Department of Environment and Science

A Biodiversity Planning Assessment for the Brigalow Belt Bioregion

Version 2.1
Expert Panel Report

Queensland Government

Prepared by: Biodiversity Assessment, Conservation and Biodiversity Strategy, Department of Environment and Science.

ISBN 978-0-9942384-5-0

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Citation

DES. 2018. A Biodiversity Planning Assessment for the Brigalow Belt Bioregion: Expert Panel. Version 2.1. Brisbane: Department of Environment and Science, Queensland Government.

Acknowledgements

The report was prepared by Stephen Trent, David McFarland, Shane Chemello, Simon Goudkamp, Chamendra Hewavisenthi and Courtney Duncan. The authors wish to thank all the participating experts for their time and knowledge both at the panel meetings and in out-of-session discussions.

Cover image taken and provided by Don Butler, Queensland Herbarium.

March 2018.

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Nb. This report should be read in conjunction with the accompanying Summary Report - A Biodiversity Planning Assessment for the Brigalow Belt Bioregion Version 2.1 Summary Report (DES 2018).

1 Introduction

The Brigalow Belt Bioregion is one of 15 nationally recognised biodiversity hotspots (DEE 2017). It is also the largest bioregion in Queensland, from Townsville south to the border with New South Wales. Consequently to address the biodiversity values of an area covering such a wide latitudinal range, there needed to be a similarly extensive assessment process. This report details the outcomes of two sets of expert panel meetings - one for the southern part of the bioregion and another for the northern. To fully capture the values and to accommodate local knowledge, separate panels were convened to examine the flora, fauna and landscape values.

The Biodiversity Assessment and Mapping Methodology (BAMM, version 2.2) (EHP 2014) was developed to provide a consistent approach for assessing biodiversity values at the landscape scale in Queensland using vegetation mapping data generated or approved by the Queensland Herbarium as a fundamental basis. It is being used by the Department of Environment and Science (DES) to generate Biodiversity Planning Assessments (BPAs) for bioregions in Queensland. The BAMM is continually being refined and is published on the DES website at https://www.qld.gov.au/environment/plants-animals/biodiversity/planning/. The methodology was developed from one initially developed by Chenoweth EPLA (2000), and the results can be used by agency staff, other government departments, local governments or members of the community to advise on a range of planning or decision making processes.

The methodology is applied in two stages (Figure 1). The first stage uses existing data to assess seven diagnostic criteria. These account for ecological concepts including rarity, diversity, fragmentation, habitat condition, resilience, threats, and ecosystem processes. They are diagnostic in that they are used to filter available data and provide a 'first-cut' determination of significance. This initial assessment is generated on a geographic information system (GIS) and is then refined using a second group of expert panel criteria. These criteria rely more upon expert opinion than on quantitative data, and focus on data that may not be available uniformly across the bioregion. A generalised terms of reference for expert panels is provided in EHP (2014).

For convenience, the Brigalow Belt Bioregion is hereafter referred to as BRB. Appendix 1 (pg. 189) provides details of any other abbreviations included in the report. This report should be read in conjunction with the accompanying Summary Report (DES 2018).

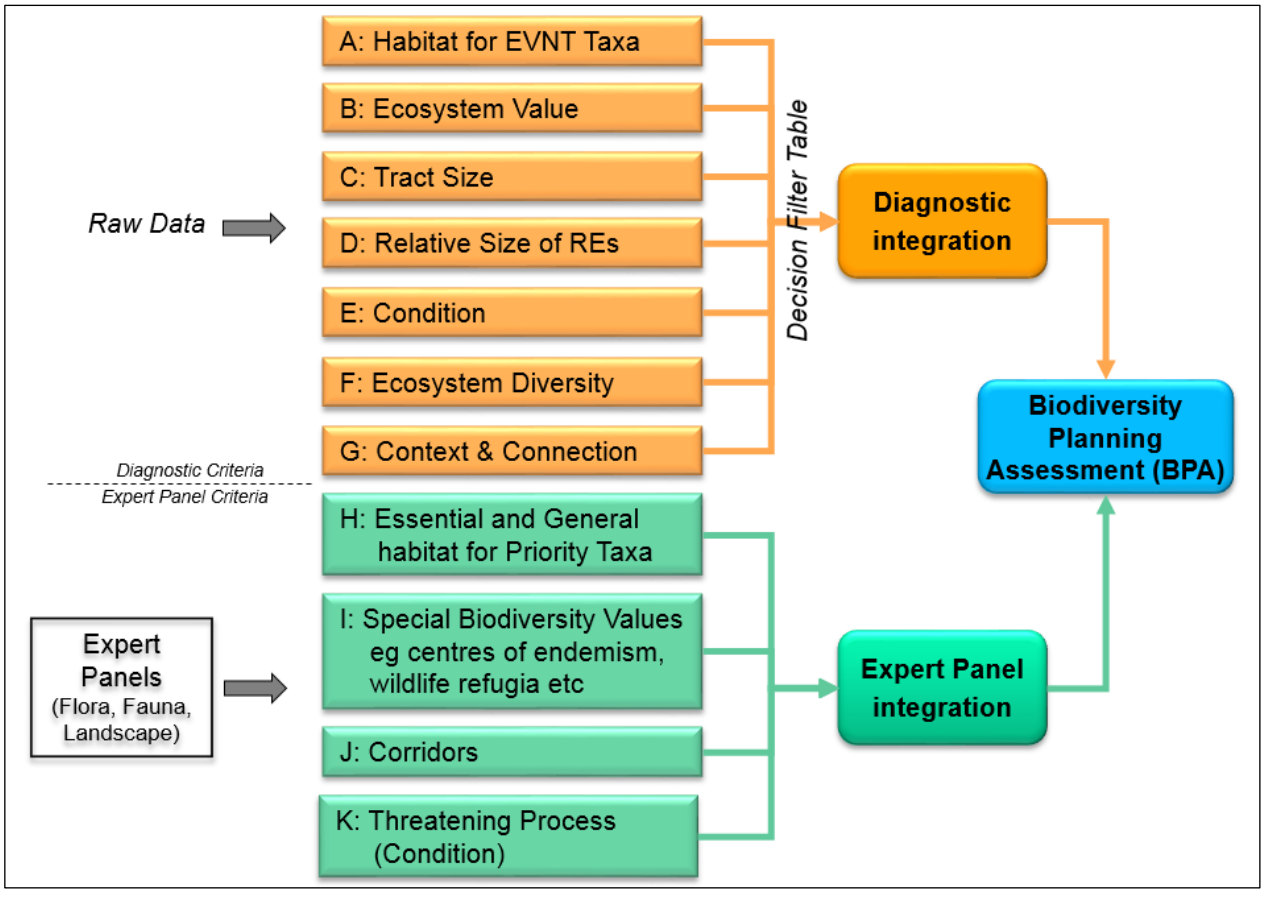


Figure 1. Biodiversity Assessment and Mapping Methodology (BAMM) process

2 Method

2.1 Study Area

The Brigalow Belt bioregion (Figure 2) covers 365,281 km^2, approximately 21% of Queensland, from Townsville south to the New South Wales border. Straddling the Great Dividing Range where it curves inland, the general landform of the bioregion is dominated by ranges (e.g. Carnarvon, Expedition and Main ranges) that fringe or divide three major catchments - Burdekin and Fitzroy in the north and Condamine-Warrego (upper Murray-Darling Basin) in the south. Away from the mountain chains and their associated gorges, the landscape is one of rolling plains (floodplains and downs) with low hills (Young et al. 1999). Climatically, the BRB lies in the 500-750mm annual rainfall belt and so occupies a unique position, encompassing a gradient from the eastern (coastal) mesic and western (semi-arid) xeric environments, and between the northern summer and southern winter rainfall zones (Lloyd 1984a). From east to west there is a general increase in rainfall variability, annual evaporation and the incidence of drought, and a decrease in total rainfall (Parkinson 1986).

The geology of the bioregion is one of widespread Quaternary and Tertiary deposits with Triassic to Cretaceous rocks forming the Surat and Eromanga Basins in the south and Permian-Triassic in the Bowen Basin of the north (Gunn 1984). Older Carboniferous to Devonian rocks form several smaller basins or blocks in the northern part of BRB. These parent materials give rise to the distinctive deep grey, brown and red cracking clay, texture-contrast and grey-brown soils that dominate the bioregion (Gunn 1984).

A wide range in both climatic conditions and soil types has resulted in an equally diverse flora (Young et al. 1999). Although only 173 regional ecosystems (REs) are described for BRB, the number of broad vegetation groups this covers is the highest of all Queensland bioregions (Neldner et al. 2017). The distribution of brigalow *Acacia harpophylla* woodland defines the bioregion despite the fact that of the pre-clear extent of 10 million hectares less than 13% now remains (Figure 3, Neldner et al. 2017). In 2015, the amount of remnant vegetation in BRB was 41.5% (Accad et al. 2017). While the eucalypt (*Eucalyptus populnea, E. crebra, E. melanophloia, E. thozetiana, E. tereticornis and Corymbia citriodora*) and callitris (*Callitris glaucophylla*) woodlands and open forest have fared better, especially those on the ranges, other communities have suffered similarly severe contractions. Among these are the distinctive *Dichanthium* and *Astrebla* spp. tussock grasslands of the Darling Downs and central Queensland (Fensham 1998a, 1999) and the semi-evergreen vine thickets typified by *Brachychiton* spp. or the endemic *Macropteranthes* and *Cadellia* spp. (McDonald 2010). Many of these communities' regional ecosystems, along with those of brigalow, are now threatened as are several highly restricted types, e.g. boggomoss mound springs (Fensham 1998b). Many of the at risk plant taxa in BRB are found in these communities, including *Clematis fawcettii, Zieria vagans, Eucalyptus argophloia, Dichanthium queenslandicum, Picris evae, Arthraxon hispidus* and *Eriocaulon carsonii*.

BRB is rich with over 600 terrestrial vertebrate taxa recorded but while endemism overall is low compared to other bioregions, the percentage of those threatened is high (McFarland et al. 1999). Previous broad-scale fauna assessments, e.g. Gordon (1984) and Smyth (1997) relied on observations that were largely incidental or geographically restricted (e.g. Barnard & Barnard 1925, Kirkpatrick 1966, Kirkpatrick & Amos 1977, Crossman & Reimer 1986). More recent systematic surveys have revolved around studying the known or likely impacts of agricultural (Venz et al. 2002, Woinarski et al. 2006, Hannah et al. 2007) or resource extraction landuses (Parsons Brinckerhoff 2008, URS 2009) and their associated infrastructure (GHD 2009, Sinclair Knight Merz 2012). Within Queensland the bioregion has the most native animals that have become extinct at either a national or bioregional scale.

Many disappearances occurred prior to broad-scale clearing, e.g. white-footed rabbit-rat *Conilurus albipes*, Darling Downs hopping-mouse *Notomys mordax*, western quoll *Dasyurus geoffroyi* and paradise parrot *Psephotus pulcherrimus*. Other taxa have continued to decline, with wild populations of several endangered animals (bridled nailtail wallaby *Onychogalea fraenata*, northern hairy-nosed wombat *Lasiorhinus krefftii*, Condamine earless dragon *Tympanocryptis condaminensis*, Allan's lerista *Lerista allanae*, bulloak jewel butterfly *Hypochrysops piceata* and boggomoss snail *Adclarkia dawsonensis*) being restricted to only very small distributions in the bioregion. In a landscape with declining remnant vegetation and increasing fragmentation of those remnants, reptiles with their generally low dispersal ability appear to be particularly at risk (Covacevich et al. 1998; WWF-Australia 2008). Endangered or vulnerable animal taxa also occur in the freshwater habitats of BRB, e.g. southern snapping turtle *Elseya albagula* and Fitzroy River turtle *Rheodytes leukops* in the north, and Murray cod *Maccullochella peelii* and silver perch *Bidyanus bidyanus* in the south.

Since settlement by Europeans in the mid-nineteenth century, there have been several waves of development associated with the arrival and intensification of various land-uses. Early use centred on grazing and cropping on the fertile country, but the regenerative capacity of brigalow and a major infestation of the region with prickly pear *Opuntia* spp. hampered agricultural expansion. However, successful bio-control of prickly pear and an improvement in mechanised clearing and brigalow control, especially in the 1960's, saw rapid and extensive

clearing in the bioregion (Seabrook et al. 2006). With more intensive agriculture including irrigation, and the introduction of exotic grasses (e.g. buffel *Cenchrus ciliaris*) that out-competed native pastures, there was a dramatic increase in crop and livestock production over the next two decades (Lloyd 1984b). Introduced grasses have since invaded remnant native vegetation. From the 1980's to the present, both the fragmented native vegetation and agricultural land are being impacted by the proliferation of coal mining and gas extraction projects and their associated infrastructure (roads, pipelines and railways). Even as late as 2013, high levels of clearing were occurring in BRB (Seabrook et al. 2016). Forestry based on cypress pine and hardwoods occurs mostly in the south of the bioregion. While most state forests are also grazed, they provide some level of protection to large tracts of relatively undisturbed native vegetation. However, the recent hyphal-like spread of gas wells in many forests has resulted in greater fragmentation of these tracts, exposing them to increased edge effects and invasion by weeds and feral animals. Conservation reserves in the Brigalow Belt are heavily biased toward 'unproductive' rugged parts of the landscape, e.g. Carnarvon, Expedition and Blackdown Tableland. Areas on the lowland fertile soils with their unique biodiversity values are poorly represented in the national park estate.

Key threats to biodiversity values within the bioregion include:

Habitat loss, past and present, due to agriculture, mining and dams;

Habitat degradation from weed invasion (e.g. buffel grass, Parthenium, rubber vine) that can result in increased fuel loads and fire-driven deterioration or loss of remnants;

Impact of exotic animals (predation by cats and foxes, and grazing impacts from wild and domestic herbivores such as cattle, horses, pigs and rabbits); and

Landscape modification leading to unnatural increases in some native animals, e.g. noisy miner and certain macropods, that impact on native flora and/or fauna.

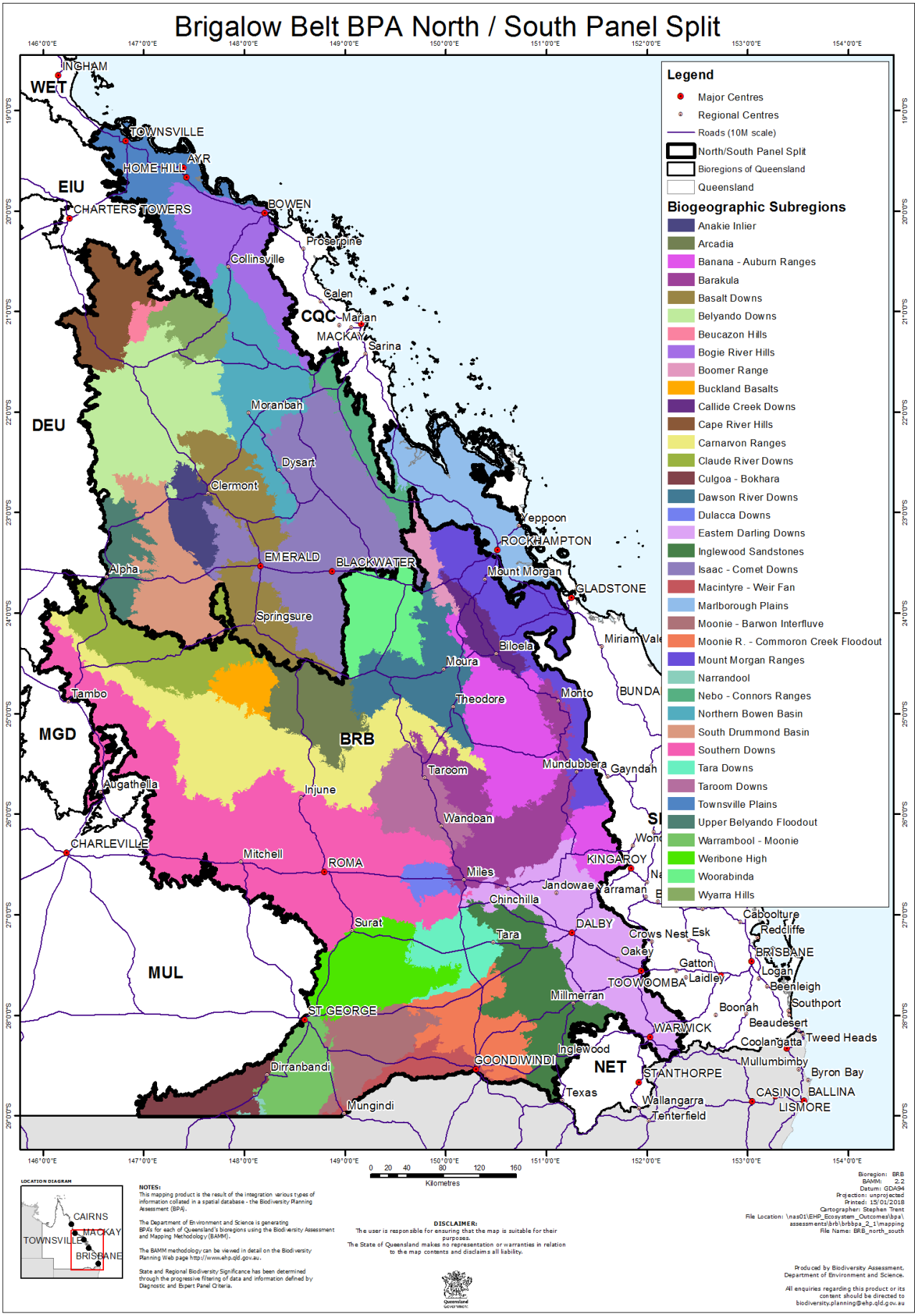


Figure 2. Brigalow Belt bioregion and its subregions showing the north/south panel split

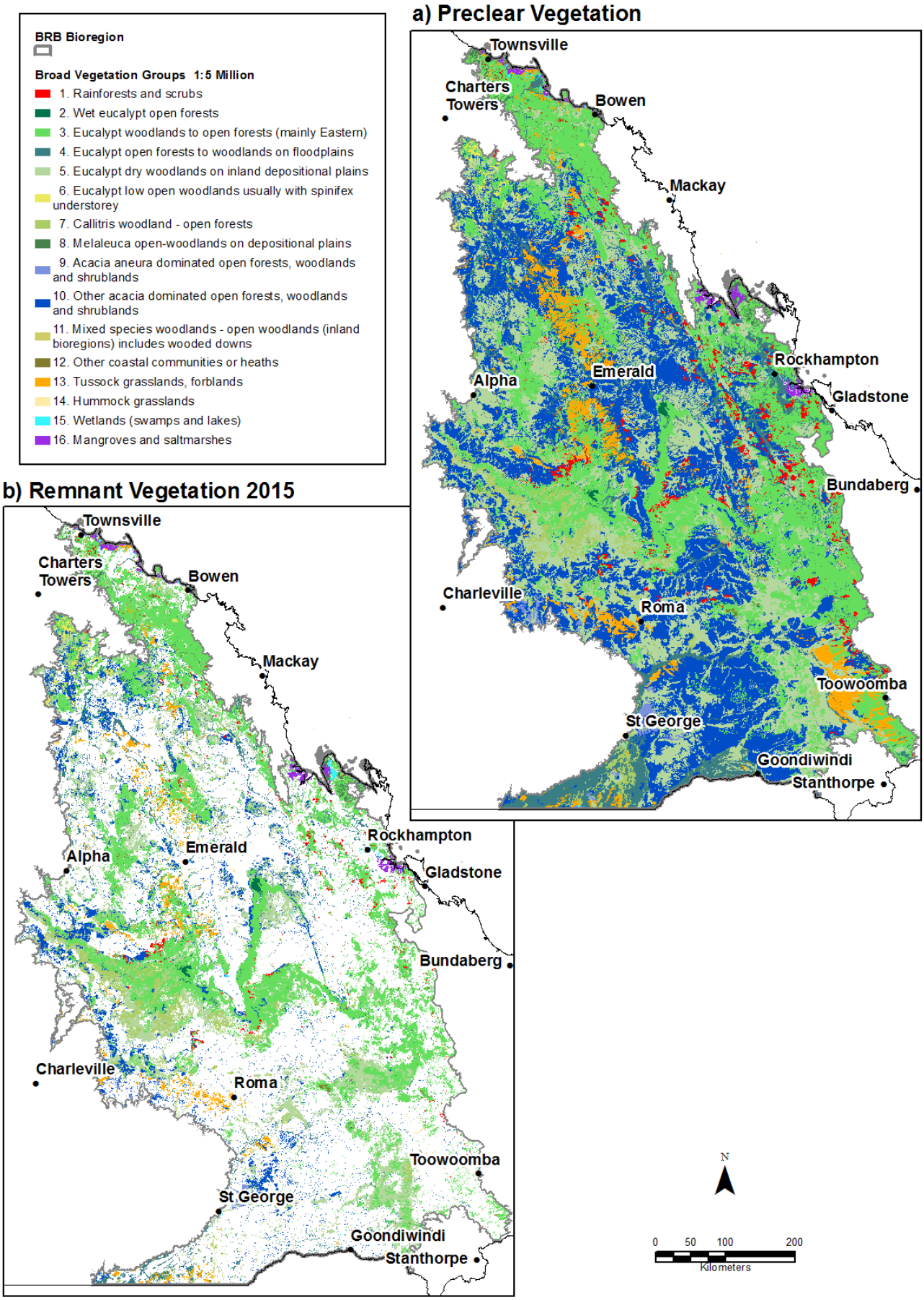


Figure 3. Broad vegetation groups across the Brigalow Belt bioregion - a) pre-clearing distribution and b) remnant distribution as of 2015

2.2 Expert Panel

To address values of such a large bioregion, two panels were convened. The first at Toowoomba (6-9 June 2017) addressed the southern portion of the bioregion whist the second, held in Rockhampton (20-23 June 2017), covered the northern.

Expert panels play a significant role in the development of a BPA through:

Identifying other information sources including expert knowledge, technical reports and papers; and

Providing expert opinion where quantitative data is not available uniformly across the bioregion.

Biodiversity values and issues addressed at panel workshops are:

Evaluating point records and habitat models for endangered (E), vulnerable (V) and near threatened (NT) taxa to improve spatial accuracy and precision;

Identifying non-EVNT taxa to be treated as 'priority species' under Criterion H;

Capturing any additional records available from expert panel members for use in Criteria A and H;

Identifying areas with special biodiversity values (Criterion I);

Identifying data gaps.

The BRB expert panels comprised invited persons with knowledge of the biodiversity of the bioregion and a sound understanding of ecological conservation and management principles. As far as possible, the combined expertise of participants covered the whole BRB and a range of planning and assessment processes (e.g. local government, regional Natural Resource Management (NRM) bodies, state government, educational institutions). The terms of reference for expert panels are provided in EHP (2014). All 2017 panel participants are listed in Table 1. A list of the experts who attended the previous panels convened in 2002 and 2008, and whose work upon which the 2017 panel reviewed and expanded, is included in Appendix 3 (pg 193).

The output of the panel process aims to be justifiable and transparent. Data that is captured digitally and mapped is a result of consensus within the panel and ratified by the Manager, Biodiversity Assessment, DES.

Significance ratings of State, Regional or Local are attributed to the decisions produced at the expert panels. In general, ratings are only attributed by the panel to areas of remnant vegetation, however, in some instances panel identified special areas have incorporated areas of non-remnant vegetation.

The ratings used by the panel were described as:

State significance—areas assessed as being significant for biodiversity at the bioregional or state scales. Includes areas assessed as being significant at national or international scales,

Regional significance—areas assessed as being significant for biodiversity at the sub-bioregional scale. These areas have lower significance for biodiversity than areas assessed as being of State significance.

Local significance—areas assessed as being significant for biodiversity at a local scale. These areas have lower significance for biodiversity than areas assessed as being of Regional significance.

Table 1. Expert panel participants

Name	Organisation	Flora	Fauna	Landscape
Southern Brigalow Belt panel				
Chris Burwell	Queensland Museum, DES		Attended	
Mark Cant	Queensland Parks and Wildlife Service, DES	Attended		Attended
Hans Dillewaard	Herbarium, DES	Attended		Attended
Rod Fensham	Herbarium, DES	Out-of-session		
Dianne Francisco	Observer, Balonne Shire Council			Attended
Fiona Macleod	Observer, Balonne Shire Council			Attended
Chris Gaschk	Western Downs Regional Council	Attended	Attended	Attended
Paul Grimshaw	Ecologist (ex-Herbarium)	Attended	Out-of-session	Attended
Allison Hackwell	Banana Shire Council	Attended	Attended	Attended
Stuart Henry	Queensland Parks and Wildlife Service, DES	Attended		
Rod Hobson	Queensland Parks and Wildlife Service, DES		Attended	
Alan House	Ecosure	Attended		Attended
Michael Mathieson	Ecological Sciences, DES		Attended	
David McFarland	Biodiversity Assessment, DES		Out-of-session	Out-of-session
Dean Payne	Queensland Parks and Wildlife Service, DES			Attended
Stephen Peck	Queensland Parks and Wildlife Service, DES		Attended	
Kathryn Reardon-Smith	University of Southern Queensland		Attended	
Geoff Smith	Ecological Sciences, DES		Attended	
John Stanisic	Biodiversity scientist/Queensland Museum		Attended	
Northern Brigalow Belt panel				
Jenine Dempster	Isaac Regional Council	Attended	Attended	Attended
Rod Fensham	Herbarium, DES	Out-of-session		
Paul Grimshaw	Ecologist (ex-Herbarium)	Out-of-session	Out-of-session	
Rebecca Hendry	Gladstone Regional Council	Attended		
John McCabe	Botanist (private)	Attended		
David McFarland	Biodiversity Assessment, DES		Out-of-session	Out-of-session
Rhonda Melzer	Queensland Parks and Wildlife Service, DES	Attended		Attended
Sandy Pollock	Herbarium, DES	Attended		Attended

Name	Organisation	Flora	Fauna	Landscape
John Stanisic	Biodiversity scientist/Queensland Museum		Attended	
Cassandra Tracey	Fitzroy Basin Association	Attended	Attended	
Juliana McCosker	Environmental Services and Regulations, DES			Attended
Support staff				
Stephen Trent	Biodiversity Assessment, DES	Attended	Attended	Attended
Shane Chemello	Biodiversity Assessment, DES	Attended	Attended	Attended
Simon Goudkamp	Biodiversity Assessment, DES	Attended	Attended	Attended
Courtney Duncan	Biodiversity Assessment, DES	Attended	Attended	Attended

Nb. Invitations were sent to all NRM and local government groups across the bioregion to engage local experts and indigenous representatives.

2.3 Expert Panel Considerations Format

The expert panel workshops used an interactive approach of GIS software, spreadsheets, reports, laptops and data projectors. Prior to the panel being convened, relevant information was collated and disseminated to the workshop participants.

Resources made available to the participants during the workshop proceedings included:

Copy of the BAMM (EHP 2014);

Copies of the version 1.3 BRB Fauna, Flora and Landscape Biodiversity Planning Assessment Reports;

Information from databases such as Herbrecs, Corveg, Queensland Historical Fauna Database and WildNet;

Available regional ecosystem mapping and 1:100 000 topographic maps;

Relevant reports and published literature; and

Ancillary GIS layers provided for local reference including roads and cadastral information, drainage, protected areas including nature refuges and recently captured high resolution imagery.

Appendix 2 (pg. 191) provides a full list of the resources made available at the panel workshops.

2.3.1 Taxa (Criteria A and H)

Flora and fauna species considered by the expert panel were EVNT species listed under the Queensland *Nature Conservation Act 1992* (NCA) or the Australian Government *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC) and priority (non-EVNT) taxa including those identified through the Back on Track species prioritisation framework and other natural resource assessments focused on the bioregion. Records were compiled using WildNet, Corveg, Herbrecs, Queensland Historical Fauna Database and from project specific data sets obtained from other sources. Other species were nominated, discussed and either added or discarded from the priority taxa list by workshop participants prior to and during the panel workshops. Experts were asked to identify known preferences of species for particular habitat features, e.g. specific REs or geology and landscape position. Proposed changes in status under the NCA were also considered when reviewing EVNT lists and in nominating priority species.

Selected species records were interactively reviewed using GIS commencing with EVNT species then priority species. Participants were asked to accept, add, shift or exclude records based upon their expert knowledge. Panel participants accepted records located within their known distributions, at known locations or if collected by a reliable source. They identified records that were incorrectly located and added records either during the workshop proceedings or with follow-up consultation.

Records were excluded for the following reasons:

Incorrect coordinates—a mismatch between location description and coordinates;

Cultivated records;

Records which had obviously been placed at a degree or 10' grid centroid;

Duplicate records which had been cited by a number of sources;

Records with a precision >2000 metres; and

Records older than 1950 (flora) or 1975 (fauna).

Priority taxa are identified for each bioregion on the basis of one or more values and the written opinion of experts. These values include:

1. Taxa at risk - Taxa that, from a bioregional perspective, are under threat and consequently have had significant population and/or range declines based on scientific evidence and/or expert opinion.

2. Taxa of scientific interest as relictual (ancient or primitive) - taxon (e.g. species or other lineage) that is the sole surviving representative of a formerly diverse group. Some flora and fauna taxa have been linked with important stages in the earth's evolutionary history.

3. Endemic taxa - Taxa which have at least 75% of their geographical range within one bioregion (Commonwealth of Australia 1995, Queensland CRA/RFA Steering Committee 1998).

4. Significant taxa - These species are identified by experts as important from a bioregional perspective as they exhibit characteristics such as: Taxa have limited distribution in Queensland mostly within relevant bioregion, or with a restricted range bordering two or more bioregions; the species may be found outside the State within Australia and/or overseas; the species in the bioregion exhibits characteristics or traits not evident elsewhere in its range; the bioregion is a stronghold for the species or the species is considered iconic.

5. Taxa important for maintaining genetic diversity such as complex patterns of genetic variation - species that exhibit a recognised variation in genetic composition across the bioregion, or with respect to other bioregions. This could include taxa that appear to comprise several cryptic taxa.

6. Disjunct species populations - Populations broken by climatic, topographic or edaphic barriers bridged by long distance dispersal of propagules; or be seen as insurmountable barriers to dispersal requiring a geological (historical) rather than a behavioural (ecological) explanation for their presence (Groves 1981).

7. Taxa functionally important to ecosystem integrity - There are plant or animal taxa that play a unique and crucial role in the way an ecosystem functions, and whose decline or disappearance would see a dramatic change in the nature of that ecosystem. The contributions of such species are large compared to the species' prevalence in the habitat. They are often, but not always, a predator. A few predators can control the distribution and population of large numbers of prey species.

8. Taxa performing a role as an ecological indicator of ecosystem integrity - can be of many different types. They can be used to reflect a variety of aspects of ecosystems, including biological, chemical and physical integrity. Indicators are used to communicate information about ecosystems and the impact human activity has on ecosystems.

9. Taxa vulnerable to impacts of climate change - Species that are considered to be adversely affected by the predicted changes in climate, e.g. increasing temperatures, sea level rise and increasing frequency of extreme weather events (drought, flood & cyclones). Species can only be listed under this reason if there is sufficient knowledge of species' biology and its interaction with climate that would support an assessed impact under climate change scenarios.

The panel also assigns either State or Regional significance for the suggested priority taxa.

These decisions were recorded in the spatial database and in the minutes, which identified the person submitting the information, habitat information and threatening processes for each species, and the nomination of additional experts to be consulted regarding certain records or species. Individuals were consulted following the workshops to clarify some recommendations and to add records. Any changes by the panel to the species record attributes (eg updated precision) were provided back to the record owner.

2.3.2 Special area considerations (Criteria I and J)

The flora and fauna panels nominated areas of special biodiversity value for inclusion under Criterion I. Panels assigned State, Regional, or in some instances Local Significance to the nominated areas on the basis of presence of at least one of the following features:

Criterion Ia - the area supports a number of taxa endemic to the BRB bioregion;

Criterion Ib - wildlife refugia (Morton et al. 1995), for example, mound springs, caves, wetlands, gorges, mountain ranges and topographic isolates that act as shelters from clearing, stochastic events (fire, flood, drought) and exotic animals;

Criterion Ic - the area supports a number of taxa that are present in other bioregions and have a limited number of occurrences in the BRB bioregion (outliers/disjunct populations);

Criterion Id - the area supports a number of taxa at or near the limits of their respective geographical ranges;

Criterion Ie - the area supports high species richness;

Criterion If - the area supports concentrations of relictual (ancient and primitive) taxa;

Criterion Ig - the area contains a regional ecosystem or regional ecosystems that exhibit variation in species composition;

Criterion Ih - an artificial waterbody or managed/manipulated wetland of ecological significance;

Criterion Ii - the area contains a high density of hollow-bearing trees that provide animal habitat;

Criterion Ij - the area is used by significant numbers of individuals for roosting or breeding; and

Criterion Ik - climate change refugia.

The biodiversity issues addressed at landscape panel workshops were:

Consideration of areas referred to the landscape panel by the flora and fauna panels;

Review of existing special areas with landscape values (Criterion I);

Consideration of new special areas with landscape values - these may include areas that have been identified by both the flora and fauna panels which warrant a landscape scale decision, or areas that have not been previously identified under Criterion I; and

Review of corridors and linkages, based on consideration of the overall configuration of remnant and other vegetation and areas where landscape restoration would be desirable (Criterion J).

The above criteria are focussed on terrestrial values with some consideration of aquatic values. The importance of specific aquatic values such as habitat dependences associated with aquatic species, ecosystem processes and other aquatic criteria are assessed in detail through application of the Aquatic Biodiversity Assessment and Mapping Methodology (AquaBAMM, Clayton et al. 2006).

All panels reviewed previous expert derived decisions for flora, fauna and landscape (EPA 2008a, EPA 2008b, EPA 2008c, EPA 2008d), as well as any more recent taxon, area or landscape assessments conducted in the bioregion. The panel took into account combinations of the values present in deciding on an overall rating of State, Regional or Local significance.

The diagnostic criteria in BAMM use prescribed thresholds for determining the relative importance of individual criteria and standard rules for assigning significance based on combinations of values present. However, BAMM (EHP 2014) deliberately provides non-specific guidance on how expert panels are to assess and assign significance ratings to expert criteria. The BRB Bioregion expert panels used a consensus approach in assigning overall significance. Where there was uncertainty or further work needed, tasks were assigned for follow-up. In some cases, the areas were specifically identified by RE polygons, whilst in others, a bounding box was drawn to indicate the general location and specific recommendations provided which allow later spatial delineation using a combination of other vegetation, geology or landform mapping. Subsequently the areas were mapped, and distributed to the expert panel for review and then finalised.

2.3.3 Corridors (criterion J)

Landscape scale corridors have been defined and mapped at a state-wide level for most of the state. The network is being expanded as BPAs are completed for additional bioregions. Their broad purpose is to provide for ecological and evolutionary processes by:

Maintaining long term evolutionary/genetic processes that allow the natural change in distributions of species and connectivity between populations over long periods of time;

Maintaining landscape/ecosystems processes associated with geological, altitudinal and climatic gradients, to allow for ecological responses to climate change;

Maintaining seasonal migrations and movement of fauna;

Maximising connectivity between large tracts/patches of remnant vegetation;

Identifying key areas for rehabilitation and offsets.

Corridors routes may been selected to reflect:

Major watershed and catchment boundaries;

Intact river systems;

Major altitudinal/geological/climatic gradients;

Connectivity between remnant vegetation in good condition;

Linkages between bioregions; and

Linkages between permanent waterholes.

The methods used to identify bioregional terrestrial and riparian corridors, and gaps and critical weaknesses in terrestrial corridors, are outlined in EHP (2015b). Corridors that form part of the state-wide network are assigned State significance. Other corridors providing connectivity at a sub-regional scale are assigned Regional significance.

The landscape expert panel workshops reviewed the existing network of corridors from version 1.3 of the BRB BPA, as well as the manner in which remnant vegetation was triggered under Criterion J.

2.3.4 Threatening processes: condition (criterion K)

The condition of remnant vegetation is affected by threatening processes such as clearing, weeds, ferals, grazing and burning regime, selective timber harvesting/removal, salinity, soil erosion, and climate change. A consistent assessment of condition for whole bioregions is not yet possible under the diagnostic criteria. In lieu of this, Criterion K can be used to upgrade or downgrade an areas overall biodiversity significance based upon expert judgement of an areas habitat quality.

In selected instances, the 2017 expert panels nominated to upgrade the overall significance of areas which represented outstanding, or comparatively intact examples of specific habitats which elsewhere are largely degraded.

3 Results

Outcomes from the flora, fauna and landscape panels are recorded in the following sections.

3.1 Flora Taxa Considerations (Criteria A and H)

Criteria A and H attribute significance to areas based on the presence of EVNT taxa scheduled under the NCA or the EPBC, or, the presence of priority species. The BRB flora expert panels identified 275 species for inclusion in Criterion A and H. Table 2 summarises the categories of taxa. The standard BAMM record filtering rules were applied (EHP 2014).

Table 2. Summary of flora taxa considered by the expert panel for Criteria A and H

	Endangered	Vulnerable	Near Threatened	Priority (non-EVNT) taxa	Total
Number of taxa considered	69	113	40	53	275

3.1.1 Habitat for endangered, vulnerable and near threatened flora taxa (Criterion A)

The panel identified and selectively reviewed species records to define a list of 222 BRB EVNT flora taxa (Table 3). A number of taxa were excluded from the table below either because there were no (or too few) reliable records in the BRB or, based upon expert opinion, the taxa was considered not to occur in the bioregion. For inclusion in the BRB BPA the records were first filtered as described in the preceding section (3.1) and subsequently buffered by twice the precision with a minimum of 300m, and a maximum of 2km.

The 2017 panel also reviewed listed habitat associations (obtained through previous BRB expert panels), as well as identified new ones. The intent was to use known habitat associations in conjunction with records to spatially identify areas under Criterion A. However, due to time constraints and given that habitat associations other than those stated for a species may occur, this approach was not implemented. Notwithstanding, information provided by previous and current panels with respect to species habitat preferences is included in the column titled "Expert panel comments" in Table 3.

Table 3. Brigalow Belt Bioregion - endangered, vulnerable and near threatened flora taxa (Criterion A)

Scientific name	Common name	NCA[1]	EPBC[2]	Expert panel comments
Acacia arbiana		NT		
Acacia argentina		V		
Acacia argyrotricha		V		
Acacia armitii		NT		
Acacia barakulensis		V		As far as is known, this species is restricted to the Waaje Scientific area in the north west section of Barakula State Forest. Known RE associations include 11.7.5.
Acacia calantha		NT		
Acacia curranii	curly-bark wattle	V	V	Known RE associations include: 11.7.5.
Acacia deuteroneura		E	V	
Acacia eremophiloides		V	V	Known RE associations include 11.12.20.
Acacia grandifolia		C	V	

Scientific name	Common name	NCA[1]	EPBC[2]	Expert panel comments
Acacia handonis	Hando's wattle	V	V	Except for one record, the species is known only from Barakula State Forest.
Acacia hockingsii		V		
Acacia islana		V		
Acacia lauta	Tara wattle	V	V	
Acacia pedleyi		V		Within the Callide Timber Reserve (170), fairly widespread. Adjacent to Batchfire Callide Pty Ltd Callide Coal mine. Known RE associations include: 11.10.1, 11.7.4. Often occurs on serpentinite geology.
Acacia porcata		E	E	Known RE associations include 11.12.20 (granite outcrops).
Acacia rubricola		E		
Acacia sp. (Ruined Castle Creek P.I. Forster+ PIF17848)		E		
Acacia spania		NT		
Acacia storyi		NT		
Acacia tingoorensis		V		Known RE associations include: 11.12.6 (spotted gum / ironbark on granite).
Acacia wardellii		NT		Known RE associations include:11.7.2 and 11.7.4b especially in the Condamine State Forest.
Apatophyllum flavovirens		E		
Apatophyllum teretifolium		NT		
Aphyllorchis anomala		NT		
Aristida annua		V	V	
Aristida forsteri		E		
Aristida granitica		E	E	
Arthraxon hispidus		V	V	This species is associated with mound springs.
Atalaya collina		E	E	
Backhousia oligantha		E		
Baeckea trapeza		V		
Bertya calycina		V	V	
Bertya granitica		E	E	Known RE associations include: 11.12.20. Narrow endemic currently known from

Scientific name	Common name	NCA[1]	EPBC[2]	Expert panel comments
				Beeron National Park.
Bertya opponens		C	V	Relatively common in scattered locations in BBS & BBN.
Bertya pedicellata		NT		Known from a number of scattered locations throughout BBS & BBN.
Bertya sharpeana	Mt. Coolum bertya	NT		
Boronia grimshawii		V		Known RE associations include: 11.7.4. Currently known only from one ridge.
Bosistoa transversa	three-leaved bosistoa	C	V	
Bothriochloa bunyensis	Bunya Mountains bluegrass	V	V	
Brachychiton sp. (Blackwall Range R.J. Fensham 971)		E		Very narrow endemic. Boulder field species.
Bursaria reevesii		V		Known RE associations include: 11.11.7. This species is found predominantly on serpentinite geology.
Cadellia pentastylis	ooline	V	V	Known RE associations include: 11.7.1, 11.9.4, 11.9.5a.
Callicarpa thozetii		E		
Callitris baileyi	Bailey's cypress	NT		Known RE associations include 11.8.8 and 11.8.9.
Calytrix gurulmundensis		V	V	Known RE associations include: 11.7.5.
Calytrix islensis		V		
Canarium acutifolium		V	V	
Capparis humistrata		E		
Capparis thozetiana		V	V	
Cerbera dumicola		NT		
Chiloglottis longiclavata		NT		
Clematis fawcettii		V	V	Known RE associations include:11.8.3.
Comesperma oblongatum		V	V	
Commersonia beeronensis		V		Found in Beeron National Park and potentially surrounds. Known RE associations include: 11.12.20.
Commersonia inglewoodensis		E		
Commersonia pearnii		E		

Scientific name	Common name	NCA[1]	EPBC[2]	Expert panel comments
Coopernookia scabridiuscula	coopernookia	V	V	Within Brigalow Belt south known only from Koko State Forest in Burnett District. Known RE associations include: 11.10.4 and 11.7.4.
Corchorus hygrophilus		V		
Corymbia clandestina		V	V	
Corymbia petalophylla		V		
Corymbia scabrida	rough-leaved yellowjacket	NT		
Corymbia xanthope	Glen Geddes bloodwood	V	V	Known RE associations include: 11.11.7 particularly on serpentinite geology.
Cossinia australiana		E	E	
Croton magneticus		V		
Cryptandra ciliata		NT		
Cryptocarya floydii	gorge laurel	NT		Known RE associations include: 11.8.3 where it overlies serpentinite geology. Found in vine thickets (dry vine thicket communities on basaltic scree/slopes).
Cupaniopsis shirleyana	wedge-leaf tuckeroo	V	V	
Cycas cupida		V		
Cycas megacarpa		E	E	
Cycas ophiolitica	Marlborough blue	E	E	
Cymbonotus maidenii		E		
Cyperus clarus		V		
Dansiea elliptica		NT		
Daviesia discolor		V	V	
Daviesia quoquoversus		V		
Decaspermum struckoilicum		E	E	Habitat is located in vine thickets.
Denhamia parvifolia		V	V	Known RE associations include:11.9.4 and other vine thicket REs.
Dichanthium queenslandicum		V	E	
Dichanthium setosum		C	V	
Digitaria porrecta		NT		Known RE associations include: 11.3.2, 11.3.21, 11.8.5.
Discaria pubescens		NT		

Scientific name	Common name	NCA[1]	EPBC[2]	Expert panel comments
Diuris parvipetala		V		
Dubouzetia saxatilis		V		
Eriocaulon carsonii		E	E	Found in mound spring wetlands.
Eriocaulon carsonii subsp. orientale		E	E	Found in mound spring wetlands.
Eucalyptus argophloia	Queensland western white gum	V	V	Known RE associations include: 11.4.3a, 11.4.3b.
Eucalyptus beaniana		V	V	Known RE associations include: 11.10.4, 11.10.13 and 11.7.4. Occurs in 3 main locations - Isla Gorge National Park, Koko State Forest and Belington Hut State Forest.
Eucalyptus broviniensis		E		Known or suspected RE associations: 11.7.4, 11.7.5 and 11.12.20. Known only from 2 general locations – Allies Creek/Brovinia area and Beeron National Park.
Eucalyptus curtisii	Plunkett mallee	NT		Known from many scattered locations within the BBS. Known RE associations include: 11.7.5 and 11.10.4.
Eucalyptus pachycalyx subsp. *waajensis*	subsp.	E		Stronghold for this subsp. is the Waaje wildflower area in Barakula State Forest. Known RE association: 11.7.5.
Eucalyptus paedoglauca	Mt. Stuart ironbark	V	V	
Eucalyptus raveretiana	black ironbox	C	V	
Eucalyptus sicilifolia		V		
Eucalyptus sideroxylon subsp. *improcera*		V		This subspecies is restricted to the Waaje Wildflower area in Barakula State Forest. Known RE association: 11.7.5.
Eucalyptus taurina	Helidon ironbark	V		Within the BBS this species only occurs in the Allies Creek area in the Burnett District. Known RE association: 11.7.4.
Eucalyptus tereticornis subsp. *rotunda*		NT		
Eucalyptus virens	shiny-leaved ironbark	V	V	Known RE associations include: REs found on landzone 7 in vicinity of records.
Fimbristylis vagans		E		Species occurs in wetlands.
Fontainea fugax		E		
Gastrodia crebriflora		V		
Genoplesium pedersonii		V		

Scientific name	Common name	NCA[1]	EPBC[2]	Expert panel comments
Genoplesium validum		V		
Graptophyllum excelsum		NT		
Graptophyllum ilicifolium	holly-leaved graptophyllum	V	V	
Grevillea hockingsii		V		
Grevillea venusta	grevillea	V		
Hakea trineura		V	V	Known RE associations include: 11.11.7 predominantly on serpentinite geology.
Haloragis exalata subsp. *velutina*		V	V	
Hernandia bivalvis	cudgerie	NT		Herbarium records show that In BBS this species is restricted to 2 general locations – Near Mt Larcom and near Mt Morgan.
Hibbertia monticola	mountain guinea flower	NT		
Homopholis belsonii		E	V	Cracking clay soils provide potential habitat. Soil texture is an important component. Known RE associations include: 11.9.6, 11.4.3, 11.9.6.
Homoranthus decumbens		V	E	Known RE associations include: 11.7.5 and possibly 11.7.4.
Homoranthus papillatus	mouse bush	V		One record only.
Homoranthus tricolor		E		
Homoranthus zeteticorum		V		
Kelita uncinella		E		
Kunzea sericothrix		E		
Lasiopetalum sp. (Proston J.A. Baker 17)		E	CE	Rare taxon, known only from the Proston area.
Lepidium hyssopifolium			E	
Lepidium monoplocoides	winged peppercress	C	E	
Lepidium peregrinum		C	E	
Leptospermum venustum		V		Known RE associations include: 11.12.20.
Leucopogon sp. (Coolmunda D. Halford Q1635)		E	E	This taxon at Coolmunda possibly occurs on duricrust (Landzone 7) overlying sandy sediments (Landzone 10).
Lissanthe brevistyla		V		Known RE associations include: 11.11.7, possibly 11.11.3. Restricted to serpentinite

Scientific name	Common name	NCA[1]	EPBC[2]	Expert panel comments
				geology.
Livistona drudei	Halifax fan palm	V		
Livistona fulva		V		
Livistona lanuginosa		V	V	
Livistona nitida		NT		
Lobelia membranacea		NT		
Logania diffusa		V	V	
Lomandra teres		V		Occurs as very disjunct populations. Known RE associations include: 11.10.6.
Macropteranthes leiocaulis		NT		
Macrozamia conferta		V	V	
Macrozamia crassifolia		V		Known RE associations include: 11.12.20.
Macrozamia machinii		V	V	
Macrozamia platyrhachis		E	E	
Macrozamia serpentina		E		Known RE associations include: 11.11.7 on serpentinite.
Marsdenia brevifolia		V	V	
Marsdenia longiloba		V	V	
Marsdenia pumila		V		
Maundia triglochinoides		V		Recorded once only, in 1997.
Melaleuca formosa		NT		
Melaleuca groveana		NT		Known from a number of scattered locations in BBS. Known RE associations: 11.7.5 and possibly 11.10.4.
Melaleuca irbyana		E		
Melaleuca pearsonii		NT		
Microcarpaea agonis		E	E	
Micromyrtus carinata	Gurulmundi heath-myrtle	E		Known RE associations include: 11.7.5, 11.7.4.
Micromyrtus patula		E		
Micromyrtus rotundifolia		V		
Muellerina myrtifolia		NT		

Scientific name	Common name	NCA[1]	EPBC[2]	Expert panel comments
Myriophyllum artesium		E		
Myrsine serpenticola		E		
Neoroepera buxifolia		V	V	Known RE associations include: 11.11.7, 11.3.25. Restricted to serpentinite geology.
Newcastelia velutina		V	V	Known RE associations include: 11.12.20.
Ochrosperma obovatum		V		
Olearia macdonnellensis		E	V	
Omphalea celata		V	V	
Ozothamnus eriocephalus		V	V	
Parsonsia kroombitensis		V		
Parsonsia larcomensis		V	V	
Paspalidium udum		V		
Phaius australis		E	E	
Phebalium distans		E	CE	Known RE association: 11.7.4. Three closely located populations just inside the BBS boundary on Binjour Plateau.
Phebalium glandulosum		V		
Philotheca sporadica		NT	V	
Picris barbarorum		V		
Picris conyzoides		V		
Picris evae		V	V	
Pimelea leptospermoides		NT	V	Known RE associations include: 11.11.7. Restricted to serpentine geology.
Plectranthus blakei		NT		
Plectranthus graniticola		V		
Polianthion minutiflorum		V	V	
Pomaderris clivicola		E	V	
Pomaderris coomingalensis		E		
Pomaderris crassifolia		V		

Scientific name	Common name	NCA[1]	EPBC[2]	Expert panel comments
Prasophyllum incompositum		NT		
Prostanthera sp. (Dunmore D.M. Gordon 84)		V	V	Recent correction to scientific name 84 instead of 8A.
Pseudanthus pauciflorus subsp. *arenicola*	subsp.	NT		
Ptilotus extenuatus		E		
Pultenaea setulosa		V	V	
Rhaphidospora bonneyana		V	V	
Rhaphidospora cavernarum		V		BRB records are restricted to Mt Etna Cave National Park.
Rhaponticum australe		V	V	
Ricinocarpos canianus		E		
Rutidosis crispata		V		
Rutidosis glandulosa		NT		
Rutidosis lanata		V		
Samadera bidwillii		V	V	
Sannantha brachypoda		V		
Sannantha papillosa		E		
Sarcochilus weinthalii	blotched sarcochilus	E	V	
Sarcotoechia heterophylla		NT		
Shonia carinata		V		
Solanum adenophorum		E		
Solanum dissectum		E	E	
Solanum elachophyllum		E		
Solanum johnsonianum		E	E	
Solanum lythrocarpum		V		
Solanum orgadophilum		E		
Solanum papaverifolium		E		
Solanum		NT		

Scientific name	Common name	NCA[1]	EPBC[2]	Expert panel comments
sporadotrichum				
Solanum stenopterum		V		
Sophora fraseri	brush sophora	V	V	Occurs in vine thicket REs.
Sphaeromorphaea major		NT		
Stackhousia tryonii		NT		Known RE associations include: 11.11.7 on slopes on serpentinite geology. Also on blacksoil below 11.3.38, 11.3.4.
Swainsona murrayana	slender Darling pea	V	V	
Tectaria devexa var. *devexa*		E	E	
Thelypteris confluens		V		
Thesium australe	toadflax	V	V	Known RE association: 11.8.8.
Trioncinia patens		E		
Trioncinia retroflexa		E		
Tylophora linearis		E	E	
Vittadinia decora		E		
Westringia parvifolia		V	V	Known RE association: 11.5.14.
Xerothamnella herbacea		E	E	Known RE associations include: 11.4.3, 11.3.1.
Xylosma ovata		NT		
Zieria actites		E		
Zieria inexpectata		E		Known RE association: 11.7.4.
Zieria obovata		V	V	
Zieria vagans		E		
Zieria verrucosa		V	V	

[1] - E = endangered, V = vulnerable, NT = near threatened as per Nature Conservation Act 1992

[2] - CE = critically endangered, E = endangered, V = vulnerable as per the Environmental Protection and Biodiversity Conservation Act 1999

General Note: Listed habitat associations should not be construed as a complete list of the habitat types in which a species may occur, rather, a subset of known associations based upon information provided by panel members.

