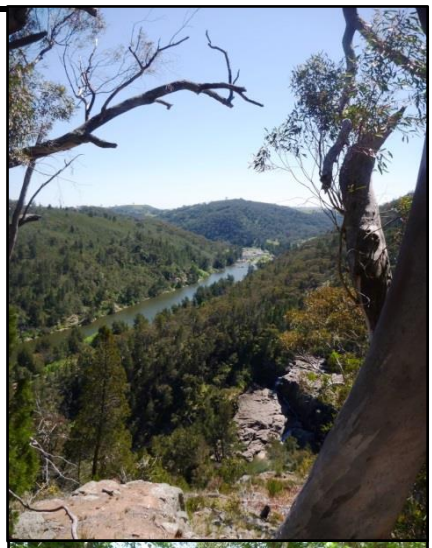

THE RIVERVIEW GROUP

WEST BELCONNEN VEGETATION SURVEY

SUMMARY

2017 Update

April 2017

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TABLES

1 INTRODUCTION

Robert Jessop Pty Ltd (RJPL) prepared a brief West Belconnen vegetation survey summary report (RJPL 2015) for The Riverview Group, as a conclusion to the baseline vegetation survey of the West Belconnen Conservation Area (WBCA). This report comprises an updated West Belconnen vegetation survey summary report to accompany data updated based on Sharp (2017).

This report presents summary data and addresses various questions posed in the *Baseline Condition Assessment Procedures Manual* (Sharp 2015), *Section 4.2 Interpreting the Data.* Vegetation community classifications have been assessed and described in detail by Sharp (2017), a process which has resulted in the reclassification of certain vegetation units in the West Belconnen Conservation Zone. Data updates are summarised in Section 4.

This report is to be read in association with the following additional electronic deliverables:

- Vegetation survey field sheets;
- Vegetation plot photographs;
- Vegetation survey spreadsheet (2017 update); and
- Vegetation and natural features mapping presented as GIS shapefiles (2017 update).

2 METHODS

The *Baseline Condition Assessment Procedures Manual* (Sharp 2015) outlines the vegetation survey methods used.

A reconnaissance survey was undertaken (RJPL 2014) to scope the potential polygons and plots, and their locations.

The vegetation survey was undertaken during October-December 2014 using a combination of three ecologists. The WBCA was generally surveyed from south to north; although, surveys of some polygons and plots in the northern, NSW part of the WBCA did not strictly follow this pattern due to access constraints.

Fifty-eight individual polygons and plots were surveyed in the WBCA. An additional riparian polygon and plot was surveyed upstream of the upper Ginninderra Falls due to the *Casuarina cunninghamiana* River She-oak Tableland Riparian Woodland community present. This polygon and plot, while outside the pre-determined WBCA boundary, is within the broader West Belconnen project area boundary. The area is classified as reserve land along Ginninderra Creek in the West Belconnen development concept plans.

3 RESULTS AND BRIEF DATA INTERPRETATION

Table 1 presents summary survey data. Additional summary information can be found under the 'Summaries' tab of the vegetation survey spreadsheet. Table 2 presents responses to the questions posed in the *Baseline Condition Assessment Procedures Manual* (Sharp 2015), *Section 4.2 Interpreting the Data*. Several questions require additional quantitative calculations, which are beyond the scope of this report.

Table 1. Summary information.

Survey Feature	Outcome	Comment
Polygons surveyed	58(59)	58 in the WBCA, 1 outside the WBCA
Plots surveyed	58(59)	58 in the WBCA, 1 outside the WBCA
Plant species identified	283 Total • 183 Native • 100 Exotic	
Threatened species and ecological communities observed	6	1. *Merops ornata* (Rainbow bee eater; Migratory, Marine – Commonwealth)) 2. *Polytelis swainsonii* (Superb parrot; Vulnerable - Commonwealth, NSW, ACT) 3. *Lalage sueurii* (White-winged Triller; Vulnerable - (ACT) 4. *Pomaderris pallida* (Pale Pomaderris; Vulnerable - Commonweatlh, NSW) 5. Natural Temperate Grassland (Endangered - (Commonwealth, ACT) 6. Box-Gum Woodland (Critically Endangered (Commonwealth), Endangered (NSW, ACT))
Key threats to natural values	• Weed invasion • Pest animal browsing	• Woody weeds – Hawthorn, Blackberry, Sweet Briar, St John's Wort, African Lovegrass, Viper's Bugloss. • Deer, Rabbits
Key management measures	Targeted weed and animal pest control	• Woody weeds – Hawthorn, Blackberry, Sweet Briar, St John's Wort, African Lovegrass, Viper's Bugloss. • Deer, Rabbits

Table 2. Responses to Sharp (2015), *Section 4.2 Interpreting the Data.*

Questions	Outcome
1. Is the vegetation in the patch predominantly native?	Few patterns were observed with the native exotic vegetation balance for the vegetation structures. Exotic species were abundant in many of the ground and shrub layers beneath taller native canopies. The Riparian Vegetation was predominantly exotic despite the River She-oaks dominating the appearance. The pasture polygons and plots, which by definition comprise exotic species, were all dominated by exotic pasture species; few native species were present. Most of the Forest plots and half the polygons comprised predominantly native species.

