedings of the Royal Society B: Biological Sciences*, **281**, 20133330.
- Barrett, G., Ford, H.A. & Recher, H. (1994) Conservation of woodland birds in a fragmented rural landscape. *Pacific Conservation Biology*, **1**, 245.
- Barrett, G., Silcocks, A., Cunningham, R., Oliver, D., Weston, M. & Baker, J. (2007) Comparison of atlas data to determine the conservation status of bird species in New South Wales, with an emphasis on woodland dependent species. *Australian Zoologist*, **34**, 37–77.
- Battisti, C. & Gippoliti, S. (2004) Conservation in the urban countryside interface: a cautionary note from Italy. *Conservation Biology*, **18**, 581–583.
- Bekessy, S.A., White, M., Gordon, A., Moilanen, A., McCarthy, M.A. & Wintle, B.A. (2012) Transparent planning for biodiversity and development in the urban fringe. *Land Use and Urban Planning*, **108**, 140–149.
- Blair, R.B. (1996) Land use and avian species diversity along an urban gradient. *Ecological Applications*, **6**, 506–519.
- Blewett, C.M. & Marzluff, J.M. (2005) Effects of urban sprawl on snags and the abundance and productivity of cavity nesting birds. *The Condor*, **107**, 678–693.
- Bonier, F., Martin, P.R. & Wingfield, J.C. (2007) Urban birds have broader environmental tolerance. *Biology Letters*, **3**, 670–673.
- Bounds, J., Taws, N. & Cunningham, R. (2010) A statistical analysis of trends in occupancy rates of woodland birds in