3.1.2 Habitat for priority flora taxa (Criterion H)

Priority species are non-EVNT species that are considered to be of particular conservation significance in the bioregion. The rationale for inclusion is based upon the eligibility criteria described in section 2.3.1 (pg 11). A total of 53 flora taxa were listed for Criterion H (Table 5). The number of species pertaining to each eligibility criteria is summarised in Table 4. Most species listed had more than one eligibility criteria. Two of the species exhibited three or more eligibility criteria.

For inclusion in the BRB BPA priority species records were first subject to filtering rules as described in the section (3.1) and subsequently, buffered by twice the precision (as for Criterion A) with a minimum of 300m, and a

maximum of 1km. The decision rules for assigning criterion H values (LOW to VERY HIGH) are summarised in Table 6.

The 2017 panel also reviewed listed habitat associations (obtained through previous BRB expert panels), as well as identified new ones. The intent was to use known habitat associations in conjunction with records to spatially identify areas under Criterion H. However, due to time constraints and given that habitat associations other than those stated for a species may exist, this approach was not implemented. Notwithstanding, information provided by previous and current panels with respect to species habitat associations is included in the column titled "Expert panel comments" in Table 5.

Table 4. Number of priority flora taxa listed for each eligibility criteria (taxa can have more than one value assigned)

Eligibility value[1]	Taxon number
1. Taxa at risk	22
2. Taxa of scientific interest as relictual (ancient or primitive)	1
3. Endemic taxa	27
4. Significant taxa	4
5. Taxa important for maintaining genetic diversity such as complex patterns of genetic variation	0
6. Disjunct species populations	4
7. Taxa functionally important to ecosystem integrity	4
8. Taxa performing a role as an ecological indicator of ecosystem integrity	2
9. Taxa vulnerable to impacts of climate change	2

[1] - For more details on the values see section 2.3.1 (pg 11).

Table 5. Brigalow Belt Bioregion - priority flora taxa (Criterion H)

Scientific name	Common name	Significance	Eligibility value no.	Expert panel comments
Acacia abbatiana		State	3, 9	Has a very narrow range - altitudinal endemic species on Mount Abbott. Only a few records.
Acacia maranoensis		State	3	Current records suggest the species is now mostly confined to road reserves. A localised endemic which almost forms its own community like Brigalow or Mulga. Situated in an area of high clearing, the species should be classed as vulnerable. Road reserves, camping & water reserve have *Acacia maranoensis* on Warrego Hwy. Common name Womal. On Womalilla Ck, close to Mungallala i.e. almost continuous from 16-37km west of Mitchell.
Acacia melvillei	yarran	Regional	1	A poorly conserved species. RE (11.9.6) in which it occurs has an endangered status. Occurs around Wandoan and Jondaryan. Doubtful records occur in Mulga. Frequent in Taroom Shire. Yarran also occurs in poplar box shrubby woodland and brigalow REs southwest of Dalby on road reserve. Very little in large remnants. It provides habitat for the Painted Honeyeater. Also a food plant for

Scientific name	Common name	Significance	Eligibility value no.	Expert panel comments
				larvae of *Jalmenus eubulus* butterfly (vulnerable).
Acacia microsperma	bowyakka	Regional	1	Poorly reserved, very scattered. The remainder of this species' range (apart from eastern disjunct record) is in the Mulga Lands bioregion and should be considered in the next Mulga Lands BPA. The Hando record at Bellevue near Goombi represents a significant eastern range limit.
Acacia sp. (Biloela T. Shepard A32)		State	3	Narrow endemic; Limited records.
Acacia sp. (Boyd Creek A.R. Bean 19248)		State	3	Narrow endemic; Limited records.
Acacia sp. (Gayndah P.I. Forster+ PIF24863)		State	3	Narrow endemic; Only 1 record.
Acacia sp. (Jericho G.R. Beeston 1065C))		State	3	Narrow endemic; Only 1 record.
Acacia sp. (Mt Beaufort E.J. Thompson JER164)		State	3	Narrow endemic; Only 1 record.
Acacia sp. (Nantglyn P.I. Forster+ PIF5741)		State	3, 4, 6	Endemic - The species is restricted to the bioregion. It is disjunct with most records in the east of the bioregion and one record in Salvator Rosa National Park to the west.
Acacia sp. (Ronlow Park E.J. Thompson 61)		State	3	Narrow endemic; Only 2 records.
Aneilema sclerocarpum		State	1	Found in brigalow forest only (Fensham et al. 2017).
Angiopteris evecta	giant fern	State	2, 6	Relictual species. Disjunct populations; only known occurrence in BRB is in the Carnarvon Gorge area.
Calyptochloa johnsoniana		State	3	Only found in *Acacia shirleyi* woodland. Found predominantly in RE 11.7.2. Narrow endemic. Found on deep red earth on high plateaus.
Capparis shanesiana		Regional	1	Found in poplar box woodland and dry rainforest (Fensham et al. 2017).
Corchorus reynoldsiae		State	1,3	Only found on creek banks in the Carnarvon area which is a threatened area subject to weed infestation.
Corchorus thozetii		State	1	Found in brigalow forest only (Fensham et al. 2017).
Corymbia bloxsomei		State	3	A narrow endemic that grows on sand plains. Regional Ecosystem 11.5.21 describes its habitat: *Corymbia bloxsomei* or *Angophora*

Scientific name	Common name	Significance	Eligibility value no.	Expert panel comments
				leiocarpa dominate the woodland canopy often in association with other species such as *Callitris glaucophylla* and *Eucalyptus crebra*. There is generally a low tree layer dominated by *Allocasuarina luehmannii* and or *Callitris glaucophylla* and a low shrub layer dominated by species from heathy families such as Epacridaceae and Mimosaceae. Occurs on deep Cainozoic sand plains/remnant surfaces. Found in Barakula State Forest. Also records from Allies Ck and Binkey State Forests.
Corymbia bunites		Regional	3	Most records located in Blackdown Tableland National Park, Expedition National Park, Expedition State Forest.
Corymbia hendersonii		Regional	3	Most records located in Blackdown Tableland National Park, Expedition National Park, Carnarvon National Park.
Corymbia watsoniana		Regional	3	Most records located in Blackdown Tableland National Park, Isla Gorge National Park, Beeron National Park, Barakula State Forest.
Cycas terryana		State	4	Restricted to Connors Range – found in CQC and BRB.
Cyperus isabellinus		Regional	1	Found in brigalow forest and coolibah woodland. (Fensham et al. 2017).
Denhamia sp. (Junee Tableland T.J. McDonald 553)		State	1	Found in brigalow. *Eucalyptus thozetiana* footslope microhabitat (Fensham et al. 2017).
Denhamia sp. (Mt Coolon D. Corr PA409)		State	1	Found in brigalow forest only (Fensham et al. 2017).
Dinebra southwoodii		Regional	1	Found in brigalow forest and poplar box woodland. Gilgai provide microhabitat (Fensham et al. 2017).
Eleocharis blakeana		Regional	1	Found in brigalow forest, poplar box woodland, coolibah woodland (Fensham et al. 2017).
Enteropogon paucispiceus		Regional	1	Found in brigalow forest and dry rainforest (Fensham et al. 2017).
Eucalyptus apothalassica		Regional	3	Endemic to, but widespread over, BRB bioregion.
Eucalyptus baileyana	Bailey's stringybark	Regional	6	A species with widely disjunct populations within BRB on Land Zone 10, also atypical occurrence at Melrose west of Eidsvold on granite or lateritised granite. Good indicator of other taxa of conservation value.
Eucalyptus bakeri	Baker's mallee	Regional	1,8	Usually an indicator of other taxa of conservation value - populations found close to *Eucalyptus viridis* var. *latiuscula*. Has a patchy distribution (Thomby Range, Wondul Range, Texas, Boondandilla, Inglewood, Chesterton Range, Gurulmundi). It occurs on jump-ups and is vulnerable to and threatened by gravel

Scientific name	Common name	Significance	Eligibility value no.	Expert panel comments
				extraction.
Eucalyptus corynodes		Regional	3	Restricted to central part of BRB bioregion.
Eucalyptus grisea		State	3	Narrow endemic mainly restricted to Carnarvon National Park.
Eucalyptus melanoleuca	Nanango ironbark	Regional	4	Species has a very patchy distribution occurring on deep red soils near Kingaroy and Nanango in Southeast Queensland extending into BRB as far west as Thomby Range (near "Glen Fosslyn"). It occurs on duricrust and sandstone.
Eucalyptus panda		Regional	3	Endemic to but quite widespread over BBS.
Eucalyptus rhombica		Regional	3,4	A species with a patchy distribution and endemic to BRB.
Eucalyptus rubiginosa		Regional	3	Restricted to central part of BRB bioregion.
Eucalyptus sphaerocarpa	Blackdown stringybark	State	3	Very narrow endemic. Majority of sightings in Blackdown Tableland National Park.
Eucalyptus suffulgens		Regional	3	A species endemic to the Central Brigalow sandstone belt, i.e. Carnarvon, Expedition & Blackdown National Parks.
Eucalyptus tenuipes		Regional	3	
Eucalyptus tholiformis		Regional	3	
Eucalyptus viridis		State	1,3	Populations are very small and highly localised. Occurs on tops of jump-ups. It is vulnerable to local extinction where gravel extraction is likely to occur.
Macropteranthes leichhardtii	bonewood	Regional	1	Found in dry rainforest and brigalow forest (Fensham et al. 2017).
Melaleuca squamophloia		State	1	Found in brigalow forest in low lying areas (Fensham et al. 2017).
Olearia cuneifolia		State	1	Found in brigalow forest; *Eucalyptus thozetiana* footslope microhabitats (Fensham et al. 2017).
Oryza australiensis		State	7	Genus is that of wild rice. It was previously noted as a dominant species in the Burdekin Wetlands where para grass, aleman and hymenachne encroachment has resulted in limited distribution/decline. It is important for wetland integrity - food for magpie geese and other wetlands birds. It is found that when para grass was burnt, rice re-established. Species occurs in Gulf and Cape York. It provides important ecosystem function for waterbirds composition - loss of this species results in composition change in waterbird populations.
Oryza meridionalis		State	7	Genus is that of wild rice. It was previously noted as a dominant species in the Burdekin Wetlands where para grass, aleman and

Scientific name	Common name	Significance	Eligibility value no.	Expert panel comments
				hymenachne encroachment has resulted in limited distribution/decline. It is important for wetland integrity - food for magpie geese and other wetlands birds. It is found that when para grass was burnt, rice re-established. Species occurs in Gulf and Cape York. It provides important ecosystem function for waterbirds composition - loss of this species results in composition change in waterbird populations.
Oryza rufipogon		State	7	Genus is that of wild rice. It was previously noted as a dominant species in the Burdekin Wetlands where para grass, aleman and hymenachne encroachment has resulted in limited distribution/decline. It is important for wetland integrity - food for magpie geese and other wetlands birds. It is found that when para grass was burnt, rice re-established. Species occurs in Gulf and Cape York. It provides important ecosystem function for waterbirds composition - loss of this species results in composition change in waterbird populations.
Sclerolaena tetracuspis	brigalow burr	Regional	1	Found in brigalow forest, poplar box woodland (Fensham et al. 2017).
Sphagnum perichaetiale		State	1, 3, 6, 7, 8, 9	Highly disjunct, and narrow endemic.
Sporobolus disjunctus		Regional	1	Found in predominantly coolibah woodland and poplar box woodland (Fensham et al. 2017).
Teucrium micranthum		Regional	1	Found in brigalow forest and dry rainforest (Fensham et al. 2017).
Viscum bancroftii		Regional	1	Found in brigalow forest and poplar box woodland (Fensham et al. 2017).

1 - Rating in relevant Back on Track assessment.

General Note: Listed habitat associations should not be construed as a complete list of the habitat types in which a species may occur, rather, a subset of known associations based upon information provided by panel members.

Table 6. Priority flora taxa decision rules

Low	Medium	High	Very High
The remnant has no confirmed records/models or otherwise defined areas of habitat for priority taxa	The area within the remnant unit has a precise record (precision =<500m), or core habitat for ONE “State significant” priority taxa OR The area within the remnant unit has precise records (precision <=500) or core habitat for only ONE or TWO “Regional significant” priority taxa OR The area within the remnant unit has imprecise records or non-core habitat for “State or Regional significant” priority taxa	The area within the remnant unit has precise records (precision =<500m), or core habitat for TWO “State significant” priority taxa OR The area within the remnant unit has precise records (precision =<500m), or core habitat for THREE “Regional significant” priority taxa OR The area within the remnant unit has precise records(precision =<500m), or core habitat for ONE “State significant” AND TWO “Regional significant” priority taxa	The area within the remnant unit has precise records (precision =<500m), or core habitat for a minimum of THREE “State significant” priority taxa OR The area within the remnant unit has precise records (precision =<500m), or core habitat for a minimum of FOUR “Regional significant” priority taxa OR The area within the remnant unit has precise records (precision =<500m), or core habitat for TWO “State significant” AND TWO OR THREE “Regional significant” priority taxa

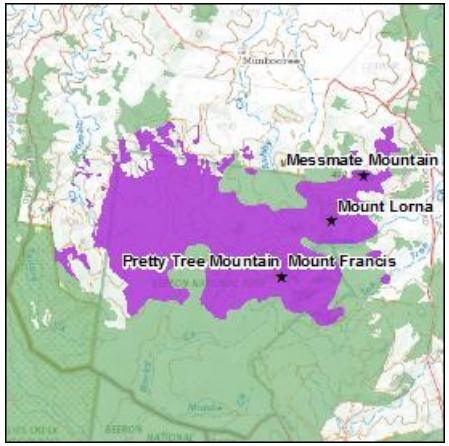
3.1.3 Special flora area decisions (Criterion I)

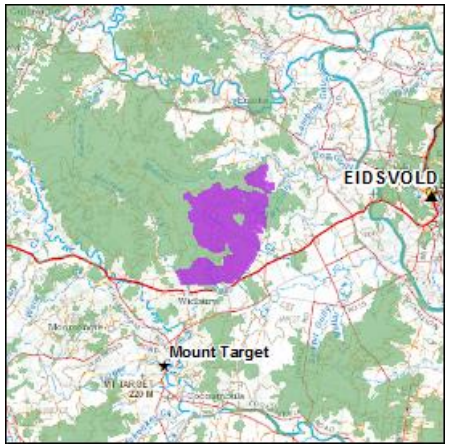
The flora panel was asked to identify areas with special biodiversity values within the BRB bioregion under the BAMM supplementary Criterion I. Areas with special biodiversity value are important because they can contain multiple taxa in unique ecological and often highly biodiverse environments. Values can include centres of endemism, wildlife refugia, disjunct populations, geographic limits of species distributions, high species richness and relictual populations. The full rationale for inclusion is based on eligibility criteria described in section 2.3.2 (pg 12).

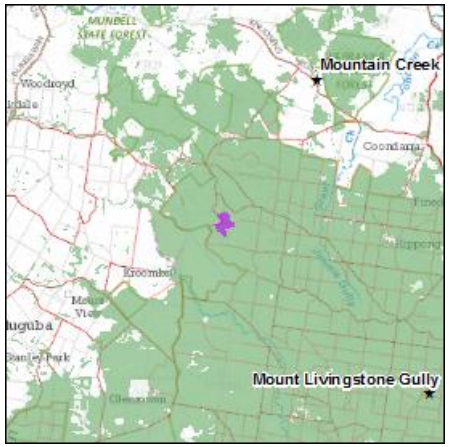
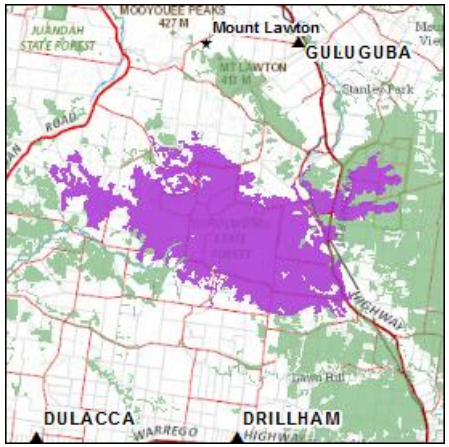
Using expert knowledge and available information (records, maps, GIS derived datasets), panel members discussed 50 areas (BRB south = 42 and BRB north = 8) and described their values. Of these areas, 34 (BRB south = 28 and BRB north = 6) were implemented as flora decisions. A number of decisions were consolidated with fauna or other values to become landscape decisions. The special areas proposed by the panel are detailed in Table 7. Generally only EVNT and priority species are specified listed for each decision.

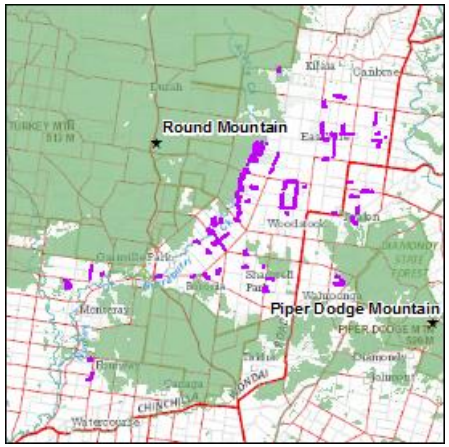
To ensure consistency and provide better integration with BPAs conducted across adjoining bioregions, special areas nominated during the course of non-BRB expert panels, however, which impact BRB remnant units, have been incorporated and are listed at the end of Table 7.

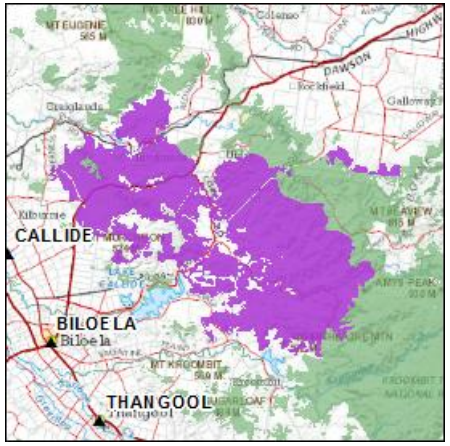
Table 7. Areas of special flora biodiversity value (Criterion I)

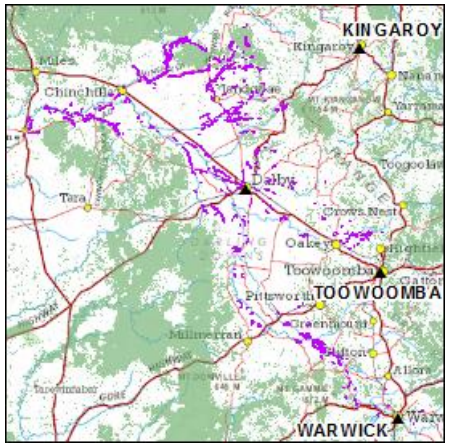
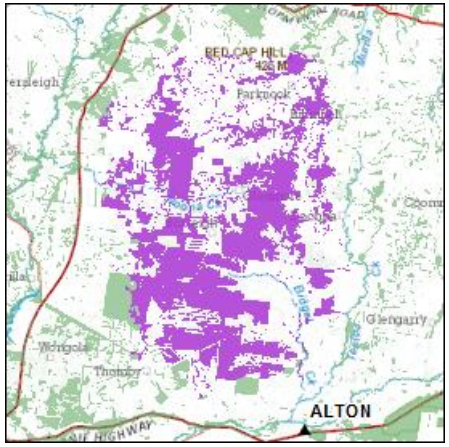
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
Brigalow Belt south decisions				
brbs_fl_01	*Corymbia* woodlands - Beeron National Park and surrounds 	State	*Corymbia* woodlands (11.12.20) situated on a granite isolate south of Mundubbera. The area is considered species diverse and a number of vascular plant species are locally endemic including the endangered species *Bertya granitica* and *Acacia porcata*, the vulnerable species *Acacia eremophiloides, Commersonia beeronensis* and *Newcastelia velutina*, and the least concern species, *Boronia beeronensis*. (Leverington 2011) Disjunct populations of *Corymbia petalophylla* and a *Hibiscus* sp. (Barambah Creek) (both of which are only known to occur in one - two other locations) and *Macrozamia crassifolia* (vulnerable and endemic to the region) are also present. Examples of other disjunct species within the area include the mountain guinea flower *Hibbertia monticola*, *Kunzea flavescens* and *Notelaea pungens*. In addition to the flora values noted above, the area is also considered to support high densities of hollow bearing trees which provide important habitat for fauna.	Ia (endemic richness): VH; Ib (refugia): VH; Ic (disjunct populations): VH; Id (range limits): VH; Ie (species richness): VH; Ig (ecosystem variation): VH Ii (hollow density): VH

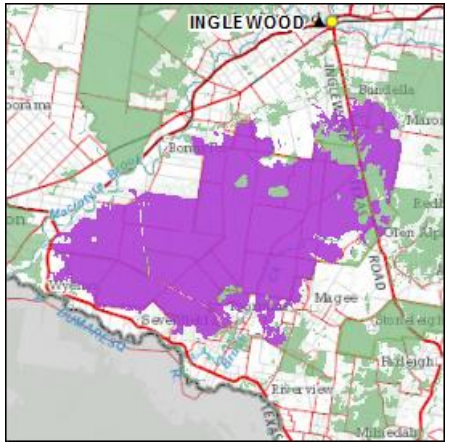
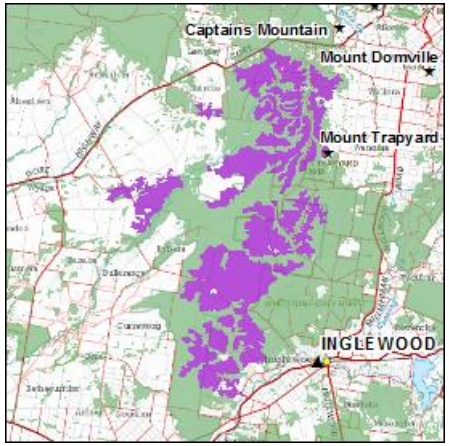
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_fl_02	'Dula' west of Eidsvold 	State	*Corymbia* woodlands (11.12.20) situated on a granite/duricrust isolate with endemic and/or disjunct taxa, some of which are also rare or threatened (*Macrozamia crassifolia*, *Acacia islana*, *Corymbia petalophylla*, *Eucalyptus pachycalyx* subsp. *waajensis*, *Leptospermum venustum*, *Notelaea pungens, Grevillea singuliflora, Eucalyptus baileyana*). Another example of a population of disjunct common taxa is *Corymbia gummifera* which mostly occurs on coastal sandy soils south of Fraser island. In addition to the flora values noted, the area is also considered to support high densities of hollow bearing trees that provide important habitat for fauna.	Ia (endemic richness): VH; Ib (refugia): VH; Ic (disjunct populations): VH; Id (range limits): VH; Ie (species richness): VH; Ig (ecosystem variation): VH Ii (hollow density): VH
3	Isla-Precipice sandstone ranges	NA	Implemented as part of a broader landscape decision brbs_l_40. Incorporated previous decisions brbs_fl_03, brbs_fl_04 and brbs_fa_46.	NA
4	Expedition-Ruined Castle Creek	NA	Implemented as part of a broader landscape decision brbs_l_40. Incorporated previous decisions brbs_fl_03, brbs_fl_04 and brbs_fa_46.	NA

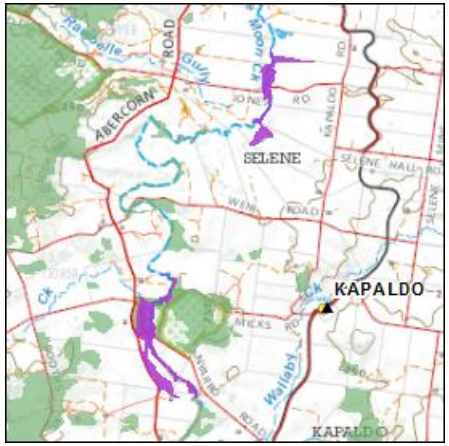
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_fl_05	Waaje Scientific Reserve 	State	Shrubland situated on natural scalds (11.7.5) within the Waaje Wildflower Scientific Reserve is known to support a number of endemic and disjunct taxa, many of which are also threatened. Localised endemics include *Acacia barakulensis*, *Calytrix gurulmundensis*, *Micromyrtus patula* and *Homoranthus decumbens*. Similarly, species with disjunct populations found within the area include *Melaleuca groveana*, *Diuris tricolor* (least concern). Species that occur both as disjunct populations and endemics include *Apatophyllum teretifolium*, *Eucalyptus pachycalyx* subsp. *waajensis* and *Eucalyptus rubiginosa* (Least Concern). Other conservation significant taxa within the area include golden-tailed gecko *Strophurus taenicauda*, *Eucalyptus sideroxylon* subsp. *improcera*, *Cryptandra ciliata* and *Eucalyptus curtisii*.	Ia (endemic richness): VH Ic (disjunct populations): VH Id (range limits): H Ie (species richness): VH
brbs_fl_06	Gurulmundi 	State	An area with a diverse range of vegetation communities present inclusive of shrubland on rock pavement, spotted gum forest, acacia thickets, cypress pine woodland and slopes with mixed Eucalyptus, Acacia and Corymbia assemblages, as well as vine thicket elements in places. Even though relatively small in size, the area is considered to be species rich, with 185 species known to occur within Gurulmundi State Forest alone. Threatened plant taxa are present, including the localised endemics *Micromyrtus carinata*, *Calytrix gurulmundensis* and *Acacia wardellii*. Disjunct populations of *Acacia curranii*, *Eucalyptus curtisii*, and *Cadellia pentastylis* also occur.	Ia (endemic richness): H Ic (disjunct populations): H Ie (species richness): VH

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_fl_07	Burra burri Creek 	State	Brigalow communities (11.4.3 & 11.3.1) within the Burra burri catchment provide important habitat for threatened taxa which are associated with vegetation communities historically subject to extensive clearing. Brigalow Belt endemic and disjunct taxa include the *Xerothamnella herbacea*, the locally endemic *Acacia handonis* and *Corymbia bloxsomei*. Disjunct occurrences of the vulnerable *Eucalyptus argophloia* are present, whilst *Desmodium macrocarpum* occurs at its southern limit.	Ia (endemic richness): VH Ib (refugia): VH Ic (disjunct populations): H
brbs_fl_08	Greenmount to Nobby Road and rail reserves 	State	Non-remnant habitat for threatened or rare taxa associated with grasslands or open woodlands with a grassy understory and historically subject to extensive clearing. Over 30 species of flora have been recorded from the area. Good disjunct populations of austral cornflower *Rhaponticum australe*, toadflax *Thesium australe* and *Commelina ensifolia* R.Br. are present. Other threatened taxa include *Cyperus clarus*, *Picris evae* and finger panic grass *Digitaria porrecta*.	Ib (refugia): VH; Ic (disjunct populations): H; Ie (species richness): VH

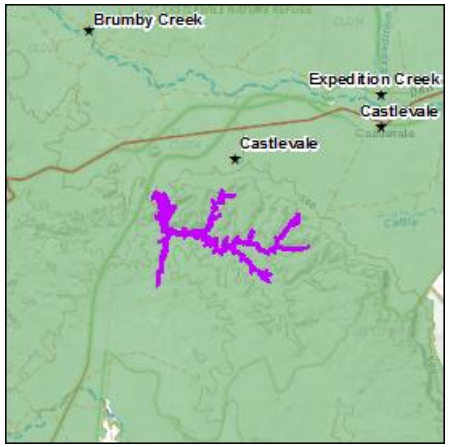
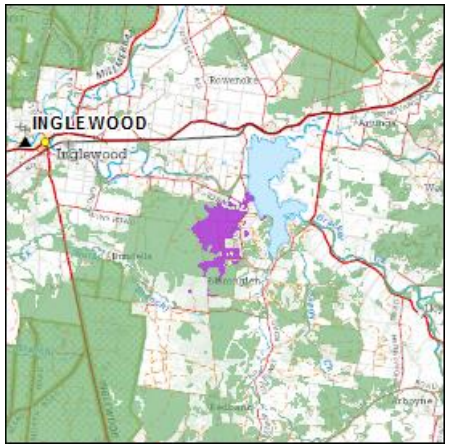
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
9	Dalby-St George Rd	NA	Not implemented in version 2.1, as the values ("an endangered RE (11.3.17) and containing populations of the threatened species, *Homopholis belsonii*") are captured through Criterion A and B.	NA
brbs_fl_10	Callide Range 	State	The area encompasses sandstone ranges, metamorphic and tertiary basalt geologies at the boundary of the Southeast Queensland and Brigalow Belt bioregions with shrubby woodlands, scrublands and vine thicket. Due to habitat diversity and overlap between bioregions, the area supports a rich diversity of flora with more than 640 species recorded for the general area (290 taxa recorded within 10,000 ha). A number of species are also thought to be at or close to their distributional limit. Examples of notable endemics within the area include *Acacia pedleyi* (vulnerable and majority of known distribution with the area), the locally occurring *Acacia* sp. (Biloela T. Shepard A32), *Astrotricha brachyandra*, *Boronia palasepala, Cerbera dumicola* and *Grevillea hockingsii*. Populations of disjunct species present include *Distichophyllum crispulum, Eucalyptus suffulgens, E. bakeri* and *Synedrellopsis grisebachii*. Also a hotspot for other threatened or rare plant taxa including *Cossinia australiana*, *Polianthion minutiflorum*, *Samadera bidwillii*, *Eucalyptus decolor*, *Bertya opponens* and *Cycas megacarpa*.	Ia (endemic richness): VH Ic (disjunct populations): H Id (range limits): H Ie (species richness): VH Ig (ecosystem variation): H
11	Wyaga-Kindon ooline	NA	Not implemented in version 2.1, as the values (relating to the threatened species *Cadellia pentastylis*)) are captured through Criterion A.	NA
12	Remnant grasslands, Eastern Darling Downs	NA	Implemented as part of a broader landscape decision brbs_l_41 which incorporates a previous fauna decision brbs_fa_57 and a new nomination by the 2017 expert panel.	NA

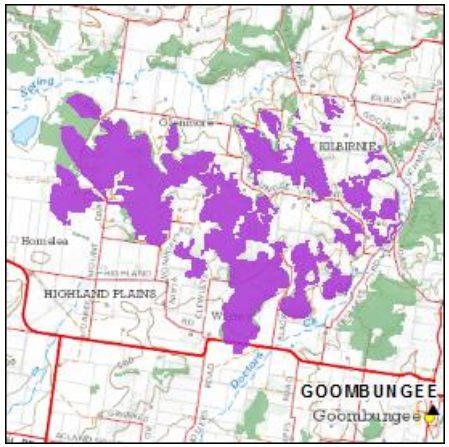
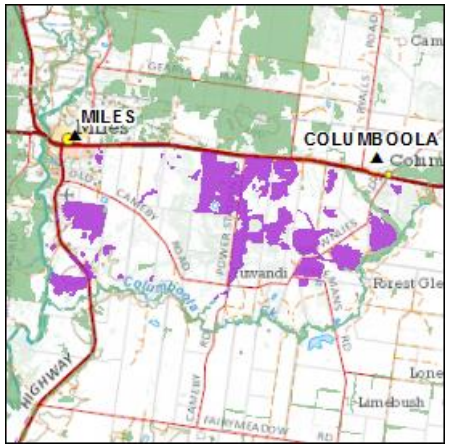
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_fl_13	Poplar box Eucalyptus populnea open woodland on alluvium, Eastern Darling Downs 	State	Within the Eastern Darling Downs subregion, the regional ecosystem "*Eucalyptus populnea* woodland on alluvial plains" (11.3.2) exhibits a distinct variation in terms of structure and presents a more open woodland community when compared to other examples of this ecosystem. Due to clearing, less than 10% of the preclear extent of this regional ecosystem remains within the subregion. This ecosystem provides habitat for threatened or rare plant taxa including *Homopholis belsonii*, *Picris evae*, and *Digitaria porrecta*, as well as other priority taxa. Endemics present within the area include *Acacia loroloba, Kardomia jucunda, Melaleuca quercina* and *Rutidosis lanata*, whilst species such as *Acacia aneura* var. *major*, *Acacia aprepta, Homoranthus melanostictus* and *Jacksonia rhadinoclona* occur at or close to their known limit of range. In addition to the flora values, some areas of *Eucalyptus populnea* may also provide important faunal habitat through fostering high densities of hollows in a heavily modified landscape.	Ia (endemic richness): H; Ib (refugia): VH; Id (range limits): H; Ig (ecosystem variation): H
brbs_fl_14	Thomby Range 	Regional	A low range east of Surat with jump-ups and associated scarps. Selective clearing of the softer country for mixed cattle grazing and seismic activities has resulted in reduced condition. However, a reasonable extent of semi-contiguous remnant remains surrounded by a fragmented landscape subject to extensive clearing. Several regional ecosystem types are present which provide habitat for a number of species at or near their geographic range limits including the Brigalow Belt endemic *Acacia wardellii*, *Eucalyptus bakeri, E. melanoleuca, Cadellia pentastylis* and *Casuarina cristata*.	Ib (refugia): H; Id (range limits): VH

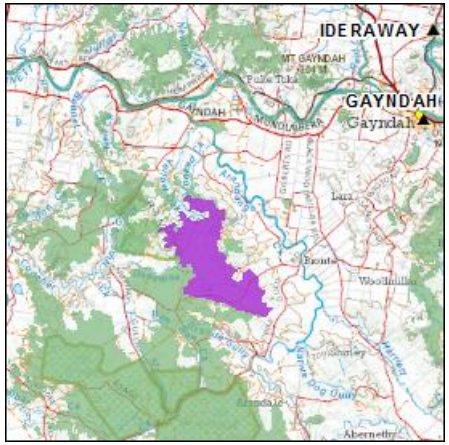
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_fl_15	Yelarbon State Forest sandstone remnants 	Regional	The area is characterised by cypress through to eucalypt woodlands/shrubby woodlands situated on sandstone (Landzone 5) near the boundary of the Brigalow Belt bioregion and the Nandewar subregion within the New England Tableland bioregion. As a result, values incorporate a mix of the two bioregions floral characteristics. The area is considered to be species rich with approximately 200 taxa identified within a 10,000 ha sample area. Species present include the narrow endemic *Acacia argyrotricha*, *Eucalyptus terrica* (a narrow endemic), a disjunct example of *Eucalyptus taurina*, the Plunkett mallee *Eucalyptus curtisii*, the vulnerable cycad *Macrozamia machinii*, the narrowly distributed species *Westringia parvifolia* and *Leucopogon* sp. (Coolmunda D. Halford Q1635). In addition, a distinct subunit (11.5.14a) of the parent regional ecosystem 11.5.14 is also present for which the characteristic groundcover species is *Triodia vella* (Brigalow belt endemic).	Ia (endemic richness): H; Ic (disjunct populations): H; Ie (species richness): VH Ig (ecosystem variation): H;
brbs_fl_16	Wondul Range and Inglewood Sandstone subregion remnants 	Regional	Part of a large tract of remnant vegetation (11.7.5 and adjacent polygons of 11.9.5) containing perched heaths on sandstone with high species richness of Ericaceae (11) and concentrations of endemic or isolated taxa such as *Aristida forsteri* (endangered and endemic to Wondul Range), *Macrozamia machinii*, as well as disjunct populations of species or species considered close to or at their distributional range limits (*Caustis pentandra, Conospermum taxifolium, Styphelia viridis* subsp. *breviflora, Gonocarpus elatus* and *Micromyrtus striata* which is at the northern limit of its range). *Commersonia inglewoodensis* an endangered and locally endemic species also occurs directly to the east.	Ia (endemic richness): H; Ib (refugia): VH; Ic (disjunct populations): H; Id (range limits): H

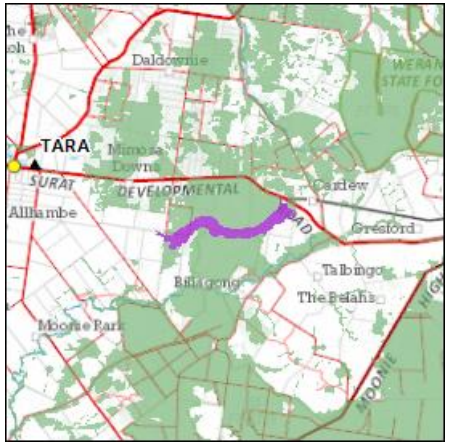
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
17	White box and mountain coolibah remnants, Eastern Darling Downs	NA	Not implemented in version 2.1. Whitebox communities (EPBC threatened ecological community) are captured under criterion B1. For values relating to Eastern Darling Downs coolibah woodlands, refer to brbs_fl_36.	NA
18	Taroom Town Common	NA	Implemented as a fauna decision, brbs_fa_66.	NA
brbs_fl_19	Monto Intact Floodplain remnants 	Regional	Selected remnants of floodplain vegetation in good condition in the Monto area act as a refugia in a highly modified landscape resulting from grazing, feedlots and forestry landuse activities. Over 80 species of flora have been recorded from the two areas depicted. *Eucalyptus tereticornis* woodland (11.3.25 and/or 11.3.4) in these areas is in good condition with large old trees present which also provide habitat for fauna. Other values include species at or close to their range limit and/or which occur as disjunct populations including *Arthropodium strictum* (a species of swampy areas), *Angophora subvelutina, Carex lophocarpa* and *Persicaria subsessilis*.	Ib (refugia): H; Ic (disjunct populations): M; Id (range limits): M

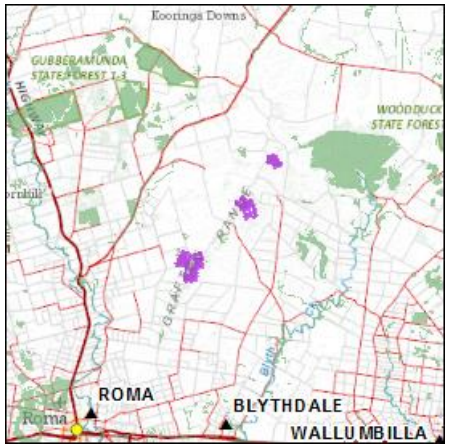
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_fl_20	Tellebang Mountain 	Regional	Softwood vine scrub with brigalow emergent (11.8.13 and 11.5.15) on a Tertiary basalt hill, with a natural grassland on top (not mapped as remnant). Representative of communities that were once more widespread in the surrounding area. Brigalow emergents are present indicative that vine thicket has expanded during the past 50-100 years. The area was considered by the panel to be species rich and exhibits distinct variation in regional ecosystem composition.	Ib (refugia): H; Ie (species richness): H; Ig (ecosystem variation): H
21	Part of Coominglah State Forest	NA	Decisions brbs_fa_58 and brbs_fl_21 combined and implemented as a new landscape decision brbs_l_38.	NA

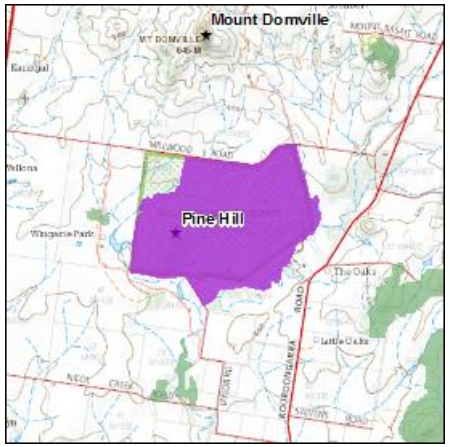
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_fl_22	Bull Creek Gorge, Tambo 	Regional	A gorge area with threatened taxa including the vulnerable Brigalow Belt endemic *Shonia carinata*, a disjunct population of *Eucalyptus pachycalyx* subsp. *waajensis* (endangered and based upon current records, largely endemic to the BRB) and *Apatophyllum flavovirens* (endangered endemic).	Ia (endemic richness): H; Ib (refugia): H
brbs_fl_23	Coolmunda 	Regional	The area depicted reflects duricrust heath communities (11.7.5) and contains floral elements of both the Nandewar subregion in the New England Tableland bioregion and the Brigalow Belt bioregion. Notable endemics within the general area include the endangered *Leucopogon* sp. Coolmunda, *Eucalyptus terrica, E. panda, Hibbertia expansa* and *Hibbertia mediterranea*. Disjunct populations of *E. virens* and *Macrozamia machinii* are also present, whilst species situated at or near their limits of range include *Acacia lauta*, *Amphipogon caricinus* var. *scaber, Hovea angustissima* and *Dillwynia sericea*.	Ia (endemic richness): H; Ib (refugia): H; Ic (disjunct populations): H; Id (range limits): H; Ig (ecosystem variation): H

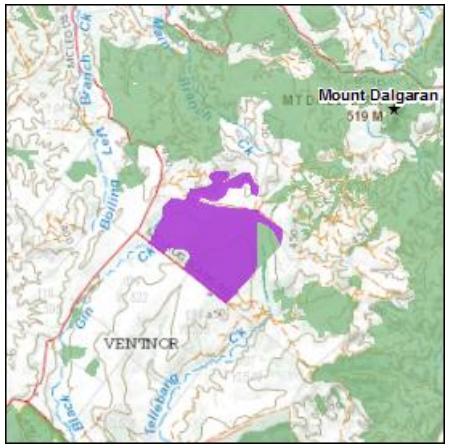
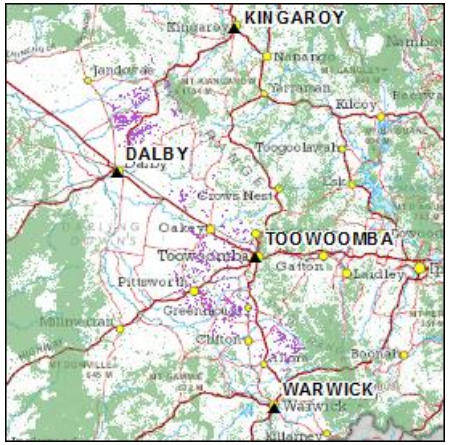
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_fl_24	Goombungee 	Regional	Predominantly characterised by *Corymbia citriodora* woodland (11.10.1) on sandstone ridges with a healthy understorey present. The special area exhibits a considerable degree of plant species diversity with at least 166 plant species collected and recorded. Endangered (NCA) *Homopholis belsonii* is a significant grass species, which occurs within this area. The area also contains outliers of Brigalow Belt sandstone taxa such as *Acacia uncinata*, the inland extent of Southeast Queensland species and a considerable population of the priority species *Eucalyptus bakeri* (Baker's mallee). *Cyperus dietrichiae*, occurs at its southern limit whilst *Homopholis belsonii* at its eastern limit.	Id (range limits): H; Ie (species richness): H; Ig (ecosystem variation): H
brbs_fl_25	Miles area – outliers of Mulga taxa 	Regional	Eastern range limits of taxa including *Acacia aprepta, A. microsperma, Dysphania rhadinostachya* subsp. *inflata, Dysphania valida* and *Leptorhynchos baileyi*. Endemics present in the general area include *Commersonia pedleyi, Gonocarpus urceolatus, Prostanthera* sp. (Baking Board V. Hando 135) and *Rutidosis lanata*.	Ia (endemic richness): H; Id (range limits): H

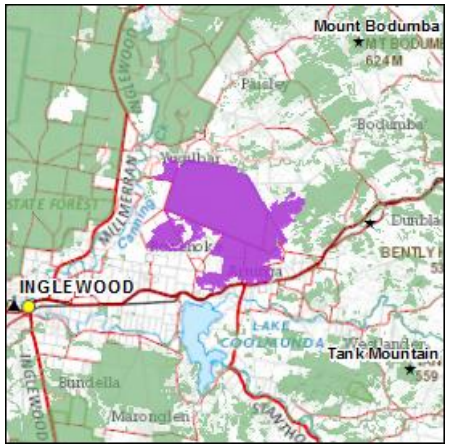
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
26	Moonie outliers of Mulga	NA	Not implemented in version 2.1– original nomination considered inconsistent with the criterion value Id - Geographic Range Limits.	NA
brbs_fl_27	"Bronte" - narrow endemics. 	Regional	Presence of the narrow endemic taxa *Boronia grimshawii* and *Acacia* sp. (Gayndah P.I. Forster + PIF24863). The endangered species *Zieria inexpectata* also occurs as well as disjunct occurrences of *Ozothamnus diosmifolius* and *Pultenaea bracteamajor*.	Ia (endemic richness): H; Ib (refugia): H; Ic (disjunct populations): H

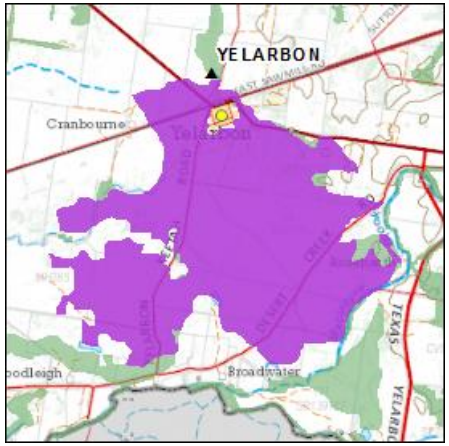
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_fl_28	Part of Vickery State Forest near Tara 	Regional	A ridge area with populations of disjunct species - all three mallees (*Eucalyptus viridis, E. bakeri* and *E. curtisii*) have been recorded on the ridge.	Ic (disjunct populations): H; Ig (ecosystem variation): H
29	Western side of Bunya Mts	NA	Implemented as part of a broader landscape decision brbs_l_02.	NA

