



16 January 2019

David Maxwell
Managing Director
Riverview Projects (ACT) Pty Ltd
The Link, 90 Stockdill Drive (adjacent to Strathnairn Arts Association)
Holt ACT 2615
PO Box 484
Kippax ACT 2615

EPBC Act Strategic Assessment No. 024 – Urban Development at West Belconnen (Ginninderry)

Review and Statement of Compliance with Approval Condition 11

Capital Ecology project no. 2829

Dear Mr Maxwell,

This letter-report provides the results of our review of the works commissioned by Riverview Projects (ACT) Pty Ltd ('Riverview') in accordance with Condition 11 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Final Approval Decision¹ for Strategic Assessment No. 024 - Urban Development at West Belconnen (Ginninderry). Condition 11 states –

11. Prior to the commencement of construction (in all areas other than the area marked as stage 1 in the Program Figure 4) and within 12 months before or within 12 months after endorsement of the Program by the Department, the approval holder must engage a suitably qualified expert to survey the West Belconnen site for Pink-tailed Worm Lizard and Natural Temperate Grassland of the South Eastern Highlands in accordance with the survey guidelines. The results of surveys must be submitted to the Department for acceptance within 6 months of completion of the survey. The accepted report must be made available to the public prior to the commencement of construction.

¹ Australian Government (2017). *Urban Development at West Belconnen (Ginninderry) – SA.024 – Final approval decision for the taking of actions in accordance with an endorsed program under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*. Signed K. Farrant on 1 September 2017.

Capital Ecology Pty Ltd

PO Box 854
Gungahlin ACT 2912

ACN: 607 364 358
ABN: 50 607 364 358

Phone: 0412 474 415
Email: admin@capitalecology.com.au

www.capitalecology.com.au

During spring 2017 Riverview commissioned two separate technical studies in accordance with Condition 11. These studies were submitted to the Department of the Environment and Energy. The Department subsequently provided the following clarification (email from Ross Rowe dated 15 June 2018) regarding Condition 11.

The purpose of Condition 11 is to capture any areas of NTG that were not identified at the time original vegetation surveys were undertaken, reflecting changes in the definition of the listed ecological community. Noting that NTG supports PTWL, condition 11 also requires targeted surveys for PTWL to ensure any additional habitat is appropriately identified (both within the conservation corridor and development area) and if necessary offset any development impacts according to the defined process strategy.

In light of the above, the scope and findings of each of the studies completed to date is described below, together with a statement outlining the degree to which the completed work addresses the requirements of Condition 11.

Natural Temperate Grassland

Context

In April 2016, the Department revised the listing classification and conservation status of the previously listed endangered ecological community 'Natural Temperate Grassland of the Southern Tablelands of NSW and the Australian Capital Territory' (NTG). The revised 'Natural Temperate Grassland of the South Eastern Highlands' (NTG-SEH) was elevated to critically endangered and recognises a broader area of grasslands across the South Eastern Highlands bioregion (Commonwealth of Australia 2016²). The revision also provided a 'minimum condition threshold' for use in determining whether a patch of grassland remains in a condition consistent with the listed community and is thus protected by the EPBC Act. In the ACT and surrounding region of NSW, the effect of the revised listing and associated minimum condition threshold has been that many patches which would not have been previously recognised as NTG are now recognised as NTG-SEH.

The Ginninderry project area is an example of the above described situation in that no NTG was identified in the development area by any of the past studies (Kevin Mills & Associates 2009a³, 2009b⁴; Nash and Hogg 2013⁵), yet 2016 advice from local grasslands expert Sarah Sharp suggested that reassessment would be prudent in light of the revised listing.

² Commonwealth of Australia (2016). *Natural Temperate Grassland of the South Eastern Highlands: a nationally protected ecological community*. Department of Environment and Energy.

³ Kevin Mills and Associates (2009a). *Preliminary Assessment, Land at West Molonglo and Ginninderra Creek, New South Wales, Australian Capital Territory*. Prepared for CB Richard Ellis Pty Limited, Canberra.

⁴ Kevin Mills and Associates (2009b). *Further Flora and Fauna Studies, Land at West Molonglo and Ginninderra Creek, New South Wales, Australian Capital Territory*. Report prepared for The Riverview Group, Canberra.

⁵ Nash, K. and Hogg, D. McC. (2013). *West Belconnen Woodland Areas. Confirmatory Ecological Assessment*. Report prepared for The Riverview Group, Canberra.