- the ACT, December 1998 to December 2008: the ten year data analysis. *Canberra Bird Notes*, **35**, 158–192.
- Brearley, G., Bradley, A., Bell, S. & McAlpine, C. (2010) Influence of contrasting urban edges on the abundance of arboreal mammals: a study of squirrel gliders (*Petaurus norfolcensis*) in southeast Queensland, Australia. *Biological Conservation*, **143**, 60–71.
- Burton, N.H., Rehfisch, M.M. & Clark, N.A. (2002) Impacts of disturbance from construction work on the densities and feeding behavior of waterbirds using the intertidal mudflats of Cardiff Bay, UK. *Environmental Management*, **30**, 0865–0871.
- Chace, J.F. & Walsh, J.J. (2006) Urban effects on native avifauna: a review. *Landscape and Urban Planning*, **74**, 46–69.
- Chamberlain, D., Cannon, A., Toms, M., Leech, D., Hatchwell, B. & Gaston, K. (2009) Avian productivity in urban landscapes: a review and meta analysis. *Ibis*, **151**, 1–18.
- Cincotta, R.P., Wisniewski, J. & Engelman, R. (2000) Human population in the biodiversity hotspots. *Nature*, **404**, 990–992.
- Croci, S., Butet, A. & Clergeau, P. (2008) Does urbanization filter birds on the basis of their biological traits. *The Condor*, **110**, 223–240.
- Crossman, N., Bryan, B., Ostendorf, B. & Collins, S. (2007) Systematic landscape restoration in the rural urban fringe: meeting conservation planning and policy goals. *Biodiversity and Conservation*, **16**, 3781–3802.
- Dallimer, M., Rouquette, J.R., Skinner, A.M., Armsworth, P.R., Maltby, L.M., Warren, P.H. & Gaston, K.J. (2012) Contrasting patterns in species richness of birds, butterflies and plants along riparian corridors in an urban landscape. *Diversity and Distributions*, **18**, 742–753.
- EPBC (1999) *Environment Protection and Biodiversity Conservation Act 1999*. Available at: <http://www.environment.gov.au/cgi-bin/sprat/public/publicthreatenedlist.pl?wanted=fauna> (accessed 28 May 2014).
- Fisher, T. (2003) Differentiation of growth processes in the peri urban region: an Australian case study. *Urban Studies*, **40**, 551–565.
- Foley, J.A., DeFries, R., Asner, G.P., Barford, C., Bonan, G., Carpenter, S.R., Chapin, F.S., Coe, M.T., Daily, G.C. & Gibbs, H.K. (2005) Global consequences of land use. *Science*, **309**, 570–574.
- Forys, E.A. & Allen, C.R. (2005) The impacts of sprawl on biodiversity: the ant fauna of the lower Florida Keys. *Ecology and Society*, **10**, 25.
- Garden, J., McAlpine, C., Peterson, A., Jones, D. & Possingham, H. (2006) Review of the ecology of Australian urban fauna: a focus on spatially explicit processes. *Austral Ecology*, **31**, 126–148.
- Grimm, N.B., Faeth, S.H., Golubiewski, N.E., Redman, C.L., Wu, J., Bai, X. & Briggs, J.M. (2008) Global change and the ecology of cities. *Science*, **319**, 756–760.
- Güneralp, B. & Seto, K. (2013) Futures of global urban expansion: uncertainties and implications for biodiversity conservation. *Environmental Research Letters*, **8**, 014025.
- Husson, F., Josse, J., Le, S. & Mazet, J. (2014) *FactoMineR: multivariate exploratory data analysis and data mining with R. R package version 1.26*. Available at: <http://CRAN.R-project.org/package=FactoMineR> Accessed (07 April 2014).
- Ikin, K., Knight, E., Lindenmayer, D.B., Fischer, J. & Manning, A.D. (2013) The influence of native versus exotic streetscape vegetation on the spatial distribution of birds in suburbs and reserves. *Diversity and Distributions*, **19**, 294–306.
- Ikin, K., Barton, P., Knight, E., Lindenmayer, D., Fischer, J. & Manning, A. (2014) Bird community responses to the edge between suburbs and reserves. *Oecologia*, **174**, 545–557.
- Johnston, R.F. (2001) Synanthropic birds of north America. *Avian ecology and conservation in an urbanizing world* (ed. by J. Marzluff, R. Bowman, R. Donnelly), pp. 49–67. Springer, USA.
- Kark, S., Iwaniuk, A., Schalimtzek, A. & Banker, E. (2007) Living in the city: can anyone become an 'urban exploiter'? *Journal of Biogeography*, **34**, 638–651.
- Kluza, D.A., Griffin, C.R. & Degraaf, R.M. (2000) Housing developments in rural New England: effects on forest birds. *Animal Conservation*, **3**, 15–26.
- Le Roux, D.S., Ikin, K., Lindenmayer, D.B., Blanchard, W., Manning, A.D. & Gibbons, P. (2014) Reduced availability of habitat structures in urban landscapes: implications for policy and practice. *Landscape and Urban Planning*, **125**, 57–64.
- Lim, H.C. & Sodhi, N.S. (2004) Responses of avian guilds to urbanisation in a tropical city. *Landscape and Urban Planning*, **66**, 199–215.
- Lindenmayer, D., Bennett, A. & Hobbs, R. (2010) *Temperate woodland conservation and management*. CSIRO Publishing, Melbourne, Vic.
- Luck, G.W. (2007) The relationships between net primary productivity, human population density and species conservation. *Journal of Biogeography*, **34**, 201–212.
- Luck, G.W. & Smallbone, L.T. (2010) Species diversity and urbanisation: patterns, drivers and implications. *Urban ecology* (ed. by K.J. Gaston), pp. 88–119. Cambridge University Press, Cambridge, UK.
- Manning, A., Wood, J., Cunningham, R., McIntyre, S., Shorthouse, D., Gordon, I. & Lindenmayer, D. (2011) Integrating research and restoration: the establishment of a long term woodland experiment in south eastern Australia. *Australian Zoologist*, **35**, 633–648.
- Marzluff, J.M. & Ewing, K. (2001) Restoration of fragmented landscapes for the conservation of birds: a general framework and specific recommendations for urbanizing landscapes. *Restoration Ecology*, **9**, 280–292.
- Marzluff, J.M. & Neatherlin, E. (2006) Corvid response to human settlements and campgrounds: causes, consequences, and challenges for conservation. *Biological Conservation*, **130**, 301–314.