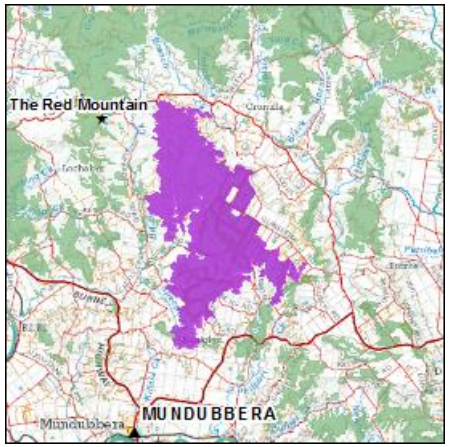
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_fl_30	Grafton Range basalt vine thickets 	Regional	Well-developed semi evergreen vine thicket (SEVT) on Tertiary basalt (11.8.3) above 600 m. The species composition is representative of vine thickets much further east, despite isolation and relatively low rainfall. Additionally, the vine thickets have a species richness similar to those found in the western parts of Southeast Queensland and Eastern Darling Downs subregion of the Brigalow Belt. The area reflects the western limit of some SEVT flora species such as *Atalaya salicifolia, Claoxylon tenerifolium, Flindersia australis, Grevillea helmsiae* and *Siphonodon australis*.	Id (range limits): VH; Ie (species richness): H; Ig (ecosystem variation): H
31	Tchanning Creek wetlands, Southern Downs subregion	NA	Insufficient information, not implemented in version 1.3, or version 2.1.	NA
32	Mt Hutton /Kilmorey /Womblebank	NA	Implemented as a landscape decision brbs_l_39.	NA

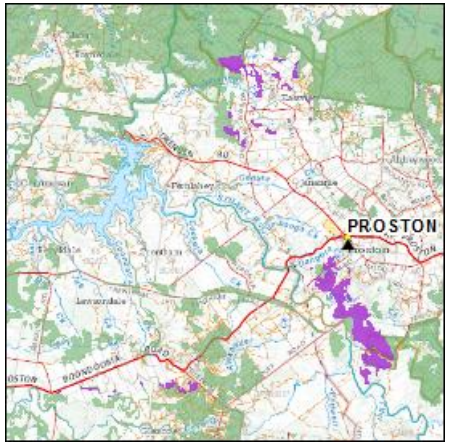
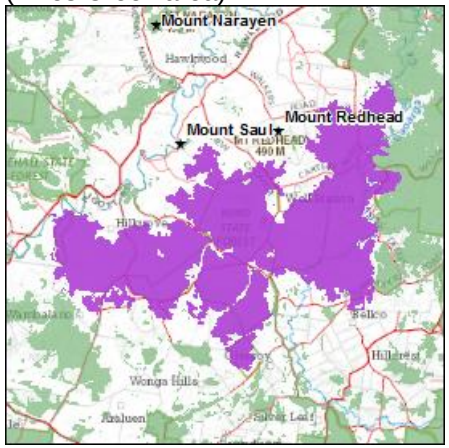
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_fl_33	Millmerran State Forest Tract 	Regional	A topographic isolate of granite outcropping with a disjunct New England Tableland ecosystem outlier (13.12.5) encapsulated by Brigalow Belt ecosystems on sandstone. Endemics present include *Melichrus* sp. (Inglewood A.R. Bean 1652), *Plectranthus insularis* and *Solanum coracinum*, while *Pterostylis boormanii* occurs close to its northern limit.	Ia (endemic richness): H; Ib (refugia): H; Id (range limits): M; Ig (ecosystem variation): VH
34	Remnant swamps, Monto area	NA	Decision not implemented in version 2.1. Instead, two generic decisions relating to natural wetlands (refer to the landscape decisions titled Regionally and Locally significant natural palustrine & lacustrine wetlands) and their role as a wildlife refugia has been applied for both the north and south portions of the Brigalow Belt bioregion. State significant wetlands, are captured under Criterion B1. Nb. The importance of specific aquatic values, dependences associated largely with aquatic species, ecosystem processes and other aquatic criteria are assessed in substantial detail through application of the AquaBAMM - for further information relating to the AquaBAMM, refer to https://wetlandinfo.des.qld.gov.au/wetlands/assessment/assessment-methods/aca/.	NA

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_fl_35	Yarrol Scrub east of Monto 	Regional	Yarrol Scrub, east of Monto and adjacent to the Southeast Queensland bioregion, contains the largest remaining patch of endangered semi-evergreen vine thicket (11.5.15) on limestone in the tablelands plateau in the north Burnett district. The surrounding landscape is heavily fragmented by clearing and the site likely acts a refugia. An endemic species of *Melicope* (undescribed) is present, while *Actephila sessilifolia* occurs close to its southern limit.	Ib (refugia): H
brbs_fl_36	Mountain coolibah remnants, Eastern Darling Downs 	Regional	The Eastern Darling Downs subregion contains the southern limits of mountain coolibah *Eucalyptus orgadophila* woodlands on basalt hills (11.8.5). The community is considered to provide important habitat for several threatened plant species including: *Digitaria porrecta*, *Discaria pubescens*, *Picris evae* and *Thesium australe*.	Ib (refugia): H

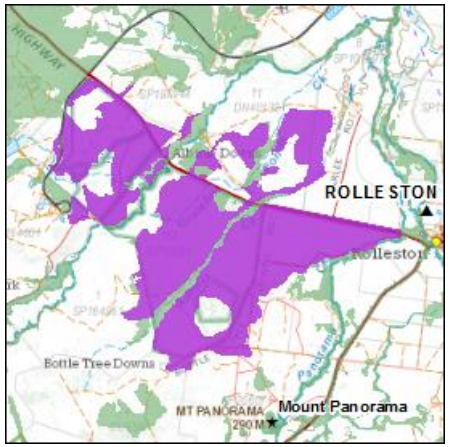
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_fl_37	Devine State Forest Tract 	Regional	Bordering the New England tableland, temperate eucalypt woodlands occupy the majority of the State Forest, tending to drier communities at the eastern margins. Approximately 140 species of flora are considered to occur within the State Forest, with the eastern most portion considered to contain high flora diversity. Several threatened taxa have been recorded including *Eucalyptus curtisii*, *Bertya opponens*, *Pomaderris coomingalensis* and *Daviesia quoquoversus*. Broadleaf and Mugga ironbark communities at the eastern extent also exhibit high densities of hollows important for fauna.	Ie (species richness): H Ii (hollow density): H

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_fl_38	Yelarbon Desert 	State	The Yelarbon Desert represents a unique landsystem, the soils of which have been strongly influenced by the upwelling of salt rich ground water (Biggs et al. 2010). Drainage patterns and soil pH have strongly influenced vegetation communities and as a result, a large number of salt tolerant species are present such as *Dysphania carinata, Einadia nutans, Enchylaena tomentosa*, succulents (*Portulaca bicolor, Rhagodia spinescens, Salsola australis, Sarcozona praecox* and *Tribulus terrestris*), chenopods, sedges and rushes. Although under-sampled, the dominant vegetation community of spinifex grassland with scattered trees and shrubs supports a unique and relatively diverse range of flora (more than 150 species have been recorded). The particular ecosystem of the special area (11.5.14) is considered the largest and most representative example of this ecosystem type within the Brigalow Belt bioregion. Examples of Brigalow Belt endemics present include *Myriophyllum gracile* var. *laeve* and *Westringia parvifolia* and *Triodia vella*. A substantial number of species are also considered to be at or close to their range limit (eastern limit: *Angianthus brachypappus, Centipeda thespidioides, Disphyma crassifolium* subsp. *clavellatum, Eremophila glabra, Maireana brevifolia, Maireana pentagona, Peplidium foecundum, Podolepis muelleri, Sclerolaena bicornis, Sclerolaena diacantha, Sclerolaena stelligera, Senecio glossanthus, Sida cunninghamii, Trianthema* sp. (Coorabulka R.W.Purdie 1404), and *Triodia scariosa*; southern limit: *Bothriochloa decipiens* var. *cloncurrensis*, and; northern limit: *Brachyscome watanabei, Lepidium hypenantion* and *Lepidium monoplocoides*). In addition to the floristic values noted above, after heavy rains lower parts and drainage lines of the area become inundated and attract numerous species and numbers of waterbirds.	Ia (endemic richness): VH; Id (range limits): VH; Ie (species richness): H; Ig (ecosystem variation): VH

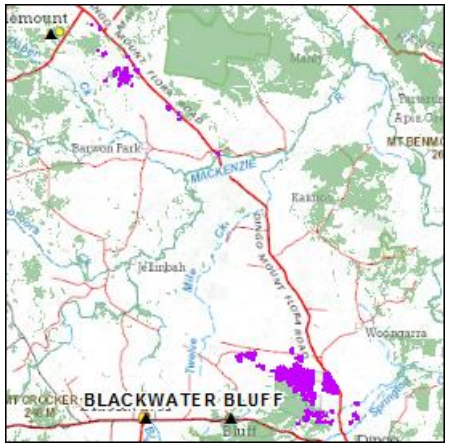
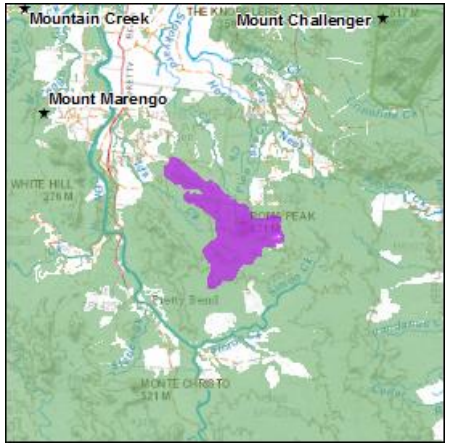
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_fl_39	Binjour Plateau  	State	Soils of the Binjour Plateau represent some of the deepest lateritised soils, with profiles extending greater than 60m deep. *Corymbia citriodora* open forests dominate, with smaller pockets of semi evergreen vine thicket (SEVT) and dry to moist eucalypt woodlands present at the margins. Compared to the surrounding tertiary duricrust landscape, the site provides a more intact high altitudinal refugia which contains a number of conservation significant flora. Endangered and locally endemic taxa include *Acacia rubricola* and *Fontainea fugax*. Other endemics include *Acacia wardellii*, *Acacia* sp. (Nantglyn P.I. Forster+ PIF5741), *Capparis loranthifolia* var. *bancroftii, Leucopogon flexifolius, Melichrus* sp. (Isla Gorge P. Sharpe+ 601), *Prostanthera lithospermoides, Pultenaea bracteamajor* and *Pultenaea millarii* var. *angustifolia*. Examples of species at their limit of range include *Arytera microphylla* (western limit), *Backhousia kingii* and *Macropteranthes leiocaulis* at their southern distribution and *Grevillea longistyla* at its eastern extent. A disjunct population of *Notelaea* sp. (Barakula A.R. Bean 7553) is also present and for which the only other known location is just south of Cairns. In addition to the above, other threatened flora recorded from the general area include, *Cadellia pentastylis*, *Macropteranthes leiocaulis*, *Melaleuca groveana*, *Phebalium distans*, *Pomaderris clivicola* and *Zieria vagans*.	Ia (endemic richness): VH Ib (refugia): VH; Ic (disjunct populations): H; Id (range limits): H

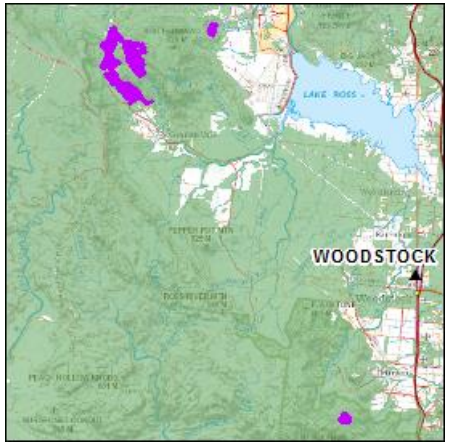
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_fl_40	Stalworth Range, Brigooda and Abbeywood (Near Proston) 	Regional	The special area contains small remnants examples of vine thicket once more widespread pre-European settlement, as well as remnant woodlands on sandstone, or old loamy sand plains. Concentrations of endemic, disjunct and/or threatened and rare taxa are present. Examples include *Boronia splendida, Diuris parvipetala*, *Lasiopetalum* sp. Proston (J.A. Baker 17) (endangered and critically endangered under state and federal legislation respectively), *Melaleuca groveana*, *Phebalium distans*, *Pomaderris clivicola*, *Pomaderris coomingalensis*, *Zieria inexpectata* and *Z. verrucosa*.	Ia (endemic richness): H; Ib (refugia): H Id (range limits): H
brbs_fl_41	Well Station and Ferntree Nature Refuges and Koko State Forest (Allies Creek area). 	State	A diversity of eucalypts and acacia species have been recorded within the Fern Tree Nature Refuge, Koko State Forest and Well Station holding area. At least 19 species of acacia and 31 species of eucalypts have been recorded. Eucalypts (*Eucalyptus*, *Angophora* and *Corymbia*) species include, *Angophora floribunda, A. leiocarpa, Corymbia bloxsomei* (restricted to the Barakula and Allies Creek area), *C. citriodora* var. *variegata*, *C. clarksoniana, C. erythrophloia, C. hendersonii, C. tessellaris, C. trachyphloia, C. watsoniana, Eucalyptus apothalassica, E. baileyana, E. bakeri, E. beaniana*, *E. broviniensis*, *E. cloeziana, E. crebra, E. curtisii*, *E. decorticans, E. dura, E. elegans, E. exserta, E. fibrosa* subsp. *fibrosa, E. longirostrata, E. melanophloia, E. moluccana, E. panda, E. rubiginosa, E. tenuipes, E. tereticornis* and *E. virens*. Other notable flora species include disjunct populations of *Androcalva viscidula* (in Qld, known from only 4 widely disjunct locations), *Coopernookia scabridiuscula* and *Ricinocarpos ruminatus* (a Brigalow Belt endemic known from only two general locations).	Ic (disjunct populations): H; Ie (species richness): VH

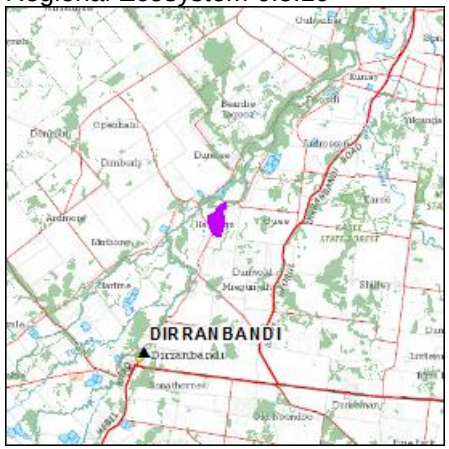
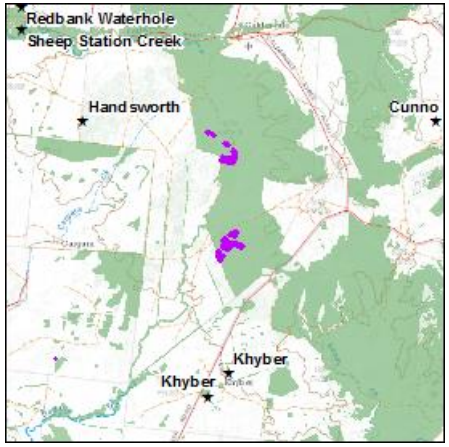
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
83	Ooline south of Morven	NA	Not implemented in version 2.1 - values are incorporated through Criterion A.	NA
Brigalow Belt north decisions				
brbn_fl_01	Dry semi evergreen vine thicket on beach chenier dune systems 	State	Unique beach chenier dune systems with dry semi-evergreen vine thickets (SEVT) present (represented by the regional ecosystem 11.2.3) within the Fitzroy Delta and Broadsound areas. These chenier dune systems occur inland on tidal salt flats (assumed through storm surge deposition), however, are sufficiently elevated above tidal influence to accommodate vine scrub communities. The dunes within the above mentioned areas, are unusual in that they are composed of very large course fragments of shell grit, rather than sand or finer shell grit chenier dunes. Queensland ebony *Lysiphyllum hookeri* may be present as an emergent.	Ig (ecosystem variation): VH
02	Rundle Range National Park	NA	Discussed at the 2017 panel, however, the panel decided there was insufficient information in terms of its significance – to be revisited at subsequent panels.	NA

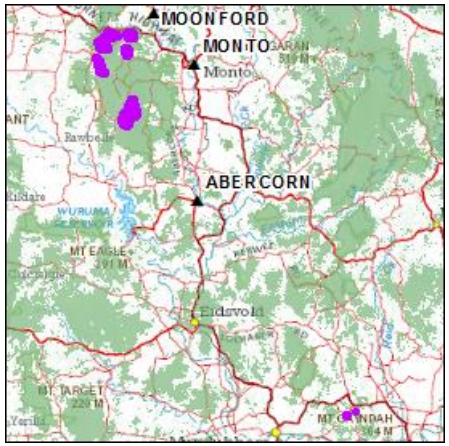
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_fl_03	Remnant vegetation on serpentinite 	State	Remnant vegetation communities situated on serpentinite geology often exhibit distinct ecosystem variation in terms of floristics and vegetation structure in comparison to similar communities situated on other geology types. These communities tend to contain a number of narrow range endemics many of which are also classified as threatened (*Bursaria reevesii*, *Capparis thozetiana* and *Cycas ophiolitica*). Some species are only found on this geology in QLD, including *Macrozamia serpentina*, *Olearia macdonnellensis*, *Neoroepera buxifolia* and *Euphorbia ophiolitica*.	Ia (endemic richness): VH; If (relictual taxa): H; Ig (ecosystem variation): VH
brbn_fl_04	Bluegrass downs 	State	This area overlaps the Albinia National Park and Resource Reserve and has the largest patches of bluegrass remaining within the bioregion and incorporates a unique combination of grasses. Whilst some areas are still subject to grazing (Albinia Conservation Park), it is considered one of the best/most intact systems of this type left in the bioregion. The estate is one of the few protected areas in Queensland that contains healthy examples of the king blue-grass *Dichanthium queenslandicum*.	Ib (refugia): VH

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_fl_05	Granitic and Acid Volcanic Montane Environments 	State	These montane features include Mts. Abbott, Aberdeen, Cleveland, Elliott, Pring, Stuart and Cape Upstart. These upland areas contain forests which are in part reliant on precipitation derived from clouds forming in the afternoon and persisting until late morning. This has provided habitat for altitudinal endemic species e.g. *Aristida granitica* (endangered - found only on Mt. Pring), disjunct taxa e.g. *Sannantha papillosa* (E - found on Mt. Elliot, Saddle Mountain. Mt. Cleveland, Frederick peak and Britton Range 265 km to the south). There are "unusual taxa", with some species having associations with those found in the Philippines. The areas also contain high altitudinal shrublands. While detailed survey effort is lacking, overall the features capture approx. 700 flora species at least six of which are threatened including *Corchorus hygrophilus*; *Croton magneticus*; *Eucalyptus paedoglauca*; *Ozothamnus eriocephalus*; *Aristida granitica* and *Sannantha papillosa*.	Ia (endemic richness): VH (Mount Elliot - rest H); Ib (refugia): H; Ic (disjunct populations): assumed H (poorly known); Ik (climate change refuge): H
06	Willandspey Conservation Park	NA	Discussed at the 2017 panel, however, the panel decided there was insufficient information in terms of its significance – to be revisited at subsequent panels.	NA

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_fl_07	Stripy brigalow and eucalypt country south of Middlemount (Barwon land system) 	Regional	The endangered regional ecosystem, 11.9.1 (*Acacia harpophylla-Eucalyptus cambageana* open forest to woodland on fine-grained sedimentary rocks) occurs extensively in BBN. However, within the area between Middlemount and Dingo there is a variation in the taxa associated with the underlying geomorphology.	Ig (ecosystem variation): H
brbn_fl_08	Roma Peak, south of Bowen 	Regional	The ecosystem association on Roma Peak is 11.12.4 semi evergreen vine thicket, 11.12.9 and 11.12.13. The near threatened plant species *Bertya sharpeana* and the endemics *Leucopogon cuspidatus* and *Xerochrysum bracteatum* subsp. (Mount Elliot A.R. Bean 3593) have been recorded from the area.	Ia (endemic richness): H

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
Adjoining bioregion decisions (not reviewed by the 2018 expert panel) *Nb. for the following non- Brigalow Belt BPA decisions, only affected Brigalow Belt assessment units are depicted in the images below.*				
deu_fl_09	10.5.1 RE sub-types with threatened/priority taxa—a,b and d 	Regional	Values: Very high overall species diversity of DEU bioregion species Area of concentration of threatened flora and flora with biogeographic interest and other priority species (Morgan et al. 2002; section 4.1). Species: *Acacia ramiflora*; *Aristida burraensis*; *Calytrix microcoma*; *Desmodium macrocarpum*; *Eucalyptus miniata*; *Eucalyptus tetrodonta*; *Goodenia splendida*; *Hakea purpurea*; *Hibbertia exutiacies*; *Keraudrenia* sp. (Pentland S.T.Blake 9922); *Polygala* sp. (White Mountains M.B.Thomas+ 1738); *Solanum crassitomentosum*; *Corymbia clandestina*; *Micromyrtus rotundifolia*; *Desmodium macrocarpum*; *Acacia ramiflora*; *Eucalyptus similis*, yellow jacket	Ib (refugia): H; Ic (disjunct populations): H; Id (range limits): H Ie (species richness): H;
eiu_fl_20	Hervey Range-Reid River Gorge 	State	This area is centred on the Hervey Range, extending from the Pinnacles south to Reid River, along the eastern margin of the bioregion. Most of the area lies over 500m ASL, although western areas adjacent to the Fanning River are less than 300m ASL. It is an area of high geological and ecosystem diversity, and its altitude and higher rainfalls make it a biogeographic refugia for many species. The areas very high floristic diversity includes the highest concentration of R & T species in Townsville region. Species present and listed under the NCA include the endangered *Sannantha papillose*, the vulnerable species *Croton magneticus*, *Dubouzetia saxatilis*, *Eucalyptus paedoglauca* and *Marsdenia brevifolia*, and the rare species *Acacia jackesiana*, *Atalaya calcicola*, *Cassia* sp. (Paluma Range G.Sankowsky+ 450), *Graptophyllum excelsum*, *Oldenlandia polyclada*, *Parsonsia lenticellata*, *Peripleura scabra* and *Peripleura sericea*.	Ia (endemic richness): H; Ib (refugia): VH; Ic (disjunct populations): VH; Id (range limits): VH Ie (species richness): VH; Ig (ecosystem variation): H;

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
mul_fl_10	Regional Ecosystem 6.5.19 	State	This regional ecosystem (*Angophora floribunda* +/- *Eucalyptus melanophloia*, *Triodia* spp. open woodland on old alluvial levees and dunes) has similar values to 6.6.2, but is less sandy and less floristically diverse. It is habitat for Sand Plain Mallee, *Eucalyptus socialis*, which is at its range limit in the Mulga Lands. 6.5.19 is also found at Alice Springs and Longreach. It is not certain whether it was *E. socialis* or *E. ammophila* (sandplain redgum) that was being referred to. There are only one or two valid records of *E. socialis* in Queensland, while *E. ammophila* is very scattered. If not, *E. ammophila*, also warrants inclusion. Some species are at their limits of known distribution (Criterion Id, 'Very High'). This RE type has a high floristic diversity of *Calytrix*, *Angophora* and *Grevillea* (Criterion Ie, 'Very High'), and distinct variation in species composition (Criterion Ig).	Id (range limits): VH Ie (species richness): VH; Ig (ecosystem variation): VH;
mul_fl_13	Regional Ecosystem 6.5.9 	Regional	RE 6.5.9 (*Acacia aneura*, *Eucalyptus populnea* +/- *E. melanophloia* shrubby low woodland on plains) has the highest floristic diversity (Criterion Ie, very high species richness) of the mulga communities. It also has a distinct shrubby understorey, having distinct variation in species composition (Criterion Ig). The section in the north-east has distinct variation and spp. composition. Limit the decision to the North Eastern Plains.	Ie (species richness): VH; Ig (ecosystem variation): H;

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
seqn_fl_19	Remnant vegetation on Tertiary plateau remnants in central – western part of bioregion 	State	Remnants of old pediplains of Tertiary age are conspicuous between Kingaroy in Southeast Queensland and Monto just west of the SEQ-BRB boundary. While the development of these surfaces has involved material sourced from basalt flows in many instances (being iron-rich this has resulted in the red colouration of soils and cemented rock-like material called duricrust or ferricrete) this is not always the case and in some cases the old surfaces are associated with granite and acid volcanics and sedimentary and metamorphic rocks. Collectively the Tertiary plateau remnants have outstanding flora values because of the presence of narrow endemic, regional endemic and disjunct taxa, especially shrub species. The vegetation is typically grassy tall open forest on plateau remnants with powdery or “snuffy” red soils, shrubby woodland where erosion has stripped soil to expose duricrust (e.g. narrow ridgelines and tops of scarps) and dry rainforest on steep scarp slopes and lower slopes with redistributed red soils. The deeper red soils have been extensively cleared for agriculture although there is a trend for retirement of marginal country or replacement of agriculture with tree crops (Duboisia for pharmaceuticals and native hardwood plantations). Southeast Queensland endemic taxa (Criterion Ia): including narrow endemic taxa - *Arytera foveolata*, *A. microphylla*, *Melaleuca formosa*, *Cossinia australiana*, *Eucalyptus dura*, *Lasiopetalum* sp. (Proston J.A.Baker 17), *Paspalidium grandispiculatum*, *Phebalium distans*, *Pomaderris clivicola*. Wildlife refugia (Criterion Ib). Disjunct taxa (Criterion Ic)	Ia (endemic richness): H; Ib (refugia): VH; Ic (disjunct populations): VH;

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
seqn_fl_33	Many Peaks Range 	State	Southeast Queensland endemic taxa including narrow endemic taxa (Criterion Ia) - *Acacia* sp. (Bulburin W.J.McDonald 3208), *Acomis acoma*, *Apatophyllum olsenii*, *Argophyllum nullumense*, *Boronia bella*, *Cassinia collina*, *Eucalyptus decolor*, *E. major*, *E. montivaga*, *Goodenia* sp. (Mt Castletower M.D.Crisp 2753), *Kunzea flavescens*, *Leucopogon rupicola*, *Philotheca difformis* subsp. *smithiana*, *Prostanthera* sp. (Mt Castletower I.R.Telford 10112), *Rhodamnia dumicola*. Wildlife refugia (Criterion Ib). Disjunct populations (Criteria Ic): *Allocasuarina inophloia*, *Bertya opponens*, *Comesperma esulifolium*, *Cupaniopsis simulata*, *Cycas megacarpa*, *Doodia linearis*, *Grevillea venusta*, *Lepidosperma elatius*, *Logania albiflora*, *Mirbelia pungens*, *Persoonia amaliae*, *Pultenaea borea*. Southern limits or close to southern edge of range (Criterion Id): e.g. *Melaleuca polandii*, *Hovea densivellosa*, *Gonocarpus acanthocarpus*, *Rhodamnia spongiosa*.	Ia (endemic richness): VH; Ib (refugia): VH; Ic (disjunct populations): VH; Id (range limits): VH;

1 - VH = Very High, H = High and M = Medium. For more details on the values see section 2.3.2 (pg 12).

3.2 Fauna Taxa Considerations (Criteria A and H)

Criteria A and H attribute significance to areas based on the presence of EVNT taxa scheduled under the NCA or the EPBC, or, the presence of priority species. The BRB fauna expert panels identified some 155 taxa for inclusion under Criterion A and H. Table 8 summarises the categories of species. The standard BAMM record filtering rules were applied (EHP 2014).

Table 8. Summary of fauna taxa considered by the expert panel for Criteria A and H

	Endangered	Vulnerable	Near Threatened	Priority (non-EVNT) taxa	Total
Number of taxa considered	39	38	8	70	155

3.2.1 Habitat for endangered, vulnerable and near threatened fauna taxa (Criterion A)

The panel identified and selectively reviewed species records to define a list of 85 BRB EVNT fauna taxa (Table 9). A number of taxa were excluded from the table below either because there were no (or too few) reliable records in the BRB or, based upon expert opinion, the taxa was considered not to occur in the bioregion. For inclusion in the BRB BPA the records were first subject to filtering rules as described in the preceding section (3.2) and subsequently buffered by twice the precision (as for Criterion A) with a minimum of 300m, and a maximum of 2km.

For two species, *Xeromys myoides* (water mouse) and *Denisonia maculata* (ornamental snake) expert approved habitat suitability models were available and used in place of known sightings. The 2017 panels also reviewed listed habitat associations for other species (obtained through previous BRB expert panels), as well as identified new ones. The intent was to use known habitat associations in conjunction with records to better spatially discriminate areas under Criterion A (i.e. instead of buffered point records alone). However, due to time constraints and given that habitat associations other than those stated for a species may occur, this approach was not implemented. Notwithstanding, information provided by previous and current panels with respect to species habitat associations is included in the column titled "Expert panel comments" in Table 9.

Table 9. Brigalow Belt Bioregion - endangered, vulnerable and near threatened fauna taxa (Criterion A)

Scientific name	Common name	NCA[1]	EPBC[2]	Mobility[3]	Expert panel comments
Snail					
Adclarkia cameroni	brigalow woodland snail	V	E	L	
Adclarkia dawsonensis	boggomoss snail	E	CE	L	
Adclarkia dulacca	Dulacca woodland snail	E	E	L	
Crustacean					
Euastacus bindal	Mount Elliot crayfish	V	CE	L	
Insect					
Hypochrysops piceata	bulloak jewel	E		L	Bendidee National Park & Bendidee State Forest, RE 11.5.1a is regarded as essential habitat. Include road reserves with suitable habitat near Leyburn.

Scientific name	Common name	NCA[1]	EPBC[2]	Mobility[3]	Expert panel comments
Jalmenus eubulus	pale imperial hairstreak	V		L	Habitat comprises brigalow REs (11.3.1, 11.4.3, 11.4.3a, 11.4.3b, 11.4.3c, 11.9.5, 11.9.6 and 11.9.6a). However, there are numerous records of *J. evagoras eubulus* from the Carnarvon's in REs not associated with brigalow.
Freshwater fish					
Bidyanus bidyanus	silver perch		CE	L	
Maccullochella mariensis	Mary River cod		E	L	Translocated.
Maccullochella peelii	Murray cod		V	L	
Neoceratodus forsteri	Australian lungfish		V	H1	
Frog					
Adelotus brevis	tusked frog	V		L	
Cophixalus mcdonaldi	Mount Elliot nurseryfrog	V		L	
Reptile					
Acanthophis antarcticus	common death adder	V		L	
Anomalopus mackayi	long-legged worm-skink	E	V	L	Include headlands in cultivation in the habitat selection along with grasslands on road reserves in the Eastern Darling Downs Subregion. The threatening process of ploughing bluegrass (11.3.21 or 11.3.2) is flagged under the EPBC.
Aspidites ramsayi	woma	NT		L	
Caretta caretta	loggerhead turtle	E	E	H2	
Chelonia mydas	green turtle	V	V	H2	
Crocodylus porosus	estuarine crocodile	V		H1	
Ctenotus capricorni	Capricorn ctenotus	NT		L	
Delma torquata	collared delma	V	V	L	
Denisonia maculata	ornamental snake	V	V	L	New Habitat Suitability Model. Whole of range habitat mapping available.
Dermochelys coriacea	leatherback turtle	E	E	H2	
Egernia rugosa	yakka skink	V	V	L	
Elseya albagula	southern snapping turtle	E	CE	L	

Scientific name	Common name	NCA[1]	EPBC[2]	Mobility[3]	Expert panel comments
Eretmochelys imbricata	hawksbill turtle	E	V	H2	
Furina dunmalli	Dunmall's snake	V	V	L	
Hemiaspis damelii	grey snake	E		L	
Lampropholis colossus	Bunya sunskink	NT		L	Found along the edge of Southeast Queensland bioregion.
Lampropholis mirabilis	saxicoline sunskink	NT		L	
Lerista allanae	Allan's lerista	E	E	L	
Lerista cinerea	vine-thicket fine-lined slider	V		L	
Lerista vittata	Mount Cooper striped lerista	V	V	L	
Natator depressus	flatback turtle	V	V	H2	
Pygmaeascincus sadlieri	Magnetic Island dwarf skink	V		L	
Rheodytes leukops	Fitzroy River turtle	V	V	L	
Strophurus taenicauda	golden-tailed gecko	NT		L	
Tympanocryptis condaminensis	Condamine earless dragon	E	E	L	
Tympanocryptis wilsoni	Roma earless dragon	V		L	
Uvidicolus sphyrurus	border thick-tailed gecko		V	L	
Bird					
Anthochaera phrygia	regent honeyeater	E	CE	H1	
Botaurus poiciloptilus	Australasian bittern		E	H1	
Calidris canutus	red knot	E	E	H1	
Calidris ferruginea	curlew sandpiper	E	CE	H1	
Calidris tenuirostris	great knot	E	CE	H1	
Calyptorhynchus lathami	glossy black-cockatoo	V		H2	Habitat selection - (11.3.1, 11.4.3, 11.4.3a, 11.4.7, 11.7.1 and 11.9.5) on stock routes and road reserves within the Southern Downs Subregion. In addition, habitat also ìncludes other woodlands with food trees (*Casuarina* and *Allocasuarina*).
Charadrius leschenaultii	greater sand plover	V	V	H1	
Charadrius mongolus	lesser sand plover	E	E	H1	

Scientific name	Common name	NCA[1]	EPBC[2]	Mobility[3]	Expert panel comments
Epthianura crocea macgregori	yellow chat (Capricorn subsp.)	E	CE	L	Three core populations in central Queensland.
Erythrotriorchis radiatus	red goshawk	E	V	H2	
Erythrura gouldiae	Gouldian finch	E	E	L	
Esacus magnirostris	beach stone-curlew	V		H2	
Falco hypoleucos	grey falcon	V		H2	
Geophaps scripta scripta	squatter pigeon (southern subsp.)	V	V	L	
Grantiella picta	painted honeyeater	V	V	H1	Key habitat is defined as brigalow and gidgee (with mistletoe) RE's(11.3.1, 11.3.1a, 11.3.1b, 11.3.1c, 11.3.16, 11.3.17, 11.3.20, 11.4.3, 11.4.3a, 11.4.3b, 11.4.3c, 11.4.7, 11.4.10, 11.9.5, 11.9.6, 11.9.6a, and 11.9.10) in the Balonne-Condamine.
Lathamus discolor	swift parrot	E	CE	H1	
Limosa lapponica	bar-tailed godwit	V	V	H1	
Lophochroa leadbeateri	Major Mitchell's cockatoo	V		H2	*C. leadbeateri* is found in the Balonne - Culgoa Fan (35). Its habitat of poplar box and coolibah communities (RE's 11.3.3, 11.3.4, 11.3.15 and 11.3.16) has been targeted for clearing, particularly southwest of Dirranbandi. Large numbers occur near St George. They also nest in hard mulga and woodlands.
Neochmia ruficauda ruficauda	star finch (eastern subsp.)	E	E	L	
Ninox strenua	powerful owl	V		H1	
Numenius madagascariensis	eastern curlew	E	CE	H1	
Pedionomus torquatus	plains-wanderer	V	CE	L	
Poephila cincta cincta	black-throated finch (white-rumped subsp.)	E	E	L	
Rostratula australis	Australian painted snipe	V	E	H1	

Scientific name	Common name	NCA[1]	EPBC[2]	Mobility[3]	Expert panel comments
Turnix melanogaster	black-breasted button-quail	V	V	L	Occurs in semi-evergreen vine thickets (SEVT) in the east of the BBS (REs 11.3.11, 11.4.1, 11.5.15, 11.8.3, 11.8.9, 11.8.13, 11.9.4, 11.9.4a, 11.9.4b, 11.10.8, 11.12.4). It is present in Expedition and Palmgrove National Parks in SEVT and is also known from lantana scrubs. *T. melanogaster* is thought not to occur on the Carnarvon National Park. Although there are no records from the area, SEVT in the Southern Downs (26) subregion, west as far as Mt Hutton should be included as potential habitat.
Tyto novaehollandiae kimberli	masked owl (northern subsp.)	V	V	H1	
Mammal					
Antechinus argentus	silver headed antechinus	V			Disjunct population on Blackdown Tableland.
Chalinolobus dwyeri	large-eared pied bat	V	V	L	
Dasyurus hallucatus	northern quoll		E	L	
Dasyurus maculatus maculatus	spotted-tailed quoll (southern subsp.)	V	E	H1	
Hipposideros diadema reginae	diadem leaf-nosed bat	NT		L	
Hipposideros semoni	Semon's leaf-nosed bat	E	V	L	
Lasiorhinus krefftii	northern hairy-nosed wombat	E	E	L	
Macroderma gigas	ghost bat	E	V	H1	
Nyctophilus corbeni	eastern long-eared bat	V	V	L	
Onychogalea fraenata	bridled nailtail wallaby	E	E	L	
Petauroides volans	greater glider	V	V	L	
Phascolarctos cinereus	koala	V	V	L	
Pseudomys australis	plains rat	E	V	L	
Pteropus conspicillatus	spectacled flying-fox	V	V	H2	Found along the edge of the Wet Tropics bioregion.
Pteropus poliocephalus	grey-headed Flying-fox		V	H2	
Rhinolophus philippinensis/robertsi	large-eared horseshoe bat	E	V	L	

Scientific name	Common name	NCA[1]	EPBC[2]	Mobility[3]	Expert panel comments
Saccolaimus saccolaimus	bare-rumped sheathtail bat	E	V	L	
Taphozous australis	coastal sheathtail bat	NT		L	
Vombatus ursinus	common wombat	NT		L	
Xeromys myoides	water mouse	V	V	L	New Habitat Suitability Model.

[1] - E = endangered, V = vulnerable, NT = near threatened as per Nature Conservation Act 1992

[2] - CE = critically endangered, E = endangered, V = vulnerable as per the Environmental Protection and Biodiversity Conservation Act 1999

[3] - Mobility rating = H1 = high - use all records, H2 = high - use only known breeding/feeding/roosting records, L= low

General Note: Listed habitat associations should not be construed as a complete list of the habitat types in which a species may occur, rather, a subset of known associations based upon information provided by panel members

3.2.2 Core habitat for priority fauna taxa (Criterion H)

Priority species are non-EVNT species that are considered to be of particular conservation significance. The rationale for inclusion is based upon the eligibility criteria described in section 2.3.1 (pg 11). A total of 70 fauna taxa were listed for inclusion under Criteria H (Table 11). The number of species pertaining to each eligibility criteria is summarised in Table 10. Most species listed had more than one eligibility criteria.

For inclusion in the BRB BPA priority species records were first subject to filtering rules as described in section (3.2) and subsequently, buffered by twice the precision (as for Criterion A) with a minimum of 300m, and a maximum of 1km. The decision rules for assigning criterion H values (LOW to VERY HIGH) are summarised in Table 6.

The 2017 panel also reviewed listed habitat associations (obtained through previous BRB expert panels), as well as identified new ones. The intent was to use known habitat associations in conjunction with records to better spatially discriminate areas under Criteria H. However, due to time constraints and given that habitat associations other than those stated for a species may occur, this approach was not implemented. Notwithstanding, information provided by previous and current panels with respect to species habitat associations is included in the column titled "Expert panel comments" in Table 11

Table 10. Number of priority fauna taxa listed for each eligibility criteria (taxa can have more than one value assigned)

Eligibility value[1]	Taxon number
1. Taxa at risk	18
2. Taxa of scientific interest as relictual (ancient or primitive)	0
3. Endemic taxa	47
4. Significant taxa	34
5. Taxa important for maintaining genetic diversity such as complex patterns of genetic variation	4
6. Disjunct species populations	11
7. Taxa functionally important to ecosystem integrity	0
8. Taxa performing a role as an ecological indicator of ecosystem integrity	2
9. Taxa vulnerable to impacts of climate change	10

Table 11. Brigalow Belt Bioregion - priority fauna taxa (Criterion H)

Scientific name	Common name	Significance	Eligibility value no.	Expert panel comments
Snail				
Annabellia subglobosa	Glen Lyon carnivorous snail	State	1, 3, 4	Endemic; vine thicket on limestone; habitat loss due to dam [New England Tableland taxon].
Bentosites hefferani	Mount Inkerman banded snail	Regional	3, 4, 9	Endemic; vine thicket on granite - Mt Inkerman.
Billordia bridgettae	Peak Range banded snail	Regional	3, 4, 9	Endemic; vine thicket - Lords Table Mtn.
Billordia nicoletteae	Lotus Creek banded snail	State	1, 3, 4	Endemic; vine thicket on rocky outcrops.
Delinitesta gayndahensis	Gayndah glass-snail	State	1, 3, 4	Endemic; vine thicket - impacted by clearing.
Dimidarion minerva	Minerva Hills semi-slug	Regional	3, 4	Endemic; vine thicket.
Dimidarion slatyeri	black knight semi-slug	Regional	3, 4, 9	Endemic; dry vine thicket - Lords Table Mtn.
Fastosarion helenkingae	Mount Elliot semi-slug	Regional	3, 4, 9	Endemic; upland rainforest on granite - Mt Elliot only.
Fastosarion schelli	Schell's semi-slug	Regional	3, 4	Endemic; dry vine thicket.
Figuladra barneyae	Connors Range banded snail	Regional	3, 4	Endemic; vine thicket on rocky outcrops.
Figuladra muirorum	Marlborough dark snail	Regional	3, 4	Endemic; vine thicket, brigalow & dry open woodland.
Figuladra volgiola	Boomer Range banded snail	Regional	3, 4	Endemic; vine thicket to dry woodland.
Jimbouria rodhobsoni	Jimbour slack-soil snail	State	1, 3, 4	Endemic; native tussock grassland; impacted by clearing.
Laevidelos clermont	Clermont carnivorous snail	Regional	3, 4, 9	Endemic; vine thicket; Lords Table Mtn.
Laevidelos moria	Olsen's Caves carnivorous snail	Regional	3, 4	Endemic; vine thicket.
Lynfergusonia mundubbera	Mundubbera forest snail	State	1, 3, 4	Endemic; vine thicket.
Mussonena carnarvon	Carnarvon Gorge bristle snail	Regional	3, 4	Endemic; vine thicket - Carnarvon & Expedition National Parks.
Mussonena martinlogari	Robinson Gorge bristle snail	Regional	3, 4	Endemic; vine thicket - Robinson Gorge.
Mussonena nogoa	Nogoa Creek scaly snail	Regional	3, 4	Endemic; sclerophyll forest in Salvator Rosa section.

Scientific name	Common name	Significance	Eligibility value no.	Expert panel comments
Offachloritis melaniecarlessae	Peak Range scaly snail	Regional	3, 4, 9	Endemic; vine thicket - Lords Table Mtn.
Pallidelix chinchilla	Chinchilla woodland snail	State	1, 3, 4	Endemic; dry brigalow woodland & vine thicket.
Pallidelix simonhudsoni	Hudson's woodland snail	Regional	3, 4, 5	Endemic, confined to Carnarvon Station area.
Perioinsolita pokryszkoae	Blackdown Tableland snail	Regional	3, 4, 9	Endemic; wet sclerophyll forest - Blackdown Tableland.
Scagacola cavernula	Rockhampton carnivorous snail	Regional	3, 4	Endemic; dry vine thicket.
Sphaerospira mossmani	Dawson River dark snail	State	1, 3, 4	Endemic; vine thicket.
Sphaerospira rockhamptonensis	Rockhampton banded snail	Regional	3, 4	Endemic; vine thicket on rocky outcrop.
Steorra bala	Magnetic Island dark snail	Regional	3, 4	Endemic; dry vine thicket.
Steorra tomsoni	Giru banded snail	Regional	1, 3, 4	Endemic; riparian forest & lowland rainforest.
Steorra worsfoldi	Worsfold's dark snail	Regional	3, 4, 9	Endemic; rainforest - Mt Elliot.
Temporena juliafoxae	Mount Abbot banded snail	Regional	3, 4, 9	Endemic; casuarina forest on Mt Abbot summit.
Insect				
Acrodipsas arcana	black-veined ant-blue	Regional	6	Disjunct population.
Acrodipsas violacea	'violet' ant-blue	State	1	Relatively newly described species (Sands & Sands 2015). There are ten specimens in the Qld Museum collected from two locations in the BBS at Dunmore via Dalby SW of Cecil Plains.
Canthonosoma mastersii		State	3	Vine scrub; endemic to BRB. Only records for two localities - originally Gayndah but now Wonga Hills and Allies Creek.
Cooloola dingo	Dingo monster	Regional	3, 4	Confined to Blackdown Tableland; unique group of burrowing crickets.
Hesperilla furva	grey sedge-skipper	State	3	Endemic to Carnarvon area.
Ogyris aenone	sapphire azure	Regional	6	Disjunct population.
Onthophagus apterus	wingless dung beetle	State	3	Largest species of genus. Vine scrub; endemic to BRB. One of the few wingless beetles in the

Scientific name	Common name	Significance	Eligibility value no.	Expert panel comments
				genus.
Trapezites taori	sandstone ochre	State	3	Endemic.
Freshwater fish				
Gadopsis marmoratus	river blackfish	State	4	Only found in the headwaters of Bald Rock Creek/Condamine headwaters near Killarney.
Macquaria ambigua	yellowbelly	Regional	6	Disjunct population; subspecies in Fitzroy River is endemic.
Mogurnda adspersa	southern purplespotted gudgeon	Regional	1	Reasonable condition in east; declining within BRB, especially in low areas. Reasonable population in Expedition Range.
Porochilus rendahli	Rendahl's catfish	Regional	6	Some records from Chinchilla Weir.
Scleropages leichardti	southern saratoga	State	3	Endemic.
Scortum hillii	leathery grunter	State	3	Confirmed records restricted to Fitzroy Basin.
Frog				
Cyclorana verrucosa	rough-collared frog	Regional	3	Endemic.
Notaden melanoscaphus	brown shovelfoot	Regional	1, 6	Records near Townsville where at risk habitat loss; remaining records from northern Australia.
Reptile				
Antaioserpens warro	Warrego burrowing snake	Regional	3	Recently confirmed species with only five records. Two post 2000 records are from BRB and two from Mulga Lands but in similar habitat to those in the brigalow belt, *E. populnea* woodlands on alluvial soils.
Carlia rubigo	orange-flanked rainbow skink	Regional	3	77% (105 of 136 records) of WildNet records from BRB. This is a common species but could be habitat indicator species.
Chlamydosaurus kingii	frilled lizard	Regional	1	In decline; stronghold in Expedition Range/east of Great Dividing Range. Needs open intact forest/woodland with stags & termite mounds. RE polygons surrounding precise point records are habitat where the record habitat information given matches the mapped RE

Scientific name	Common name	Significance	Eligibility value no.	Expert panel comments
				structure.
Delma inornata		Regional	4, 6	Limited Qld distribution. Preferred habitat is residual grasslands (11.3.21 and 11.3.2). Possible disjunct population is known from Culgoa Floodplains National Park. Grasslands on road reserves are essential habitat in Eastern Darling Downs Subregion.
Delma labialis	striped-tailed delma	State	3	Endemic, narrow distribution.
Diporiphora phaeospinosa		Regional	3	Endemic.
Gehyra catenata		Regional	3	Endemic.
Glaphyromorphus clandestinus	Mt Elliot skink	State	3	Mount Elliot endemic.
Lampropholis adonis		Regional	5, 6	Disjunct population.
Lucasium stenodactylum	crowned gecko	Regional	6	A discrete population is known from Altonvale near Alton National Park with other populations around Windorah. Spinifex grasslands (11.5.6) are core habitat.
Notechis scutatus	eastern tiger snake	Regional	5, 6	Disjunct; genetic diversity.
Paradelma orientalis	brigalow scaly-foot	Regional	3	Endemic, but widespread within BRB.
Phyllurus amnicola		State	3	Mount Elliot endemic.
Varanus semiremex	rusty monitor	Regional	9	Climate change risk - loss of mangroves.
Varanus varius	lace monitor	Regional	1	Taxa at risk in northern Brigalow Belt from mining/and clearing and potentially cane toads.
Bird				
Chthonicola sagittata	speckled warbler	Regional	1, 8	Declining habitat, indicator of habitat condition.

Scientific name	Common name	Significance	Eligibility value no.	Expert panel comments
Climacteris picumnus	brown treecreeper	Regional	1	In decline - intolerant of habitat fragmentation. RE polygons surrounding precise point records are potential habitat where the record habitat information given matches the mapped RE structure.
Melanodryas cucullata	hooded robin	Regional	1	In decline due to habitat loss. RE polygons surrounding precise point records are potential habitat where the record habitat information given matches the mapped RE structure.
Ninox connivens	barking owl	Regional	4	Riparian areas (11.3.25) along the major rivers in the BB are the stronghold of this species.
Mammal				
Lagorchestes conspicillatus	spectacled hare-wallaby	Regional	5, 6	Disjunct population with limited distribution and genetically diverse from those further north.
Perameles nasuta	long-nosed bandicoot	Regional	1	In decline; isolated pop in BBS. Potential habitat in specified REs in vicinity of Mt Hutton (11.8.1, 11.8.3, 11.9.4 and 11.9.4a, 11.9.4b) & Consuelo Tableland (11.8.1, 11.8.3).
Petaurus australis australis	yellow-bellied glider (southern subsp.)	Regional	8	Good indicator of hollow bearing trees (habitat condition).
Pseudomys patrius	eastern pebble-mouse	Regional	6	Disjunct population. Data deficient. Records from Carnarvon & Expedition National Parks. One record from alluvial soils in Maranoa showing that sometimes mounds aren't built around its holes.
Rattus sp. cf. *villosissimus/sordidus*	Central Highlands plague rat	Regional	1, 3	Undescribed taxon. Habitat overlaps cultivation and is poisoned out regularly.