Completed Studies

Study = 2017 Natural Temperate Grassland assessment (SMEC⁶)

Overview

SMEC was engaged in September 2017 to inspect the patches of PTWL habitat (mapping data from Osborne and Wong 2013⁷) within the proposed Ginninderry development area and provide an assessment of whether these patches meet the criteria for classification as NTG-SEH.

SMEC inspected each patch previously mapped as PTWL habitat (Osborne and Wong 2013) and assessed it against the listing criteria for classification as NTG-SEH. The process applied was logical and sound, involving appropriate measures to assess the values of each patch against the listing criteria. SMEC determined that four patches, or clusters of patches, within the Ginninderry development area (i.e. outside the conservation corridor) were consistent with the EPBC Act NTG-SEH listing criteria. The total combined area of these patches was 3.3 ha.

Key findings

The boundaries of the patches assessed by SMEC were based on those mapped at fine scale by Osborne and Wong (2013), these were noted by SMEC to accurately reflect the 2017 on-ground boundaries. Overall, the SMEC study is likely to provide an accurate and dependable assessment of the extent of the Ginninderry development area which supports the EPBC Act listed NTG-SEH critically endangered ecological community.

Study = West Belconnen Vegetation Survey Summary. 2017 Update (RJPL⁸)

Overview

Robert Jessop Pty Ltd (RJPL) was engaged to prepare an update to their previous 2014 baseline vegetation survey (Robert Jessop Pty Ltd 2015⁹). The primary purpose of the update was to present updated data from surveys undertaken based on Sharp (2017¹⁰). The summary of the study notes that the 2014 baseline vegetation survey has “presented an overview, at a vegetation community scale, the vegetation diversity, character and health present within the WBCA”. The 2017 update simply provides a revision of the mapping to align with the classifications presented by Sharp (2017) and does not provide additional mapping or mapping prepared at finer scale.

Key findings

Whilst SMEC (2017) note that their study is “consistent with the associated revised April 2017 RJPL / SMEC report regarding natural temperate grassland in the immediately adjacent river conservation corridor”, it is difficult to identify the consistency between the two studies. As discussed above, SMEC

⁶ SMEC (2017). *Assessment of mapped pink-tailed worm lizard habitat within Ginninderry for potential to meet criteria for classification as natural temperate grassland*. 27 September 2017.

⁷ Osborne and David Wong (2013). *The extent of habitat for the vulnerable Pink-tailed Worm Lizard (Aprasia parapulchella) in the West Belconnen – Ginninderra Creek investigation area - confirmatory distribution surveys and mapping*. Institute for Applied Ecology University of Canberra. 10 May 2013.

⁸ RJPL in association with SMEC (2017). *West Belconnen Vegetation Survey Summary. 2017 Update*. Report prepared by Robert Jessop Pty Ltd in association with SMEC Australia Pty Ltd for Riverview Group, Canberra.

⁹ Robert Jessop Pty Ltd 2015. *West Belconnen vegetation survey summary*. Report prepared for The Riverview Group. Robert Jessop Pty Ltd, Cook, ACT.

¹⁰ Sharp, S. (2017). *Ginninderry conservation zone vegetation unit descriptions*. Report prepared for The Riverview Group. S. Sharp, Canberra, ACT.

(2017) assessed each of the patches previously mapped at fine scale by Osborne and Wong (2013) providing a detailed quantitative assessment of the values of the patch against the relevant listing criteria (Commonwealth of Australia 2016). In contrast, RJPL (2017) prepared broad mapping at the 'vegetation community scale' with no direct assessment of the values of the patches against the listing criteria.

In light of the above, I concur with the comment by Ross Rowe (email dated 15 June 2018) that the extent of NTG-SEH in the conservation corridor cannot be determined from the broadscale vegetation mapping prepared to date. I note however that subsequent advice from Kate Gowland (letter dated 13 September 2018) accepts that the *"co-location of Pink-tailed Worm-lizard habit with the occurrence of the listed ecological community Natural Temperate Grassland of the South Eastern Highlands provides for protection of 111.3 ha of the listed community that was not identified in the Program"*.