- Marzluff, J.M., Bowman, R. & Donnelly, R. (2001) A historical perspective on urban bird research: trends, terms, and approaches. *Avian ecology and conservation in an urbanizing world* (ed. by J. Marzluff, R. Bowman, R. Donnelly), pp. 1–17. Springer, USA.
- McDonald, R.I., Forman, R.T., Kareiva, P., Neugarten, R., Salzer, D. & Fisher, J. (2009) Urban effects, distance, and protected areas in an urbanizing world. *Landscape and Urban Planning*, **93**, 63–75.
- McKinney, M.L. (2002) Urbanization, biodiversity, and conservation. *BioScience*, **52**, 883–890.
- McKinney, M.L. (2006) Urbanization as a major cause of biotic homogenization. *Biological Conservation*, **127**, 247–260.
- Miller, J.R. & Hobbs, R.J. (2002) Conservation where people live and work. *Conservation Biology*, **16**, 330–337.
- Miller, J.R., Wiens, J.A., Hobbs, N.T. & Theobald, D.M. (2003) Effects of human settlement on bird communities in lowland riparian areas of Colorado (USA). *Ecological Applications*, **13**, 1041–1059.
- Møller, A.P. (2009) Successful city dwellers: a comparative study of the ecological characteristics of urban birds in the Western Palearctic. *Oecologia*, **159**, 849–858.
- Møller, A.P., Diaz, M., Flensted Jensen, E., Grim, T., Ibáñez-Álamo, J.D., Jokimäki, J., Mänd, R., Markó, G. & Tryjanowski, P. (2012) High urban population density of birds reflects their timing of urbanization. *Oecologia*, **170**, 867–875.
- Montague Drake, R.M., Lindenmayer, D.B., Cunningham, R.B. & Stein, J.A. (2011) A reverse keystone species affects the landscape distribution of woodland avifauna: a case study using the Noisy Miner (*Manorina melanocephala*) and other Australian birds. *Landscape Ecology*, **26**, 1383–1394.
- Paton, D.C., Rogers, D.J. & Harris, W. (2004) Birdscaping the environment: restoring the woodland systems of the Mt Lofty region, South Australia. *Conservation of Australia's forest fauna second edition* (ed. by D. Lunney), pp. 331–358. Royal Zoological Society of New South Wales, Sydney, NSW.
- Pautasso, M. (2007) Scale dependence of the correlation between human population presence and vertebrate and plant species richness. *Ecology Letters*, **10**, 16–24.
- Pearce Higgins, J.W., Stephen, L., Douse, A. & Langston, R.H.W. (2012) Greater impacts of wind farms on bird populations during construction than subsequent operation: results of a multi site and multi species analysis. *Journal of Applied Ecology*, **49**, 386–394.
- Pidgeon, A.M., Radeloff, V.C., Flather, C.H., Lepczyk, C.A., Clayton, M.K., Hawbaker, T.J. & Hammer, R.B. (2007) Associations of forest bird species richness with housing and landscape patterns across the USA. *Ecological Applications*, **17**, 1989–2010.
- Radeloff, V.C., Hammer, R.B., Stewart, S.I., Fried, J.S., Holcomb, S.S. & McKeefry, J.F. (2005) The wildland urban interface in the United States. *Ecological Applications*, **15**, 799–805.
- Radeloff, V.C., Stewart, S.I., Hawbaker, T.J., Gimmi, U., Pidgeon, A.M., Flather, C.H., Hammer, R.B. & Helmers, D.P. (2010) Housing growth in and near United States protected areas limits their conservation value. *Proceedings of the National Academy of Sciences USA*, **107**, 940–945.
- Rayner, L., Lindenmayer, D.B., Wood, J.T., Gibbons, P. & Manning, A.D. (2014) Are protected areas maintaining bird diversity? *Ecography*, **37**, 43–53.
- Reijnen, R. & Foppen, R. (2006) Impact of road traffic on breeding bird populations. *The ecology of transportation: managing mobility for the environment* (ed. by J. Davenport and J. L. Davenport), pp. 255–274. Springer, Dordrecht, Netherlands.
- Robinson, L., Newell, J.P. & Marzluff, J.M. (2005) Twenty five years of sprawl in the Seattle region: growth management responses and implications for conservation. *Landscape and Urban Planning*, **71**, 51–72.
- Sandström, U., Angelstam, P. & Mikusiński, G. (2006) Ecological diversity of birds in relation to the structure of urban green space. *Landscape and Urban Planning*, **77**, 39–53.
- Scott, T.A. (1993) Initial effects of housing construction on woodland birds along the wildland urban interface. *Interface between ecology and land development in California* (ed. by J.E. Keeley), pp. 181–187. Southern California Academy of Sciences, Los Angeles, CA, USA.
- Seto, K.C., Güneralp, B. & Hutyrá, L.R. (2012) Global forecasts of urban expansion to 2030 and direct impacts on biodiversity and carbon pools. *Proceedings of the National Academy of Sciences USA*, **109**, 16083–16088.
- Shanahan, D.F., Strohbach, M.W., Warren, P.S. & Fuller, R.A. (2013) The challenges of urban living. *Avian urban ecology: behavioural and physiological adaptations* (ed. by D. Gil and H. Brumm), pp. 3–20. Oxford University Press, Oxford, UK.
- Shorthouse, D.J., Iglesias, D., Jeffress, S., Lane, S., Mills, P., Woodbridge, G., McIntyre, S. & Manning, A.D. (2012) The 'making of the Mulligans Flat Goorooyarroo experimental restoration project. *Ecological Management & Restoration*, **13**, 112–125.
- Sol, D., González Lagos, C., Moreira, D., Maspons, J. & Lapiedra, O. (2014) Urbanisation tolerance and the loss of avian diversity. *Ecology Letters*, **17**, 942–950, doi:10.1111/ele.12297.
- Sorace, A. & Gustin, M. (2010) Bird species of conservation concern along urban gradients in Italy. *Biodiversity and Conservation*, **19**, 205–221.
- Szabo, J.K., Vesk, P.A., Baxter, P.W. & Possingham, H.P. (2011) Paying the extinction debt: woodland birds in the Mount Lofty Ranges, South Australia. *Emu*, **111**, 59–70.
- Turner, W.R., Nakamura, T. & Dinetti, M. (2004) Global urbanization and the separation of humans from nature. *BioScience*, **54**, 585–590.