General Note: Listed habitat associations should not be construed as a complete list of the habitat types in which a species may occur, rather, a subset of known associations based upon information provided by panel members.

3.2.3 Special fauna area decisions (Criterion I)

The fauna panel was asked to identify areas with special biodiversity values within the BRB bioregion under the BAMM supplementary Criterion I. Areas with special biodiversity value are important because they contain multiple taxa in unique ecological and often highly biodiverse environments. Values can include centres of endemism, wildlife refugia, disjunct populations, geographic limits of species distributions, high species richness, relictual populations, high densities of hollow-bearing trees and breeding sites. The full rationale for inclusion is described in section 2.3.2 (pg 12).

Using expert knowledge and available information (records, maps, GIS derived datasets), panel members discussed 35 areas (BRB south = 27 and BRB north = 8) and described their values. Of these areas 16 (BRB south = 10 and BRB north = 6) were implemented as fauna decisions. A number were combined with flora or other values to become landscape decisions. The special areas proposed by the panel are detailed in Table 12. Generally only EVNT and priority species are specified for each decision.

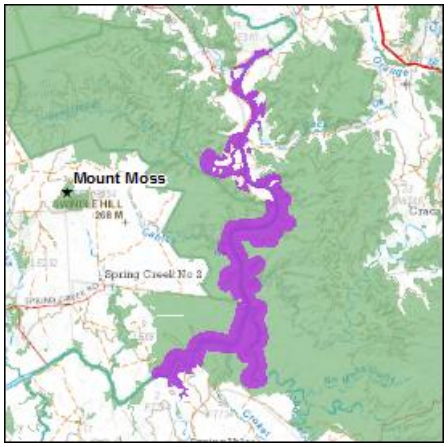
To ensure consistency and provide better integration with BPAs conducted across adjoining bioregions, special areas nominated during the course of non-BRB expert panels, however, which impact BRB remnant units, have been incorporated and are listed at the end of Table 12.

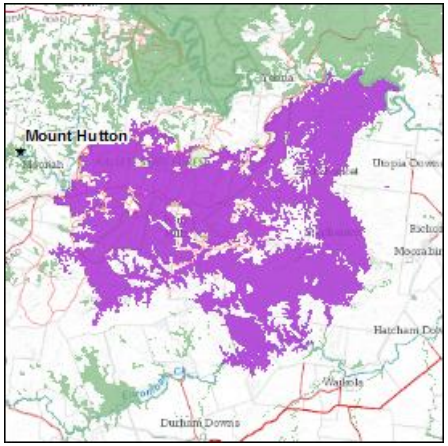
Table 12. Areas of special fauna biodiversity value (Criterion I)

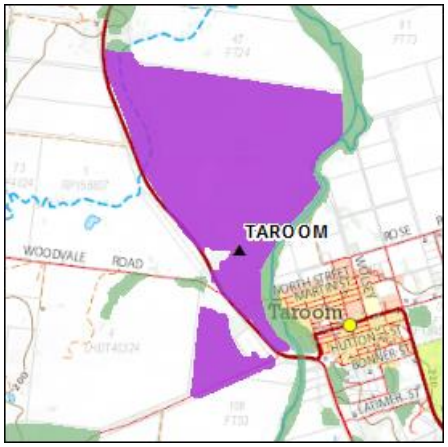
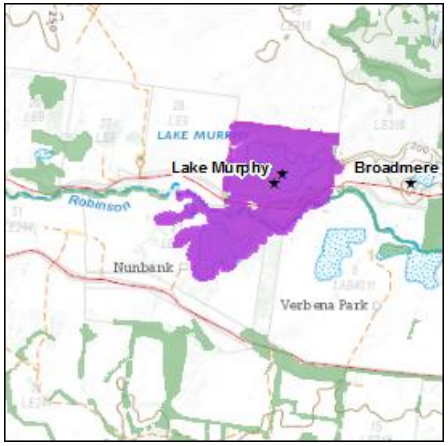
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
Brigalow Belt south decisions				
46	Sandstone ranges and gorges - Expedition, Isla Gorge, Precipice, and Palm Grove National Parks	NA	Converted to a landscape decision in version 2.1. Refer to brbs_l_40.	NA
47	Expedition National Park through to State Forest 44	NA	Decision incorporated within brbs_l_40.	NA
48	Carnarvon National Park, Mt Hope and Mt Moffatt	NA	Converted to a landscape decision in version 2.1. Refer to brbs_l_34.	NA
49	Blackdown Tableland	NA	Converted to a landscape decision in version 2.1. Refer to brbs_l_35.	NA
50	Mt Hutton Tract	NA	Converted to a landscape decision in version 2.1. Refer to brbs_l_39.	NA
51	Grafton Range	NA	Insufficient information to implement – to be revisited at subsequent panels.	NA
52	Southwood National Park Tract	NA	Converted to a landscape decision in version 2.1. Refer to brbs_l_36.	NA

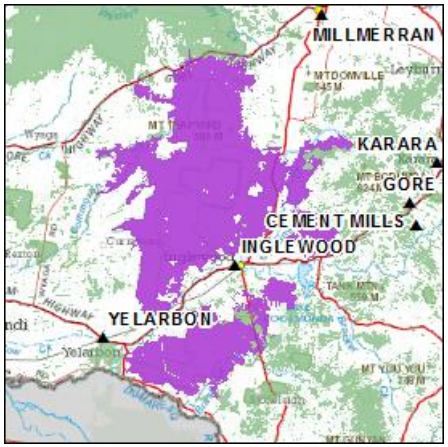
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_fa_53	Alton National Park and Ula Ula State Forest 	Regional	Alton National Park and the nearby Ula Ula State Forest, act as refuges in a surrounding heavily modified landscape and supports around 200 vertebrate taxa of which over 40 are reptiles (including a rich suite of 10 gecko species). Of the reptiles many occur as either disjunct populations (e.g. *Lucasium stenodactylum, Ctenotus pantherinus*) or at the edge of their distributional range (e.g. *Oedura cincta, Diplodactylus tessellatus* and *Rhynchoedura ormsbyi*). The area is also considered of importance for spinifex dependent fauna within the region. A number of species are considered at, or close to their distributional limit including the spotted pardalote *Pardalotus punctatus*, crested bellbird *Oreoica gutturalis*, yellow-faced honeyeater *Caligavis chrysops*, bar-shouldered dove *Geopelia humeralis*, black-striped wallaby *Macropus dorsalis*, scarlet-sided pobblebonk *Limnodynastes terraereginae* and *Menetia timlowi*. Several species of conservation significance (threatened or priority) have also been recorded from the area including the glossy black-cockatoo *Calyptorhynchus lathami*, squatter pigeon *Geophaps s. scripta*, koala *Phascolarctos cinereus*, rough collared frog Cyclorana verrucosa, yakka skink *Egernia rugosa* and eastern long-eared bat *Nyctophilus corbeni*. Some information from NPRSR (2013a).	Ib (refugia): H; Ic (disjunct populations): H; Id (range limits): H Ie (species richness): H;
54	Erringibba National Park Tract	NA	Decision implemented as a new landscape decision brbs_l_37.	NA
55	Lake Broadwater	NA	This decision was previously incorporated into brbs_l_23 (version 1.3 release), however brbs_l_23 was not implemented within version 2.1, as wetlands identified of State or National ecological significance are captured via Criterion B1 (i.e. captures all wetlands listed under the Directory of Important Wetlands).	NA
56	Lake Nuga Nuga	NA	Not implemented within version 2.1, as wetlands identified of State or National ecological significance are captured in Criterion B1 (i.e. captures all wetlands listed under the Directory of Important Wetlands). Terrestrial fauna values are captured under a new decision, refer to brbs_fa_72.	NA

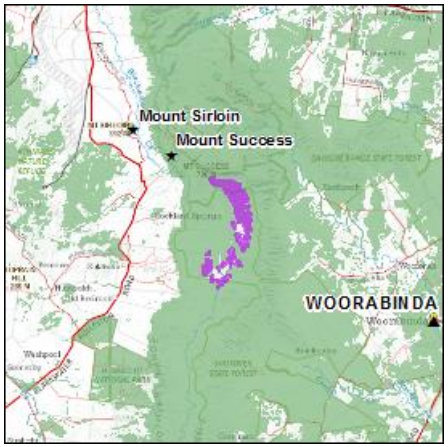
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
57	Grasslands in Eastern Darling Downs Subregion	NA	Implemented as part of a broader landscape decision brbs_l_41 which incorporates a previous flora decision brbs_fl_12 and a new nomination by the 2017 expert panel.	NA
58	Coominglah and Grevillea State Forests and Cania Gorge National Park Tract	NA	Decision implemented as a new landscape decision brbs_l_38.	NA
59	Cooby Dam	NA	Decision was not implemented in version 2.1 as the panel did not consider the dam to be of greater relative importance to similar bodies of water present within the region.	NA
brbs_fa_60	Coolmunda Dam 	Regional	The Coolmunda Dam, situated in the upper catchment of the Macintyre River, is a notable artificial water body, considered by the Panel to be of "Regional" ecological significance. Large expanses of shallow water are present which provide important habitat for waterbirds. Around 250 terrestrial vertebrate taxa have been recorded in the dam area with a diverse range of waterbird species (65 taxa). More than 30 taxa recorded during certain years as part of annual wader surveys. Similarly, a mean of approximately 5,000 individuals have been recorded during annual surveys, with a maximum of 18,659 waterbirds recorded in 1985 (Kingsford et al. 2013). Threatened taxa have included waterbirds, e.g. Australian painted snipe *Rostratula australis* and occasional migratory waders, e.g. bar-tailed godwit *Limosa lapponica* and eastern curlew *Numenius madagascariensis*. Birds that comprise the suite of declining woodland species are known from the surrounding vegetation - brown treecreeper *Climacteris picumnus*, speckled warbler *Chthonicola sagittata*, painted honeyeater *Grantiella picta* and hooded robin *Melanodryas cucullata*. Some information from Kingsford et al. (2013).	Ie (species richness): H Ih (artificial water body): H Ij (aggregation site): H

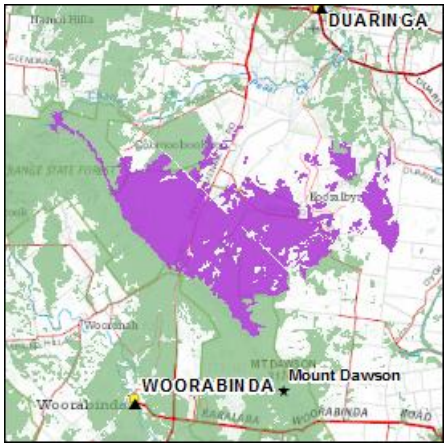
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_fa_61	Nathan Gorge 	Regional	Nathan Gorge is characterised by bluegum floodplain and fringing riverine riparian vegetation surrounded by steep sandstone cliffs and scarps and has little disturbance. Semi-evergreen vine thicket communities adjoin on rocky slopes in some areas (11.9.4). Boggomoss mound springs are present within the gorge environment and likely provide important breeding sites for frog species within the area. The gorge supports a rich terrestrial vertebrate diversity (240 taxa) with a distinct suite of the restricted fauna associated with rock outcrops and sandstone scarps, including Herbert's rock wallaby *Petrogale herberti*, common wallaroo *Macropus robustus* and the giant leaf-tailed gecko *Saltuarius salebrosus*. Within the gorge, the common sheath-tail bat *Taphozous troughtoni* eastern cave bat *Vespadelus troughtoni*, eastern horse-shoe bat *Rhinolophus megaphyllus* and large-footed myotis *Myotis macropus* are known to occur. Additionally, a number of species present within the area, are considered to occur at their distributional limit (southern spotted velvet gecko *Oedura tryoni*, emerald-spotted treefrog *Litoria peronii* and the striped marsh frog *Limnodynastes peronii*) (Venz et al. 2002). Priority taxa found in the gorge include frilled lizard *Chlamydosaurus kingii*, brigalow scaly-foot *Paradelma orientalis* and barking owl *Ninox connivens*.	Ib (refugia): M; Id (range limits): M; Ie (species richness): H
62	Consuelo Tablelands	NA	Previously implemented as brbs_l_1 in version 1.3, and in version 2.1 is now combined under brbs_l_34.	NA

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
63	Dawson Valley Wetlands	NA	Decision not implemented in version 2.1. Generic landscape decision relating to natural wetlands and their role as a wildlife refugia has been applied for both the north and south portions of the Brigalow Belt bioregion. State significant wetlands, are captured under Criterion B1. Note: The importance of specific aquatic values, dependences associated largely with aquatic species, ecosystem processes and other aquatic criteria are assessed in detail through application of the AquaBAMM - for further information relating to the AquaBAMM, refer to https://wetlandinfo.des.qld.gov.au/wetlands/assessment/assessment-methods/aca/	NA
brbs_fa_64	Pony Hill – Hallett and Stephenton State Forest 	Regional	Approximately 150 terrestrial vertebrate taxa recorded from area which includes several threatened (golden-tailed gecko *Strophurus taenicauda*, squatter pigeon *Geophaps s. scripta* and koala *Phascolarctos cinereus*).	Ie (species richness): M
65	Roma grassland reserves	NA	Discussed at the 2017 southern fauna panel. Values primarily related to the threatened Roma earless dragon *Tympanocryptis wilsoni* captured under Criterion A. Insufficient additional information to implement.	NA

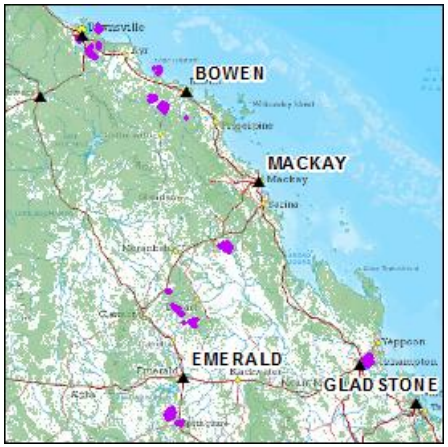
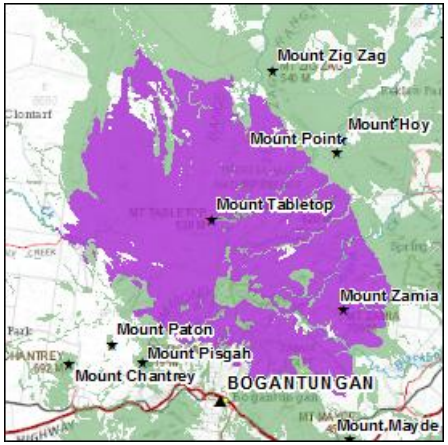
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_fa_66	Commons around Taroom 	Regional	A small representative area of *Eucalyptus coolabah* open woodland to woodland with a grassy understorey situated just NNW of the Taroom township. The coolabah's within the site are considered to support high densities of hollow bearing trees. The area is known to provide habitat for the greater glider *Petauroides volans* and the presence of Dunmall's snake *Furina dunmalli*, has also been recorded. While only 146 terrestrial vertebrate taxa recorded for the general area, the list includes both threatened (southern snapping turtle *Elseya albagula*, koala *Phascolarctos cinereus*) and priority taxa (brown treecreeper *Climacteris picumnus).*	Ie (species richness): M; Ii (hollow richness): H
brbs_fa_67	Lake Murphy Tract 	State	Red gum and coolabah woodlands fringe Lake Murphy and its neighbouring lacustrine waterbody to the south. Smaller areas of *Acacia harpophylla* are also present. The large number of old eucalypts and dead trees is indicative that clearing may not have occurred within the reserve bounds. As a result, the area supports high densities of hollows providing important roosting and nesting habitat. A number of threatened are present, including the powerful owl *Ninox strenua*, koala *Phascolarctos cinereus* and greater glider *Petauroides volans*. Taxa diversity for the area is considerable given the small area with nearly 250 terrestrial vertebrate taxa, although many are associated with the wetlands (15 frogs, 4 turtles and 44 waterbirds). Priority taxa listed include brigalow scaly-foot *Paradelma orientalis* and barking owl *Ninox connivens*. The area is also considered a stronghold for the Carnarvon fan palm *Livistona nitida*. Some information from NPSR (2015).	Ie (species richness): VH; Ii (hollow richness): VH

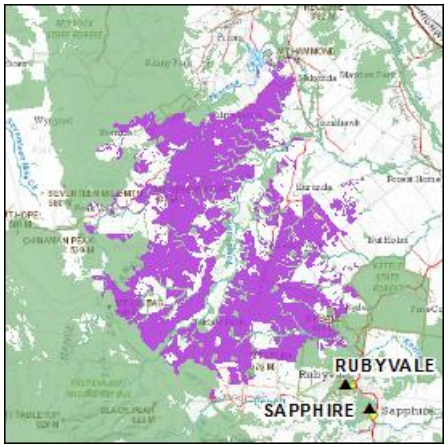
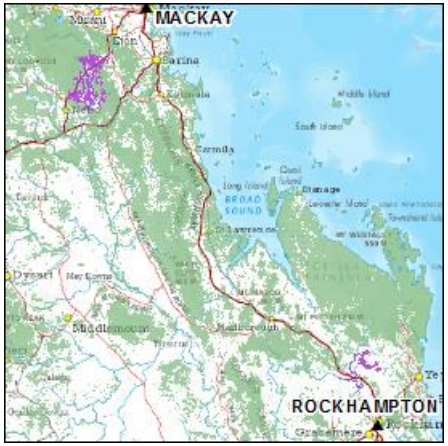
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
68	Auburn State Forest – High densities of hollow bearing trees	NA	Discussed at the 2017 southern fauna panel, however insufficient information to implement.	NA
brbs_fa_69	Yelarbon and Bringalily State Forest Tracts. 	State	Open eucalypt woodlands on either shallow soils (in areas of higher elevation) or sandy plains dominate. Diversity of terrestrial vertebrate taxa is very high with approximately 350 recorded. Among the threatened taxa known are Dunmall's snake *Furina dunmalli*, Major Mitchell's cockatoo *Lophochroa leadbeateri*, regent honeyeater *Anthochaera phrygia*, painted honeyeater *Grantiella picta*, spotted-tailed quoll *Dasyurus m. maculatus* and greater glider *Petauroides volans*. Priority taxa include both endemics such as brigalow scaly-foot *Paradelma orientalis*, and declining taxa, e.g. brown treecreeper *Climacteris picumnus*, speckled warbler *Chthonicola sagittata* and hooded robin *Melanodryas cucullata*.	Ie (species richness): VH

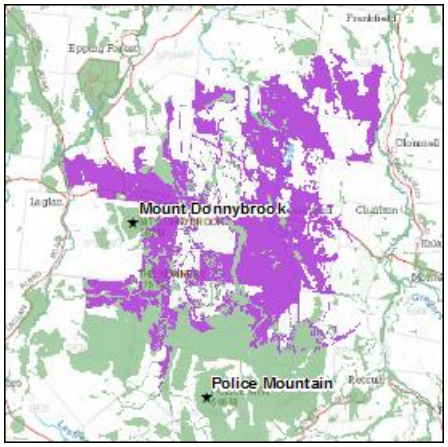
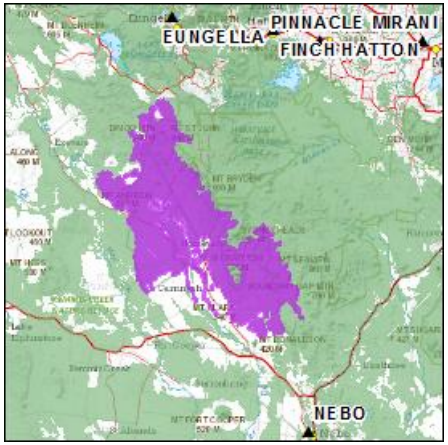
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_fa_70	Blue gum flats - Planet and Ballamoo Creeks 	Regional	Blue gum flats (11.3.4) associated with Planet and Ballamoo Creeks. The area depicted incorporates a large contiguous area adjoining Ballamoo Creek and smaller discontinuous patches to the south along Planet Creek. The tall open forests of Eucalyptus and Angophora are considered important in terms of hollow bearing trees and support substantial numbers and diversity of gliders (greater glider *Petauroides volans*, yellow-bellied glider *Petaurus australis*, sugar glider *P. breviceps* & squirrel glider *P. norfolcensis*) and owls (powerful owl *Ninox strenua* & barking owl *N. connivens*), as well as the koala *Phascolarctos cinereus*.	li (hollow richness): H

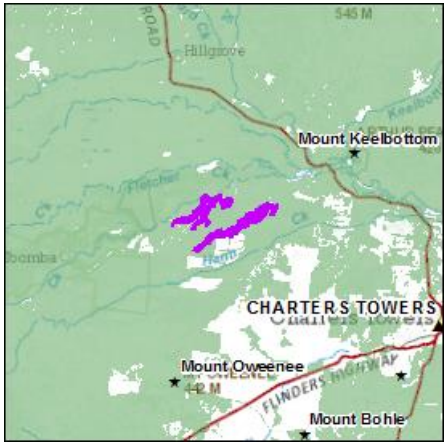
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_fa_71	Coomooboolaroo Station 	State	The pastoral property is a significant nature reference site where there has been long-term monitoring of Brigalow Belt avifauna. Detailed records for 1873-1933 (e.g. Barnard & Barnard 1925) have been contrasted with more recent surveys in the 1990's (Catterall & Woinarksi 2003; Woinarski & Catterall 2004). Overall nearly 250 bird taxa recorded for the locality (around 330 terrestrial vertebrate taxa). Historical changes in the avifauna illustrate the general pattern across the bioregion, with localised extinctions (18 taxa - e.g. paradise parrot *Psephotus pulcherrimus*, black-throated finch *Poephila c. cincta*) and considerable declines (68 taxa - e.g. black-breasted button-quail *Turnix melanogaster*, brown treecreeper *Climacteris picumnus*, speckled warbler *Chthonicola sagittata*, hooded robin *Melanodryas cucullata* and crested bellbird *Oreoica gutturalis*). Most declines are for dry rainforest inhabitants but others in woodland, grassland and wetlands. Changes attributed to clearing of native vegetation, altered fire regimes, grazing and impact of feral predators. Other threatened and priority taxa known from area include ornamental snake *Denisonia maculata*, koala *Phascolarctos cinereus*, spectacled hare-wallaby *Lagorchestes conspicillatus* and bridled nailtail wallaby *Onychogalea fraenata*. Some of these have also disappeared from the property over time.	Ie (species richness): VH

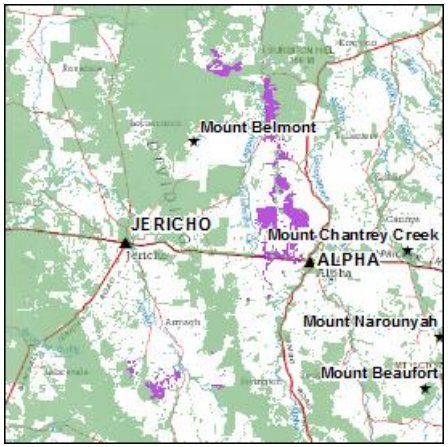
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_fa_72	Nuga Nuga National Park Tract 	Regional	The Nuga Nuga National Park tract adjoins the listed Directory of Important Wetland, Lake Nuga Nuga. The park has high species richness with nearly 250 terrestrial vertebrate taxa recorded, albeit almost 50 are waterbirds. Near southern range limit for threatened ornamental snake *Denisonia maculata*. Also contains good quality vine thicket and possible presence of northern quoll *Dasyurus hallucatus* and greater glider *Petauroides volans*.	Ie (species richness): H
Brigalow Belt north decisions				
01	Hollow bearing trees along Fitzroy north bank Yaamba	NA	Discussed at the 2017 panel. Insufficient information to implement.	Ii (hollow richness): H

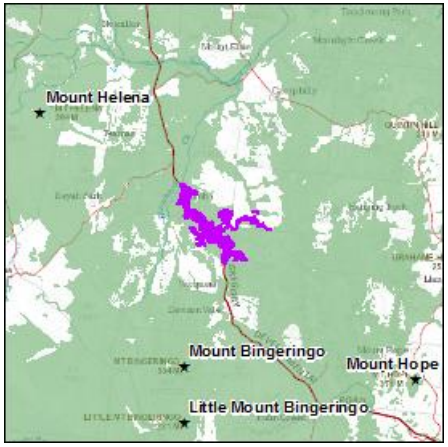
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_fa_02	Rainforest and vine thicket low vagility invertebrates 	Regional	Across the Brigalow Belt topographically isolated volcanic and limestone peaks harbour fragments of relictual rainforest-dry vine forest and associated wet sclerophyll vegetation. These disjunct habitats contain a rich land snail fauna (Stanisic 1999) including a range of endemics, e.g. *Fastosarion helenkingae, S. rawnesleyi* and *Steorra worsfoldi* (Mt Elliot), *Temporena juliafoxae* (Mt Abbot), *Offachloritis melaniecarlessae* and *Billordia bridgettae* (Peak Range), *Bentosites hefferani* (Mt Inkerman), and *Dimidarion minerva* (Minerva Hills). This pattern is likely to be repeated among other low vagility invertebrates. Areas specifically identified included: Mount Abbot, Mount Aberdeen, Mount Archer, Cape Upstart (whilst a lower altitude area compared to others, increased precipitation at the coastal interface), Roma Peaks (SW of Bowen), Mt Elliott, Cape Cleveland, Mount Stuart, Peak Range, and the series of volcanic hills just to the north of Springsure (inclusive of Minerva Hills). Although not topographically isolated, Dipperu National Park was also included.	Ia (endemic richness): VH; Ib (refugia): VH; Ie (species richness): H; Ik (climate change refugia): H; relevant to montane decisions (not Cape Upstart)
brbn_fa_03	Strike ridge country in Southern Drummond Basin - Pebbly Creek 	Regional	Pebbly Creek is part of a large tract of remnant vegetation at the southern end of the Zig Zag Range. The remnant ecosystems have high fauna habitat value for both threatened taxa, e.g. greater glider *Petauroides volans* & koala *Phascolarctos cinereus*, and priority taxa, e.g. brown treecreeper *Climacteris picumnus* and spectacled hare-wallaby *Lagorchestes conspicillatus.*	Ib (refugia): H

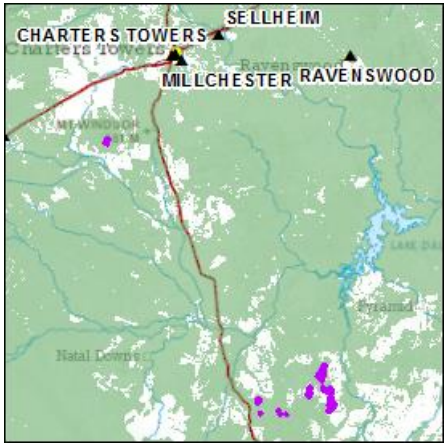
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_fa_04	Silver-leaved ironbark woodland on granite - Anakie Inlier subregion 	State	The largest connected remnant of silver-leaved ironbark woodland on granite (RE 11.12.2) is found in the area east of the Zig Zag Range between Kettle State Forest and Carbine State Forest. The area is considered an important refugia for the spectacled hare-wallaby *Lagorchestes conspicillatus* and is part of a larger core area centred on the Drummond Range. Other priority taxa known from the area include the suite of declining woodland birds (brown treecreeper *Climacteris picumnus*, speckled warbler *Chthonicola sagittata* and hooded robin *Melanodryas cucullata*) and several endemic reptiles (*Diporiphora phaeospinosa* and *Gehyra catenata*).	Ib (refugia): VH; K (condition): STATE
brbn_fa_05	Blue gum refugia 	State	Selected large relatively contiguous remnants of blue gum (11.3.4) along Alligator Creek and adjoining the Peak Downs Highway (between Eton and Nebo about 40 west of Sarina). These large remnants act as important refugia. A significant koala *Phascolarctos cinereus* population is present in the forest adjoining the Peak Downs Highway and which also provides habitat for woodland birds such as the brown treecreeper *Climacteris picumnus*.	Ib (refugia): VH

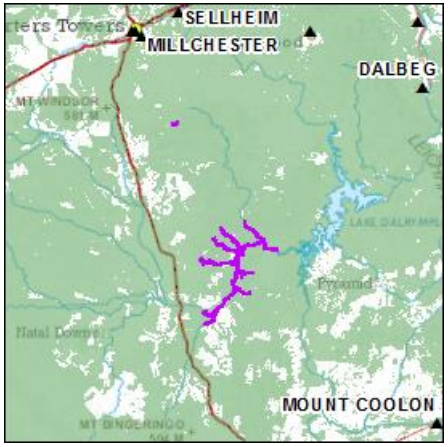
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_fa_06	St. Albans / Beresford holdings 	State	The largest and relatively contiguous area of 11.5.3 (silver-leaved ironbark/poplar box woodlands) is centred on neighbouring properties Saint Albans and Beresford southeast from Epping Forest National Park. The area has high fauna habitat value and is considered a State significant wildlife refuge. Threatened reptiles (yakka skink *Egernia rugosa* & ornamental snake *Denisonia maculata*) are known from the area as are several priority taxa (frilled lizard *Chlamydosaurus kingii*, brown treecreeper *Climacteris picumnus* & spectacled hare-wallaby *Lagorchestes conspicillatus*).	Ib (refugia): VH
brbn_fa_07	Homevale protected area estate 	State	Exhibits a unique ecological gradient between Brigalow Belt and Central Queensland Coast bioregions. Eucalypt and spotted gum woodlands/open forests dominate with areas of semi-evergreen vine thicket, notophyll rainforest and brigalow also present. About 300 terrestrial vertebrate taxa have been recorded in the area. This total includes at least eight threatened such as Australasian bittern *Botaurus poiciloptilus*, glossy black-cockatoo *Calyptorhynchus lathami*, northern quoll *Dasyurus hallucatus*, koala *Phascolarctos cinereus* and greater glider *Petauroides volans*. Priority taxa present include barking owl *Ninox connivens* and eastern pebble-mouse *Pseudomys patrius*. Area contains a high species variation in land snails, including a significant number of as yet undescribed taxa endemic to the vine-thicket/rainforest in gullies of the scarps. Given the restricted distribution of the snails and their rainforest habitat, the area could also be considered a climate change refuge.	Ia (endemic richness): H; Ie (species richness): VH; Ig (species variation): H; Ik (climate change refuge): H
08	Belmah Resource Reserve	NA	Not implemented due to lack of supporting information.	NA

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
Adjoining bioregion decisions (not reviewed by the 2018 expert panel) *Nb. for the following non-Brigalow Belt BPA decisions, only affected Brigalow Belt assessment units are depicted in the images below.*				
deu_fa_05	The special biodiversity value of occurrences of 10.3.6 is very high in areas: With very high condition rating; Within or directly adjacent to significant wetlands; or With a D2 rating of very high (largest examples of this RE in the subregion.  	State	Values: Very high species richness for all taxa. Very high species richness for priority and threatened species. Complex, well-formed woodlands with many hollow-bearing trees of high fertility is one of the most significant habitats for fauna in the DEU bioregion. Refugial habitat for woodland species in areas where clearing is extensive, and important habitat for bird species, many of which have declined further south. Biogeographically significant habitat as it allows inland incursions of many east coast and south-east species into the semi-arid zone which are on edge of their geographic range. The fauna includes species from a variety of neighbouring bioregions to the north (EIU), east (BRB) and west (MGD). Occurrences of this RE in the Alice Tableland form part of a biogeographically significant landscape, which represents a substantial area of species turnover, refuge and disjunction. Being associated with the Great Dividing Range, this area forms continuous north-south woodland corridor. Species: *Poephila cincta cincta*, black-throated finch; *Chalinolobus picatus*, little pied bat; *Climacteris picumnus*, brown tree-creeper; *Emblema pictum*, painted finch; *Geophaps scripta scripta*, squatter pigeon.	Ib (refugia): VH; Ic (disjunct populations): H; Id (range limits): H Ie (species richness): VH; Ii (hollow richness): VH;

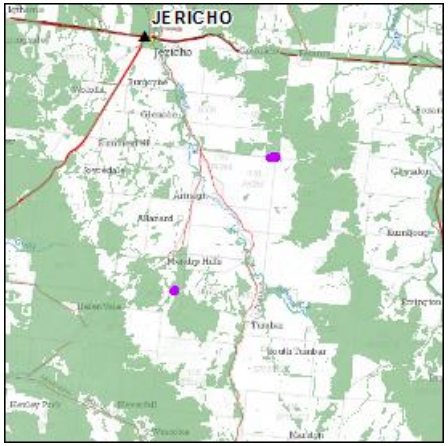
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
deu_fa_10	The special biodiversity value of occurrences of 10.5.5 is very high in areas: With very high condition rating; Within or directly adjacent to significant wetlands; or With a D2 rating of very high (largest examples of this RE in the subregion). 	State	Values: Very high species richness for all taxa. Very high species richness for priority and threatened species. Complex, well-formed woodlands with many hollow-bearing trees of high fertility is one of the most significant habitats for fauna in the DEU bioregion. Refugial habitat for woodland species in areas where clearing is extensive, and important habitat for bird species, many of which have declined further south. Biogeographically significant habitat as it allows inland incursions of many east coast species into the semi-arid zone which are on edge of their geographic range. Species: *Ctenotus capricorni*, *Capricorn ctenotus*; *Ephippiorhynchus asiaticus*, black-necked stork;*Geophaps scripta scripta*, squatter pigeon; *Heteromunia pectoralis*, pictorella mannikin; *Lewinia pectoralis*, Lewin's rail; *Lophoictinia isura*, square-tailed kite; *Melithreptus gularis*, black-chinned honeyeater; *Poephila cincta cincta*, black-throated finch; *Rostratula australis*, Australian painted snipe; *Aepyprymnus rufescens*, rufous bettong; *Climacteris picumnus*, brown tree-creeper; *Diplodactylus vittatus*, wood gecko; *Lagorchestes conspicillatus*, spectacled hare-wallaby; *Lichenostomus leucotis*, white-eared honeyeater; *Petroica goodenovii*, red-capped robin; *Climacteris picumnus*, brown tree-creeper; *Pseudomys desertor*, desert mouse.	Ib (refugia): VH; Ic (disjunct populations): H; Id (range limits): H Ie (species richness): VH; Ii (hollow richness): VH;

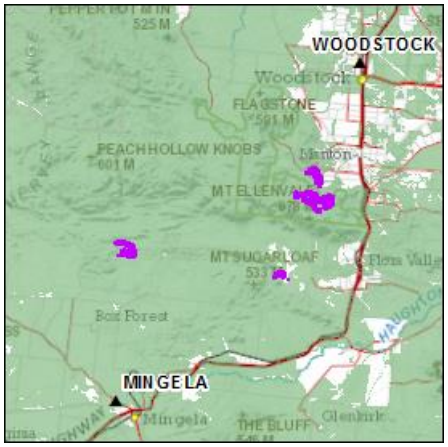
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
deu_fa_11	The special biodiversity value of all occurrences of 10.7.1a and b, and 10.7.10 and 10.7.11 is high.  	Regional	Values: High species richness for reptiles. High species richness for priority species. Habitat of low fertility and lesser grazing pressure that is refugial for woodland species in areas that are surrounded by mosaics of grasslands and clearing. Dense, extensive spinifex groundcover a significant feature that provides important habitat for a range of priority terrestrial species. Biogeographically significant habitat on the edge of the MGD bioregion/arid inland with many disjunct spp, and others on the edge of their geographic range. Species: *Poephila cincta cincta*, black-throated finch; *Grantiella picta*, painted honeyeater; *Falco hypoleucos*, grey falcon; *Lophoictinia isura*, square-tailed kite; *Melithreptus gularis*, black-chinned honeyeater; *Acanthiza pusilla*, brown thornbill; *Climacteris picumnus*, brown tree-creeper; *Egernia stokesii*, gidgee skink; *Lagorchestes conspicillatus*, spectacled hare-wallaby; *Melanodryas cucullata*, hooded robin; *Petroica goodenovii*, red-capped robin; *Pomatostomus temporalis*, grey-crowned babbler.	Id (range limits): H Ie (species richness): H;

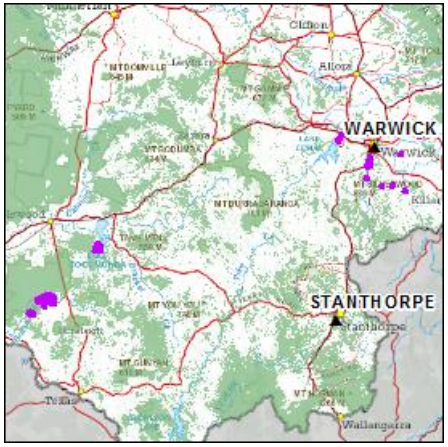
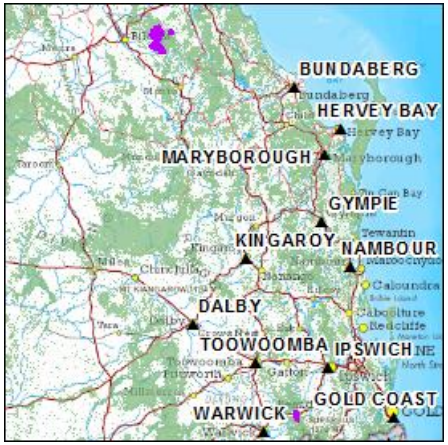
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
deu_fa_13	The special biodiversity value of occurrences of 10.7.3 mapped in the 'sandstone ranges and escarpments' coverage as mentioned in The conservation of biodiversity in the Desert Uplands (Morgan et al. 2002) section 4.2.6 Areas of greatest significance for the conservation of faunal biodiversity, is very high.  	State	Values: High species richness for mammals. High species richness for priority species. The sandstone ranges, escarpments and cave habitats are of limited areal extent in the DEU bioregion, but many species are specialised to these environments, being associated with bare stony ground, the mesic gorges or the caves and crevices in the sandstone rock. These habitats are refugial and support disjunct species. The caves and escarpment provide significant roosting habitat for many bats species including significant species as well as roosts for owls in environments that may not otherwise have tall hollow-bearing trees. Species: *Chalinolobus picatus*, little pied bat; *Diplodactylus vittatus*, wood gecko; *Lagorchestes conspicillatus*, spectacled hare-wallaby; *Lichenostomus leucotis*, white-eared honeyeater; *Petroica goodenovii*, red-capped robin.	Ib (refugia): VH; Ic (disjunct populations): VH; Id (range limits): VH Ie (species richness): H; Ij (aggregation site): VH;

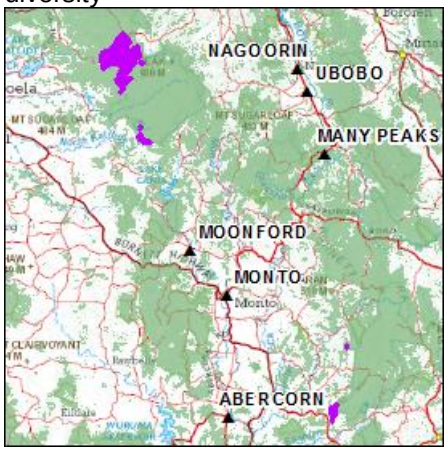
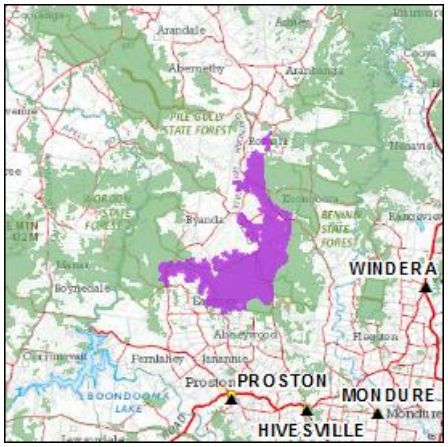
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
deu_fa_17	The special biodiversity value of all occurrences of 10.3.13 and 10.3.14 River red gum is very high. 	State	Values: Very high species richness for birds, high for frogs and mammals. Very high species richness for threatened species, and high for priority species. Significant refugial and corridor habitat specifically in subregion 3 where the clearing is moderately extensive. These mesic ribbons of habitat provide an important seasonal refuge and resources for a variety of species, in particular arboreal mammals, woodland birds, hollow-roosting species and amphibians. Many raptor species preferentially nest in tall riparian trees. Species: *Poephila cincta cincta*, black-throated finch; *Erythrura gouldiae*, gouldian finch; *Rostratula australis*, Australian painted snipe; *Grantiella picta*, painted honeyeater; *Calyptorhynchus lathami*, glossy black cockatoo; *Ephippiorhynchus asiaticus*, black-necked stork; *Falco hypoleucos*, grey falcon; *Lophoictinia isura*, square-tailed kite; *Nettapus coromandelianus*, cotton pygmy goose; *Stictonetta naevosa*, freckled duck; *Lerista wilkinsi*, two-toed fine-lined slider; *Aepyprymnus rufescens*, rufous bettong.	Ib (refugia): VH; Ie (species richness): H; Ii (hollow richness): VH;

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
deu_fa_19	The special biodiversity value of occurrences of 10.3.27 Poplar box is very high in areas: With very high condition rating; Within or directly adjacent to significant wetlands; or With a D2 rating of very high (largest examples of this RE in the subregion  	State	Values: High species richness for birds, frogs and reptiles. Very high species richness for priority species. Complex, well-formed woodlands with many hollow-bearing trees of high fertility is one of the most significant habitats for fauna in the DEU bioregion. Refugial habitat for woodland species in areas where clearing is extensive, and important habitat for bird species, many of which have declined further south. Biogeographically significant habitat as it allows inland incursions of many east coast species into the semi-arid zone which are on edge of their geographic range. Species: *Lophoictinia isura*, square-tailed kite; *Melithreptus gularis*, black-chinned honeyeater; *Aepyprymnus rufescens*, rufous bettong; *Burhinus grallarius*, bush stone-curlew; *Chthonicola sagittata*, speckled warbler; *Climacteris picumnus*, brown treecreeper; *Melanodryas cucullata*, hooded robin; *Petroica goodenovii*, red-capped robin; *Pomatostomus temporalis*, grey-crowned babbler; *Pseudomys desertor*, desert mouse.	Ib (refugia): VH; Id (range limits): H Ie (species richness): H; Ii (hollow richness): VH;

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
deu_fa_20	The special biodiversity value of occurrences of 10.3.28 alluvials (narrow-leaf ironbark and silver-leaf ironbark) is very high in areas: With very high condition rating; Within or directly adjacent to significant wetlands; or With a D2 rating of very high (largest examples of this RE in the subregion. 	State	Values: High species richness for reptiles, frogs and mammals, very high for birds. Very high species richness for priority and threatened species. Complex, well-formed woodlands with many hollow-bearing trees of high fertility is one of the most significant habitats for fauna in the DEU bioregion. Refugial habitat for woodland species in areas where clearing is extensive, and important habitat for bird species, many of which have declined further south. Biogeographically significant habitat as it allows inland incursions of many east coast species into the semi-arid zone which are on edge of their geographic range. Species: *Geophaps scripta scripta*, squatter pigeon.	Ib (refugia): VH; Ic (disjunct populations): H; Id (range limits): H Ie (species richness): VH; Ii (hollow richness): VH;

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
eiu_fa_22	Limestone karsts 	State	This covers limestone outcrops across the bioregion. The outcrops and the associated caves are an important refugia or breeding site for many species. The specialised habitats associated with the limestone outcrops and caves support endemic fauna, including obligate cave-dwellers such as relictual stygofauna and other troglomorphic species, as well as other invertebrate species. Numerous bat species roost and breed in the caves, including the eastern bent-wing bat (*Miniopterus schreibersii*), the little bent-wing bat (*Miniopterus australis*), the eastern cave bat (*Vespadelus troughtoni*), the common sheathtail bat (*Taphozous troughtoni*), the eastern horseshoe-bat (*Rhinolophus megaphyllus*), the eastern dusky leaf-nosed bat (*Hipposideros ater aruensis*) and the diadem leaf-nosed bat (*Hipposideros diadema*). Area includes 500m buffer from the limestone outcrop.	Ia (endemic richness): H; Ib (refugia): VH; Ic (disjunct populations): VH; Id (range limits): H Ie (species richness): VH; Ij (aggregation site): VH;
eiu_fa_24	Eastern ecotone 	State	The Eastern ecotone of the Einasleigh Uplands is a band of eucalypt forest separating the rainforest of the Wet Tropics from the dry tropical woodlands that characterize the bioregion. These better developed forests support a number of species that are endemic to the ecotone, or are isolated populations of species more widely distributed in the wet sclerophyll forest of south-east Queensland. These species include the northern bettong (*Bettongia tropica*), eastern yellow robin (*Eopsaltria australis*), yellow thornbill (*Acanthiza nana*), greater glider (*Petauroides volans*), Squirrel glider (*Petaurus norfolcensis*), crested shrike-tit (*Falcunculus frontatus*) and the yellow-faced honeyeater (*Lichenostomus chrysops*). Disjunct tree species that have the major part of their North Queensland distribution in the ecotone include *Eucalyptus resinifera*, *E. pellita*, *E. grandis*, *E. moluccana*, *E. reducta*, *E. cloeziana*, *E. citriodora* and *Angophora floribunda*.	Ia (endemic richness): H; Ib (refugia): VH; Ic (disjunct populations): VH; Id (range limits): VH Ie (species richness): VH; Ii (hollow richness): VH; Ij (aggregation site): VH;

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
net_fa_6	White box (*Eucalyptus albens*), yellow box (*Eucalyptus melliodora*), mugga ironbark (*Eucalyptus sideroxylon*) 	Regional	White Box, Yellow Box and Mugga Ironbark support nectar-eating animals, leaf-gleaners, bark-feeders and also create suitable hollows for nesting. Yellow Box regenerates vigorously. REs for *E. melliodora* include 13.3.4, 13.11.8, 13.12.8; *E. sideroxylon* 13.11.5; *E. albens* 11.8.8.	Ib (refugia): H; Ie (species richness): H; Ii (hollow richness): H;
seq_fa_07	Forested Estates with high vertebrate endemism 	Regional	Forested areas assessed as being centres of vertebrate endemism. Based on CRA analysis (McFarland 1998) and subsequent recommendations by expert panel, e.g. Noosa, Springbrook and Kroombit Tops (Kroombit tinkerfrog *Taudactylus pleione*, Kroombit Tops treefrog *Litoria kroombitensis*, silver-headed antechinus *Antechinus argentus*, *Euastacus monteithorum* and various other invertebrates - Hines 2014) National Parks, and Oakview National Park and State Forest (Oakview leaf-tailed gecko *Phyllurus kabikabi*, Nangur skink *Nangura spinosa*).	Ia (endemic richness): H;

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
seq_fa_09	Forested Estates with high vertebrate diversity 	Regional	Forested areas assessed as being centres of vertebrate diversity. Based on CRA analysis (McFarland 1998) and subsequent recommendations by expert panel, e.g. Karawatha Forest (high frog and raptor diversity), Noosa National Park and parts of Eurimbula National Park. Several areas, e.g. Fraser Island-Cooloola, Scenic Rim and Conondales recognised as Important Bird Areas being key sites for bird conservation (Dutson et al. 2009).	Ie (species richness): H;
seq_fa_19	Barambah Gorge tract 	Regional	Area is a large remnant in good condition (relatively undisturbed due to rugged nature and limited access) providing habitat for red goshawk *Erythrotriorchis radiatus*, platypus *Ornithorhynchus anatinus* and eastern pebble-mound mouse *Pseudomys patrius*. Catchment protection for Queensland lungfish *Neoceratodus forsteri* habitat below gorge proper. Also an important nesting habitat for southern snapping turtle *Elseya albagula*.	Ib (refugia): H;

1 - VH = Very High, H = High, M = Medium. For more details on the values see section 2.3.2 (pg 12).

3.3 Landscape

Specific recommendations from the landscape panel are recorded in several tables in the following sections.

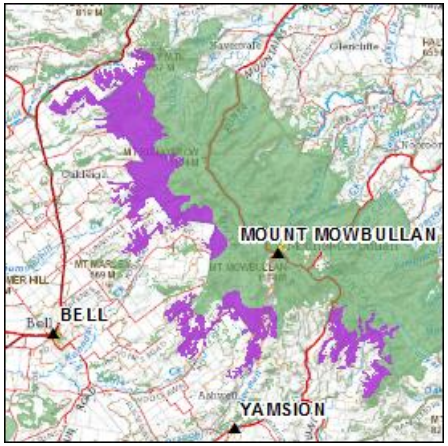
3.3.1 Special landscape decisions (Criterion I)

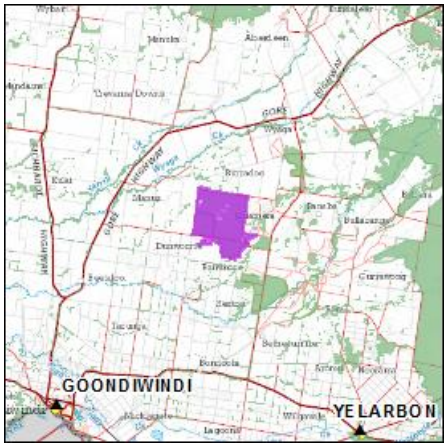
The panel reviewed existing landscape special areas nominated by previous panels, as well as identified new areas which met the eligibility criteria (section 2.3.2 (pg 12)). Selected decisions nominated by flora and fauna panels were also reviewed and consolidated into broader landscape decisions. Panel comments and recommendations relating to these landscapes of special biodiversity value are outlined in Table 13. Generally only EVNT and priority taxa are specified in the decisions where relevant.