Natural Temperate Grassland – Compliance with Condition 11

As outlined in the clarification from the Department (Ross Rowe email dated 15 June 2018), the purpose of the requirement to undertake additional vegetation survey and mapping is to identify and define the extent of any patches of the NTG-SEH listed ecological community. This mapping will inform the Defined Process Strategy should it be triggered to offset any development impacts on NTG-SEH. Whilst I believe that the SMEC (2017) study has likely accurately defined the NTG-SEH extent in the development area, I agree with Ross Rowe that the extent of NTG-SEH in the conservation corridor cannot be determined from the broadscale vegetation mapping prepared to date. I also agree that this absence of an accurate and fine scale baseline map of the NTG-SEH extent will likely present future monitoring and reporting challenges. Mr Rowe suggests two options to address this issue:

- Option 1 being to complete accurate fine scale assessment and mapping of NTG-SEH extent and condition throughout the Ginninderry project area; and
- Option 2 being to provide clear commitments regarding how future reporting on extent and condition monitoring will handle the identification of areas of grassland within the vegetation units (broadly identified as 'Rocky Natural Grassland') that fall below the threshold criteria for the NTG-SEH listed community.

The absence of accurate fine scale baseline mapping of the NTG-SEH extent in the conservation corridor is a significant gap in the current ecological information for Ginninderry. Whilst I note that it will involve another substantial vegetation mapping project across land previously surveyed, I strongly recommend Option 1 to address this gap, my key reasons for this are as follows.

1. The existing mapping identifies very substantial areas of the conservation corridor as 'Rocky Natural Grassland', however I note from my on-ground experience that only a proportion of these mapped areas is likely to currently meet the NTG-SEH listing criteria. As such, I would avoid the Option 2 approach which would inevitably result in ongoing periodic re-survey of substantial areas mapped (correctly or not) as 'Rocky Natural Grassland' against the NTG-SEH listing criteria. Option 1 will provide an accurate baseline of the NTG-SEH extent, this being the defined area to be subject to future conservation commitments, notably on-ground management and monitoring.
2. Similar to the above point, whilst I agree with Kate Gowland's position regarding the likelihood that the NTG-SEH in the conservation corridor co-occurs with the mapped Pink-tailed Worm-lizard habitat, I have found the occurrence of these features to be very loosely correlated at many sites. I believe there is the potential that substantial areas of the mapped Pink-tailed

Worm-lizard habitat are indeed derived grassland of woodland or dry forest climax communities (i.e. not historically grassland).

3. The SMEC (2017) study identified 3.3 ha of NTG-SEH in the development area, the proposed clearance of which will need to be offset according to the Defined Process Strategy¹¹. The conservation of NTG-SEH in the conservation corridor is likely to be the most appropriate means of addressing the offset liability generated by the clearance of 3.3 ha of NTG-SEH in the development area. Application of the Defined Process Strategy will require that the values of the proposed offset (i.e. NTG-SEH extent and condition) are accurately defined.
4. There is the potential that future infrastructure and related development may be located in the conservation corridor. Accurate mapping of the extent of NTG-SEH will provide a constraint layer which can be appropriately considered and accommodated from the early planning stage for such development.

Regarding the above, it is important to note that the Defined Process Strategy will only be triggered for NTG-SEH if this threatened ecological community will be impacted by development or related activities, either in the development area or in the adjacent conservation corridor. It is currently unknown whether this will occur. As such, whilst I recommend the development of fine scale mapping of the NTG-SEH in the conservation corridor for the above outlined reasons, I believe that the project is in compliance with the purpose of Condition 11 as it applies to NTG-SEH provided that the necessary mapping is developed in time to inform the Defined Process Strategy should its application be triggered.

Further to the above, I note that whilst the total area is likely to be less than 111.3 ha, the conservation corridor is likely to contain extensive patches of NTG-SEH. With reference to the offset ratios applied by the EPBC Act Environmental Offsets Policy and associated Offsets Assessment Guide (Commonwealth of Australia 2012¹²), I believe that the conservation corridor is likely to support a total area of NTG-SEH which is more than sufficient to offset the loss of the much smaller areas of NTG-SEH which may be impacted in development area.

Pink-tailed Worm-lizard

Completed Studies

Study 1 = 2017 Pink-tailed Worm-lizard survey and habitat mapping – portions of ACT project area (Capital Ecology 2018¹³)

Overview

Capital Ecology was engaged to re-survey and re-map the Pink-tailed Worm-lizard *Aprasia parapulchella* (PTWL) habitat within the portions of Ginninderry project area that may be subject to development impacts in the 12-month period commencing October 2017.