Wania, A., Kühn, I. & Klotz, S. (2006) Plant richness patterns in agricultural and urban landscapes in Central Germany – spatial gradients of species richness. *Landscape and Urban Planning*, **75**, 97–110.

SUPPORTING INFORMATION

Additional Supporting Information may be found in the online version of this article:

Appendix S1 Map of study area with location of survey sites.

Appendix S2 List of species with assigned functional traits.

Appendix S3 FAMD showing trait group responses to urban annual change.

BIOSKETCH

Laura Rayner is based at the Australian National University, Canberra, Australia, where she is a postdoctoral fellow at the Fenner School of Environment and Society. Her research focuses on the population dynamics and conservation of diverse bird communities in modified landscapes.

Author contributions: L.R., K.I. and A.M. conceived the ideas; L.R. and M.E. analysed the data; L.R. led the writing; and A.M., K.I., P.G. and D.B.L. made substantial contributions to manuscript revision.

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What Do Genetics and Ecology Tell Us About the Design of Nature Reserves?

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ABSTRACT

The SLOSS (single large or several small) debate is no longer an issue in the discussion about the optimal size of nature reserves. The best way to estimate the minimum sizes of reserves may be a three-step process: (1) identify target or keystone species whose disappearance would significantly decrease the value or species diversity of the reserve; (2) determine the minimum number of individuals in a population needed to guarantee a high probability of survival for these species; (3) using known densities, estimate the area needed to sustain the minimum number. The forces that affect population viability and determine MVPs (minimum viable populations) are extremely complex. Thoughtful estimates of MVPs for many animal species are rarely lower than an effective size of a few hundred.

Attempts to save only common or smaller species in a community will usually be ill-fated because of the web of ecological relationships between species, including the importance of predation and herbivory in the maintenance of species diversity. Other topics discussed include the complementarity of conservation goals, the problematic function of corridors and the value of buffer zones.