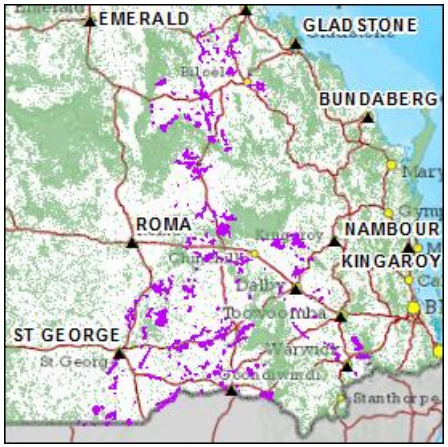
Of the 135 decisions examined 64 were implemented (BRB south - 41 described/26 implemented and BRB north - 94 described/38 implemented).

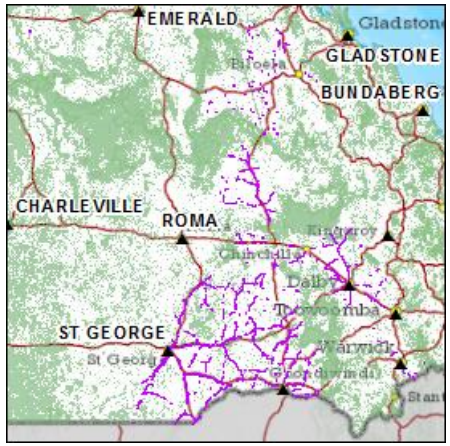
To ensure consistency, and provide better integration with BPAs conducted across adjoining bioregions, special areas nominated during the course of non-BRB expert panels and which impact BRB remnant units, have been incorporated and are listed at the end of Table 13.

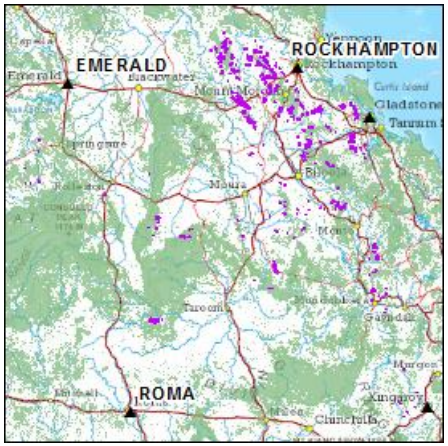
Table 13. Areas of special landscape biodiversity value (Criterion I)

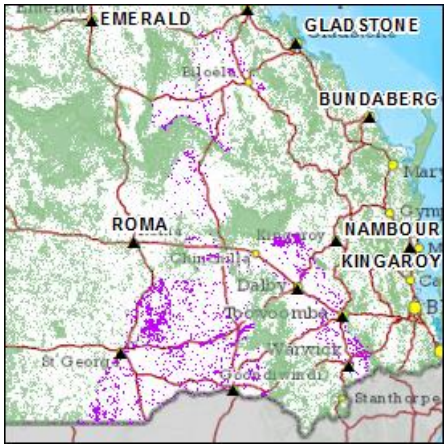
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
Brigalow Belt south decisions				
1	Consuelo Tableland	NA	Decisions brbs_l_1 and brbs_fa_48 were combined and implemented as a new decision brbs_l_34.	NA
brbs_l_02	Bunya Mountains 	State	Topographically isolated vegetation with high ecosystem diversity that straddles the Brigalow Belt and Southeast Queensland bioregions. The area is a refuge from the extensive clearing that has occurred outside the park and will likely act as a refugia from climate change. Over 30 species of threatened or near threatened taxa have been recorded, including the endemic grass *Bothriochloa bunyensis*, black-breasted button-quail *Turnix melanogaster*, golden-tailed gecko *Strophurus taenicauda* and Bunya sunskink *Lampropholis colossus*, as well as disjunct populations of *Cryptocarya floydii, Haloragis exalata* subsp. *velutina* and *Pomaderris aspera*. Greater than 300 terrestrial vertebrate taxa recorded for the area. Considered part of Important Bird Area (Dutson et al. 2009) and mesotherm archipelago (Nix 1986). Priority fauna taxa recorded include eastern tiger snake *Notechis scutatus*, brown treecreeper *Climacteris picumnus*, speckled warbler *Chthonicola sagittata* and long-nosed bandicoot *Perameles nasuta*. The area mapped for this BPA includes only Brigalow Belt regional ecosystems.	Ib (refugia): VH; Ic (disjunct populations): M; Ie (species richness): H; Ik: (climate change refuge): VH

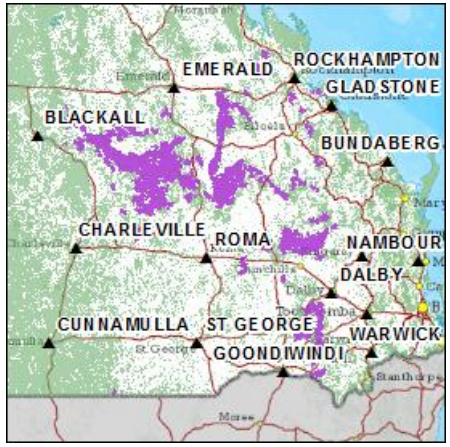
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_l_03	Bendidee National Park and State Forest 	Regional	A significant area of remnant vegetation situated within a landscape that has been highly cleared. Ecosystems include brigalow/belah, ironbark/callitris pine and box woodlands. Presence of threatened taxa such as *Homopholis belsonii*, bulloak jewel *Hypochrysops piceatus*, grey snake *Hemiaspis damelii* and glossy black-cockatoo *Calyptorhynchus lathami*. Also several priority fauna taxa - sapphire azure *Ogyris aenone*, rough-collared frog *Cyclorana verrucosa*, *Delma inornata*, brigalow scaly-foot *Paradelma orientalis* and speckled warbler *Chthonicola sagittata*.	Ib: (refugia): H
4	Onkaparinka, south east of Nathan Gorge	NA	Implemented as part of brbs_l_40.	NA

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_l_08	Relictual subregions - largest remaining examples of each regional ecosystem in a subregion. 	State	A summary of research on landscape thresholds for remnant vegetation is provided by James & Saunders (2001). The evidence suggests that once remnant vegetation falls below 30%, there are significant declines in biodiversity. Relictual subregions (less than 30% remnant vegetation remaining) for the Brigalow Belt include the Upper Belyando Flood out (11.8), Isaac - Comet Downs (11.11), Callide Creek Downs (11.19), Dawson River Downs (11.21), Taroom Downs (11.25), Dulacca Downs (11.28), Weribone High (11.29), Tara Downs (11.30), Eastern Darling Downs (11.31), Moonie R. - Commoron Creek Floodout (11.33), Moonie - Barwon Interfluve (11.34), Warrambool - Moonie (11.35), Macintyre - Weir Fan (11.36), Narrandool (11.38). The largest remaining examples of each regional ecosystem in a subregion represent important refuges from clearing in these fragmented landscapes. Refer to brbn_l_87 for the northern BRB implementation of this decision.	Ib (refugia): VH

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_l_09	Relictual subregions – stock-routes and associated reserves 	State	A summary of research on landscape thresholds for remnant vegetation is provided by James & Saunders (2001). The evidence suggests that once remnant vegetation falls below 30%, there are significant declines in biodiversity. The following subregions have less than 30% remnant vegetation in the southern Brigalow Belt: Relictual subregions (less than 30% remnant vegetation remaining) for the Brigalow Belt include; Upper Belyando Flood out (11.8), Isaac - Comet Downs (11.11), Callide Creek Downs (11.19), Dawson River Downs (11.21), Taroom Downs (11.25), Dulacca Downs (11.28), Weribone High (11.29), Tara Downs (11.30), Eastern Darling Downs (11.31), Moonie R. - Commoron Creek Floodout (11.33), Moonie - Barwon Interfluve (11.34), Warrambool - Moonie (11.35), Macintyre - Weir Fan (11.36), Narrandool (11.38). Stock-routes and associated camping and water reserves provide critical connectivity in a fragmented landscape. They also offer opportunities to restore habitat and connectivity in highly cleared landscapes. Refer to brbn_l_88 for the northern BRB implementation of this decision.	Ib (refugia): VH
11	BRBS non-remnant semi evergreen vine thicket	NA	Decision not implemented in version 2.1 – the areas identified by the previous panel in the version 1.3 release were reviewed against the version 10 release of Queensland Herbariums Remnant Vegetation Mapping and recent aerial photography. It was determined that they had either returned to remnant status, or had been subject to further disturbance and hence were not re-implemented.	NA

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_l_12	BRBS remnant semi evergreen vine thicket 	State	Vine-thickets have high flora species diversity and provide habitat for endemic fauna such as land snails and insects. The Brigalow Belt vine-thickets are considered a dynamic ecosystem, adapted to the prevailing sub-humid conditions and having their own distinctive suite of species. The Grafton Range has probably functioned as a “refuge” in the local regional context due to its altitude as it contains several semi evergreen vine thicket (SEVT) species that are absent or very uncommon in the SEVT of surrounding areas. The same would be true of the Mt Hutton area. Remnant SEVT communities (11.2.3, 11.3.11, 11.4.1, 11.5.15, 11.8.3, 11.8.6, 11.8.13, 11.9.4, 11.9.8 and 11.11.18) which reflect the listed nationally threatened ecological community are captured under the Criterion B1. Other Brigalow Belt SEVT regional ecosystems which are not listed under the nationally threatened ecological community include 11.10.8, 11.11.5, 11.11.21, 11.11.24 and 11.12.7. This decision captures those regional ecosystems not listed as threatened ecological communities as they also represent refuges from clearing and have similar ecological value to those that are. Refer to brbn_l_47 for the northern BRB implementation of this decision.	Ia (endemic richness): VH; Ib (wildlife refuge): VH; Ig (ecosystem variation): VH

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_l_15	Relictual subregions (less than 30% remnant vegetation) – remnant vegetation 	Regional	A summary of research on landscape thresholds for remnant vegetation is provided by James & Saunders (2001). The evidence suggests that once remnant vegetation falls below 30%, there are significant declines in biodiversity. The following subregions have less than 30% remnant vegetation in the southern Brigalow Belt: Relictual subregions (less than 30% remnant vegetation remaining) for the Brigalow Belt include; Upper Belyando Flood out (11.8), Isaac - Comet Downs (11.11), Callide Creek Downs (11.19), Dawson River Downs (11.21), Taroom Downs (11.25), Dulacca Downs (11.28), Weribone High (11.29), Tara Downs (11.30), Eastern Darling Downs (11.31), Moonie R. - Commoron Creek Floodout (11.33), Moonie - Barwon Interfluve (11.34), Warrambool - Moonie (11.35), Macintyre - Weir Fan (11.36), Narrandool (11.38). Remnant vegetation provides a refuge from clearing in fragmented subregions and should be retained to maintain biodiversity. Refer to brbn_l_89 for the northern BRB implementation of this decision.	Ib (refugia): H

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_l_16	Core areas  	State	Tracts are defined as patches of continuous remnant vegetation. The size of any tract is a major indicator of ecological significance and is strongly correlated with the long-term viability of biodiversity values. Larger tracts are less susceptible to ecological edge effects and are more likely to sustain viable populations of native flora and fauna than smaller tracts. These areas can be considered core nodes/refugia in which a large proportion of the bioregions biodiversity is represented. A modified tract size analysis (Criterion C) (EHP 2014) was used to identify and delineate discrete tracts of remnant vegetation at a bioregion scale. For the purpose of the assessment, a core area was identified as a relatively contiguous area of remnant vegetation (disregarding small perforations, or linear breaks) and which was generally greater than 5km in width (based upon the minimum width of the terrestrial corridor network). Tracts of greater than 10,000ha were included. Refer to brbn_l_83 for the northern BRB implementation of this decision.	Ib (refugia): VH
brbs_l_17	Terrestrial Bioregional Corridors *Refer to Figures 4-6*	State or Regional	Maintaining connectivity across a landscape, either through "continuous linkages" or via “stepping-stones” of remnant vegetation, is important for the long-term conservation of biodiversity. The panel agreed that corridor triggered remnant vegetation in version 2.1 of the Brigalow Belt BPA would focus upon identifying key connections between remaining core tracts/nodes (as identified under the special area decisions brbs_l_16 and brbn_l_83) within the bioregion. For further information regarding the broad principles and intent, as well as more specific information relating to the Brigalow Belt terrestrial corridor network, refer to Section 3.3.2.1 (pg 169) and Table 14 in this report. Refer to brbn_l_17 for the northern BRB implementation of this decision.	J (terrestrial corridor): STATE or J (terrestrial corridor): REGIONAL

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_l_18	Riparian Corridors *Refer to Figures 4-6*	State or Regional	Riparian corridors encompass some of the most diverse, dynamic and complex habitats incorporating both environmental and topographic gradients. Comparatively, such areas tend to exhibit high species richness with respect to both flora and fauna, provide important resources in terms of water, food, shelter, nesting and nursery sites and act as a refugia during periods of drought, or in response to longer terms impacts associated with climatic change. At the landscape scale, networks of major and minor riparian linkages are a significant element of habitat continuity and provide important migratory and dispersal pathways for a substantial number of species (especially birds, insects and flora, but also for many arboreal mammals and reptiles). In some areas of fragmented landscapes, watercourses often provide the only remaining habitat connectivity due to the extensive clearing and surrounding modified landscape. Within the Brigalow Belt bioregion, the panel determined that remnant vegetation within 200m and 100m of major and minor waterways should be designated as being of State and Regional significance respectively. For further information regarding the broad principles and intent, as well as more specific information relating to the Brigalow Belt riparian corridor network, refer to Section 3.3.2.2 (pg 178) in this report. Refer to brbn_l_18 for the northern BRB implementation of this decision.	J (riparian corridor): STATE or J (riparian corridor): REGIONAL

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_l_20	Artesian Springs 	State	Artesian springs are a rare and unique ecosystem type that represent permanent wetlands in areas subject to drought. They provide habitat for endemic species of plants and invertebrates. Examples of vascular plant species endemic to spring wetlands include *Eragrostis carsonii*, *Fimbristylis blakei* and *Myriophyllum artesium*. Examples of notable spring complexes include those found in the Taroom area (termed boggomosses – Fensham 1998) which are known to contain threatened plant species, e.g. *Arthraxon hispidus*, and disjunct populations of plants, e.g. *Leptospermum juniperinum* and *Salomonia ciliata*. Also present are two species of endemic snail (*Elsothera hewittorum* and *Adclarkia dawsonensis*), with the latter being critically endangered and a high diversity of spiders. Cox & Barron (1998) provides a detailed summary of spring values.	Ia (endemic richness): VH; Ib (refugia): VH; Ic (disjunct populations): H; Id (range limits): H; Ig (ecosystem variation): VH
21	Boggomoss areas near Taroom	NA	Incorporated in brbs_l_20.	NA
22	Very High Conservation Value wetlands – Palm Tree Creek.	NA	Not implemented. Captured under diagnostic Criterion B1 (Directory of Important Wetlands.)	NA
23	Very High Conservation Value wetlands – Lake Broadwater, The Gums, Nangram Lagoon, Robsleigh Swamp	NA	Decision not implemented in version 2.1. Instead two generic decisions relating to natural wetlands (refer to the decisions titled Regionally and Locally significant natural palustrine & lacustrine wetlands) and their role as wildlife refugia has been applied for both the north and south portions of the Brigalow Belt bioregion. State significant wetlands, are captured under Criterion B1. Nb. The importance of aquatic values, dependences associated largely with aquatic species, ecosystem processes and other aquatic criteria are assessed in substantial detail through application of the AquaBAMM - for further information relating to the AquaBAMM, refer to https://wetlandinfo.des.qld.gov.au/wetlands/assessment/assessment-methods/aca/.	NA

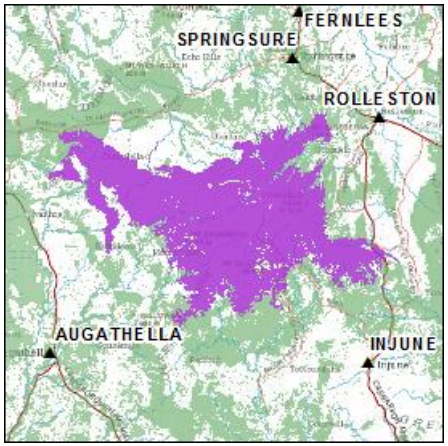
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
24	Monto wetlands	NA	Decision not implemented in version 2.1. Instead, two generic decisions relating to natural wetlands (refer to the decisions titled Regionally and Locally significant natural palustrine & lacustrine wetlands) and their role as a wildlife refugia has been applied for both the north and south portions of the Brigalow Belt bioregion. State significant wetlands, are captured under Criterion B1. Nb. The importance of specific aquatic values, dependences associated largely with aquatic species, ecosystem processes and other aquatic criteria are assessed in substantial detail through application of the AquaBAMM - for further information relating to the AquaBAMM, refer to https://wetlandinfo.des.qld.gov.au/wetlands/assessment/assessment-methods/aca/.	NA
25	Bellevue Swamp	NA	Decision not implemented in version 2.1. Instead, two generic decisions relating to natural wetlands (refer to the decisions titled Regionally and Locally significant natural palustrine & lacustrine wetlands) and their role as a wildlife refugia has been applied for both the north and south portions of the Brigalow Belt bioregion. State significant wetlands, are captured under Criterion B1. Nb. The importance of specific aquatic values, dependences associated largely with aquatic species, ecosystem processes and other aquatic criteria are assessed in substantial detail through application of the AquaBAMM - for further information relating to the AquaBAMM, refer to https://wetlandinfo.des.qld.gov.au/wetlands/assessment/assessment-methods/aca/.	NA

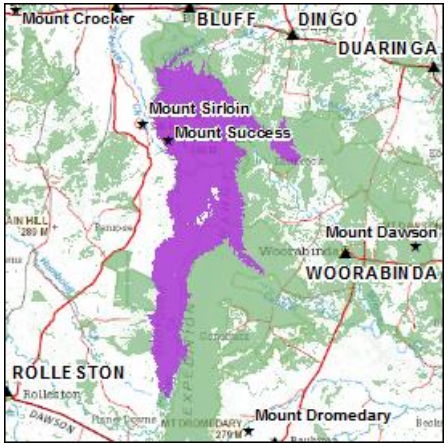
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
26	High conservation value wetlands – Lower Balonne area	NA	Decision not implemented in version 2.1. Instead, two generic decisions relating to natural wetlands (refer to the decisions titled Regionally and Locally significant natural palustrine & lacustrine wetlands) and their role as a wildlife refugia has been applied for both the north and south portions of the Brigalow Belt bioregion. State significant wetlands, are captured under Criterion B1. Nb. The importance of specific aquatic values, dependences associated largely with aquatic species, ecosystem processes and other aquatic criteria are assessed in substantial detail through application of the AquaBAMM - for further information relating to the AquaBAMM, refer to https://wetlandinfo.des.qld.gov.au/wetlands/assessment/assessment-methods/aca/.	NA
27	High conservation value wetlands – Upper Condamine area	NA	Decision not implemented in version 2.1. Instead, two generic decisions relating to natural wetlands (refer to the decisions titled Regionally and Locally significant natural palustrine & lacustrine wetlands) and their role as a wildlife refugia has been applied for both the north and south portions of the Brigalow Belt bioregion. State significant wetlands, are captured under Criterion B1. Nb. The importance of specific aquatic values, dependences associated largely with aquatic species, ecosystem processes and other aquatic criteria are assessed in substantial detail through application of the AquaBAMM - for further information relating to the AquaBAMM, refer to https://wetlandinfo.des.qld.gov.au/wetlands/assessment/assessment-methods/aca/.	NA

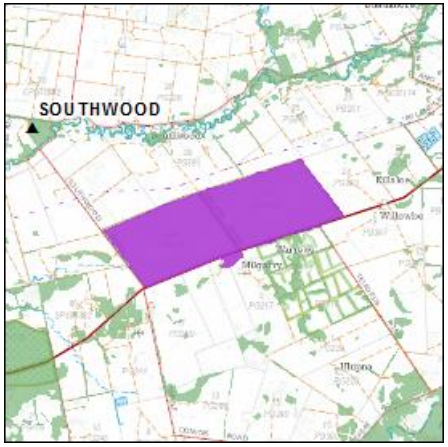
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
28	High conservation value wetlands – Chinchilla to St. George	NA	Decision not implemented in version 2.1. Instead, two generic decisions relating to natural wetlands (refer to the decisions titled Regionally and Locally significant natural palustrine & lacustrine wetlands) and their role as a wildlife refugia has been applied for both the north and south portions of the Brigalow Belt bioregion. State significant wetlands, are captured under Criterion B1. Nb. The importance of specific aquatic values, dependences associated largely with aquatic species, ecosystem processes and other aquatic criteria are assessed in substantial detail through application of the AquaBAMM - for further information relating to the AquaBAMM, refer to https://wetlandinfo.des.qld.gov.au/wetlands/assessment/assessment-methods/aca/.	NA
29	High conservation value wetlands – Border Rivers	NA	Decision not implemented in version 2.1. Instead, two generic decisions relating to natural wetlands (refer to the decisions titled Regionally and Locally significant natural palustrine & lacustrine wetlands) and their role as a wildlife refugia has been applied for both the north and south portions of the Brigalow Belt bioregion. State significant wetlands, are captured under Criterion B1. Nb. The importance of specific aquatic values, dependences associated largely with aquatic species, ecosystem processes and other aquatic criteria are assessed in substantial detail through application of the AquaBAMM - for further information relating to the AquaBAMM, refer to https://wetlandinfo.des.qld.gov.au/wetlands/assessment/assessment-methods/aca/.	NA

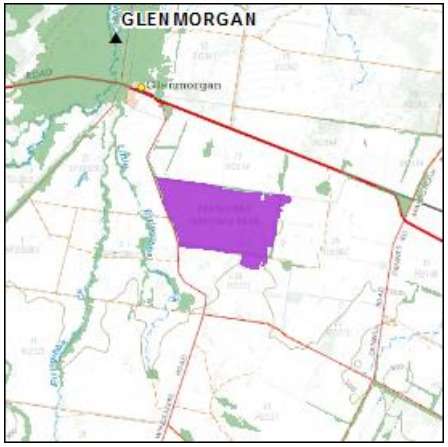
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
30	High conservation value wetlands – Moonie River	NA	Decision not implemented in version 2.1. Instead, two generic decisions relating to natural wetlands (refer to the decisions titled Regionally and Locally significant natural palustrine & lacustrine wetlands) and their role as a wildlife refugia has been applied for both the north and south portions of the Brigalow Belt bioregion. State significant wetlands, are captured under Criterion B1. Nb. The importance of specific aquatic values, dependences associated largely with aquatic species, ecosystem processes and other aquatic criteria are assessed in substantial detail through application of the AquaBAMM - for further information relating to the AquaBAMM, refer to https://wetlandinfo.des.qld.gov.au/wetlands/assessment/assessment-methods/aca/.	NA
31	Wetlands of the Macintyre-Weir Fan subregion	NA	Decision not implemented in version 2.1. Instead, two generic decisions relating to natural wetlands (refer to the decisions titled Regionally and Locally significant natural palustrine & lacustrine wetlands) and their role as a wildlife refugia has been applied for both the north and south portions of the Brigalow Belt bioregion. State significant wetlands, are captured under Criterion B1. Nb. The importance of specific aquatic values, dependences associated largely with aquatic species, ecosystem processes and other aquatic criteria are assessed in substantial detail through application of the AquaBAMM - for further information relating to the AquaBAMM, refer to https://wetlandinfo.des.qld.gov.au/wetlands/assessment/assessment-methods/aca/.	NA

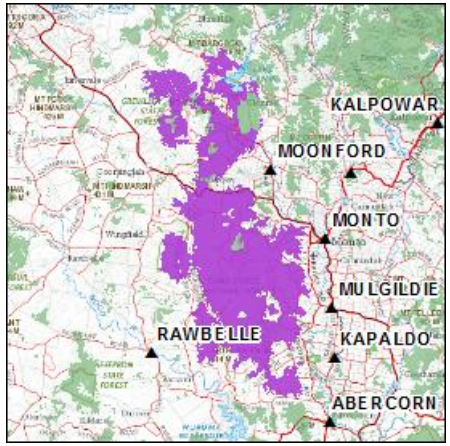
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
33	Pelican Lagoon	NA	Decision not implemented in version 2.1. Instead, two generic decisions relating to natural wetlands (refer to the decisions titled Regionally and Locally significant natural palustrine & lacustrine wetlands) and their role as a wildlife refugia has been applied for both the north and south portions of the Brigalow Belt bioregion. State significant wetlands, are captured under Criterion B1. Nb. The importance of specific aquatic values, dependences associated largely with aquatic species, ecosystem processes and other aquatic criteria are assessed in substantial detail through application of the AquaBAMM - for further information relating to the AquaBAMM, refer to https://wetlandinfo.des.qld.gov.au/wetlands/assessment/assessment-methods/aca/.	NA

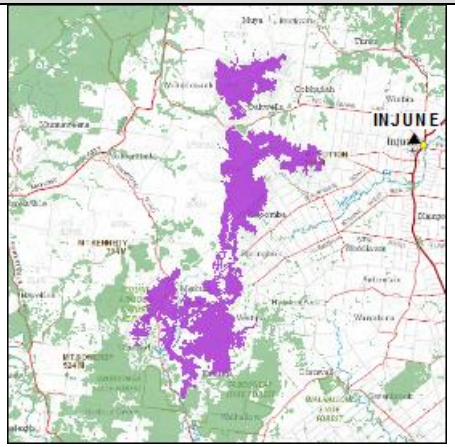
brbs_l_34	Carnarvon National Park, Mt Hope and Mt Moffatt  	State	A weathered sandstone landscape part of the mesotherm archipelago (Nix 1993) incorporating gorges, cliffs, sandy plains and widely spaced basalt-capped tablelands such as the elevated topographic isolate, the Consuelo Tableland. A number of perennial springs are present within the area, and the permeable sandstones assist in recharge of the Great Artesian Basin. The area depicted supports extensive remnant vegetation and contains a diverse range of ecosystem types (over 40 regional ecosystems are represented in the park alone, a large number of which are classed as endangered/of concern). Numerous plant (at least 1,180 have been recorded in the National Park) and terrestrial vertebrate species (more than 500) occur within the area. More than 20 species of flora including Carnarvon fan palm *Livistona nitida*, ooline *Cadellia pentastylis*, *Stemmacantha australis*, and at least 14 vertebrate species, e.g. common death adder *Acanthophis antarcticus*, southern snapping turtle *Elseya albagula*, glossy black-cockatoo *Calyptorhynchus lathami*, powerful owl *Ninox strenua*, greater glider *Petauroides volans* and koala *Phascolarctos cinereus*, and are classed as threatened. The Carnarvon National Park is also noted as being of exceptional richness with respect to reptile taxa and artesian spring flora. Invertebrate richness is unknown, but more than 80 spp. of butterfly and at least 10 spp. of land snails have been recorded. A number of species are at the limit of their distribution, while others occur as disjunct populations, e.g. *Eucalyptus laevopinea*, *Angiopteris evecta*, *E. melliodora*, *E. conica*, tusked frog *Adelotus brevis*, eastern tiger snake *Notechis scutatus*, Lewin's honeyeater *Meliphaga lewinii*, yellow-bellied glider *Petaurus australis* and platypus *Ornithorhynchus anatinus*). Examples of Brigalow Belt endemics present include the locally occurring *Eucalyptus grisea*, *Dimeria* sp., reptiles (*Diporiphora phaeospinosa* & golden-tailed gecko *Strophurus taenicauda*) and invertebrates such as dragonflies (*Eusynthemis denisae* & *Austroaeschna muelleri*), a dobsonfly (*Archichauliodes riekei*), stoneflies (*Dinotoperla carnarvonensis* & *Illiesoperla carnarvonensis*), a cricket (*Cooloola dingo*) and several species of land snail (e.g. *Mussonena carnarvon, M. nogoa, Spiraliropa carnarvon* & *Pallidelix simonhudsoni*). Relictual populations of several species of insects also occur (including a stag beetle *Sphaenognathus munchowae*, the lace bug *Ceratocader monteithi* and *Xamiatus ilara*. Some information from QPWS (2005).	Ia (endemic richness): VH; Ib (refugia): VH; Ic (disjunct populations): VH; Id (range limits): VH; Ie (species richness): VH; If (relictual populations): VH; Ik (climate change refuge): VH

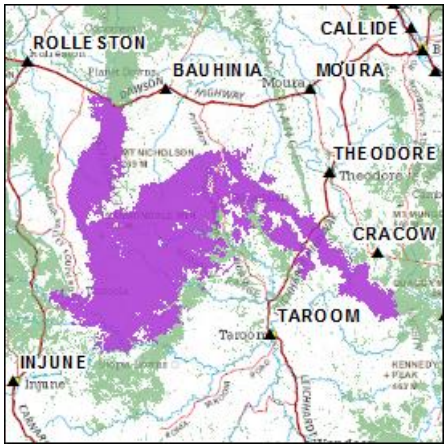
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_l_35	Blackdown Tablelands 	State	The elevated sandstone plateau provides a stark contrast to the surrounding lowland area. Situated at the intersection of the Shotover, Expedition and Dawson ranges, the area is characterised by the undulating plateau of precipice and clematis sandstone and its associated gorges, escarpments and ridges extending to the south and west. The ruggedness, gradients of elevation and presence of springs within the area provide for a variety of habitats which may act as refuges during times of drought and potentially, from longer term impacts arising from climate change. Considered part of the mesotherm archipelago (Nix 1993). The high elevation (approx. 900m at the highest point) and annual precipitation compared to surrounding areas, has resulted in an isolated environment with a distinct fauna and flora composition and an inherent level of endemism. Notable fauna endemics within the area include the two beetles (*Astraeus blackdownensis* and *Anoplognathus blackdownensis*), a burrowing cricket *Cooloola dingo*, a trapdoor spider *Xamiatus ilara*, and sandstone ochre butterfly *Trapezites taori*. The area is also considered species rich for certain groups of invertebrates such as land snails, with at least 12 species recorded (e.g. *Perioinsolita pokryszkoae* and *Figuladra volgiola*). With respect to flora, at least three species of acacia A*. gittinsii, A. hendersonii* and *A. storyi* are considered to be restricted to the area. The Blackdown stringybark *Eucalyptus sphaerocarpa* is also restricted to the regional area. Over 400 terrestrial vertebrate taxa recorded for area. Areas of open forest with mid-height understorey support a variety of threatened or priority arboreal mammals including greater glider *Petauroides volans*, yellow-bellied glider *Petaurus australis* and koala *Phascolarctos cinereus*. Other threatened taxa include collared delma *Delma torquata*, squatter pigeon *Geophaps s. scripta*, large-eared pied bat *Chalinolobus dwyeri* and a disjunct population of silver-headed antechinus (*Antechinus argentus*). There is also a suite of endemic reptiles (*Diporiphora phaeospinosa, Gehyra catenata* and brigalow scaly-foot *Paradelma orientalis*). Species modelling indicates a hotspot for conservation significant taxa. Some information from NPRSR (2013b).	Ia (endemic richness): VH; Ie (species richness): VH; Ik (climate change refuge): VH

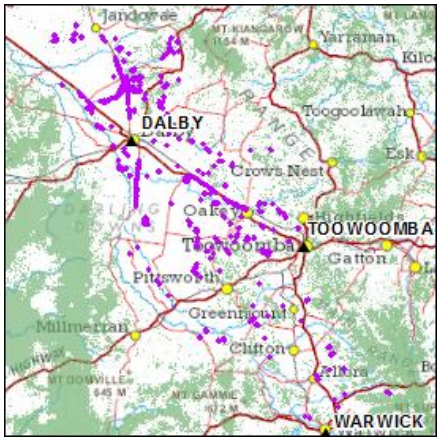
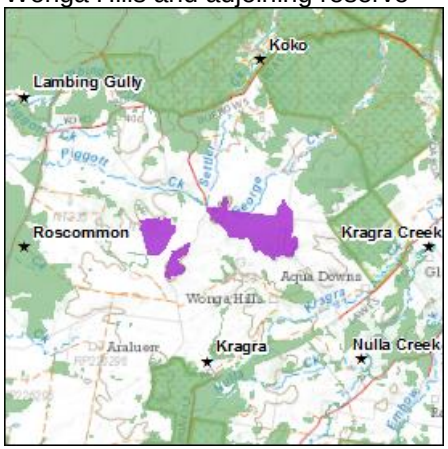
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_l_36	Southwood National Park Tract 	Regional	Southwood National Park is characterised by a flat to gentle undulating topography situated on underlying sandstone and conglomerates. Heavier grey-brown cracking clays conducive to gilgai formation are present, with recent Quaternary alluvial sands over-capping low ridges and rises. Contains a large intact example of brigalow-belah *Acacia harpophylla-Casuarina cristata* and its associated plant communities that are now largely cleared in the regional landscape (QNPWS 1998). Popular box *Eucalyptus populnea* woodlands are also present. Over 250 taxa of terrestrial vertebrates have been recorded from the area which include both transient and resident species. There is high species richness for reptiles (50 taxa) including threatened taxa (e.g. golden-tailed gecko *Strophurus taenicauda*, common death adder *Acanthophis antarcticus* and grey snake *Hemiaspis damelii*). Other threatened species include Major Mitchell's cockatoo *Lophochroa leadbeateri*, glossy black-cockatoo *Calyptorhynchus lathami*, painted honeyeater *Grantiella picta* and koala *Phascolarctos cinereus*. Priority taxa present are rough-collared frog *Cyclorana verrucosa*, barking owl *Ninox connivens*, brown treecreeper *Climacteris picumnus* and speckled warbler *Chthonicola sagittata*.	Ib (refugia): VH; Ie (species richness): H

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_l_37	Erringibba National Park Tract 	State	The Erringibba National Park, located within a heavily modified landscape, supports one of the larger remnant vegetated expanses of brigalow-belah *Acacia harpophylla-Casuarina cristata* open forest on clays soils in the bioregion and acts as an important refugia for brigalow dependent taxa. Terrestrial vertebrate taxa in the park total approximately 200 with 50 being reptile species. Nearly all endemic Brigalow Belt reptiles have been recorded in the site (grey snake *Hemiaspis damelii*, Dunmall's snake *Furina dunmalli*, brigalow scaly-foot *Paradelma orientalis* and golden-tailed gecko *Strophurus taenicauda*). Other threatened or priority taxa have been found including the rough collared frog *Cyclorana verrucosa*, common death adder *Acanthophis antarcticus*, koala *Phascolarctos cinereus* and painted honeyeater *Grantiella picta*. Some information from NPRSR (2013c).	Ia (endemic richness): VH; Ib (refugia): VH; Ie (species richness): VH

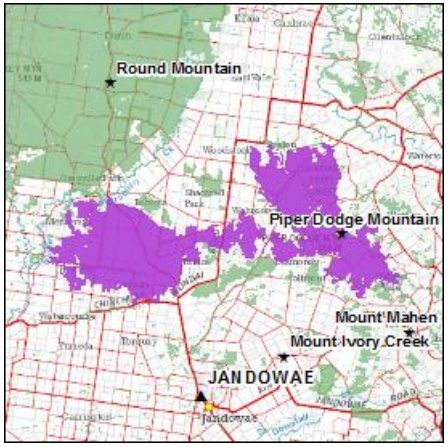
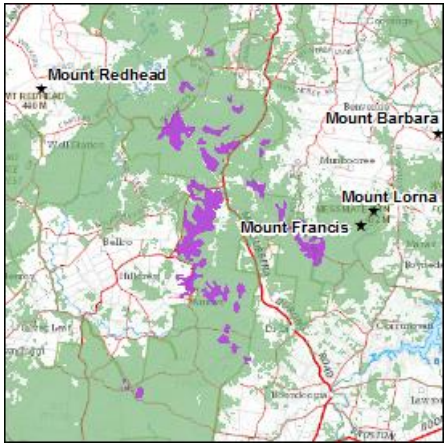
brbs_l_38	Coominglah and Grevillea State Forests and Cania Gorge National Park Tract 	State	The area depicted encompasses a variety of landzones including sandstone ranges, ironstone jump-ups, alluvium, basalt hills in the southwest, and at the northern and western margins, metamorphics and granitics respectively. Situated close to the Southeast Queensland bioregion, a number of Southeast Queensland regional ecosystem outliers are also present within the tract. Dominant vegetation communities range from dry to moist *Eucalyptus/Corymbia* open forests and woodlands, whilst in deeper gullies and protected escarpments, examples of intact dry rainforests occur. Small areas of brigalow are also present. The diversity of landzones and vegetation types supports a rich suite of taxa of both flora and fauna. Within Coominglah State Forest alone, 650 plant species and 440 fauna species have been identified. Similarly, more than 470 species of plants and animals have been recorded in the much smaller Cania Gorge National Park to the north. With respect to vertebrates, 350 taxa have been recorded. Threatened fauna found include the tusked frog *Adelotus brevis*, golden-tailed gecko *Strophurus taenicauda*, common death adder *Acanthophis antarcticus*, red goshawk *Erythrotriorchis radiatus*, powerful owl *Ninox strenua*, glossy black-cockatoo *Calyptorhynchus lathami*, northern quoll *Dasyurus hallucatus*, greater glider *Petauroides volans* and koala *Phascolarctos cinereus*. Priority taxa in the area include the endemic land snail *Pedinogyra cania* and brigalow scaly-foot *Paradelma orientalis*, as well as eastern pebble-mouse *Pseudomys patrius* and yellow-bellied glider *Petaurus australis*. Similarly, flora values include narrow endemic taxa, such as *Grevillea hockingsii, Pomaderris coomingalensis, Zieria* sp. Coominglah, *Solanum* sp. Coominglah, *Eucalyptus corynodes;* disjunct populations of *Hakea fraseri* and *Acacia polybotrya* and populations at their range limits of *Olearia gravis* and *Kunzea flavescens*. Examples of other threatened taxa include two Brigalow Belt endemic acacias *A. calantha* and *A. islana, Bertya opponens, Cossinia australiana, Parsonsia kroombitensis, Polianthion minutiflorum, Rhaponticum australe, Solanum lythrocarpum* and *Melaleuca formosa*. Some information from NPRSR (2013d) & https://www.npsr.qld.gov.au/parks/coominglah/culture.html#natural_environment.	Ia (endemic richness): VH; Ic (disjunct populations): H; Ie (species richness): VH
brbs_l_39	Mt Hutton/Kilmorey/Womblebank	State	Exposed basalt is present at higher elevations (940m Mount Hutton) and capped with sandstone at the lower slopes and base of the hills.	Ia (endemic richness): H;

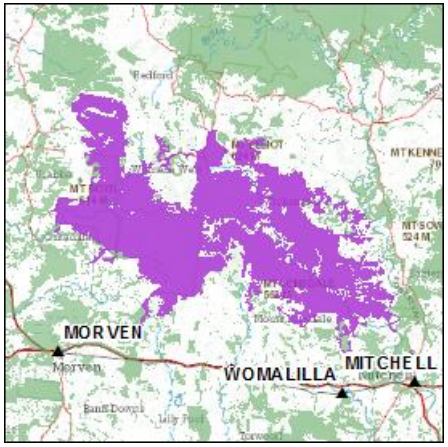
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
			Areas of exposed sandstone also occur between basalt flows. In areas where over-capping has occurred, there is a distinct variation in ecosystem taxa composition (mostly mapped as landzone 8 regional ecosystems due to the underlying basalt). Rainforest, grasslands, moist to dry eucalypt, brigalow, as well as cypress pine dominated vegetation communities are present. The Mount Hutton area contains intact Mount Coolabah *Eucalyptus orgadophila* grassy woodland on basalts in pristine condition with few exotics present. The area has three endangered and two of concern regional ecosystems. This diversity of ecosystems and particular geology was considered by the panel likely to cultivate high species richness. Forested areas home to over 250 terrestrial vertebrate species including both threatened, e.g. pale imperial hairstreak *Jalmenus eubulus*, golden-tailed gecko *Strophurus taenicauda*, glossy black-cockatoo *Calyptorhynchus lathami* and koala *Phascolarctos cinereus*, and priority taxa, e.g. *Gehyra catenata*, brigalow scaly-foot *Paradelma orientalis*, brown treecreeper *Climacteris picumnus*, speckled warbler *Chthonicola sagittata* and hooded robin *Melanodryas cucullata*. Rocky habitat supports population of Herbert's rock-wallaby *Petrogale herberti* and provides caves and crevices for at least 6 species of micro-chiropteran bats, e.g. *Nyctophilus geoffroyi*, *Chalinolobus gouldii, C. picatus, Vespadelus troughtoni* and *Miniopterus schreibersii*. Two land snails and an undescribed scorpion species are endemic to the area.	Ib (refugia): H; Ie (species richness): VH; Ig (ecosystem variation): VH

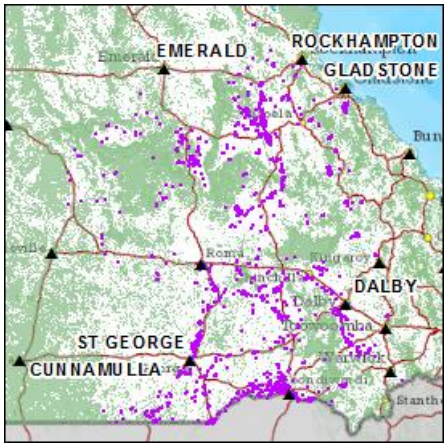
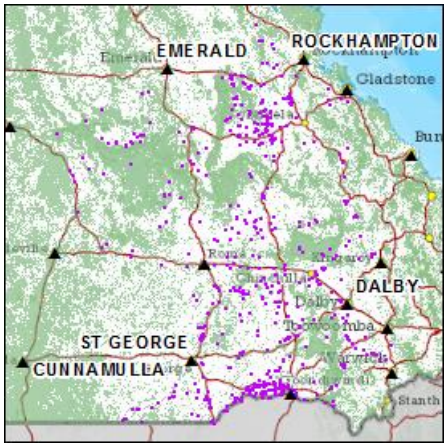
brbs_l_40	Sandstone Ranges and Gorges - Expedition, Isla Gorge, Precipice, and Palm Grove National Parks excluding southern State Forest areas.  	State	A large contiguous area of remnant vegetation located within a sandstone range/gorge landscape. Given topographical similarities to Carnarvon (elevated and rugged), this area could be considered part of the mesotherm archipelago (Nix 1993), which would account for similar values. With respect to fauna, approximately 500 terrestrial vertebrate taxa have been recorded. The area is considered to contain high invertebrate richness such as butterflies. Endemic species present include land snails, e.g. *Mussonena martinlogari, Lynfergusonia taroomiana, Pallidelix greenhilli* and *Scagacola brigalow*, an undescribed scorpion species and *Diporiphora phaeospinosa*. Disjunct populations of stony creek frog *Litoria wilcoxii* and the major skink *Egernia frerei* occur in the area. Threatened and rare taxa include large-eared pied bat *Chalinolobus dwyeri*, eastern long-eared bat *Nyctophilus corbeni*, collared delma *Delma torquata*, Dunmall's snake *Furina dunmalli*, black-breasted button-quail *Turnix melanogaster* and northern quoll *Dasyurus hallucatus*. Also rich in priority taxa such as frilled lizard *Chlamydosaurus kingii*, brigalow scaly-foot *Paradelma orientalis*, barking owl *Ninox connivens* and long-nosed bandicoot *Perameles nasuta*. In regards to flora, the area is species rich and a centre of endemism with many of the endemic taxa also being threatened or near threatened. Examples include *Acacia argentina, A. calantha, A. hockingsii, A. islana, Acacia* sp. Ruined Castle Ck, *Calytrix islensis, Cryptandra ciliata, C. orbicularis, Caustis pentandra, Daviesia* sp. Isla Gorge, *Eucalyptus beaniana, E. curtisii, E. rubiginosa, Grevillia singuliflora, Homoranthus decasetus, Leucopogon grandiflorus, Livistona nitida, Logania cordifolia, Macarthuria ephedroides, Macrozamia fearnsidei, Melichrus* sp. Isla Gorge, *Notelaea pungens, Rutidosis glandulosa, Sannantha brachypoda* and *Wahlenbergia islensis*. Other examples of disjunct flora taxa present or at the range of their distributional limits include *Cyclosorus interruptus* in moist micro-habitats, the eucalypts *E. baileyana, E. corynodes, E. pachycalyx* subsp. *waajensis* and *E. suffulgens, Corymbia bunites, Crowea exalata* subsp. exalata, the lithophytic fig *Ficus rubiginosa*, and ferns *Gleichenia dicarpa, Macrozamia crassifolia, Podocarpus spinulosus, Sticherus flabellatus* and *Syncarpia glomulifera*.	Ia (endemic richness): VH; Ib (refugia): VH; Ic (disjunct populations): VH; Id (range limits): VH; Ie (species richness): VH; Ik (climate refugia): H; Ii (hollow density): VH

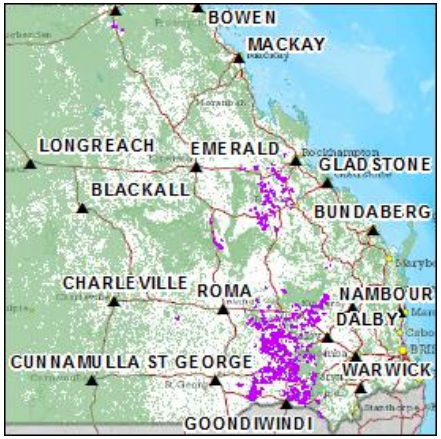
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_l_41	Remnant grasslands, Eastern Darling Downs 	State	Remnants of once more extensive grasslands (less than 2% remains) dominated by *Dichanthium* spp. or *Astrebla* spp. within the Eastern Darling Downs subregion provide a refuge for a variety of threatened flora, e.g. *Digitaria porrecta, Rhaponticum australe, Thesium australe* and *Solanum papaverifolium*, many of which occur as disjunct populations or at the limit of their geographic range. These areas are also recognised as being of important for reptile fauna including *Carlia tetradactyla*, shingle-back *Tiliqua rugosa*, spotted black snake *Pseudechis guttatus, Delma inornata*, common delma *D. plebeia* and threatened Condamine earless dragon *Tympanocryptis condaminensis*, the latter known to occur only from grasslands around Bongeen. Another notable fauna endemic is the only grassland snail found in Queensland, *Jimbouria rodhobsoni*. Disjunct populations of the endangered long-legged worm-skink *Anomalopus mackayi* are also found in similar habitat within the area. Nb. In future panel reviews, the significance of all Brigalow Belt remnant natural grasslands should be reviewed.	Ia (endemic richness): VH; Ib (refugia): VH; Ic (disjunct populations): VH; Id (range limits): H; Ie (species richness): H
brbs_l_42	Wonga Hills and adjoining reserve 	Regional	This area predominately consists of endangered regional ecosystems including 11.9.4a (semi-evergreen vine thicket). The panel considered the area to be an ideal representation of semi evergreen vine thicket forest scrub which is a threatened community under the EPBC. Additionally there is RE 11.9.5 (brigalow open forest/woodland) with old growth brigalow *Acacia harpophylla* and belah *Casuarina cristata* present. There are approximately 326 recorded species of flora and fauna of which 13 are listed as threatened. Threatened flora species include *Clematis fawcettii* and *Denhamia parvifolia*. Approximately 230 terrestrial vertebrate taxa. Threatened taxa recorded for area include golden-tailed gecko *Strophurus taenicauda*, black-breasted button-quail *Turnix melanogaster*, powerful owl *Ninox strenua*, glossy black-cockatoo *Calyptorhynchus lathami* and spotted-tailed quoll *Dasyurus m. maculatus*. Among the priority taxa present are frilled lizard *Chlamydosaurus kingii*, brown treecreeper *Climacteris picumnus* and speckled warbler *Chthonicola sagittata*. One of the few places where Matthew's flightless dung beetle *Aulacopris matthewsi* has been recorded.	Ib (refugia): H; Ie (species richness): H