¹¹ SMEC (2018). *Ginninderry Development – Offset Management Plan*. Prepared for: Riverview Property (ACT) Pty Ltd.

¹² Commonwealth of Australia (2012). *Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy* October 2012.

¹³ Capital Ecology (2018a). *Ginninderry - Pink-tailed Worm-lizard survey and habitat mapping*. Capital Ecology project no. 2772.

The area reassessed was mapped in 2011/12 by Osborne and Wong (2013) as containing 6.34 ha of suitable habitat and 1.04 ha of low quality habitat.

Each previously mapped habitat patch was inspected to assess the following.

1. The habitat quality using the classification/categorisation detailed by Osborne and Wong (under 'Habitat Classification' in that report). Using the same habitat classification/categorisation ensures that any differences in the mapping are due to on-ground habitat change or mapping corrections, rather than differences in classification etc.
2. The current extent of the patch. Any observed differences were mapped in the field directly onto high resolution field maps.

The remainder of the study area was also inspected to ensure that all patches of rocky habitat were identified and included in the above described habitat assessment. Each patch of potential PTWL habitat was then surveyed employing a survey intensity and method consistent with the Commonwealth Survey Guidelines¹⁴ and that used by Osborne and Wong, which involved the following.

- Searches for PTWL by carefully turning rocks over and then placing them back into position.
- Turning a minimum of 500 rocks per patch (considered adequate for confirming occurrence at large sites based on averages for detection presented in Jones 1999¹⁵), or until a PTWL was found and thus presence in the patch confirmed. Where it was not possible to turn 500 rocks because of a shortage of surface rock, all possible rocks were turned.

Each PTWL found was classified as either an adult (≥ 12 cm total length) or juvenile (≤ 12 cm total length), and the position recorded via a handheld GPS.

The survey and mapping involved approximately 24 person-hours and was completed during optimal survey conditions on 23 October 2017.

Capital Ecology recorded 1.41 ha of low quality habitat and 6.55 ha of suitable habitat (moderate to high quality), in contrast to the 1.04 ha and 6.34 ha (respectively) recorded by Osborne and Wong in 2011/12 (Table 1). Thirty-three (33) PTWL were recorded, thirty-one (31) in suitable habitat (moderate and high quality) and two (2) in low quality habitat. Five (5) were found in habitat that had not previously been mapped by Osborne and Wong.

Key findings

The key finding of the study were as follows.

1. The study confirmed that there is no PTWL habitat in either Stage 2 or Stage 3 of Ginninderry, and that all the PTWL habitat in the study area is confined to the western portion of the study area. This is consistent with the conclusion of Osborne and Wong, who stated *"Potential habitat was found to be confined to the far western sector of the investigation area where it is in good condition and occurs very extensively along the slopes of the Murrumbidgee River"*.

¹⁴ Department of Sustainability Environment, Water, Population and Communities (2011). *Survey guidelines for Australia's threatened reptiles*. Commonwealth of Australia, Canberra.

¹⁵ Jones, S.R. (1999). *Conservation biology of the pink-tailed worm lizard (Aprasia parapulchella)*. PhD thesis Applied Ecology research group, University of Canberra.

2. The consistency between the two habitat mapping projects highlights the accuracy of the Osborne and Wong mapping and indicates that their mapping remains a true and dependable presentation of the extent and quality of the PTWL habitat across the broader Ginninderry project area. The few mapping discrepancies were minor and inconsequential in the context of the habitat extent.
3. Based on key finding 2, extensive survey and habitat mapping to reconfirm the PTWL habitat throughout the remainder of the Ginninderry project area is considered unwarranted. Instead, it is recommended that the existing mapping prepared by Osborne and Wong in 2011/12 be taken as providing an accurate representation of the current extent and quality of the PTWL habitat in the Ginninderry project area.

Study 2 = 2018 Pink-tailed Worm-lizard survey and habitat mapping – NSW development area (Capital Ecology 2018¹⁶)

Overview

Capital Ecology was engaged to re-survey and re-map the Pink-tailed Worm-lizard *Aprasia parapulchella* (PTWL) habitat within the proposed development areas of the NSW portion of the Ginninderry project area. The study did not cover the land in the adjoining conservation corridor.

The area reassessed was mapped in 2011/12 by Osborne and Wong (2013) as containing 0.54 ha of suitable habitat and 2.08 ha of low quality habitat.