Questions	Outcome
	The Grassland, Wetland, Plantation, Shrubland and Woodland, plots and polygons showed varying dominance, in many cases, regardless of what the canopy vegetation was.
2. What is the structural formation?	Eight vegetation structural formations were identified. Grasslands, Woodlands and Forests were the more common vegetation structures present. Only one Wetland was present. 1. Woodland (7) 2. Forest (13) 3. Shrubland (11) 4. Pasture (8) 5. Grassland (12) 6. Wetland (1) 7. Plantation (2) 8. Riparian vegetation (4+1)
3. What vegetation community is present?	Thirteen different vegetation communities were identified, as are listed below. The first eight correspond to proposed vegetation communities present in the ACT. The ninth community is a distinct variation of the eighth community due to the abundant woody weeds present. Three derived forest / woodland communities were also identified. Elements of the original communities remained in the polygons / plots even though structurally they appeared as Woodlands, Shrublands or Grasslands. The community described in RJPL (2015) as “Derived: original community uncertain” was typically a native grassy community on steeper rocky slopes. Evidence of tree species is absent. It resembles the ‘Kangaroo Grass – Purple Wire-grass Dry Tussock Grassland’ community proposed for the ACT. Sharp (2017) confirmed this community to meet criteria for classification as “Natural temperate grassland: rocky natural grassland”. 1. Yellow Box – Red Gum Tableland Grassy Woodland 2. River She-oak Table land Riparian Woodland 3. Red Stringybark - Scribbly Gum Tableland Forest 4. Black Cypress Pine Tableland Open Forest- Riparian and Dryland 5. Burgan Tableland Shrubland - Riparian and Dryland 6. Exotic Pasture 7. Tableland Riparian Fringing Wetlands 8. Depauperate Native Pasture 9. Depauperate Native Pasture and Woody Weeds 10. Derived: Red Stringybark - Scribbly Gum Tableland Forest

Questions	Outcome
	11. Derived: Yellow Box - Red Gum Tableland Grassy Woodland 12. Derived: Black Cypress Pine Tableland Open Forest - Riparian and Dryland 13. Natural Temperate Grassland: Rocky Native Grassland (Formerly: Original community uncertain)
4. What vegetation community is likely to have occurred in the unit prior to disturbance?	Refer Section 3.
5. Is the community endangered Box-Gum Woodland or Natural Temperate Grassland?	Box–Gum Woodland, Box-Gum Woodland plantations and Derived Box-Gum Woodland grasslands occur predominantly in the southern part of the WBCA, although one Box Gum Woodland patch occurs on the southern plateau above the Ginninderra Falls. Areas of Natural Temperate Grassland are likely to occur through the Depauperate Native Grassland areas but need to be confirmed using the appropriate survey method. Areas originally classified as “Derived: Original community uncertain” have been reclassified as Natural Temperate Grassland: Rocky Native Grassland which meets the criteria for inclusion in the Natural Temperate Grassland EEC. These areas are typically located on steep rocky slopes through the central part of the conservation zone.
6. What condition score does the vegetation unit have against the benchmark?	Not calculated as beyond the scope of this proposal.
7. What floristic score do grassy vegetation types have?	Not calculated as beyond the scope of this proposal.
7. Are there important plants (threatened, rare and uncommon)?	One ‘vulnerable’ State and Commonwealth-listed threatened species, i.e. *Pomaderris pallida* (Pale Pomaderris), was observed in polygons F06 and R01. These polygons are adjacent and occur on the steeper southern slopes of Ginninderra Creek. Other locally notable species present were *Crowea exalata, Indigofera adesmiifolia* (Tick Indigo), C*alotis lappulacea* (Yellow Burr-daisy), *Desmodium brachypodium* (Lark Tick-trefoil, Digger’s Speedwell), *Pterostylis hamata* (Hooked Greenhood), *Diuris sulphurea* (Hornet orchid) and *Adiantum hispidulum*.
8. Are there important habitats for threatened or declining fauna?	This vegetation survey did not directly consider important fauna habitat; however incidental observations noted that the following habitats, potentially supporting threatened species, were present: • The Murrumbidgee River, Ginninderra Creek and some smaller tributaries may provide habitat for *Maccullochella peelii* (Murray Cod), *Macquaria australasica* (Macquarie Perch) and *Galaxias olidus* (Galaxiids). • The small wetland may provide habitat for *Gallinago hardwickii* (Lathams Snipe), *Rostrula australis* (Painted Snipe) and *Litoria aurea* (Green and Golden Bell Frog) although its small and disturbed character may suggest this is unlikely.