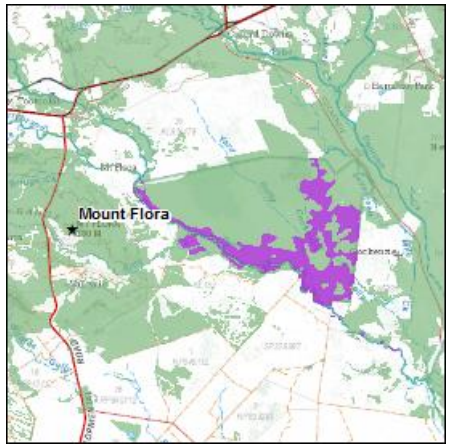
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_l_43	Permanent groundwater dependant ecosystems 	State	This decision relates to all ecosystems that have a permanent / near permanent groundwater connection. The major threats to these ecosystems are coal seam gas extraction and water extraction industries. Groundwater dependant ecosystems provide an array of ecological benefits including provision of: Habitat for flora and fauna, including rare and unique organisms; Providing corridors for fauna; Mitigating the effects of floods; Reducing soil erosion; Reducing sediment and nutrient loss; Degrading pollutants and contaminants. Given the expected increase in frequency of droughts and higher temperatures due to climate change, such areas may act as important drought refugia. (Some of the information sourced from Wetland*Info*, https://wetlandinfo.des.qld.gov.au/wetlands/).	Ib (refugia): VH; Ie (species richness): VH; Ik (climate refugia): VH

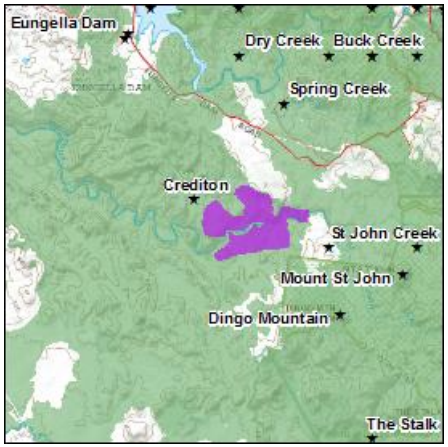
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_l_44	Diamondy and Nudley State Forests 	State	The panel designated these state forests as having significant biodiversity values due to the concentration of habitat for threatened species. Threatened flora species include *Micromyrtus carinata, Acacia handonis, Polianthion minutiflorum* and *Zieria obovata.* Over 300 terrestrial vertebrate taxa recorded from area. Presence of over six threatened species such as golden-tailed gecko *Strophurus taenicauda*, yakka skink *Egernia rugosa*, painted honeyeater *Grantiella picta* and koala *Phascolarctos cinereus*. Hollow-dependent taxa known from the forests include both threatened and priority gliders, i.e. greater glider *Petauroides volans* and yellow-bellied glider *Petaurus australis* respectively. Other priority taxa found are members of the declining woodland bird community - brown treecreeper *Climacteris picumnus*, speckled warbler *Chthonicola sagittata* and hooded robin *Melanodryas cucullata*.	Ie (species richness): VH Ii (hollow density): VH
brbs_l_45	Areas within Allies Creek State Forest 	Regional	This area was considered by the panel to be a significant hotspot for threatened species habitat (identified through habitat modelling and recorded sightings). Threatened flora in the area include *Eucalyptus broviniensis, E. taurina; E. virens, Zieria inexpectata, Denhamia parvifolia, Ochrosperma obovatum, Solanum lythrocarpum, Acacia calantha; Bertya pedicellata* and *Melaleuca groveana*. While overall richness of terrestrial vertebrates is moderate (180 taxa), the area is rich in threatened and priority fauna taxa. The threatened species include golden-tailed gecko *Strophurus taenicauda*, black-breasted button-quail *Turnix melanogaster*, glossy black-cockatoo *Calyptorhynchus lathami*, powerful owl *Ninox strenua*, koala *Phascolarctos cinereus* and greater glider *Petauroides volans*. Priority taxa present include brigalow scaly-foot *Paradelma orientalis*, barking owl *Ninox connivens*, speckled warbler *Chthonicola sagittata* and yellow-bellied glider *Petaurus australis*.	Ie (species richness): H

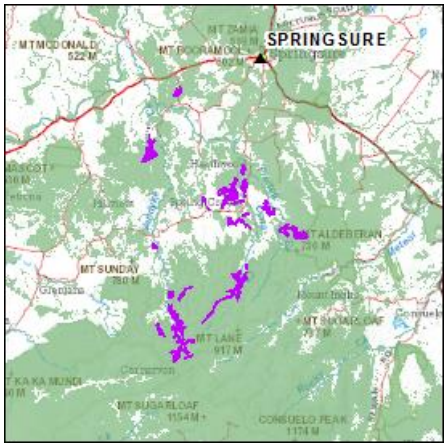
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_l_46	Chesterton and River Ranges Tract  	Regional	A contiguous extent of remnant vegetation covering the Chesterton and River sandstone ranges. Mesas, alluvial flats, loamy to sandy plain formations are also present and support a variety of dry *Eucalyptus* and *Acacia* woodlands communities (more than 20 regional ecosystem types occur). Species richness within the Chesterton Range National Park is high with over 250 vertebrate taxa recorded. Several are considered at or close to their distributional limit, e.g. Australian king parrot *Alisterus scapularis*, Pacific baza *Aviceda subcristata*, superb fairy-wren *Malurus cyaneus*, fire-tailed skink *Morethia taeniopleura*, brigalow scaly-foot *Paradelma orientalis*, *Oedura monilis* and *Carlia munda*. The area depicted also supports a diversity of threatened species including yakka skink *Egernia rugosa*, woma *Aspidites ramsayi*, Major Mitchell's cockatoo *Lophochroa leadbeateri* and squatter pigeon *Geophaps s. scripta*, red goshawk *Erythrotriorchis radiatus*, grey falcon *Falco hypoleucos* and eastern long-eared bat *Nyctophilus corbeni*. Among the priority taxa are members of the declining woodland avifauna (brown treecreeper *Climacteris picumnus*, speckled warbler *Chthonicola sagittata* and hooded robin *Melanodryas cucullata*), as well as the Warrego burrowing snake *Antaioserpens warro*. While only three threatened taxa of flora have been recorded (*Bertya calycina, Shonia carinata* and *Lomandra teres*), a number of species occur at or near their range limit or as disjunct populations including *Boronia eriantha, B. odorata, Grevillea cyranostigma, Homoranthus thomasii, Kardomia jucunda, Microcorys queenslandica, Persoonia subtilis, Lissanthe pluriloculata, Eucalyptus bakeri, E. crebra, E. panda* and *E. viridis* var. *latiuscula*, and *Prostanthera oleoides*. *Digitaria dolleryi*, a Brigalow Belt endemic, has only been recorded within the Chesterton Range National Park. Some information from NPRSR (2013e).	Ib (refugia): H; Id (range limits): H; Ie (species richness): H; Ig (ecosystem variation): H; Ii (hollow density): H

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_l_47	Regionally significant natural palustrine & lacustrine wetlands 	Regional	The panel considered that relatively natural palustrine and lacustrine wetlands and waterbodies within the Brigalow Belt bioregion act as important refugia, especially during periods of drought. Whilst State significant wetlands are captured under Criterion B1, the panel agreed that all such natural wetland complexes with a combined area of greater than or equal to 5ha in size should be classed as being of at least Regional significance. Refer to brbn_l_92 for the northern BRB implementation of this decision.	Ib (refugia): H
brbs_l_48	Locally significant natural palustrine & lacustrine wetlands 	Local	The panel considered that relatively natural palustrine and lacustrine wetlands and waterbodies within the Brigalow Belt bioregion act as important refugia, especially during periods of drought. Whilst State significant wetlands are captured under Criterion B1, and regionally significant wetlands under the decision brbn_l_47, the panel agreed that all remaining relatively natural wetland complexes of less than 5ha in size be classed as being of at least local significance. Refer to brbn_l_93 for the northern BRB implementation of this decision.	Ib (refugia): M

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbs_l_49	Gilgai Remnants  	State	The gilgai wetland systems in the Brigalow Belt tend to be dominated by acacia and casuarina (mostly brigalow *Acacia harpophylla* and belah *Casuarina cristata*). *Melaleuca, Corymbia* and *Eucalyptus* species are also common along with *Astrebla* or *Dichanthium* spp. grassland. Gilgai systems are widespread and some are in good condition while others are largely cleared. The range of threatened wildlife present may use inundated gilgai as a water source at some stage of their life or are closely associated with the cracking clay soil habitat and wetlands. Gilgai reptiles include the death adder *Acanthophis antarcticus*, De Vis' banded snake *Denisonia devisi* and ornamental snake *D. maculata*. Amphibians that use gilgai include salmon striped frog *Limnodynastes salmini*, scarlet-sided pobblebonk *L. terraereginae* and striped burrowing frog *Cyclorana alboguttata*. Other fauna which may use gilgai habitat at various times include bridled nailtail wallaby *Onychogalea fraenata*, black-striped wallaby *Macropus dorsalis* and the glossy black cockatoo *Calyptorhynchus lathami*. Refer to brbn_l_75 for the northern BRB implementation of this decision.	Ib (refugia): VH; Ij (aggregation site):VH
Brigalow Belt north decisions				

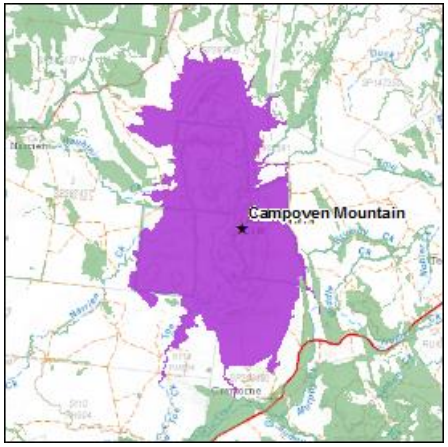
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_l_01	Priority conservation areas in northern Thuringowa Coastal Plain 	State	This decision captures the lowland landscapes surrounding the Black and Bohle rivers (James 2001). The general area is quite heavily urbanised. The regional ecosystems captured are on landzones 1, 2 and 3. The many ephemeral, intermittent and perennial wetlands represent crucial habitats for resident and migratory birds, frogs, fish and other aquatic animals. They also provide natural systems for water quality control and aquifer recharge. Threatened fauna species recorded within this feature include: black-throated finch *Poephila c. cincta*, eastern curlew *Numenius madagascariensis*, lesser sand plover *Charadrius mongolus*, great knot *Calidris tenuirostris*, curlew sandpiper *Calidris ferruginea*, red knot *Calidris canutus*, bar-tailed godwit *Limosa lapponica*, squatter pigeon *Geophaps s. scripta*, beach stone-curlew *Esacus magnirostris* and greater sand plover *Charadrius leschenaultii*. Of concern regional ecosystems present are comprised of open forests, woodlands/open woodlands, palustrine wetlands and closed tussock grasslands.	Ib (refugia): VH; Ig (ecosystem variation): H
brbn_l_02	Alluvial softwoods that remain alongBee Creek (11.3.11) 	State	Comparative to other examples within the bioregion, occurrences of the endangered regional ecosystem 11.3.11 along Bee Creek exhibit distinct variation in species composition. Reasonable densities of hollow bearing trees are also present within the area. The area contains over 200 terrestrial vertebrate taxa, many of which use the alluvial semi-evergreen vine thicket. Such species can include those that are currently threatened, e.g. red goshawk *Erythrotriorchis radiatus* and northern quoll *Dasyurus hallucatus*, or considered priority, e.g. barking owl *Ninox connivens* and speckled warbler *Chthonicola sagittata*. Endemics such as brigalow scaly-foot *Paradelma orientalis* are also present.	Ie (species richness): H; Ig (ecosystem variation): VH; Ii (hollow density): H

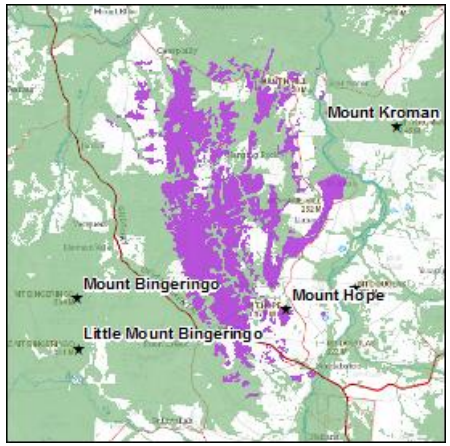
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
3	Vine scrub on landzone 2 on longitudinal sand dunes along Cape Station creek on Cape Upstart	NA	Not implemented in version 2.1 as insufficient information. Nb. the regional ecosystem 11.2.3 reflects an EPBC listed community and is captured through the diagnostic Criterion B1.	NA
brbn_l_04	Hazelwood Gorge 	State	A steep sided gorge with semi-evergreen vine thicket on weathered metamorphics extending up slope from the watercourse. Of three known locations, the area depicted contains the largest known population of the vulnerable endemic, *Omphalea celata*. This species is a host plant for the Australian endemic green zodiac moth *Alcides metaurus*. Another flora endemic is also present within the area. Threatened taxa known to occur with the area include glossy black-cockatoo *Calyptorhynchus lathami*, Eungella honeyeater *Bolemoreus hindwoodi*, powerful owl *Ninox strenua* and northern quoll *Dasyurus hallucatus*. The gorge environs provides habitat for other rock-dependent fauna such as unadorned rock-wallaby *Petrogale inornata* and common rock-rat *Zyzomys argurus*, while the timbered areas contain priority taxa, e.g. barking owl *Ninox connivens* and yellow-bellied glider *Petaurus australis*. (refer to: http://www.environment.gov.au/biodiversity/threatened/species/pubs/64586-conservation-advice.pdf)	Ia (centre of endemism): H; Ib (wildlife refugia): VH; Ig (ecosystem variation): VH
5	Planet and Balamoo flat and creeks	NA	Implemented as a southern fauna decision (brbs_fa_70) in version 2.1.	NA
6	Chesterfield Station area	NA	Not implemented in version 2.1. The original values identified relate to the brigalow community's endangered status – this is captured through the diagnostic Criterion B1.	NA

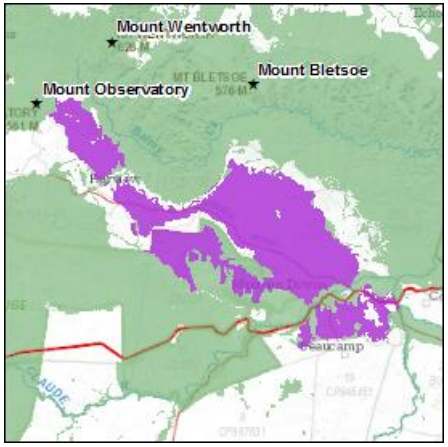
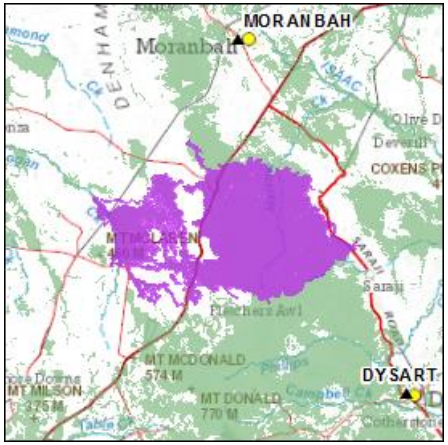
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_l_07	Grassy woodlands to open woodlands - Upper Vandyke Creek 	Regional	Regional Ecosystem 11.9.2 *Eucalyptus melanophloia* and *E. orgadophila* grassy woodland to open woodland adjacent to alluvial flats (infilled valley). The area in question reflects a relatively intact sub-catchment with limited grazing. As a result, remnant units of 11.9.2 in the area are in comparatively good condition. Over 120 woodland or forest-dwelling bird species are recorded from the general area. Provides habitat for threatened squatter pigeon *Geophaps s. scripta* and koala *Phascolarctos cinereus*.	K (condition): REGIONAL; Ie (species richness): H
8	Dawson River Downs wetlands	NA	Decision not implemented in version 2.1. Rather two generic decisions relating to natural wetlands (refer to the decisions titled Regionally and Locally significant natural palustrine & lacustrine wetlands) and their role as a wildlife refugia has been applied for both the north and south portions of the Brigalow Belt bioregion. State significant wetlands, are captured under Criterion B1. Nb. The importance of aquatic values, dependences associated largely with aquatic species, ecosystem processes and other aquatic criteria are assessed in substantial detail through application of the AquaBAMM - for further information relating to the AquaBAMM, refer to https://wetlandinfo.des.qld.gov.au/wetlands/assessment/assessment-methods/aca/.	NA
9	Coomooboolaroo	NA	Implemented as a southern fauna decision brbs_fa_71.	NA
10	Mt. Abbott	NA	Implemented as part of a broader flora decision brbn_fl_05.	NA

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
11	Spinifex ridges between Collinsville and Mt. Coolon	NA	Not implemented in version 2.1 - panel considered that there was insufficient information to support the original nomination of distinct ecosystem variation (Ig - High).	NA
12	Roper's Peak at Capella	NA	Implemented as part of a broader decision relating to the Peak Ranges brbn_l_94.	NA
13	Coxens Peak	NA	Not implemented in version 2.1 - insufficient information to support the original nomination of distinct ecosystem variation (Ig - High).	NA
14	Mt. Aberdeen	NA	Implemented as part of a broader flora decision brbn_fl_05.	NA
15	Roma Peak, south of Bowen	Regional	Implemented as flora decision brbn_fl_08.	NA
16	Littoral beach scrub at Shoalwater Bay and Long Island	NA	Incorporated into Shoalwater Bay landscape decision brbn_l_86.	NA
brbn_l_17	Terrestrial Bioregional Corridors *Refer to Figures 4-6*	State or Regional	Maintaining connectivity across a landscape, either through "continuous linkages" or via "stepping-stones" of remnant vegetation, is important for the long-term conservation of biodiversity. The panel agreed that corridor triggered remnant vegetation in version 2.1 would focus upon identifying key connections between remaining core tracts/nodes (as identified under the special area decisions brbs_l_16 and brbn_l_83) within the bioregion. For further information regarding the broad principles and intent, as well as more specific information relating to the Brigalow Belt terrestrial corridor network, refer to Section 3.3.2.1 (pg 169) and Table 14. Refer to brbs_l_17 for the southern BRB implementation of this decision.	J (terrestrial corridor): STATE or J (terrestrial corridor): REGIONAL

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_l_18	Riparian Corridors *Refer to Figures 4-6*	State or Regional	Riparian corridors encompass some of the most diverse, dynamic and complex habitats incorporating both environmental and topographic gradients. Comparatively, such areas tend to exhibit high species richness with respect to both flora and fauna, provide important resources in terms of water, food, shelter, nesting and nursery sites and act as a refugia during periods of drought, or in response to longer terms impacts associated with climatic change. At the landscape scale, networks of major and minor riparian linkages are a significant element of habitat continuity and provide important migratory and dispersal pathways for a substantial number of species (especially birds, insects and flora, but also for many arboreal mammals and reptiles). In some areas of fragmented landscapes, watercourses often provide the only remaining habitat connectivity due to the extensive clearing and surrounding modified landscape. Within the Brigalow Belt Bioregion, the panel determined that remnant vegetation within 200m and 100m of major and minor waterways should be designated as being of State and Regional significance respectively. For further information regarding the broad principles and intent, as well as more specific information relating to the Brigalow Belt riparian corridor network, refer to Section 3.3.2.2 (pg 178). Refer to brbs_l_18 for the southern BRB implementation of this decision.	J (riparian corridor): STATE or J (riparian corridor): REGIONAL
19	Mt. Gregory	NA	Panel recommended that the decision not be implemented, as the values listed in the original decision (relating to the presence of *Eucalyptus similis* within a heterogonous remnant unit of 11.11.15c, 11.11.6 and 11.11.2) were not sufficiently unique.	NA
20	Surbiton	NA	Not implemented – original nomination inconsistent with the criterion value Id - Geographic Range Limits.	NA

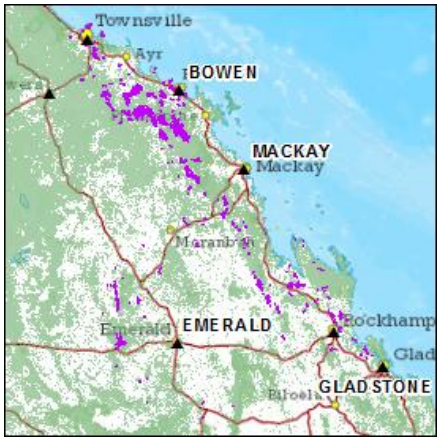
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_l_21	Narrien Range 	Regional	As the surrounding landscape has been extensively cleared for grazing, the area acts as a refuge for at least 166 terrestrial vertebrate taxa. Among those present are threatened species such as yakka skink *Egernia rugosa*, squatter pigeon *Geophaps s. scripta* and northern quoll *Dasyurus hallucatus*. Priority taxa recorded include *Gehyra catenata*, brown treecreeper *Climacteris picumnus* and speckled warbler *Chthonicola sagittata*. *Eucalyptus crebra* woodland and *Corymbia leichhardtii, C. clarksoniana* tall open woodland is considered to provide important fauna habitat within the area. Also of note, of the 18 regional ecosystems present in the area, four are endangered (e.g. brigalow *Acacia harpophylla* and gidgee *A. cambageana* scrubs) and eight are identified as of concern. Some information from QPWS (2011).	Ib (refugia): H; Ie (species richness): M; Ii (hollow-density): H
22	Mt. Donnybrook and Police Mountain	NA	Not implemented – original nomination inconsistent with the criterion value Id - Geographic Range Limits.	NA

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_l_23	Mt. Hope and Llanarth Back Range and Ten mile scrub 	Regional	Excellent examples of blackwood on landzone 11 (11.11.13), bendee on landzone 11 (11.11.2), and lancewood on landzone 11 (11.11.2 and 11.11.8). The plant communities support over 200 terrestrial vertebrate taxa. Threatened species known from the area include common death adder *Acanthophis antarcticus*, black-throated finch *Poephila c. cincta* and koala *Phascolarctos cinereus*. There are also several priority taxa, e.g. *Carlia rubigo* and *Gehyra catenata*.	Ie (species richness): H; K (condition): REGIONAL
24	Granite area on Mt. Beaufort	NA	Panel recommended that the decision not be implemented, as the values listed in the original decision (relating to taxa composition of the regional ecosystems 11.12.1 and 11.12.1a) were not sufficiently unique.	NA

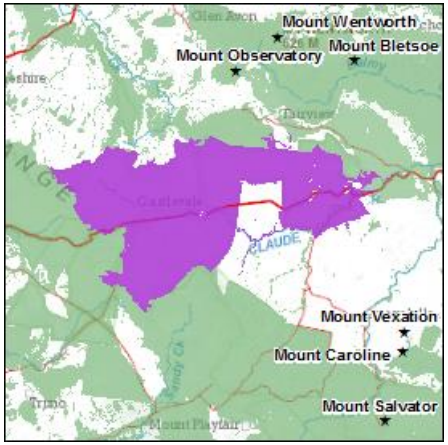
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_l_25	Mantuan Downs property 	State	The property contains extensive areas of grassland on shales in very good condition relative to other grasslands in the Brigalow Belt. The area depicted incorporates one of the largest remaining examples of the bluegrass ecosystem 11.9.3 within the BRB, and likely provides a refugia for a number of associated fauna species, including potential habitat for *Trioncinia retroflexa*. Very little fauna surveying has been conducted in the area, but the property was an historical locality for the now extinct paradise parrot *Psephotus pulcherrimus*.	Ib (refugia): VH; K (condition): STATE
26	Wolfang Peak	NA	Original decision related to Criterion J – this criterion is implemented under decisions brbn_l_17 and brbn_l_18.	NA
brbn_l_27	Logan Creek Holding 	State	Logan Creek Station on the boundary of the Basalt Downs and Northern Bowen Basin subregions was identified as a core wildlife refuge within an area impacted by coal mines and clearing for grazing. Among the 140 terrestrial vertebrate taxa recorded for the area are several threatened species including the highly restricted and endemic Allan's lerista *Lerista allanae*. endangered and of concern regional ecosystems on the property provide habitat for other threatened species such as the pale imperial hairstreak *Jalmenus eubulus* as well as, squatter pigeon *Geophaps s. scripta*, painted honeyeater *Grantiella picta* and koala *Phascolarctos cinereus*. Priority taxa present include the eastern pebble-mouse *Pseudomys patrius*.	Ib (refugia): VH; Ie (species richness): M

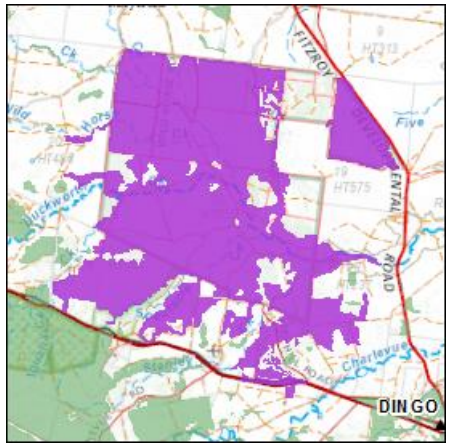
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
28	Frankfield swamp	NA	Decision not implement in version 2.1. Rather two generic decisions relating to natural wetlands (refer to the decisions titled Regionally and Locally significant natural palustrine & lacustrine wetlands) and their role as a wildlife refugia has been applied for both the north and south portions of the Brigalow Belt bioregion. State significant wetlands, are captured under Criterion B1. Nb. The importance of aquatic values, dependences associated largely with aquatic species, ecosystem processes and other aquatic criteria are assessed in substantial detail through application of the AquaBAMM - for further information relating to the AquaBAMM, refer to https://wetlandinfo.des.qld.gov.au/wetlands/assessment/assessment-methods/aca/.	NA
29	Gemini Peaks	NA	Not implemented. Original values related to a single near threatened species, *Acacia arbiana* – threatened species are captured under Criterion A.	NA
brbn_l_30	Wentworth holding grassland and wetland association.  	Regional	The grassland regional ecosystems 11.4.11 and 11.4.4 and riverine wetlands on Wentworth Holding form a unique association due to underlying soil and geology features. The grassland regional ecosystems differ from other examples of the same ecosystem type as they occur on high level alluvial deposits (locally red-brown mottled, poorly consolidated sand, silt, clay, minor gravel soils) and adjoin riverine wetlands situated on more recent quaternary alluvium and lacustrine deposits.	lg (ecosystem variation): H
31	Torilla grasslands on the Broadsound	NA	Implemented as part of the landscape decision brbn_l_91.	NA

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
32	Carnarvon Range	NA	Implemented as part of the landscape decision brbs_l_34.	NA
33	Expedition Range	NA	Implemented as part of a broader decision covering the Expedition Range brbs_l_40.	NA
34	Blackdown Tableland	NA	Implemented as part of the landscape decision brbs_l_35.	NA
35	Kerlong Range and Junee Tableland	NA	Not implemented – original nomination inconsistent with the criterion value Id - Geographic Range Limits.	NA
36	Minerva Hills	NA	Not implemented - stated values not consistent with the criterion value Ia - Centre of endemism. In addition, a new landscape decision which captures values associated with the Minerva Hills has been implemented, refer to brbn_l_79.	NA
37	Staircase Range – Expedition Range in Springsure to Rolleston area	NA	Not implemented - stated values not consistent with the criterion value Ia - Centre of endemism.	NA
38	Squire State Forest	NA	Not implemented - stated values not consistent with the criterion value Ia - Centre of endemism.	NA
39	Robinson Gorge	NA	Not implemented – original nomination inconsistent with the criterion value Id - Geographic Range Limits.	NA
40	Salvator Rosa and areas along road from Springsure to Tambo	NA	Not implemented - stated values not consistent with the criterion value Ia - Centre of endemism.	NA
41	Lord’s Table Mountain and environs of Duaringa	NA	Not implemented – original nomination inconsistent with the criterion value Id - Geographic Range Limits.	NA
42	Serpentinite country near Marlborough	NA	Implemented as a flora decision brbn_fl_03.	NA
43	State Forest 127	NA	Not implemented - stated values not consistent with the criterion value Ia - Centre of endemism.	NA

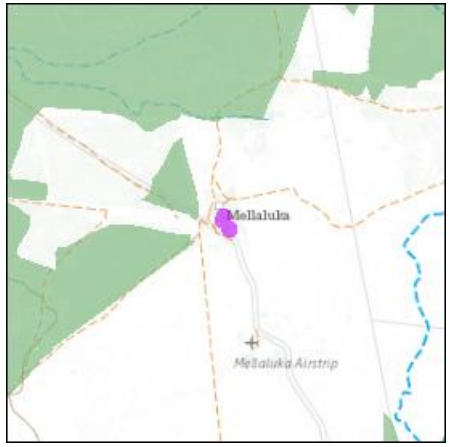
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
44	Foothills near Townsville	NA	Not implemented – original decision related to the vulnerable *Eucalyptus paedoglauca* – occurrences of the species are captured under Criterion A.	NA
45	Shoalwater Bay	NA	Implemented as part of a broader landscape decision brbn_l_86.	NA
46	Rewan, Expedition, Staircase and Denham Ranges	NA	Not implemented – original nomination inconsistent with the criterion value Id - Geographic Range Limits.	NA
brbn_l_47	BRBN remnant semi evergreen vine thicket 	State	Vine-thickets have high flora species diversity and provide habitat for endemic fauna such as land snails and insects. The Brigalow Belt vine-thickets are considered a dynamic ecosystem, adapted to the prevailing sub-humid conditions and having their own distinctive suite of species. The Grafton Range has probably functioned as a “refuge” in the local regional context due to its altitude as it contains several semi evergreen vine thicket (SEVT) species that are absent or very uncommon in the SEVT of surrounding areas. The same would be true of Mt Hutton area. Remnant SEVT communities (11.2.3, 11.3.11, 11.4.1, 11.5.15, 11.8.3, 11.8.6, 11.8.13, 11.9.4, 11.9.8 and 11.11.18) which reflect the listed nationally threatened ecological community are captured under the Criterion B1. Other Brigalow Belt SEVT regional ecosystems which are not listed under the nationally threatened ecological community include 11.10.8, 11.11.5, 11.11.21, 11.11.24 and 11.12.7. This decision captures those regional ecosystems not listed as threatened ecological communities as they also represent refuges from clearing and have similar ecological value to those that are. Refer to brbs_l_12 for the southern BRB implementation of this decision.	Ia (endemic richness): VH; Ib (refugia): VH; Ig (ecosystem variation): VH

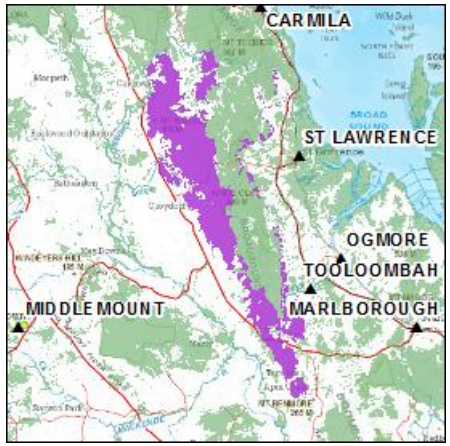
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_l_48	Lower Raglan Creek 	Regional	The continuous flow of fresh water in the lower part of Raglan Creek provides a significant wildlife refugia, especially in times of drought. Threatened species inhabiting this reach include southern snapping turtle *Elseya albagula*. Priority taxa such as the barking owl *Ninox connivens* utilise the riparian vegetation community.	Ib (refugia): H
49	RE 11.3.4 along Alligator Creek	NA	Implemented as a fauna decision brbn_fa_05. (Nb. Original stated flora values relating to relative ecosystem size are addressed through Criterion D1).	NA
50	Wetlands on Don River	NA	Decision not implemented in version 2.1. Rather two generic decisions relating to natural wetlands (refer to the decisions titled Regionally and Locally significant natural palustrine & lacustrine wetlands) and their role as a wildlife refugia has been applied for both the north and south portions of the Brigalow Belt bioregion. State significant wetlands, are captured under Criterion B1. Nb. The importance of aquatic values, dependences associated largely with aquatic species, ecosystem processes and other aquatic criteria are assessed in substantial detail through application of the AquaBAMM - for further information relating to the AquaBAMM, refer to https://wetlandinfo.des.qld.gov.au/wetlands/assessment/assessment-methods/aca/.	NA

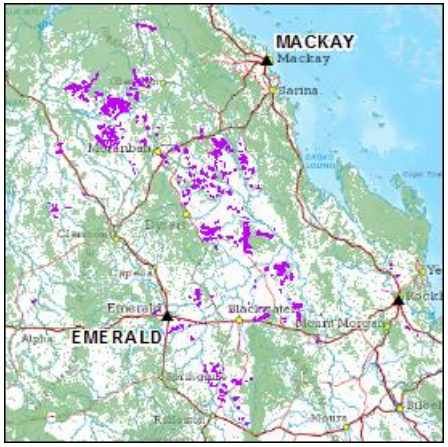
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
51	Ooline on South Blackwater Mine	NA	Not implemented - occurrences of threatened species addressed in the diagnostic Criterion A.	NA
52	Blue gum forests on alluvial country along Planet Creek in Shotover State Forest	NA	Implemented as a fauna south decision brbs_fa_70 (occurs in southern part of bioregion). (Nb. Original stated flora values relating to relative ecosystem size are addressed through Criterion D1).	NA
53	Ooline remnants in the Arcadia subregion	NA	Not implemented - occurrences of threatened species addressed in the diagnostic Criterion A.	NA
54	Endemic eucalypts in the Buckland Basalt subregion	NA	Implemented as part of brbs_l_34.	NA
brbn_l_55	Castlevale Holding 	State	Castlevale is part of a large tract of remnant vegetation that links to Carnarvon National Park. There is high ecosystem diversity and the location contains the largest remnant of brigalow in the Brigalow Belt and consequently has value as a wildlife refugia. The location provides habitat for threatened plant species such as *Eucalyptus pachycalyx* subsp. *waajensis, Apatophyllum flavovirens, Shonia carinata* and *Daviesia discolor*, and animals including large-eared pied bat *Chalinolobus dwyeri*, yakka skink *Egernia rugosa* and greater glider *Petauroides volans*. Around 200 terrestrial vertebrate taxa recorded from the area that includes several priority ones - *Gehyra catenata* and brigalow scaly-foot *Paradelma orientalis*, both of which are endemic to the bioregion.	Ib (wildlife refugia): VH Ie (species richness): H
56	Southern most remnants of gidgee on alluvial in BRBN	NA	Not implemented – original nomination inconsistent with the criterion value Id - Geographic Range Limits.	NA
57	Strike ridge country in Southern Drummond Basin	NA	Implemented as a fauna decision brbn_fa_03.	NA

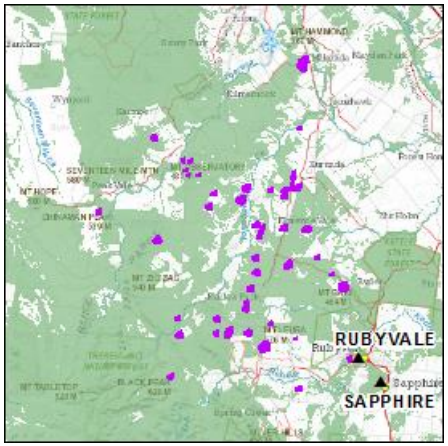
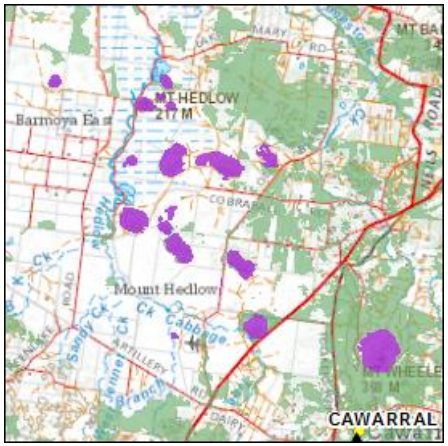
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
58	The Anakie Inlier subregion contains the largest connected remnant of silver-leaved ironbark woodland on granite in BRBN	NA	Implemented as a fauna decision brbn_fa_04.	NA
59	Koala colony at Blair Athol mine	NA	Not implemented - threatened species are addressed in the diagnostic Criterion A.	NA
60	Remnant grassland in the May Downs area	NA	Not implemented – original nomination inconsistent with the criterion value Id - Geographic Range Limits.	NA
brbn_l_61	Stripy brigalow and eucalypt country south of Middlemount (Barwon land system)	Regional	Implemented as a flora decision brbn_fl_07.	NA
brbn_l_62	Taunton Scientific Reserve 	State	Taunton National Park (Scientific) acts as a refugia within a heavily modified landscape. The park was established primarily for the purpose of protecting the endangered bridled nailtail wallaby *Onychogalea fraenata*. Dispersal of individuals in time to suitable habitat to the south will rely on retaining connectivity from the park, particularly along the creeks Five Mile, Duckworth, Walton, Iguana, Stanley, Charlevue, Spectacle, Lagoon and Wild Horse (not captured in the spatial implementation). Other known conservation significant fauna which occur or have been recorded within the park are golden-tailed gecko *Strophurus taenicauda*, brigalow scaly-foot *Paradelma orientalis*, ornamental snake *Denisonia maculata*, speckled warbler *Chthonicola sagittata*, koala *Phascolarctos cinereus* and squatter pigeon *Geophaps s. scripta*. Representatives from six of the Australian snake families are also found in the reserve. With respect to flora, 12 regional ecosystems are present including endangered brigalow communities. More than 190 species of flora have been recorded, of which at least 4 are threatened - *Solanum elachophyllum, Solanum adenophorum, Dichanthium setosum* and *Cerbera dumicola*.	Ib (refugia): VH

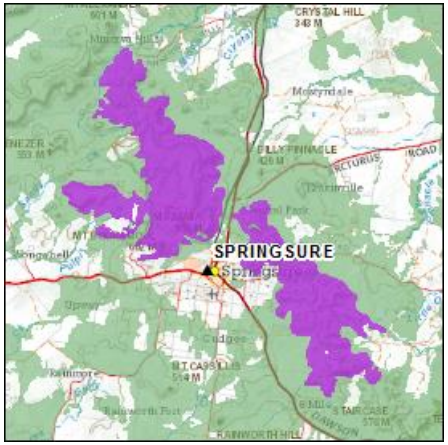
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
63	Gidgee on Kilcummin road	NA	Not implemented – original nomination inconsistent with the criterion value Id - Geographic Range Limits.	NA
64	Cooper Creek (Homevale National Park)	NA	Not implemented – original nomination inconsistent with the criterion value Id - Geographic Range Limits.	NA
65	Outliers of Serpentinite on the Connors Range	NA	Values associated with serpentinite ecosystems have been implemented as a flora decision brbn_fl_03.	NA
66	Blue gum flats 40km from Sarina in the Nebo Connors Range	NA	Implemented as a fauna decision brbn_fa_05.	NA
67	St. Albans / Beresford holdings	NA	Implemented as a fauna decision brbn_fa_06.	NA
68	Mt Abbott	NA	Not implemented - values captured under Criteria A and H and as a new flora decision brbn_fl_05.	NA
69	Core areas in fragmented subregions: Dawson River Downs Callide Creek Downs Isaac - Comet Downs Upper Belyando Floodout	NA	Amalgamated with brbn_l_70 and implemented as a new decision brbn_l_83.	NA
70	Core areas in unfragmented subregions	NA	Amalgamated with brbn_l_69 and implemented as a new decision brbn_l_83.	NA
71	Natural palustrine & lacustrine wetlands	NA	Implemented as two separate decisions in version 21. Refer to decisions brbn_l_92 and brbn_l_93.	NA

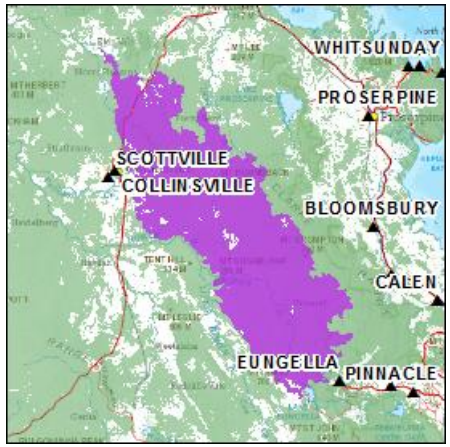
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_l_72	Artesian Springs 	State	Artesian springs are a rare and unique ecosystem type that represent permanent wetlands in areas subject to drought. They provide habitat for endemic species of plants and invertebrates.	Ib (refugia): VH
73	Representation in relictual subregions: Dawson River Downs Callide Creek Downs Isaac - Comet Downs Upper Belyando Floodout	NA	Split into two decisions relating to State significant (the largest example of each regional ecosystem in relictual subregions) and Regionally significant (all remaining remnant vegetation within relictual subregions) remnant components in version 2.1. Refer to decisions brbn_l_87 and brbn_l_89.	NA

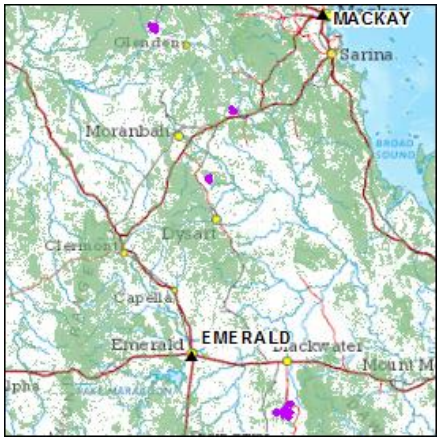
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_l_74	Southern Connors / Broadsound Range 	State	High density and size range of hollow-bearing trees used by greater glider *Petauroides volans* and yellow-bellied glider *Petaurus australis*. Other threatened or priority taxa include *Figuladra barneyae*, *Lampropholis adonis*, glossy black-cockatoo *Calyptorhynchus lathami*, squatter pigeon *Geophaps s. scripta* and koala *Phascolarctos cinereus*. The black-bellied form of the crimson finch *Neochmia phaeton* is present at its southernmost distribution limit, its continued presence due to the multi-channelled creeks/rivers that offer shelter and feed resources even when grazed quite heavily.	Ia (endemic richness): H; Ib (refugia): VH; Ii (hollow density): VH; K (condition): STATE

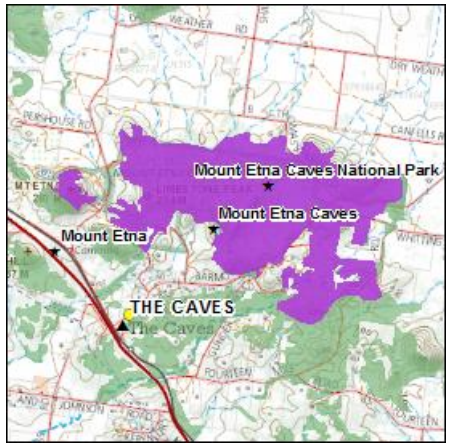
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_l_75	Gilgai Remnants 	State	The gilgai wetland systems in the Brigalow Belt tend to be dominated by acacia and casuarina (mostly brigalow *Acacia harpophylla* and belah *Casuarina cristata*). *Melaleuca, Corymbia* and *Eucalyptus* species are also common along with *Astrebla* or *Dichanthium* spp. grassland. Gilgai systems are widespread and some are in good condition while others are largely cleared. The range of threatened wildlife present may use inundated gilgai as a water source at some stage of their life or are closely associated with the cracking clay soil habitat and wetlands. Gilgai reptiles include the death adder *Acanthophis antarcticus*, De Vis' banded snake *Denisonia devisi* and ornamental snake *D. maculata*. Amphibians that use gilgai include salmon striped frog *Limnodynastes salmini*, scarlet-sided pobblebonk *L. terraereginae* and striped burrowing frog *Cyclorana alboguttata*. Other fauna which may use gilgai habitat at various times include bridled nailtail wallaby *Onychogalea fraenata*, black-striped wallaby *Macropus dorsalis* and the glossy black cockatoo *Calyptorhynchus lathami*. (Source: Wetland*Info* https://wetlandinfo.des.qld.gov.au/wetlands/). Refer to brbs_l_49 for the southern BRB implementation of this decision.	Ib (refugia): VH; Ij (aggregation site):VH

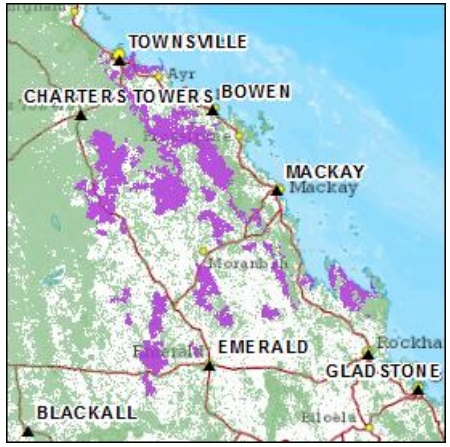
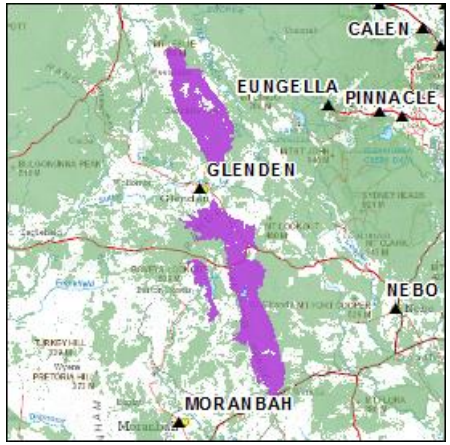
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_l_76	Western Volcanic Plugs around Central Highland 	State	The western volcanic plugs have vine thickets (RE 11.8.5 and 11.8.3) which differ from the eastern plugs in that they reflect a drier ecosystem type and vary in terms of species composition. Other fauna found on these peaks include the northern quoll *Dasyurus hallucatus*, greater glider *Petauroides volans* and koala *Phascolarctos cinereus*. The rocky habitat also supports populations of Herbert's rock-wallaby *Petrogale herberti*. Given the presence of isolated patches of dry rainforest it is highly likely that a range of endemic land snails are present.	Ib (refugia): VH;
brbn_l_77	Volcanic plugs between Rocky and Yeppoon 	Regional	Rocky elevated peaks between Rockhampton and Yeppoon includes the following peaks: Mt Munga Wappa, Mt Hedlow, Rocky Cone Mountain, Mt Cobberra, Camp Hill Rock, Ironpot Mountain, Jim Crow Mountain, Mt Wheeler and other nearby small unnamed peaks. The northern portion of the plugs are surrounded by wetlands (ranked of high importance under Fitzroy Basin prioritisation assessment, jaensch et al. 2015). *Eucalyptus crebra* woodlands and patches of semi-evergreen rainforest are the dominant vegetation communities present. The peaks provide habitat for northern quoll *Dasyurus hallucatus*, as well as other rock-outcrop dependent fauna, e.g. unadorned rock-wallaby *Petrogale inornata*. Forested parts of plugs used by glossy black-cockatoo *Calyptorhynchus lathami*, powerful owl *Ninox strenua*, greater glider *Petauroides volans* and koala *Phascolarctos cinereus*. The plugs are also important for hill-topping insects such as butterflies. From a flora perspective, the plugs contain hoop pine *Araucaria cunninghamii* and vine thickets. Ground orchids have also been recorded.	Ib (refugia): VH

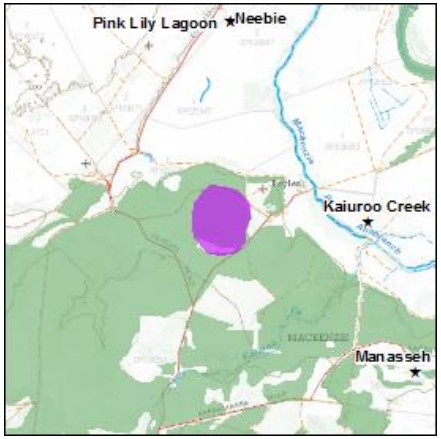
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_l_78	Bridge Flats 	Regional	A relatively small isolated tract consisting of box woodland with patches of brigalow *Acacia harpophylla*. Regionally, this ecosystem type has been extensively cleared or modified by grazing. It contains hollow bearing trees and provides resources for white-bellied sea-eagle *Haliaeetus leucogaster* nesting. Adjoins Nogoa River where the threatened Fitzroy River turtle *Rheodytes leukops* has been found. Around 160 terrestrial vertebrate taxa including a range of waterbirds recorded from the area.	Ib (refugia): High Ij (aggregation site): High Ii (hollow density): High
brbn_l_79	Minerva Hills National Park and surrounds 	State	This decision relates to the Minerva Hills area that is generally above 450m altitude. The area has a unique combination of geologies with outcrops of metamorphics, basalts and trachytes. There is ecosystem diversity including vine thickets and forests containing hollow-bearing spotted gum and ironbark. Ecosystems are considered to be in relatively good condition. Flora species of note include spinifex species and the endemic *Melaleuca montis-zamiae*. Among the 200 terrestrial vertebrate taxa recorded in this area are a high diversity of macropods (9 species) - eastern grey kangaroo *Macropus giganteus*, whiptail wallaby *M. parryi*, common wallaroo *M. robustus*, spectacled hare-wallaby *Lagorchestes conspicillatus*, Herbert's rock-wallaby *Petrogale herberti* and swamp wallaby *Wallabia bicolor*. Threatened fauna recorded include northern quoll *Dasyurus hallucatus*, greater glider *Petauroides volans* and koala *Phascolarctos cinereus*. A range of priority taxa are also present, e.g. frilled lizard *Chlamydosaurus kingii*, speckled warbler *Chthonicola sagittata*, eastern pebble-mouse *Pseudomys patrius* and Central Highlands plague rat *Rattus* sp. cf. *villosissimus/sordidus*.	Ib (refugia): VH; Ie (species richness): H; Ig (ecosystem variation):VH; Ii (hollow density): VH