The survey and mapping methods were identical to those described above for the 2017 study (Capital Ecology 2018a) and involved a total of approximately 24 person-hours on 19 October 2018.

Twelve (12) individual PTWL and four (4) PTWL sloughed skins were recorded during the survey. Of the 12 individual PTWL recorded, three (3) were juveniles (≤ 12 cm total length). Of the 16 total PTWL records (i.e. individuals plus skins), 15 were found in habitat that had not been mapped by Osborne and Wong. The remaining 1 record was found in habitat mapped by Osborne and Wong as Low Quality.

Key findings

The key findings of the study were as follows.

1. Whilst the general location of PTWL habitat identified by Osborne and Wong in the NSW portion of the Ginninderry development area is generally consistent with that produced by the 2018 Capital Ecology study, the habitat classification and extent are not. As a result, in the NSW portion of the Ginninderry development area the 2018 study has identified an additional 3.92 ha of suitable habitat and 0.28 ha of low quality habitat.
2. In light of key finding 1, the habitat quality and extent mapping produced by the 2018 Capital Ecology study should supersede the Osborne and Wong mapping for the NSW portion of the Ginninderry development area.

With regard to the above, it is important to note that Dr David Wong (co-author of the Osborne and Wong study) has previously expressed doubts on the 'low quality' classification of some of the mapped patches of PTWL habitat in NSW as presented in Osborne and Wong (2013). It is unclear why Dr Wong

¹⁶ Capital Ecology (2018b). *Ginninderry – Pink-tailed Worm-lizard survey and habitat mapping of NSW land*. Capital Ecology project no. 2842.

expressed these doubts, however it may explain why there is a discrepancy in mapped PTWL habitat in the NSW portion of the development area, but not in the ACT portion.

This study did not include the NSW component of the conservation corridor and, given the identified discrepancy in the PTWL habitat mapped in the adjoining NSW portion of the development area, it is possible that similar discrepancies also exist in the mapping of the conservation corridor. If Osborne and Wong (2013) mapped the habitat in the NSW component of the conservation corridor consistently with that in the adjoining development area, then the mapping may also substantially understate the classification and extent of the habitat proposed for conservation.

Pink-tailed Worm-lizard – Compliance with Condition 11

As outlined in the clarification from the Department, the purpose of the requirement to undertake targeted surveys for PTWL (as per Condition 11) is to ensure that any additional habitat is appropriately identified. It is my view that:

- the results of the 2017 resurvey and mapping of a subset of the ACT portion of the Ginninderry project area demonstrate that the extensive study required to resurvey and remap the rest of the ACT portion of the Ginninderry project area would be unlikely to identify any substantial discrepancy/change in the extent and/or condition from the mapping produced by Osborne and Wong; and
- the 2018 Capital Ecology study was most worthwhile, the results of which (i.e. PTWL habitat quality and extent mapping) should supersede the Osborne and Wong mapping for the NSW portion of the Ginninderry development area.

In addition, I recommend that the resurvey and mapping method applied by Capital Ecology (2018a; 2018b) be applied to reconfirm the classification and extent of the PTWL habitat in the NSW component of the conservation corridor. The results of this study would be used to determine whether the proposed conservation of habitat in the conservation corridor is indeed sufficient to offset the proposed loss of habitat in the adjoining development area. This would in turn determine whether the Defined Process Strategy will be triggered during the urban design process.

In light of the above, whilst I recommend further habitat mapping in the NSW component of the conservation corridor, I suggest that the primary focus of future conservation efforts for the PTWL be on the on-ground protection of the species' habitat during development and related activities. I also emphasise that the most important PTWL conservation measure in the Ginninderry project area is to maintain the grassland condition of the PTWL habitat and buffer areas, notably with regard to controlling the proliferation of grass, herbaceous weeds and woody weeds.

As outlined above, it is my view that the works commissioned by Riverview have achieved the purpose of, and are therefore in compliance with, Condition 11 as it applies to PTWL. If triggered due to impacts to PTWL, the Defined Process Strategy will be applied to determine and address any shortfall in offset requirements.

I trust that this letter-report provides the review and advice required. If, however, you should have any questions relating to the matters discussed herein, please do not hesitate to contact me.

Yours sincerely,

A handwritten signature in dark ink, appearing to read "N. J. ...".

Director / Principal Ecologist