Questions	Outcome
	• Some of the older Box-Gum woodland trees had tree hollows, which potentially provide nesting habitat for threatened birds, e.g. *Polytelis swainsonii* (Superb parrot). • The various forest, woodland and shrubland habitats do provide threatened bird species habitat, as several species were observed, i.e. *Merops ornata* (Rainbow bee eater) and *Lalage sueurii* (White-winged Triller). • Natural Temperate Grassland patches were present and may support *Delmar impar* (Striped Legless Lizard) populations. • A previous *Aprasia parapulchella* (Pink-tailed Worm-lizard (PTWL)) survey mapped potential habitat for this species throughout much of the WBCA. • *Hieraaetus morphnoides* (Little eagle) is known to breed forage throughout the conservation zone and breed on the conservation zone boundary.
9. Are further fauna or flora surveys recommended? For which species / areas?	The vegetation survey undertaken was comprehensive in that it covered the entire WBCA in one season and provides a baseline for future monitoring. A consistent survey team used a consistent method. No further equivalent surveys of this size and scale need be undertaken in the WBCA; however equivalent monitoring of the same polygons and plots in future years is necessary to detect changes and trends in vegetation character and health, and indirectly in the status of weeds, animal pests, erosion and other management issues. The vegetation survey was essentially rapid in method and was at a vegetation community scale. Specific landform features and other spatial units, e.g. catchments, the State and Territory boundary, property boundaries, fenced paddocks and phased development blocks may drive the establishment of management units. Additional polygons / plots may need to be added to the current survey to adequately assess the management units. The vegetation survey undertaken did not target any particular species or community. Surveys for specific purposes, (e.g. identifying threatened, unique species and Natural Temperate Grassland, or mapping weeds) and/or targeting particular species (e.g. orchids, Pale Pomaderris, Blackberry) may inform management actions.
10. What are the management issues (weeds, significant species, disturbance, erosion etc.)?	Weed invasion, particularly from woody weeds such as Hawthorn and Sweet Briar, and herbaceous weeds such as Blackberry, Viper's Bugloss and African Lovegrass, threatens the natural values throughout much of the WBCA. Woody weeds are more prevalent on the steeper slopes immediately above the Murrumbidgee River and the inland gullies, while large blackberry infestations occur along the riparian margins of most streams, especially the Murrumbidgee River. Animal pest browsing, in addition to kangaroo browsing, occurs throughout the WBCA but appears to be worst on the very steep slopes above the Murrumbidgee River and Ginninderra Creek beneath the Black Cypress Pine Forest. The understorey is largely absent, and the ground is unstable and eroding. Deer sign was common and their relatively close –cropping, non-selective browsing habit is seen as potentially the main mechanism denuding the understorey and leading to erosion.

Questions	Outcome
	 Managing weeds and animals pests is the priority management action to conserve and enhance vegetation and land values.

4 2017 UPDATE

The ecological characteristics and management concerns for each of the vegetation units within the conservation zone were summarised by Sharp (2017).

Sharp (2017) reclassified grassland vegetation communities previously identified as “original community uncertain” as “Natural temperate grassland: rocky native grassland” based on revised classification criteria for the natural temperate grassland endangered ecological community under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 199* (EPBC Act) (Australian Government 2016) and recognition of rocky natural grassland by ACT Government (ACT Government 2017). Other vegetation zones were also reviewed in full or in part against criteria for classification as natural temperate grassland (Sharp 2017). Vegetation community reclassifications were confirmed in consultation with Dr Robert Jessop and David Moore, formerly of Robert Jessop Pty Ltd and currently of SMEC.

The following data files have been updated to reflect these revisions:

- Vegetation survey spreadsheet (2017 update); and
- Vegetation and natural features mapping presented as GIS shapefiles (2017 update).

For completeness, data files were updated to incorporate data collected by SMEC during the Ginninderra Creek Baseline Condition Assessment (SMEC 2016).

The accompanying datafiles should be considered to supersede those which accompanied the previous report (RJPL 2015).

5 SUMMARY

In summary, the 2014 baseline vegetation survey has:

- presented an overview, at a vegetation community scale, the vegetation diversity, character and health present within the WBCA;
- collated vegetation, community, flora, fauna, weed, animal pest, threatened species and ecological community data and presented it in forms that facilitate future analysis and interpretation;
- highlighted weed and pest animal management issues; and
- contributed to future planning and management decisions regarding the WBCA and the West Belconnen urban development.

Excel datafiles and shapefiles were updated in April 2017 per the revised vegetation classifications presented by Sharp (2017) and to incorporate data collected along Ginninderra Creek in 2015 (SMEC 2016).

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