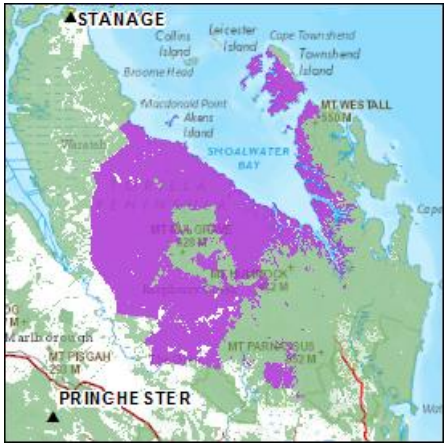
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_l_80	Eungella National Park to Sonoma State Forest to the north west of Clarke Range 	State	This feature lies adjacent to the boundary with the Central Queensland Coast bioregion and encompasses a geographic range of moderate elevation (300m) containing predominately landzone 12 regional ecosystems including scattered vine thickets. There are also riparian areas e.g. 11.3.25 in good condition especially in the upper catchment of Pelican creek. Flagstone Nature Refuge lies within this special feature. Over 300 terrestrial vertebrate taxa have been recorded in the area. Threatened fauna species recorded in parts of this feature include common death adder *Acanthophis antarcticus*, northern quoll *Dasyurus hallucatus*, grey falcon *Falco hypoleucos*, squatter pigeon *Geophaps s. scripta* and koala *Phascolarctos cinereus*. Hollow-dependent fauna present include threatened taxa (powerful owl *Ninox strenua* and greater glider *Petauroides volans*), priority taxa (barking owl *Ninox connivens* and yellow-bellied glider *Petaurus australis*) and a suite of parrot species (sulphur-crested cockatoo *Cacatua galerita*, red-tailed black-cockatoo *Calyptorhynchus banksii*, red-winged parrot *Aprosmictus erythropterus*, pale-headed rosella *Platycercus adscitus* and scaly-breasted lorikeet *Trichoglossus chlorolepidotus*). Several other priority taxa inhabit the forested areas - frilled lizard *Chlamydosaurus kingii, Carlia rubigo* and brown treecreeper *Climacteris picumnus*.	Ie (species richness): VH; Ii (hollow density): VH; K (condition): STATE

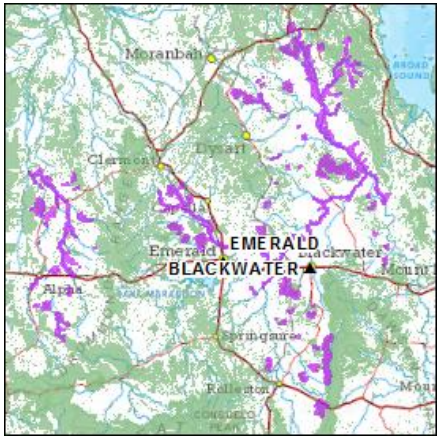
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_l_81	Brigalow remnants within mining leases in the Bowen Basin 	Regional	This feature captures selected brigalow communities situated on coal mine leases in the Bowen Basin, which have been active for at least 20 years. The panel considered that the lack of grazing within such areas has often enabled remnant brigalow to remain relatively intact. For the purpose of this decision, only contiguous patches of greater than or equal to 50 ha were retained and where disturbance comparatively appeared minimal based upon imagery. Brigalow ecosystems provide habitat for a distinctive fauna. Many of the species that presently or formerly occurred in such communities are now nationally threatened, including the bridled nailtail wallaby *Onychogalea fraenata*, northern hairy-nosed wombat *Lasiorhinus krefftii*, black-breasted button-quail *Turnix melanogaster*, squatter pigeon *Geophaps s. scripta*, ornamental snake *Denisonia maculata* and black-throated finch *Poephila c. cincta*.	Ib (refugia): High; K (condition): REGIONAL

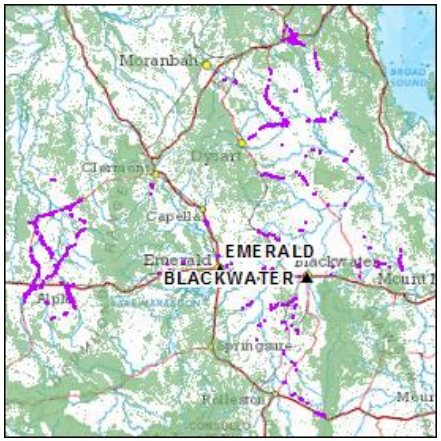
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_l_82	Mount Etna Limestone Karst and Outcroppings 	State	The Mount Etna area is characterised by tropical tower karsts, caves and limestone ridges. The water entrapment properties and springs which occur within the area sustain important ground water dependent ecosystems. This mixture of high relief, water entrapment and limestone karst geology creates a fire shadow at the base of rises providing a refugia from fire, and potentially, longer term impacts arising from climate change. Due to the above characteristics and topography, dry semi-evergreen vine thicket/rainforest communities dominate (REs 11.12.4 & 11.11.5). These communities exhibit distinct variation compared to similar communities on metamorphics. With its limestone outcrops, caves and dry rainforest, the area contains significant maternity and roosting sites which support five species of bat, including the endangered ghost bat *Macroderma gigas* and both species of bent-wing bat (little bent-wing bat *Miniopterus australis* & eastern bent-wing bat *M. schreibersii oceanensis*). With respect to the little bent-wing bat, more than 80% of the Australian breeding population utilises the area. Other conservation significant taxa present are northern quoll *Dasyurus hallucatus* and long-nosed bandicoot *Perameles nasuta*. Around 200 terrestrial vertebrate taxa have been recorded for the area. The calcium enriched soils and the variety of microclimates available provide a unique environment in which many invertebrate specialists persist. Land snail diversity is high (approx. 20 taxa) including many endemics, e.g. *Dimidarion alyssa, Laevidelos moria, Pleuropoma spatei, Gyrocochlea etna, Scagacola cavernula* and *Calvigenia cognata*. A range of cave-dependent invertebrates, e.g. spiders and centipedes, are also present. The area is also considered a major fossil site (Hocknull 2005). With respect to flora, over 260 species have been recorded from the park, including the endangered cave fern *Tectaria devexa* var. *devexa* (the only known location of the species), the endangered *Cycas ophiolitica* and the near threatened *Graptophyllum excelsum*. Some of information from NPRSR (2013f).	Ia (endemic richness): VH; Ib (refugia): VH; Ie (species richness): VH; Ig (ecosystem variation): H; Ij (aggregation site): VH; Ik (climate change refuge): VH

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_l_83	Core areas 	State	Tracts are defined as patches of continuous remnant vegetation. The size of any tract is a major indicator of ecological significance and is strongly correlated with the long-term viability of biodiversity values. Larger tracts are less susceptible to ecological edge effects and are more likely to sustain viable populations of native flora and fauna than smaller tracts. These areas can be considered core nodes/refugia in which a large proportion of the bioregions biodiversity is represented. A modified tract size analysis (Criterion C) (EHP 2014) was used to identify and delineate discrete tracts of remnant vegetation at a bioregion scale. For the purpose of the assessment, a core area was identified as a relatively contiguous area of remnant vegetation (disregarding small perforations, or linear breaks) and which was generally greater than 5km in width (based upon the minimum width of the terrestrial corridor network). Tracts of greater than 10,000ha were included. Refer to brbs_l_16 for the southern BRB implementation of this decision.	Ib (refugia): VH
brbn_l_84	Carborough, Kerlong ranges and Redcliffe Vale Sandstone Massives 	State	The ranges and massives exhibit unique flora, fauna and geomorphological characteristics. The landscape contains gorge areas and although not the same elevation as Carnarvon, parts are still relatively high at an altitude of 600 to 700m. Lake Elphinstone, at the eastern edge, is thought to have been formed in relatively recent geological time and is assumed to have been created through an unusual rainfall event. Groundwater Dependent Ecosystems (GDEs) are present, which might play a refugial role for some species. The area has mature ecosystems which, from a fauna perspective, supply good habitat complexes of hollow-bearing trees. These provide habitat for species such as the vulnerable greater glider *Petauroides volans*. Examples of bioregional endemic taxa found within these ranges include *Corymbia aureola, Cerbera dumicola* and *Dianella fruticans*. Species adapted to drier areas such as *Brachychiton* spp. occur on the flanks of Redcliffe Tableland. Other threatened species found on these ranges include northern quoll *Dasyurus hallucatus* and squatter pigeon *Geophaps s. scripta* along with priority taxa such as *Carlia rubigo*.	Ia (endemic richness): H; Ib (refugia): H; Ii (hollow-density): H

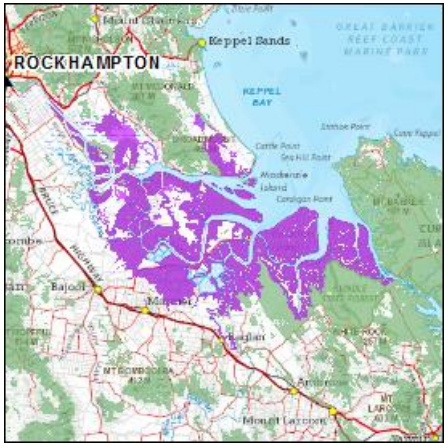
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_l_85	Mackenzie Perched Wetlands 	State	The Mackenzie perched wetlands are a rare wetland type (perched freshwater tree swamp) and include brigalow associations. This special feature is focussed on one particular wetland. It is unique in that it represents the largest internally draining wetland in the northern part of the bioregion. It is likely the area acts as a refugia, in that water is near permanent.	Ib (refugia): VH; Ig (ecosystem variation): VH

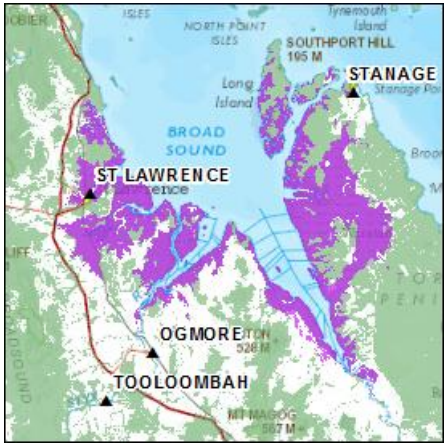
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_l_86	Shoalwater Bay, brigalow belt REs 	State	The Shoalwater Bay Training Area (SBTA) extends into both the Brigalow Belt and Central Queensland Coast bioregions. It contains 68 different regional ecosystems of which 24 belong to the brigalow belt, including one endemic regional ecosystem (11.11.20) and one endangered (11.3.11). Much of the area is in a relatively natural state, with almost 100% vegetation cover. There is intact grassy woodland in excellent condition and the area has not been subject to grazing since 1965. The area exhibits high natural integrity, with continuous ecosystem gradients. Of the over 1100 plant taxa and 330 terrestrial vertebrates, there are approximately 201 that are at or near their known southern and northern distribution limits (Department of Defence 2009). The SBTA has 50 threatened wildlife species (31 fauna, 19 flora). Examples of threatened flora include *Cycas megacarpa, Cycas ophiolitica, Macrozamia serpentina* and *Phaius australis*. Disjunct flora populations of *Actephila bella, Eucalyptus resinifera* and *Balanops australiana* are present. Threatened fauna species include red knot *Calidris canutus*, glossy black-cockatoo *Calyptorhynchus lathami*, large-eared pied bat *Chalinolobus dwyeri*, eastern curlew *Numenius madagascariensis* and water mouse *Xeromys myoides*. Nb. The area mapped for this BPA assessment only includes Brigalow Belt regional ecosystems.	Ib (refuge): VH; Id (range limits): VH; Ie (species richness): VH; K (condition): STATE

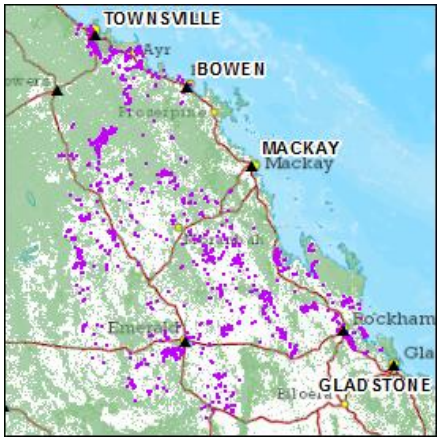
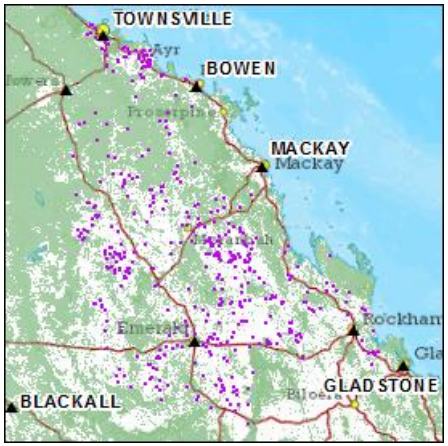
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_l_87	Relictual subregions (less than 30% remnant vegetation) - largest remaining examples of each regional ecosystem in a subregion 	State	A summary of research on landscape thresholds for remnant vegetation is provided by James & Saunders (2001). The evidence suggests that once remnant vegetation falls below 30%, there are significant declines in biodiversity. Relictual subregions (less than 30% remnant vegetation remaining) for the Brigalow Belt include the Upper Belyando Flood out (11.8), Isaac - Comet Downs (11.11), Callide Creek Downs (11.19), Dawson River Downs (11.21), Taroom Downs (11.25), Dulacca Downs (11.28), Weribone High (11.29), Tara Downs (11.30), Eastern Darling Downs (11.31), Moonie R. - Commoron Creek Floodout (11.33), Moonie - Barwon Interfluve (11.34), Warrambool - Moonie (11.35), Macintyre - Weir Fan (11.36), Narrandool (11.38). The largest remaining examples of each regional ecosystem in a subregion represent important refuges from clearing in these fragmented landscapes. Refer to brbs_l_08 for the southern BRB implementation of this decision.	Ib (refugia): VH

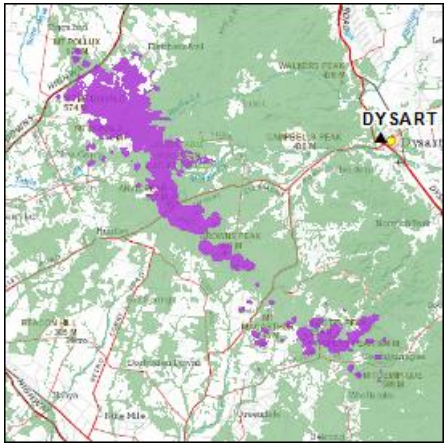
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_l_88	Relictual subregions (less than 30% remnant vegetation) – stock-routes and associated reserves 	State	A summary of research on landscape thresholds for remnant vegetation is provided by James & Saunders (2001). The evidence suggests that once remnant vegetation falls below 30%, there are significant declines in biodiversity. The following subregions have less than 30% remnant vegetation in the southern Brigalow Belt: Relictual subregions (less than 30% remnant vegetation remaining) for the Brigalow Belt include; Upper Belyando Flood out (11.8), Isaac - Comet Downs (11.11), Callide Creek Downs (11.19), Dawson River Downs (11.21), Taroom Downs (11.25), Dulacca Downs (11.28), Weribone High (11.29), Tara Downs (11.30), Eastern Darling Downs (11.31), Moonie R. - Commoron Creek Floodout (11.33), Moonie - Barwon Interfluve (11.34), Warrambool - Moonie (11.35), Macintyre - Weir Fan (11.36), Narrandool (11.38). Stock-routes and associated camping and water reserves provide critical connectivity in fragmented landscapes. They also offer opportunities to restore habitat and connectivity in highly cleared landscapes. Refer to brbs_l_09 for the southern BRB implementation of this decision.	Ib (refugia): VH

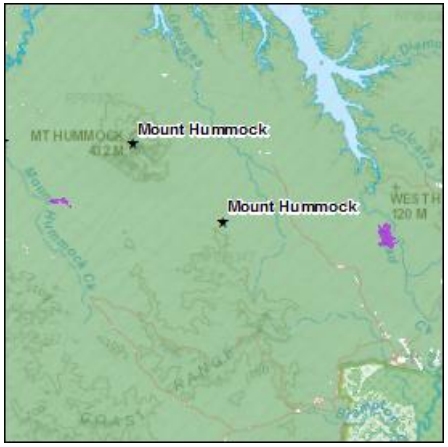
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_l_89	Relictual subregions (less than 30% remnant vegetation) – remnant vegetation 	Regional	A summary of research on landscape thresholds for remnant vegetation is provided by James & Saunders (2001). The evidence suggests that once remnant vegetation falls below 30%, there are significant declines in biodiversity. The following subregions have less than 30% remnant vegetation in the southern Brigalow Belt: Relictual subregions (less than 30% remnant vegetation remaining) for the Brigalow Belt include; Upper Belyando Flood out (11.8), Isaac - Comet Downs (11.11), Callide Creek Downs (11.19), Dawson River Downs (11.21), Taroom Downs (11.25), Dulacca Downs (11.28), Weribone High (11.29), Tara Downs (11.30), Eastern Darling Downs (11.31), Moonie R. - Commoron Creek Floodout (11.33), Moonie - Barwon Interfluve (11.34), Warrambool - Moonie (11.35), Macintyre - Weir Fan (11.36), Narrandool (11.38). Remnant vegetation provides a refuge from clearing in fragmented subregions and should be retained to maintain biodiversity. Refer to brbs_l_15 for the southern BRB implementation of this decision.	Ib (refugia): VH

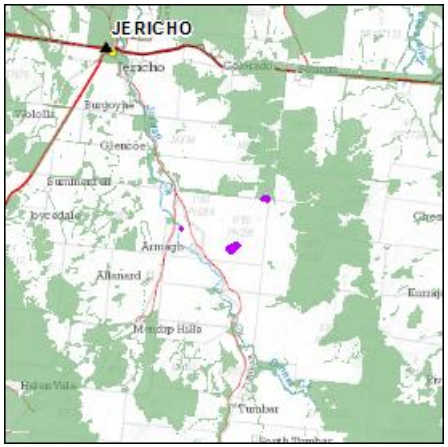
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_l_90	Fitzroy Delta 	State	A nationally important wetland system incorporating a coastal delta and floodplain environment situated at the terminus of the largest river system in Queensland that encompasses both freshwater and marine elements. Ecosystems present include estuarine water bodies, mangrove, saltpan and saltmarsh communities, through to semi-permanent and permanent freshwater palustrine and lacustrine lagoons and wetland systems. The intertidal area is considered to be in pristine condition with limited impacts due to agriculture and other land use activities. A number of conservation significant migratory birds utilise the area, including the lesser sand plover *Charadrius mongolus*, greater sand plover *C. leschenaultii*, bar tailed godwit *Limosa lapponica*, eastern curlew *Numenius madagascariensis*, great knot *Calidris tenuirostris*, red knot *C. canutus* and curlew sandpiper *C. ferruginea*. A minimum of approximately 50 waterbird species utilise the area including Australasian bittern *Botaurus poiciloptilus*. Small populations of the endangered Capricorn yellow chat *Epthianura crocea macgregori* also occur in areas of suitable habitat. The Fitzroy Delta is also considered to be the estuarine crocodile's *Crocodylus porosus* southern distributional limit (although occasional sightings do occur much further south). Two species of mangrove (*Bruguiera exaristata* and *Xylocarpus australasicus*) are also considered close to or at their limit of distribution. Nb. Wetlands of National significance are generally incorporated under Criterion B1, however, the panel considered that given the size and importance of the area, the Fitzroy Delta should be retained as a special area decision. (ref: http://www.environment.gov.au/cgi-bin/wetlands/report.pl?smode=DOIW&doiw_refcodelist=QLD012)	Ib (refugia): H; Ie (species richness): H; Ij (aggregation site): VH

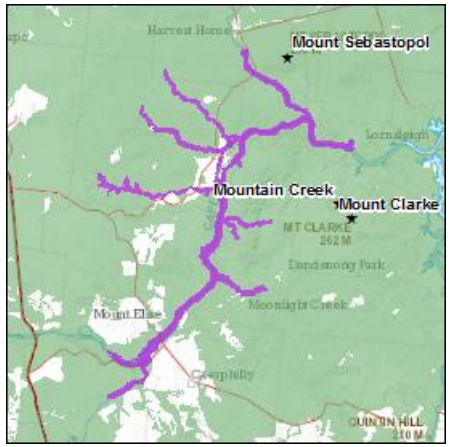
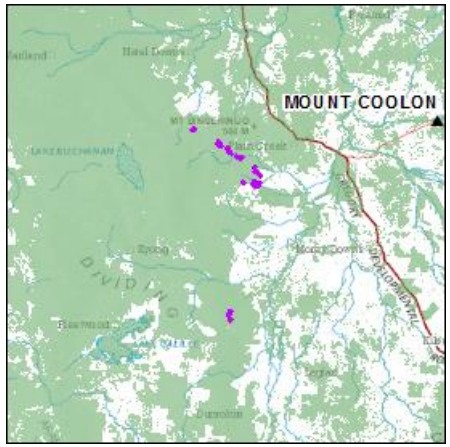
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_l_91	Torilla Plain and Broadsound 	State	A nationally important wetland system incorporating a complex of subtidal, intertidal marine and estuarine wetlands. The Torilla Plain, on the eastern side of Broadwater represents an intact, natural elevated marine plain and supports a diversity of ecosystem types including extensive areas of *Sporobolus virginicus* grassland on marine clay plains (regional ecosystem 11.1.1). Substantial populations of shorebirds are also known to occur within the site. Over 70 wetland taxa recorded from the site with 23 waterbird taxa found breeding. Nationally important migratory species such as the eastern curlew *Numenius madagascariensis*, whimbrel *N. phaeopus*, great knot *Calidris tenuirostris* and curlew sandpiper *C. ferruginea* utilise the area. The plain contains the largest known population of the critically endangered Capricorn Yellow Chat *Epthianura crocea macgregori* and is a breeding area for endangered Australian painted snipe *Rostratula australis*. Nb. Wetlands of National significance are generally incorporated under Criterion B1, however, the panel considered that given the size and importance of the area, the Torilla Plain and Broadsound complex should be retained as a special area decision. (ref: http://www.environment.gov.au/cgi-bin/wetlands/report.pl?smode=DOIW&doiw_refcodelist=QLD012)	Ib (refugia): H; Ie (species richness): H; Ij (aggregation site): VH

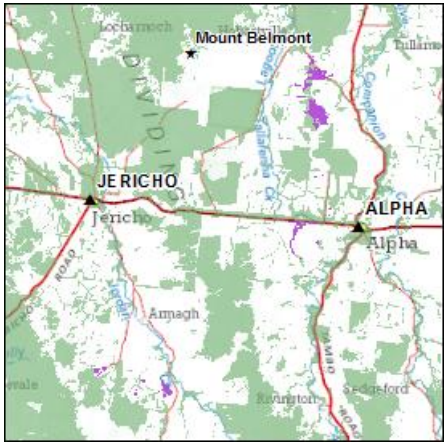
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_l_92	Regionally significant natural palustrine & lacustrine wetlands 	Regional	The panel considered that relatively natural palustrine and lacustrine wetlands and waterbodies within the Brigalow Belt bioregion act as important refugia, especially during periods of drought. Whilst State significant wetlands are captured under Criterion B1, the panel agreed that all such natural wetland complexes with a combined area of greater than or equal to 5ha in size should be classed as being of at least regional significance. Refer to brbs_l_47 for the southern BRB implementation of this decision.	Ib (refugia): H
brbn_l_93	Locally significant natural palustrine & lacustrine wetlands 	Local	The panel considered that relatively natural palustrine and lacustrine wetlands and waterbodies within the Brigalow Belt bioregion act as important refugia, especially during periods of drought. Whilst State significant wetlands are captured under Criterion B1, and regionally significant wetlands under the decision brbn_l_92, the panel agreed that all remaining relatively natural wetland complexes of less than 5ha in size be classed as being of at least local significance. Refer to brbn_l_48 for the southern BRB implementation of this decision.	Ib (refugia): M

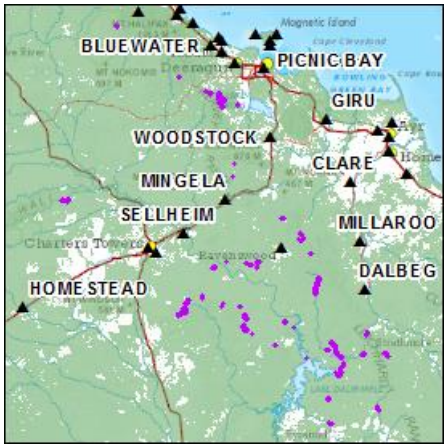
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
brbn_l_94	Peak Ranges 	State	An archipelago of basaltic peaks with granite outcrops which support xeric shrublands/open grassy woodlands (11.8.4) on hills and rocky summits, as well as semi-evergreen vine thickets (RE 11.8.3). The ongoing presence of rainforest areas is in part due to the surrounding steep cliffs and screes which afford a level of protection from fire. This mixture of dry rainforest and rocky terrain flora result in a distinct composition of species not present in the adjoining landscape and thus, contributes substantially to the regions total floristic biodiversity. At least 507 vascular plant species have been recorded, several of which are also endemic (Butler & Fensham 2008). Examples of endemics restricted to the rocky terrain include the species, *Acacia arbiana*, an un-named *Acacia* from Gemini Peaks, a possible other from Mt Donald, and up to three species of *Plectranthus* (including *Plectranthus actites* and two possible new species). The threatened flora species *Trioncinia patens* and two near threatened plants (*Acacia arbiana* and *Bertya pedicellata*) have also been recorded from the area. These peaks provide habitat refugia for wildlife such as unadorned rock-wallaby *Petrogale inornata*. The threatened northern quoll *Dasyurus hallucatus* are found within this feature. Endemic land snails, e.g. *Figuladra volgiola* are also present. Other priority fauna taxa include frilled lizard *Chlamydosaurus kingii, Gehyra catenata* and *Carlia rubigo*.	Ia (endemic richness): VH; Ib (refugia): VH; Ig (ecosystem variation): H; Ie (species richness): H
Non-bioregion decisions (nominated by panels during development of adjoining bioregion BPAs) *Nb. for the following non- Brigalow Belt BPA decisions, only affected Brigalow Belt assessment units are depicted in the images below.*				

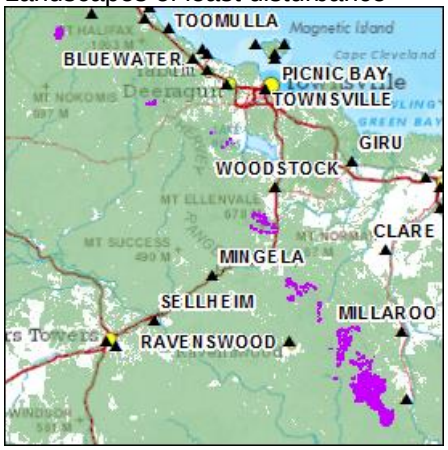
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
cqc_l_10	Remnant vegetation on Land Zone 5. 	State	Land Zone 5 tracts in this area are poorly collected and have a highly diverse ground stratum, particularly in Melaleuca communities. The composition of scrubs are determined by the influence of Land Zone 5 geology and they only occur in the northern end of the CQC bioregion. Known habitat for squatter pigeon (*Geophaps scripta scripta*). Weeds, particularly Indian couch (*Bothriochloa pertusa*) and lantana (*Lantana* sp.) may impact on diversity in this land zone, particularly when in drought, especially RE's 8.5.1 and 8.5.3. Rate all land zone 5 remnant ecosystem areas State Significant.	Ie (species richness): VH; Ig (ecosystem variation): VH;

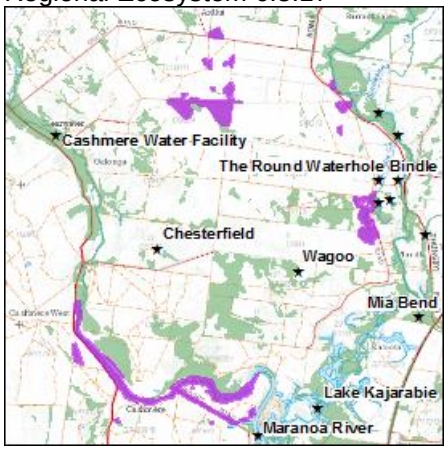
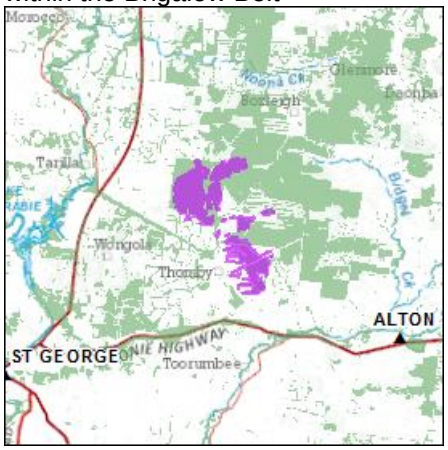
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
deu_l_02	Threatened REs: The conservation of biodiversity in the Desert Uplands (Morgan et al. 2002) section 3.2 outlines the special biodiversity values associated with endemic REs that only occur in one sub-region and vegetation units. Where these endemic ecosystems cover an extent of less than 10 000 hectares, the vegetation units are rated as having very high special biodiversity value because of the likelihood of distinct variation in species composition associated with geomorphology and other environmental variables.  	State	A number of threatened REs have their status because of their naturally restricted distribution, but others due largely due to widespread degradation resulting from a history of high grazing pressure. Those REs are included here along with those that are endemic with restricted extents. Threatened ecosystems that have been the target of extensive clearing are, in general, those associated with the more productive and better watered landscapes. REs included: 1 endangered RE occurs (<10 000 hectares): 10.3.19; 25 of concern REs (<10 000 hectares or <1000 hectares pre-clearing). For a list of relevant REs, refer to full special area description in DERM 2012; 2 least concern REs (>10 000 hectares) subject to 'high grazing pressure' (REDD): 10.3.25, 10.3.27; 3 REs 'subject to high grazing pressure' excluded due to there being >10 000 hectares: 10.9.1, 10.3.4, 10.7.5.	Ib (refugia): VH; Ig (ecosystem variation): VH;

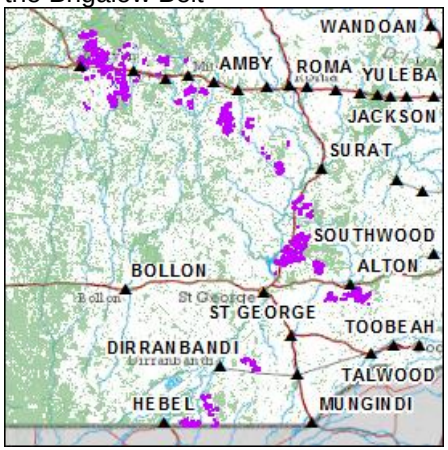
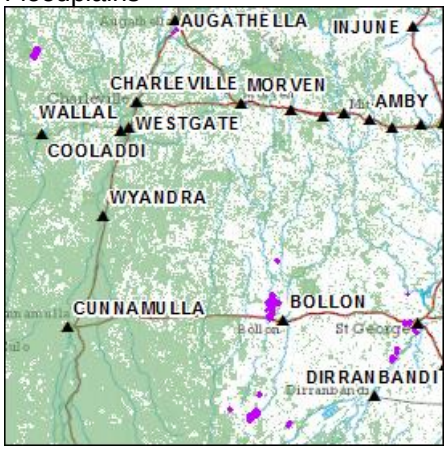
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
deu_l_16	Riparian REs 10.3.12, 10.3.13 and 10.3.14 have very high special biodiversity values. 	State	Riparian REs associated with the larger river systems function as important refuges for many species of flora and fauna because of the relatively high nutrient levels associated with most of these areas, their better moisture balance and their generally well developed vegetation. Riparian REs 10.3.12, 10.3.13 and 10.3.14 and a 200 metre buffer have a special biodiversity rating of very high. Large river and creek systems: Belyando, Alice, Campaspe and Cape Rivers; Hann, Jordan, Dyllingo, Amelia, Torrens, Warrigal, Reedy, Patrick, Sandy, Towerhill, Cornish and Prairie Creeks. Species: *Poephila cincta concta*, black-throated finch; *Erythrura gouldiae*, gouldian finch; *Rostratula australis*, Australian painted snipe; *Grantiella picta*, painted honeyeater; *Calyptorhynchus lathami*, glossy black cockatoo; *Ephippiorhynchus asiaticus*, black-necked stork; *Falco hypoleucos*, grey falcon; *Lophoictinia isura*, square-tailed kite; *Nettapus coromandelianus*, cotton pygmy goose; *Stictonetta naevosa*, freckled duck; *Lerista wilkinsi*, two-toed fine-lined slider; *Aepyprymnus rufescens*, rufous bettong; *Chalinolobus gouldii*, Gould's wattle bat; *Chalinolobus morio*, chocolate wattled bat; *Cyclorana alboguttata*, greenstripe frog; *Cyclorana cultripes*, grassland collared frog.	Ib (refugia): VH;
deu_l_18	Remote areas 	State	The DEU bioregion retains a number of areas where because of their remoteness, size and condition the biodiversity values within them have the greatest chance of being maintained in the long term. These areas are centred largely on the rugged sandstone ranges and extensive red soil plateaus mainly in the central and northern parts of the Alice Tableland subregion. The major threatening process to these areas is the intensification of grazing through development of infrastructure such as watering points and fencing. The current condition of the ground layer and soil is considered very high compared to similar REs in other locations. These areas are rated as State significant, including some small disturbed areas within them where there is localised degradation associated with watering points.	K (condition): State

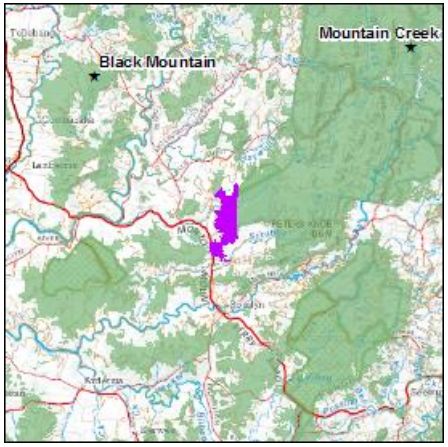
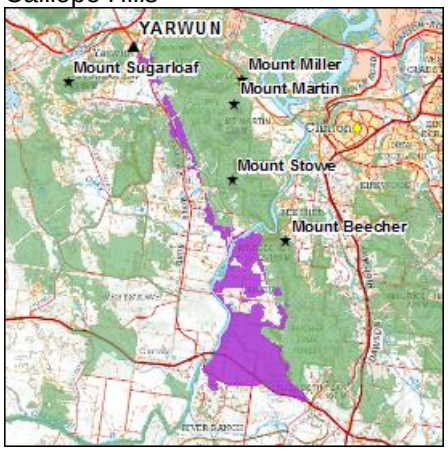
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
deu_l_22	Ground Cover Disturbance Index (GCDI) REs with GCDI values of high or very high over 25 per cent or more of the discrete mapped area have significance in that they are assumed to have very low disturbance to the ground layer.  	Regional	Using a 1988–2009 Landsat TM derived bare ground index time series, a disturbance classification (LOW, MEDIUM, HIGH, VERY HIGH) was developed for all areas in the DEU bioregion with less than 20 per cent foliage projective cover. This disturbance classification was then used to incorporate the 'disturbance/condition' data into the DEU bioregion BPA in the following way: 1) Occurrences of REs that have VERY LOW disturbance are elevated to Regional significance through Criterion K. Discrete areas of High and Very High GCDI ratings incorporated 65 REs. Those with >10 000 hectares represented are: 10.5.11—*Eucalyptus melanophloia*/whitei open woodland. 10.5.5—*E.melanophloia* open woodland. 10.7.10—*E. whitei* open woodland. 10.4.8—*Dichanthium sericeum* grassland. 10.5.2— *Corymbia plena* open woodland. 10.9.1— *Acacia argyrodendron* open woodland. 10.9.2—*A. cambagei* low woodland. 10.7.11—*E. melanophloia* open woodland. 10.7.1—*E. whitei* open woodland. 10.7.2—*E. persistens* open woodland. 10.3.6—*E. brownie* open woodland. 10.3.14—*E. camaldulensis* open woodland. 10.3.9—*E. whitei* open woodland. 10.4.1—*A. argyrodendron* open woodland. 10.3.8—*Aristida latifolia* tussock grassland. 10.7.8—*Melaleuca* spp. shrubland. 10.3.15—*E. camaldulensis* open woodland to grasslands 10.5.7—*Grevillea striata* low open woodland.	K (condition): Regional

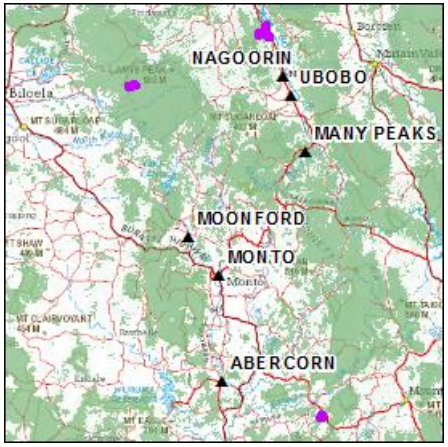
Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
eiu_l_03	Riparian ecosystems and associated areas.  	State	Most of the Einasleigh Uplands is dominated by open vegetation on shallow or skeletal soils. Riparian REs associated with the larger river systems function as important refuges for many species of flora and fauna because of the relatively high nutrient levels associated with most of these areas, their better moisture balance and their generally well developed vegetation. These mesic ribbons of habitat provide an important seasonal refuge and resources for a variety of species, in particular arboreal mammals, woodland birds, hollow-roosting species and amphibians. Many raptor species preferentially nest in tall riparian trees. Riparian areas are also biogeographically significant habitat as they allow inland incursions of many east coast species into drier areas on the edge of their geographic range. Riparian areas were given a 200m buffer with the same significance rating to ensure that adjacent habitat used opportunistically by species using the riparian areas was also included. This decision includes Landscape decision 4.	Ib (refugia): VH; Ie (species richness): VH; Ig (ecosystem variation): VH; Ii (hollow richness): H; Ij (aggregation site): VH;

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
eiu_l_10	Landscapes of least disturbance 	State	Parts of the Einasleigh Uplands, due to ruggedness, remoteness or the absence of permanent surface water, have had little impact from grazing by domestic stock or the associated infrastructure. These are areas where the landscapes have been little disturbed and the biodiversity values within them have the greatest chance of being maintained in the long term. The major threatening process to these areas is the intensification of grazing through development of infrastructure such as watering points and fencing. The current condition of the ground layer and soil is considered to be very good and they provide a refuge for sensitive plant and animal species from the impacts of grazing. These are predominantly areas of very low land capability, with skeletal, infertile and droughty soils, steep slopes and much rock outcrop. Any increase in land use intensity in these areas is likely to result in rapid land degradation and consequent loss of biodiversity values. The extent of these areas in the Einasleigh Uplands, compared with other parts of the state, makes them of State Significance for the protection of intact ecosystems.	Ia (endemic richness): H; Ib (refugia): VH; Ic (disjunct populations): H; Id (range limits): H; Ie (species richness): VH; Ig (ecosystem variation): H; K (condition): State;
mul_l_22	Regional Ecosystem 6.3.12 	State	6.3.12 (Yarran *Acacia omalophylla* +/- *A. microsperma* +/- *Eucalyptus coolabah* tall open shrubland on alluvium) was nominated by the panel to be treated as a wetland (Criteria Ib).	Ib (refugia): VH;

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
mul_l_41	Regional Ecosystem 6.3.17 	Regional	High species richness. Habitat for Crowbar Hole Ants *Aephaenogaster barbigula*. Also habitat for the Delicate Mouse *Pseudomys delicatulus* at its range limit. Historically habitat for the Northern Hairy-nosed Wombat *Lasiorhinus krefftii*. Habitat for hollow-nesting birds and mammals. Much of the RE is in poor condition owing to invasion by buffel grass.	Id (range limits): H Ie (species richness): H; Ii (hollow richness): H;
mul_l_44	Regional Ecosystem 6.5.1, outliers within the Brigalow Belt 	Regional	Outliers of this Mulga Lands RE in the Brigalow Belt show a distinct variation in species composition, similar to Brigalow Belt RE 11.5.13. Provides habitat for Yakka Skink *Egernia rugosa* and the Woma Python *Aspidites ramsayi*.	Ig (ecosystem variation): H;

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
mul_l_45	Regional Ecosystem 6.5.2, outliers in the Brigalow Belt 	Regional	Outliers of this Mulga Lands RE in the Brigalow Belt show a distinct variation in species composition.	Ig (ecosystem variation): H;
mul_l_54	Floodplains 	Regional	Floodplain communities of the Mulga Lands are highly diverse ecosystems, and have adapted to surviving prolonged drought, and floods of varying duration and intensity.	Ib (refugia): H;

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
seqn_l_35	Bania National Park 	Regional	Bania National Park is an extensive area of eucalypt open forest and rainforest at moderate altitude. It does not contain large numbers of species of conservation interest but being large it is an important wildlife refugia. Southeast Queensland endemic taxa (Criterion Ia): *Arytera microphylla*, *Cupaniopsis shirleyana*, *Eucalyptus major*, *Rhodamnia dumicola*. Wildlife refugia (Criterion Ib): Bania is a very large continuous tract of eucalyptus open forest and rainforest. Climate refugia (Criterion Ik): A combination of ecosystem and landscape elements present across parts of the general area described are considered to provide refugial functions and/or which facilitate adaptation zones (SEQ Catchments 2016).	Ia (endemic richness): M; Ib (refugia): VH; Ik (climate change refuge): VH;
seqn_l_47	Calliope Hills 	Regional	This area incorporates parts of Mount Stowe and Beecher State Forests, as well as the Calliope Regional Park. Wildlife refugia (Criterion Ib): Part of a large continuous tract of eucalypt woodland and open forest and rainforest. Disjunct populations (Criterion Ic): *Dansiea elliptica*, *Barklya syringifolia*. Climate refugia (Criterion Ik): A combination of ecosystem and landscape elements present across parts of the general area described are considered to provide refugial functions and/or which facilitate adaptation zones (SEQ Catchments 2016).	Ib (refugia): VH; Ic (disjunct populations): M; Ik (climate change refuge): H;

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
seqn_l_52	Semi-evergreen vine thickets 	State		Ib (refugia): VH; Ie (species richness): VH; Ij (aggregation site): VH; Ik (climate change refuge): VH;

seqs_l_24	Main Range from Wilson's Peak to Mistake Plateau  	State	Collectively, the elevated Tertiary basalt and rhyolite of the Main Range support complex vegetation and flora assemblages that are outstanding in the SEQ regional context. Also part of the Scenic Rim Important Bird Area (Dutson et al. 2009). Southeast Queensland endemic taxa (Criterion Ia): taxa more or less endemic to the Mt Warning Shield/Border Ranges extend north-west along Main Range albeit in attenuated numbers including rainforest taxa. There are also montane heath species associated with rhyolite (e.g. Hellhole Gorge, Mt Castle and The Steamers), such as *Bothriochloa bunyensis*, *Bulbine vagans*, *Clematis fawcettii*, *Cordyline congesta*, *Cupaniopsis baileyana*, *Doryanthes palmeri*, *Hovea similis*. *Lenwebbia prominens*, *Lenwebbia* sp. (Main Range P.R.Sharpe+ 4877), *Myoporum betcheanum*, *Pimelea umbratica*, *Plectranthus alloplectus*, *Rhodamnia whiteana*, *Seringia hillii*, *Veronica* sp. (Wilsons Peak D.A.Halford Q1521), *Wahlenbergia glabra*, *W. scopu*licola, *Xerochrysum bracteatum* subsp. (Mt Merino S.T.Blake 22869), *Zieria smithii*. Wildlife refugia (Criterion Ib): the high range country has not been cleared because of the rugged terrain and is surrounded by farming and rural life style lands. High numbers of taxa with disjunct distributions (Criterion Ic): *Acacia paradoxa*, *A. stricta*, *A. venulosa*, *Acaena novae-zelandiae*, *Babingtonia angusta*, *Bossiaea scortechinii*, *Callitris rhomboidea*, *Correa glabra* var. *glabra*, *Correa reflexa* var. *reflexa*, *Cryptandra amara* var. *amara*, *Cuttsia viburnea*, *Daviesia mimosoides* subsp. *mimosoides*, *Dillwynia sieberi*, *Dodonaea multijuga*, *Eucalyptus banksii*, *E. interstans*, *Kunzea ericoides*, *Mirbelia pungens*, *Olearia cydoniifolia*, *Phaleria chermsideana*, *Pomaderris crassifolia*, *Prostanthera phylicifolia*, *Santalum obtusifolium*, *Seringia corollata*. Limits of range (Criterion Id): many basalt and montane species of the Border Ranges and northern ranges of New South Wales reach their northern and western limits of distribution along Main Range. Limits of range - *Acacia obtusifolia* (apart from outlier Mt Woowoonga), *Acradenia euodiiformis*, *Banksia integrifolia* subsp. *monticola*, *Cinnamomum virens*, *Cryptocarya foveolata*, *Cuttsia viburnea* (apart from disjunct population at Blackdown Tableland in BRB), *Veronica derwentiana* subsp. *derwentiana*, *Eucalyptus amplifolia* subsp. *sessiliflora* (apart from Crow's Nest), *E. campanulata*, *E. deanei*, *E. dunnii*, *E. laevopinea*, (apart from outlier Mt Moffatt in Carnarvon National Park), *E. nobilis*, *E. obliqua*, *E. quadrangulata*, *Lomatia*	Ia (endemic richness): VH; Ib (refugia): VH; Ic (disjunct populations): VH; Id (range limits): VH Ie (species richness): VH; Ik (climate change refuge): VH;

Decision number	Description (including spatial extent where implemented)	Significance	Identified values in BPA	Criteria values[1]
			arborescens, *Pimelea curviflora* var. *gracilis* (apart from couple outlying populations in south Burnett). Area of high overall species richness (Criterion Ie) reflecting the habitat diversity of the area. Climate refugia (Criterion Ik): A combination of ecosystem and landscape elements are present across much of the general area described considered to provide refugial functions and/or which facilitate adaptation zones (SEQ Catchments 2016).	

[1] - For more details on the values see section 2.3.2 (pg 12).

3.3.2 Corridors (Criterion J)

Traditionally in a BPA, corridor centrelines are drawn on a map, a buffer is applied, and remnant polygons within the buffer area are given a value under Criterion J. This was done to recognise areas of potential habitat connectivity, and highlight areas that could be the focus of future revegetation work. For this version of the BRB, some changes have been made to the process of defining corridors and the manner in which remnant vegetation is triggered under Criterion J. These changes are outlined in the sections below.

3.3.2.1 Terrestrial corridors

The BRB expert panel agreed with the recommendation that terrestrial corridors be implemented in a manner similar to that applied under the recent update to the South East Queensland (SEQ) Biodiversity Planning Assessment (EHP 2016). Specifically, a more ecologically representative approach be applied which better incorporates the network of core vegetated tracts and linkages between them. For the SEQ BPA, core areas were defined based upon the output of the diagnostic Criteria C (Tract size) where discrete tracts, or portions of tracts, are assigned a "High" or "Very High" rating at the subregional scale. Core tracts that intersected terrestrial corridor buffers were attributed as part of the corridor network under Criterion J.

For the purpose of the BRB BPA, a modified tract analysis was performed to identify and delineate discrete tracts of remnant vegetation at the bioregion scale and which better integrated with the terrestrial corridor network. The discrete tracts, or core areas, were identified as relatively contiguous areas of remnant vegetation (disregarding small perforations, or linear breaks), were generally greater than 5km in width (based upon the minimum width of the terrestrial corridor network) and were greater than 10,000ha in size. Bioregional core areas are captured through special area decisions brbs_l_16 and brbn_l_83 for the southern and northern portions of the BRB bioregion respectively.

The panel agreed that the assignment of corridor vegetation under Criteria J focus upon the key vegetated linkages between core areas. Specifically, remnant vegetation outside of core areas was selected as corridor triggered remnant where 50% or more of its area was located within a terrestrial corridor buffer, or, in situations where less than 50% of a remnant unit area fell within the buffer, then the portion of the remnant unit within the buffer was retained.

The final terrestrial corridor network is summarised as decisions brbs_l_17 and brbn_l_17 in Table 13 with details for each corridor recorded in Table 14 and displayed in Figure 4.

Table 14. Terrestrial bioregional corridors identified by the BRB bioregion landscape expert panel

Final corridor number	Corridor description	Significance (width)	Comments/alterations
1	Alligator Creek to Pinnacles NP Terrestrial Corridor: Corridor extending East - West from the coastline near the northern extent of the Bowling Green Bay NP to the EIU border, (via Muntalunga Range, Mount Stuart, and extending through to the Hervey Range)	State (10 km)	Existing corridor modified to align with core areas, maximise vegetation connectivity and provide an accurate linkage to coastline and bioregion boundary. Extended west to link to the Einasleigh Uplands corridor. Reduced the corridors eastern extent at the interception of a new 2017 panel nominated coastal corridor.
2	Bowling Green Bay NP (coast) to Einasleigh Uplands border Terrestrial Corridor: Corridor running Northeast - Southwest from the coast at Cape Cleveland through to the EIU border north of Mingela SF (via Mount Elliot and Bowling Green Bay NP).	State (10 km)	Existing corridor modified to align with core areas, maximise vegetation connectivity and provide an accurate linkage to coastline and bioregion boundary. Reduced the corridors eastern extent at the interception of a new 2017 panel nominated coastal corridor.
3	Bowling Green Bay NP Terrestrial Corridor: Corridor running Northwest - Southeast connecting northern terrestrial State significant corridors (Alligator Creek to Pinnacles NP (EIU) Terrestrial Corridor & Bowling Green Bay NP (coast) to Einasleigh Uplands border Terrestrial Corridor) to the Haughton River Riparian Corridor.	State (10 km)	Existing corridor modified to align with core areas, maximise vegetation connectivity. Corridor modified to stop at the Haughton River riparian corridor (which replaces a previous terrestrial corridor).

Final corridor number	Corridor description	Significance (width)	Comments/alterations
4	Bowling Green Bay to Abbot Point Coastal Corridor: Corridor extending North-West - South-East along the coastline from Cape Cleveland (via Bowling Green Bay NP, Abbot Bay Resources Reserve and Cape Upstart NP) South to the CQC bioregion.	State (5 km)	2017 panel nominated corridor. Centreline approximates HAT.
5	Cape Upstart to Mount Abbot Corridor: Corridor running North - South commencing at the coast (Cape Upstart NP) intersecting the Bowling Green Bay to Abbot Point Coastal Corridor and ceasing at its intersection with the Great Eastern Ranges Terrestrial Corridor near Mount Abbot NP.	State (10 km)	Existing Brigalow Belt corridors modified to align with core areas and maximise vegetation connectivity. This corridor replaces two existing corridors which were situated in close proximity and provides a better continuous single vegetated connection to the coast at Cape Upstart.
6	Eastern Ranges to Bogie Range Terrestrial Corridor: Corridor extending North-East - South-West from the eastern ranges corridor to the corridor near Bogie Range. Links the Mt Herbert to Einasleigh Uplands border Terrestrial Corridor to the Eastern Ranges Terrestrial Corridor.	Regional (5km)	Existing corridor modified to align with core areas and maximise vegetation connectivity.
7	Mount Luce to Mt Abbot Terrestrial Corridor: Corridor linking the Bowling Green Bay to Abbot Point Coastal Corridor to the Eastern Ranges Terrestrial Corridor at Mt Abbot (Via Mts Pring, Roundback and Mackenzie)	State (5 km)	Existing corridor modified to align with core areas and maximise vegetation connectivity. As a result, the end linkage to the coast was shifted further east to follow a better vegetation connection. Corridor width reduced to 5km given surrounding extent of vegetation.
8	Mt Herbert to Einasleigh Uplands border Terrestrial Corridor: Corridor extends Southeast - Northwest from Mt Herbert in the Clarke Range to the Einasleigh Uplands Bioregion, (via Bogie Range and the Burdekin River).	State (5 km)	Existing corridor modified to align with core areas and maximise vegetation connectivity. Corridor width reduced to 5km (from 10km) to reflect remaining remnant extent between core areas.
9	Sonoma SF to Einasleigh Uplands Border Terrestrial Corridor: East-west corridor commencing at Sonoma SF and extending into the EIU bioregion. Providing a link between separate arms of the Great Eastern Ranges Corridor (via the Sonoma SF, Clarke Range, Peter Gordon Range, Herbert Range, Mt Herbert, Mount Castor, Mount Pollox, and the Burdekin River).	State (10 km)	Existing corridor modified to align with core areas and maximise vegetation connectivity.
10	Brisk Bay to Andromache SF Terrestrial Corridor: Corridor running North - South from Brisk Bay at the Port of Bowen into the CQC bioregion and linking to the Great Eastern Ranges Corridor at Andromache SF (via the CQC Border at Proserpine SF, Bosels Nature Refuge and Andromache Conservation Park).	State (10 km)	Existing corridor modified to align with core areas and maximise vegetation connectivity.

Final corridor number	Corridor description	Significance (width)	Comments/alterations
11	Mount Abbot to Mount Constance Eastern Ranges Link: Corridor running North - South and providing a link between arms of the Great Eastern Ranges Corridor (via the Bogie and Bowen Rivers and the Clarke Range)	State (10 km)	Existing corridor modified to align with core areas and maximise vegetation connectivity. Centreline extended to the west to reflect intent to link to the Great Eastern Ranges terrestrial corridor.
12	Central Queensland Coast to the Leichardt Range Terrestrial Corridor: Corridor running East - West providing a cross bioregional linkage between the CQC, BRB and EIU bioregions. Commences at the Andromache SF over the CQC border and ceases at the Leichardt Range (via the Normanby Range, Emu Creek and Bowen River).	State (10 km)	Existing corridor modified to align with core areas and maximise vegetation connectivity. Centreline extended to the west to reflect intent to link to the Great Eastern Ranges terrestrial corridor.
13	Mount Kroman to the EIU bioregion Terrestrial Corridor: Commences at a junction along the "Northern Brigalow East West Link" at Mount Kroman, and extends Northwest to provide a secondary link to the Great Eastern Ranges Terrestrial Corridor within the EIU bioregion.	State (10 km)	New 2017 corridor identified by the panel. Modified slightly to accommodate the state-wide major east-west link, align with core areas and maximise vegetation connectivity.
14	Great Eastern Ranges Terrestrial Corridor: Identified as a major state-wide terrestrial corridor which extends from the Border Ranges in SEQ to near Cooktown, generally following the coastal ranges. It is primarily characterised by dry and wet sclerophyll forests, with smaller areas of rainforest and woodland in wetter and dryer areas respectively.	State (10km)	Existing corridor modified to align with the intent of the state-wide Great Eastern Ranges terrestrial corridor. Route aligned to address core areas and maximise vegetation connectivity.
15	Clarke through Carborough Range Terrestrial Corridor: Corridor running North - South from the bottom of the Clarke Range at Robard Creek to Mt Ewan in the Carborough Range, (Via the Bowen River, Mt Leslie, Mt Black Jack, Redcliffe Tableland, and Limestone Hill)	State (10 km)	Existing corridor modified to align with core areas and maximise vegetation connectivity. As recommended by the panel, centreline extended to the north to link to the Central Queensland Coast to the Leichardt Range terrestrial corridor.
16	Northern Brigalow East West Link: Recognised as an important east-west link (from the Leichardt Range into the EIU bioregion) between the significant state-wide terrestrial corridors, the "Great Eastern Ranges Terrestrial Corridor" & the "Great Artesian Basin Rim Corridor". Follows ridgelines and remnant across intervening lowlands.	State (10 km)	New 2017 corridor identified by the panel. Also, identified as a significant east-west link under the state-wide Conservation Corridors overlay. Assigned State and 10km.

Final corridor number	Corridor description	Significance (width)	Comments/alterations
17	Crediton SF to Blackwood NP Terrestrial Corridor: Corridor running East to West from the Crediton SF at the CQC border to the Blackwood NP, (Via Homevale RR, Homevale NP, Denham Range, Carborough Range, Nairana NP and the Suttor River). Provides a link between the Great Eastern Ranges Terrestrial Corridor & the Great Artesian Basin Rim Corridor	State (10 km)	Existing corridor modified to align with core areas, maximise vegetation connectivity.
18	Blackwood NP to Bygana (DEU) Terrestrial Corridor: Corridor running North to South meandering back and forth between the DEU and BRB from Little Sandy Creek through Willandspey Conservation Park to Bygana West Nature Refuge at the DEU border.	State (10 km)	Existing corridors modified to align with core areas and maximise vegetation connectivity.
19	Carborough Range to West Hill SF Terrestrial Corridor: Corridor extending from Leichhardt Gorge in the Carborough Range through to West Hill SF located in the CQC bioregion (via Coppabella, Dipperu NP, Tierawoomba and Rosedale SFs).	State (10 km)	Existing corridors modified to align with core areas and maximise vegetation connectivity.
20	Broadsound Range Terrestrial Corridor: Corridor extending South from Tierawoomba SF to Mt Michael meandering along the Broadsound Range between the CQC and BRB, (Via White Bluff Mountain, The Alps and Mt Joss)	Regional (5km)	Existing corridor modified to align with core areas and maximise vegetation connectivity. Northern extent of corridor extended north as per panel recommendation to intersect with the Carborough Range to West Hill State Forest terrestrial corridor.
21	Carborough Range to Blair Athol SF Terrestrial Corridor: Corridor extending Southwest from Leichardt Gorge in the Carborough Range to the Blair Athol SF in the Drummond Range, (Via Red Hill, Moranbah, Denham Range, Peak Range, and Apsley SF).	State (10 km)	Existing corridors modified to align with core areas and maximise vegetation connectivity.
22	Glencoe SF (CQC) to the Coastal Link Terrestrial Corridor: Corridor running East from the Glencoe SF in the CQC to its intercept with the "Broadsound to Corio Bay (CQC) Coastal Link Terrestrial Corridor" near mount Edward.	State (10 km)	Existing corridor modified to align with core areas and maximise vegetation connectivity.
23	Broadsound to Corio Bay (CQC) Coastal Link Terrestrial Corridor: Coastal corridor which commences from within the CQC bioregion near Cape Palmerston NP and extends south through the Brigalow Belt Bioregion and then into the southern coastal intercept of the CQC bioregion ceasing just South of Byfield NP. Within the Brigalow Belt, the corridor intersects a number of Conservation Parks inclusive of Newport,	State (5 km)	Existing corridor simplified. Centreline approximates HAT to capture the marine/estuarine and adjoining terrestrial components.

Final corridor number	Corridor description	Significance (width)	Comments/alterations
	Charon and Shoalwater.		
24	Carmichael River to Drummond Range Terrestrial Corridor: Corridor extending Southeast from the Carmichael River to Mount Zig Zag in the Drummond Range, (via Bygana and East Top Nature Refuges, Epping Forest NP, Mt Donnybrook and Narrien Range NP)	State (10 km)	Existing corridor modified to align with core areas and maximise vegetation connectivity.
25	Coast Range Terrestrial Corridor: Corridor extending along the Coast Range West to East from the terrestrial corridor at Conical Mountain to the terrestrial corridor at Brampton Vale in the CQC.	State (10 km)	Existing corridor modified to align with core areas and maximise remnant vegetation connectivity.
26	Denhams Range to Broadsound Range Terrestrial Corridor: Corridor extending East from Mt McClaren in Denhams Range to the Broadsound Range, (Via Peak Range NP, Bundoora SF, Middle Mountain and Junee SF and NP)	State (10 km)	Existing corridor modified to align with core areas and maximise remnant vegetation connectivity.
27	Alligator Creek SF to Byfield SF (CQC) Terrestrial Corridor: Corridor running West to East from Charlie Peak in Alligator Creek SF to Mount Ganter in the Byfield SF in the CQC (via Werribee Creek SF)	State (5 km)	To minimise duplication, corridor width reduced to 5km as a better contiguous connection exists directly to the north. Corridor width reduced to 5km.
28	Mt Wellington to Stanage Bay Terrestrial Corridor: Corridor commencing at the coast north of Mt O'Connell NP and extending South to Lake Learmouth SF before looping north and extending to the coast at Shoalwater Bay (via the conservation parks Bukkulla and North Pointer, and the Lake Learmouth and Alligator Creek SFs.	State (10 km)	Existing corridor modified to align with core areas and maximise vegetation connectivity.
29	Broadsound Range to Kunwarara Terrestrial Corridor: Corridor running West to East linking the "Great Eastern Ranges Terrestrial Corridor" at the Broadsound Range to Tower Mountain near Kunwarara (via Develin Nature Refuge, Eugene SF and Princhester CP).	State (10 km)	Existing corridor modified to align with core areas and maximise vegetation connectivity.
30	Drummond Range Terrestrial Corridor: Corridor running North to South from Diamond Downs along the Drummond Range and terminating at the "Great Artesian Basin Rim Corridor" at Castlevale NR on the Great Dividing Range (via Blair Athol & Redrock SFs and Theresa Hut NR).	State (10 km)	Existing corridor modified to align with core areas and maximise vegetation connectivity.

Final corridor number	Corridor description	Significance (width)	Comments/alterations
31	Drummond Range to Mount Cullender Terrestrial Corridor: Looping corridor extending from north of Mount Tabletop in the Drummond Range to Mount Cullender. Intersects the Theresa Hut NR, and the Kettle, Burn and Fairbairn SFs.	State (10 km)	Existing corridor realigned to maximise remnant vegetation connectivity. As recommended by the panel, extended line work extending to the south to provide a connection to Corridor 37.
32	Byfield SF to Tannum Sands NP Terrestrial Corridor: Corridor extending South from Byfield SF at Corio Bay in the CQC to through to the BRB/SEQ boundary just north of Gladstone (via Mount Archer SF & NP, Flat Top Range RR, Mackenzie Island CP, Rundle Range NP & SF and ceasing north of Gladstone at Targinie SF)	State (5 km)	Existing corridor realigned to maximise vegetation connectivity and corridor smoothed to remove points and extraneous bends. Parts of this corridor used to be based on a ridgeline. Joined up broken linkages
33	Boomer to Dawson Range Terrestrial Corridor: Corridor extending from Expedition Range at Goodedulla NP through to the Dawson Range SF via Duaringa SF. Provides a link between the "Great Eastern Ranges Terrestrial Corridor" & the "Great Artesian Basin Rim Corridor". Mimics the intent of a major East-West link identified in the State Conservation Corridor Plan, but follows a route of greater connectivity.	State (10 km)	Majority of original corridor incorporated as part of the Great Artesian Basin Rim Corridor. Remaining component realigned to maximise remnant vegetation connectivity. Mimics the intent of a major East-West link identified in the State-Wide Conservation Corridor Plan, but follows a route of greater connectivity.
34	Boomer to Gogango Range Terrestrial Corridor: Corridor Commencing at the Goodedulla NP through the southern end of Gogango Range (via Gogango SF)	Regional (5km)	New corridor identified by the 2017 panel
35	Blackdown to Taunton Terrestrial Corridor: A short link extending from the Blackdown tableland core area to the Taunton NP.	State (5 km)	Existing corridor modified to align with core areas and maximise vegetation connectivity.
36	Dawson Range SF to Duaringa SF Terrestrial Corridor: Commences at the Dawson Range SF and extends NNE through to the Duaringa SF. Provides a minor subregional link.	Regional (5km)	New corridor identified by the 2017 panel
37	Drummond Range to Carnarvon NP Terrestrial Corridor: Corridor running North-West to South-East from Zamia SF in the Drummond Range to Carnarvon NP in the Buckland Tableland, (via Withersfield SF, Lake Maraboon, Minerva Hills NP and Mount Hope SF).	State (10 km)	Existing corridor modified to align with core areas and maximise vegetation connectivity.
38	Durrandella to Troopers Bluff Terrestrial Corridor: Corridor running North-West to South-East from Durrandella to Troopers Bluff.	Regional (5km)	New corridor identified by the 2017 south panel.

Final corridor number	Corridor description	Significance (width)	Comments/alterations
39	Expedition Range to Dawson Range Terrestrial Corridor: Corridor linking the Expedition SF to the Dawson Range, (Via Redcliffe SF). Links between the "Great Eastern Ranges Terrestrial Corridor" & the "Great Artesian Basin Rim Corridor".	Regional (5km)	Existing corridor modified to align with core areas and maximise vegetation connectivity. Buffer width reduced to 2,500m based upon adjoining remnant extent and core areas.
40	Troopers Bluff to Narraway Terrestrial Corridor: Corridor running West to East from Troppers Bluff to Narraway, (Via Squire SF)	State (10 km)	New corridor identified by the 2017 south panel.
41	Mt Hope SF to Nuga Nuga NP Terrestrial Corridor: Corridor running North-West to South-East from Mount Hope SF to Brown River near Nuga Nuga NP, (Via Albania NP, Albania CP and Mount Pleasant SF)	Regional (5km)	New corridor identified by the 2017 south panel.
42	Great Dividing Range to Enniskillen Range (MGD) Terrestrial Corridor: Cross bioregional link extending West from the Great Dividing Range Terrestrial Corridor via the Castlevale Nature Refuge into the Mitchell Grass Downs bioregion and Enniskillen Range	State (10 km)	Existing south west corridor realigned to maximise vegetation connectivity and corridor smoothed to remove points and extraneous bends.
43	Banana Range Terrestrial Corridor: Corridor running North to South from Mt Benn to Trevethan SF, (Via Belmont SF, Montour SF and Camboon SF)	Regional (5km)	New corridor identified by the 2017 south panel.
44	Carnarvon NP to Nuga Nuga NP Terrestrial Corridor: Corridor running South-West to North-East from Mount Percy in Carnarvon NP to Nuga Nuga Lake Near the Nuga Nuga NP, (via Serocold SF and Mt Kirk)	State (10 km)	New corridor identified by the 2017 south panel.
45	Great Artesian Basin Rim Corridor: Identified as a major state-wide terrestrial corridor which extends from the NSW border to the tip of Cape York Peninsula, following the Great Dividing Range for most of its length. It is an almost continuous series of sandstone ranges and sandy plateaux vegetated mostly with eucalypt woodlands. Within the Brigalow Belt Bioregion MORE DETAIL specific to the BRB	State (10 km)	Existing BRB corridors modified to align with the intent of the state-wide Great Eastern Ranges terrestrial corridor. Route aligned to address core areas and maximise vegetation connectivity.
46	Kroombit Tops to Auburn Terrestrial Corridor: Corridor running North to South from Kroombit Tops NP through to Auburn SF. Intersects Cania the Gorge NP and Coominglah SF. Links between the "Great Eastern Ranges Terrestrial Corridor" & the "Great Artesian Basin Rim Corridor".	State (10 km)	Majority of original corridor incorporated as part of the Great Artesian Basin Rim corridor. Remaining component realigned to maximise vegetation connectivity and corridor smoothed to remove points and extraneous bends.

Final corridor number	Corridor description	Significance (width)	Comments/alterations
47	Calrossie SF to Abercorn Terrestrial Corridor: Corridor running West to East from Calrossie SF.	Regional (5km)	New corridor identified by the 2017 south panel.
48	Eidsvold to Mount Gongiberoo (SEQ) Terrestrial Corridor: Corridor running West to East along Burnett Range from Eidsvold to Barker Gully in SEQ, (Via Dalgangal & Mungy SFs, Nour Nour NP and Grosvenor TR).	State (10 km)	Realigned to maximise vegetation connectivity and corridor smoothed to remove points and extraneous bends.
49	Channel Country to Carnarvon Terrestrial Corridor: Identified as a major state wide corridor extending from Carnarvon through to the Channel Country. The corridor follows watersheds and scarps, and sandplains where they provide continuity. Within the Brigalow Belt MORE INFO	State (10 km)	Part of an identified state-wide conservation corridor - Channel Country to Carnarvon. Realigned to address core areas and maximise vegetation connectivity.
50	Dalgangal SF to Wigton SF Terrestrial Corridor: Corridor running North to South from Eight Mile Creek near Dalgangal SF to Wigton SF, (via Gurgeena SF, Malmaison SF and Pile Gully SF)	Regional (5km)	New corridor identified by the 2017 south panel.
51	Rockybar SF to Allies Creek SF Terrestrial Corridor: Corridor running North-West to South-East from Rockybar SF to Allies Creek SF (intersects Redbank, Sujeewong, Mount Auburn, Rosehall and Koko SFs, as well as two Nature Refuges)	Regional (5km)	New corridor identified by the 2017 south panel.
52	Allies Creek SF to Grongah NP (SEQ) Terrestrial Corridor: Corridor running West to East from Allies Creek SF to Grongah NP in the Coastal Range (intersecting Beeron, Beninbi and Ban Ban NP and Wigton, Woroon, Beninbi and Johngbonn West SFs)	State (10 km)	Existing corridor modified to align with core areas and maximise remnant vegetation connectivity.
53	Great Dividing Range to the Brunel Range (MUL) Terrestrial Corridor: Corridor running South commencing South of Mt Playfair in the Great Dividing Range to Tregole NP in the Brunnel Range at the MUL border (Via Orkadilla SF and Chesterton Range NP)	State (10 km)	Existing corridor modified to align with core areas and maximise remnant vegetation connectivity.
54	Carnarvon Range to Westcourt (MUL) Terrestrial Corridor: Corridor running Southwest from the Carnarvon Range (Carnarvon NP) to Rocky Creek at the MUL border and onto Westcourt in the MUL, (Via Forrest, Doonkuna, Timor, Waroonga and Barabanbel SFs)	State (10 km)	Existing corridor modified to align with core areas and maximise remnant vegetation connectivity.

Final corridor number	Corridor description	Significance (width)	Comments/alterations
55	Chesterton Range NP to Yalebone SF Terrestrial Corridor: Corridor extending Southeast from Chesterton Range NP to Horseshoe Lagoon near Yalebone SF (via Barabanbel and Brucedale SFs)	Regional (10km)	Existing corridor modified to align with core areas and maximise remnant vegetation connectivity.
56	Bunya Mountains Link Corridor: Corridor extending Southwest from Turkey Mountain in the Barakula SF, through into the South East Queensland Bioregion at the Bunya Mountain.	State (10 km)	Existing corridor modified to align with core areas and maximise remnant vegetation connectivity.
57	Barakula to St George Terrestrial Corridor: Corridor running Southwest from Barakula SF along the Eastern Ranges to St George, (Via Binkey SF, Gurulmundi SF, Yuleba SF and Surat)	State (10 km)	Existing corridor modified to align with core areas and maximise remnant vegetation connectivity.
58	Dalby SF to Western Creek SF Terrestrial Corridor: Corridor running North to South from Kogan near Dalby SF to Western Creek SF, (Via Braemar SF, Daandine SF, Kumbarilla SF and Dunmore SF)	State (5 km)	New corridor identified by the 2017 south panel. Corridor width of 5km applied to align with remnant extent and core areas.
59	Mount Lawson to Mount Kent Terrestrial Corridor: Stepping stone corridor running North-East to South-West from Mount Lawson to Mount Kent, (Via Geham SF, Geham NP, Mt Wyangapinni and Mt Rubieslaw)	Regional (10 km)	New corridor identified by the 2017 south panel. Corridor width upgraded to 10 km to capture mosaic.
60	Ballone River Linkage: Short East-West linkage just north of Saint George, which commences at the intersection of the "Barakula to St George Terrestrial Corridor" and the "St George to Culgoa Floodplain NP Terrestrial Corridor" and extends west to the Bowen River Riparian Corridor.	Regional (5 km)	Largely follows a riparian corridor in the west. Corridor reduced at the eastern extent to cease at Balonne River Riparian Corridor. Changed to Regional significance. Eastern linkage reduced to 5km to reflect remnant extent.
61	St George to Boondandilla SF Terrestrial Corridor: Corridor running West to East from Wunger near St George to Boondandilla SF near Boondandilla, (Via Alton NP, Ula Ula SF, Kinkora SF, Currajong, Southwood NP, Calingunee SF and Booroondoo SF)	Regional (5km)	Existing corridor modified to align with core areas and maximise remnant vegetation connectivity.
62	Darling Downs Link: Derived from the State-wide Conservation Corridor Framework. Cross bioregional link extending from Southwest in SEQ from the Dwyer's Scrub Conservation park, through the Brigalow Blet to the boundary of the New England Tableland bioregion at Stonehenge.	State (10 km)	Existing corridor modified to align with core areas and maximise remnant vegetation connectivity.

Final corridor number	Corridor description	Significance (width)	Comments/alterations
63	Ellangowan to Durikai SF (NET) Terrestrial Corridor: Corridor running North to South from Ellangowan to the Durikai SF in the NET, (Via Talgai SF)	Regional (5km)	Line work unmodified
64	Herries Range Terrestrial Corridor: East-West linkage between the major Eastern Escarpment corridor in the New England Tableland ET bioregion through to the GAB Rim corridor in the West (via Durikai and Bringalily SF, and terminating within the Wondul Range NP). Derived from the State-wide Conservation Corridor Framework.	State (5km)	Existing corridor modified to align with core areas and maximise remnant vegetation connectivity. Corridor width reduced to 5km reflect extent of contiguous remnant.
65	Yelarbon to Arcot SFs (New England Tableland) Terrestrial Corridor: Corridor running Southeast from Yelarbon State Forest to Arcot near the Arcot State Forest in the New England Tableland (via Yelarbon and Greenup State Forests and Wilga and Dilladerri Nature Refuges).	State (10 km)	Existing corridor modified to align with core areas and maximise remnant vegetation connectivity.
66	St George to Culgoa Floodplain NP Terrestrial Corridor: Corridor running North-East to South-West from St George to the MUL border near Culgoa Floodplain NP, (Via Whyenbah, Dirranbandi and Mulga Downs)	State (10 km)	Existing corridor modified to align with core areas and maximise remnant vegetation connectivity.

Due to duplication between terrestrial and riparian corridor alignments, or map scale inconsistencies, a few existing/proposed corridors were not implemented for the 2017 BRB network, specifically:

The previous Bowling Green Bay National Park to Eastern Ranges Terrestrial Corridor was not implemented as the
corridor has been replaced by the Haughton River and Barratta Creek (and associated upstream tributaries) riparian corridors;

Two corridors extending from Mount Abbott to the coast near Cape Upstart have been replaced with a single corridor “Cape Upstart to Mount Abbot Corridor”;

A corridor nominated by the panel extending east from Boxvale State Forest to Expedition Range (Limited Depth) National Park was not implemented as there was no underlying vegetation between the two locations; and

Two small Jimbour to Bunya Mountains corridors were not implemented, as following further consideration, they were considered inconsistent with the intended scale of identification of landscape corridors.

3.3.2.2 Riparian corridors

Major watercourses are important landscape elements which act as significant migratory and dispersal pathways for many species of fauna and flora, contain important habitat resources (including food, water, sheltering, roosting and nesting sites) as well as provide refugia during periods of drought. For fragmented bioregions such as the BRB, such watercourses often provide the only remaining habitat connectivity through the landscape. The tributaries in turn incorporate altitudinal gradients and link to headwaters and elevated areas. Due to differential clearing patterns, these areas of higher topographic ruggedness and altitude often retain the largest intact vegetated patches and tracts of remnant habitat. By encompassing altitudinal gradients, these corridors may also enable the movement of some plant and animals in response to changing climatic conditions.

For the purpose of the BRB BPA, it was agreed that riparian corridor buffers be defined based upon a width extending 200m from either side of a watercourse along major waterways and 100m along smaller tributaries. To provide a more consistent and repeatable method in identifying key riparian corridors, major watercourses (with a

stream order of 5 or more, when mapped at a scale of 1: 250 000) be considered of being of State significance, whilst semi-major watercourses of stream orders 3 to 4 be considered of Regional significance. The panel also recommended that post the initial identification of riparian corridors based upon the method described above, experts can then choose to amend, exclude or include additional riparian watercourses where appropriate.

As per terrestrial corridors, the panel agreed that the assignment of corridor vegetation under Criteria J focus upon the key vegetated linkages between core areas. Specifically, remnant vegetation outside of core areas was selected as corridor triggered remnant where 50% or more of its area was located within a terrestrial corridor buffer, or, in situations where less than 50% of a remnant unit's area fell within the buffer, then the portion of the unit within the buffer was retained.

The relevant decisions for the southern and northern portions of the bioregion are brbs_l_18 and brbn_l_18 (Table 13) respectively. The spatial extent of the riparian network is shown in Figure 4.

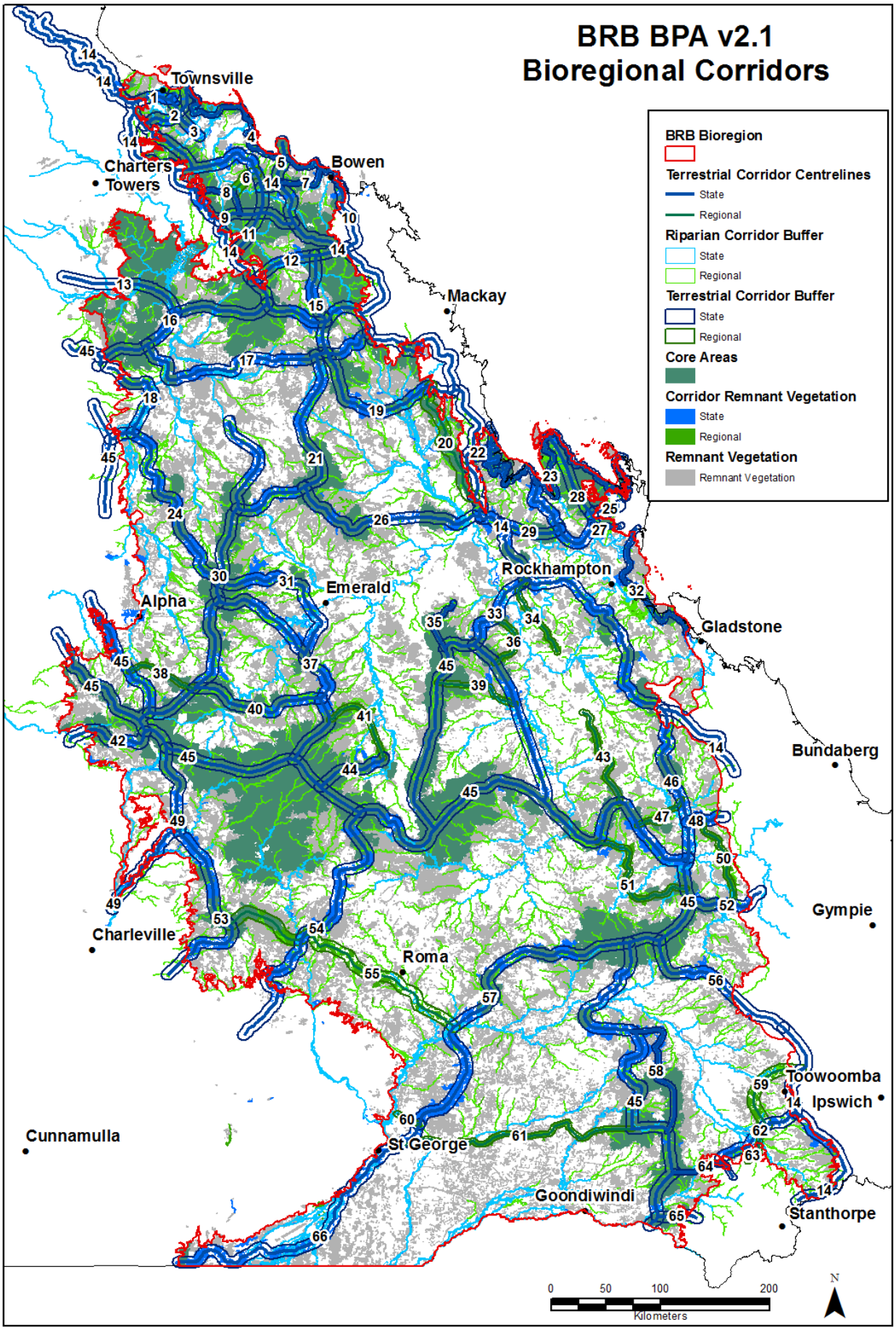


Figure 4. Brigalow Belt terrestrial and riparian bioregional corridors

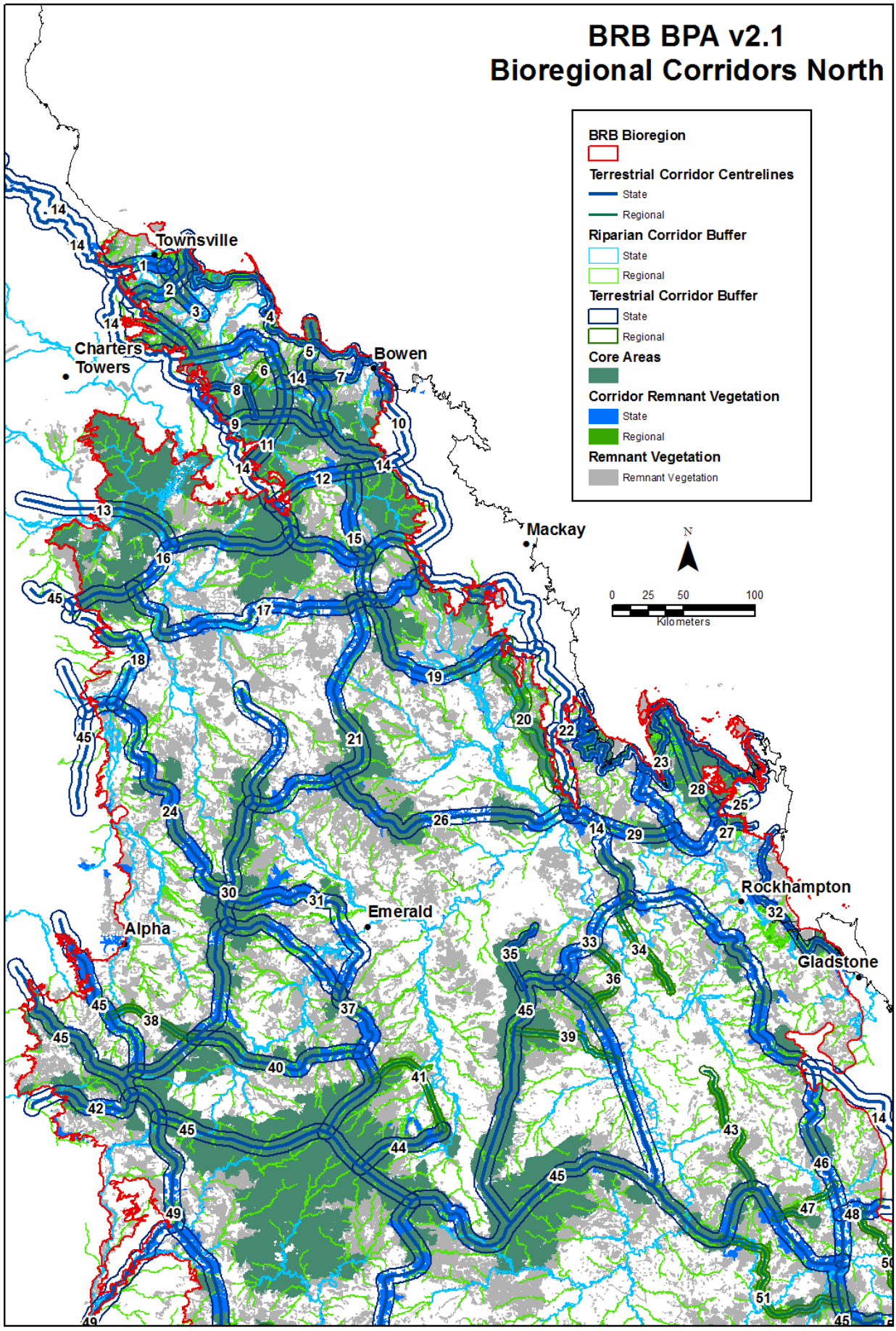


Figure 5. Brigalow Belt northern terrestrial and riparian bioregional corridors

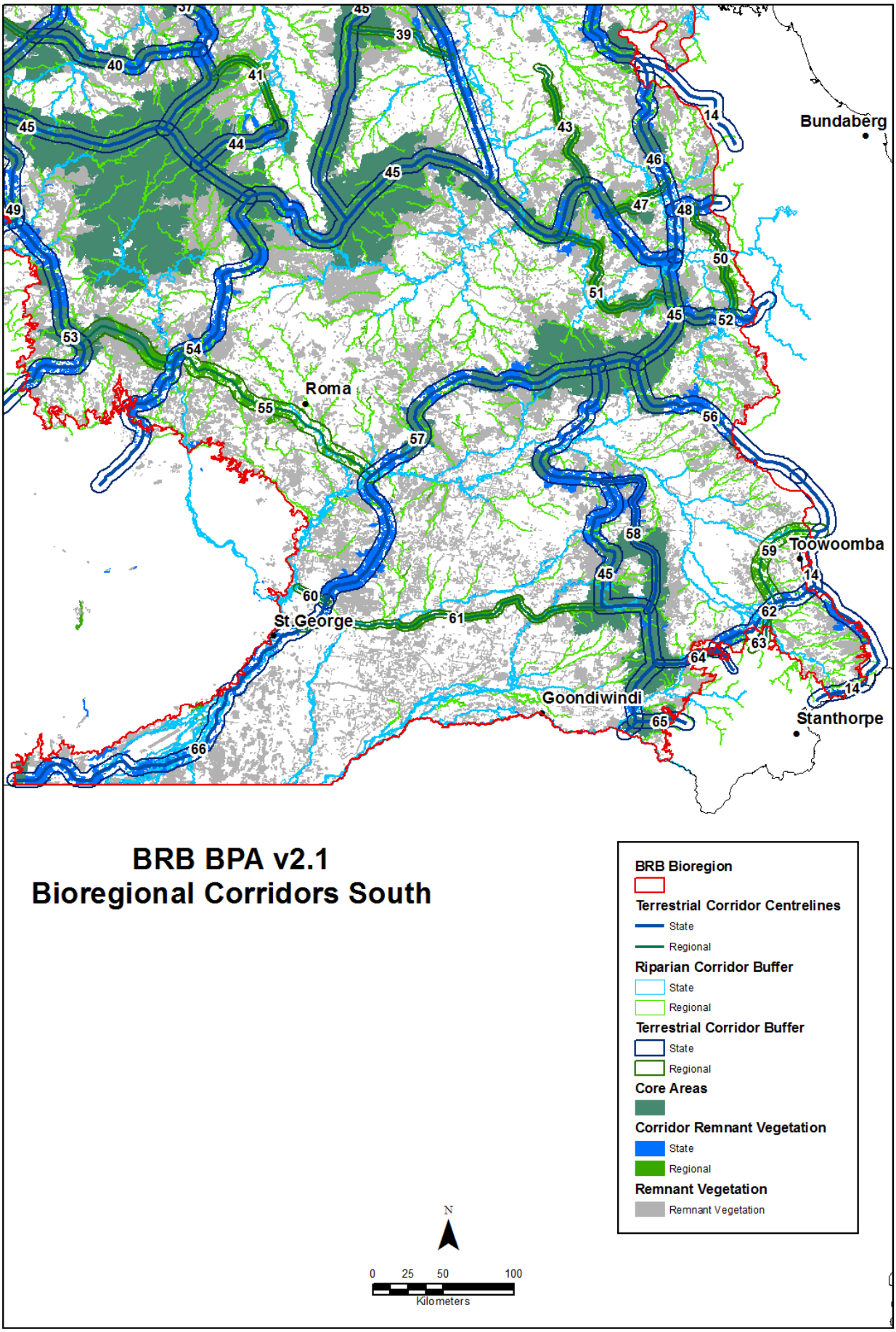


Figure 6. Brigalow Belt southern terrestrial and riparian bioregional corridors

4 Discussion

4.1 General

Raised by all expert panels was the significance of native vegetation throughout the BRB. With remnant vegetation covering less than 42% of the bioregion (Accad et al. 2017), the experts emphasised the importance of not only mapped remnant vegetation, but also values in regrowth along stock routes, road verges and reserves. Regrowth was seen as being particularly important as it may be the only remaining habitat for native flora and fauna within some areas. This is especially true for endemic plants and animals restricted to communities that have a disproportionate level of clearing, e.g. brigalow (pale imperial hairstreak), semi-evergreen vine thicket (ooline) and tussock grassland (Condamine earless dragon) (Accad et al. 2017; Neldner et al. 2017).

Much of the remnant vegetation in the bioregion is centred on national parks and state forests, usually in elevated landscapes, that are unsuited for cropping or grazing and generally have some scenic values. Despite being widely dispersed across eastern Queensland, these upland areas exhibit a high degree of commonality in terms of their fauna due the similarity in their climatic and floristic environments. Nix (1993) described this chain of cooler upland summits and tablelands that lie between the New South Wales border and far north Queensland as the mesotherm archipelago. In the BRB the 'islands' include the Drummond, Peak and Carnarvon ranges and Blackdown Tableland, with the chain extending into adjacent bioregions in the Einasleigh Uplands, Wet Tropics (Paluma Range), Central Queensland Coast (Eungella plateau) and Southeast Queensland (Kroombit Tops, Bunya Mountains, Main/McPherson Range). Patterns of species disjunctions and relictual populations are repeated across the 'islands' in both wet and dry habitats. Among the relatively mobile vertebrates the same threatened and priority taxa are recorded in many of the special areas, e.g. members of the declining woodland bird assemblage. In contrast, low mobility invertebrates tend to show high levels of endemism, e.g. many land snails are restricted to individual mountains especially in remnant closed forest habitats (Stanisic 1999; Stanisic et al. 2010). All panels recognised the importance of these larger tracts by recommending them as special areas, often with State conservation significance. Not only are the areas biodiverse in their own right, they also act as refugia for taxa found in surrounding more disturbed landscapes, as well as key nodes for migratory or dispersing animals.

Related to the above, panels made comment in regards to the issue of threatening processes that were ongoing in the BRB. Loss and or fragmentation of native vegetation, both remnant and regrowth habitat, is continuing due to clearing for agriculture or as part of resource development associated with coal, gas and water exploitation (Ponce-Reyes et al. 2016). Hollow-bearing eucalypts are limited in BRB, and there are severe ramifications for hollow dependent fauna where recruitment of trees to replace aging hollowed trees is poor due to grazing and clearing of regrowth. Similarly, the continued extraction of groundwater to support the above activities poses a significant threat to permanent and semi-permanent groundwater dependent ecosystems (GDE), and the ecological services these systems provide.

The further degradation of stock route habitat through increased grazing pressure is possible as climate change forces greater movement of livestock in response to more frequent localised droughts. Even intact areas are not immune from threats with impacts from feral animals, e.g. horses in Carnarvon National Park (Lundie-Jenkins et al. 2006), and introduced plants, e.g. invasion of native vegetation by buffel grass (Hannah et al. 2007; Ponce-Reyes et al. 2016).

4.2 Expert Panel Recommendations

Attendees raised a number of specific issues and made recommendations for future consideration when reviewing or developing new BPAs. The following list provides a summary of key comments and recommendations:

1. Base spatial unit: The base spatial unit of a BPA is the remnant unit derived from the regional ecosystem mapping. As discussed in the preceding section, the BAMM needs to incorporate regrowth mapping in a comprehensive manner, especially for fragmented bioregions such as the Brigalow Belt. This same issue has been raised at previous panels such as those conducted during review of the SEQ BPA v4.1. Full incorporation of regrowth, however, will be dependent upon two key components:

    a) That a state-wide endorsed and supported layer subject to regular reviews and updates is made available, i.e. similar to the Herbarium's regional ecosystem mapping; and

    b) That existing criteria be modified to allow for the incorporation of regrowth. Potentially, regrowth could be implemented as base spatial units in conjunction with remnant vegetation, and its influence modified through Criteria E.

Once a supported and endorsed state-wide layer becomes available, then further investigation as to how regrowth would be incorporated can be undertaken. Discussions at and post panels, suggested that the Queensland Herbarium is looking into creating and maintaining a state-wide regrowth layer.

Another issue raised, was the scale of the regional ecosystem mapping in some bioregions. In bioregions such as the BRB, where a courser scale of mapping has been applied comparative to other bioregions (parts of SEQ for example have been mapped at 1:25,000), this can result in important communities being missed or not being discretely defined. However, there is a need to utilise a consistent base product developed via application of a standard methodology to ensure a relative output. As future releases of the regional ecosystem mapping occur though, overtime, it is envisaged that some areas will be subject to a refinement in map scale. Similarly, where refined information is available locally (i.e. local government mapping), such data can be used to aid in the identification and spatial delineation of special area decisions at a finer scale.

2. Pre panel analysis: It was noted by attendees, that the panel process does not necessarily ensure a comprehensive overview of a bioregions values when identifying special areas and species listings (i.e. disproportionate survey effort, knowledge gaps, time resource restrictions and representation of attendees). It was recommended that additional pre-panel analysis be performed to assist panels to more representatively identify values across a bioregion, specifically:

a) Automated/manual GIS procedures be developed and employed to identify potential endemic, disjunct and range limit taxa. Substantially narrowing the list of species would enable more efficient use of the panel's time whilst better ensuring that a more comprehensive list of priority taxa is defined from the outset. Some preliminary work has been undertaken to automate some of the expert panel criteria - not as a replacement but to provide a starting point for expert panel consideration;

b) In addition, the initial listing of such taxa could subsequently be used to identify discrete clusters of endemic species or taxa at the range limits for example, thereby informing special area decisions;

c) Experts also noted the limitations when using records alone to assess occurrence of species across a bioregion. To reduce the influence of survey bias, incorrect identification of specimens etc., panels generally agreed that the use of modelled outputs can at the very least be a valuable tool to identify potential species rich hotpots so as to better inform special area nominations and significance ratings;

d) Whilst the diagnostic criteria in BAMM use prescribed thresholds and standard rules for determining the relative importance of areas with respect to criteria, there is limited guidance on how expert panels are to assess and assign significance ratings to expert criteria. Attendees recommended that further guidance be provided. For example, further direction, as to what constitutes a "species rich area" (Criterion Ie), or a "concentration of endemics" (Criterion Ia) as well as examples when assigning ratings of "Very High" to "Low", would provide a more consistent and relative assessment.

3. Condition and threatening processes: Under the BAMM, Criterion E is intended to provide for the incorporation of habitat condition, however, as data of an acceptable scale and accuracy has not been uniformly available across bioregions to date, this criteria has not been employed. The panel highlighted the need to incorporate condition information to provide for a more holistic assessment. In lieu of a direct measure of condition being available, a combination of threatening processes and habitat fragmentation analysis could be used as a surrogate. It is recommended that during future method reviews further investigation be undertaken as to how a surrogate dataset might be created which would be suitable for use in Criterion E.

4. Priority species: Historically, a selection criteria for the nomination of priority species was available that allowed species with their range limit within the bioregion, to be listed. During an internal 2016 method review, it was determined that this criteria be removed, as it was considered too broad and difficult to define. The panel raised the concern that populations of individuals at a species limits of range are potentially important, especially with respect to climate change as they may well already be at their bound of suitable conditions. Currently, very little information for individual taxa on their physiological tolerances to environmental change is available. The inability to determine taxon response meant experts are not able to determine the appropriate conservation response, e.g. selection of potential refugial sites that under future climate change could provide suitable habitat for the taxa. The panel recommended during future method reviews, incorporation of the criteria be reconsidered.

5. Corridors: As discussed in more detail in section 3.3.2 (pg 169), the panel endorsed the proposed approach of better defining an integrated network of core areas and key linkages between, as well as the proposed ruleset for initial identification of riparian corridors. During review of the corridor network it was emphasized that the corridor network is aimed at a landscape rather than local scale assessment. It was suggested, by the panel, to try and retain consistency, that standard rules be implemented when identifying terrestrial linkages in future panels, such as applying minimum viewing scales of 1,000,000 for example during initial identification. Also noted, was the need to allow for other corridor types, such as stepping stone corridors to capture important migratory/dispersal pathways.

Notwithstanding, in lieu of the general recommendations made in regards to improving and expanding the BAMM as outlined above, panel attendees endorsed the ongoing need for products such as Biodiversity Planning Assessments which provide a broader overview of the values present across a region, and which continue to play an important role as an information source to better inform regional land planning exercises, policy and legislation.

5 References

Accad, A, Neldner, VJ, Kelley, JAR, Li, J 2017, *Remnant Regional Ecosystem Vegetation in Queensland, Analysis 1997–2015,* Queensland Department of Science, Information Technology and Innovation, Brisbane.

Barnard, CA, Barnard HG 1925, A review of the bird life on Coomooboolaroo Station, Duaringa District, Queensland, during the past fifty years, *Emu* 24, 252-265.

Biggs, A, Harms, B, Payne, J 2010, *Alkaline sodic soils of the Yelarbon area, Australia*, 19th World Congress of Soil Science, Soil Solutions for a Changing World, http://iuss.org/19th%20WCSS/Symposium/pdf/1088.pdf accessed 20 November 2017.

Butler, DW, Fensham, RJ 2008, Lose the plot: cost-effective survey of the Peak Range, Central Queensland, *Cunninghamia* 10, 521-538.

Catterall, CP, Woinarski, JCZ 2003, Birds of Coomooboolaroo, central Queensland, from 1873 to 1999, *Sunbird*, 33, 77-97.

Chenoweth Environmental Planning and Landscape Architecture (EPLA) Ltd 2000, *Common Conservation Classification System, Version 99709, December 2000*, Chenoweth EPLA and the Western Subregional Organisation of Councils (WESROC).

Clayton, PD, Fielder, DF, Howell, S, Hill, CJ 2006, *Aquatic biodiversity assessment and mapping method (AquaBAMM): a conservation values assessment tool for wetlands with trial application in the Burnett River catchment*, Environmental Protection Agency, Brisbane.

Commonwealth of Australia 1995, *Regional Forest Agreements – The Commonwealth Position*, Commonwealth of Australia, Canberra.

Covacevich, JA, Couper, PJ, McDonald, KR 1998, Reptile diversity at risk in the Brigalow Belt, Queensland, *Memoirs of the Queensland Museum* 42, 475-486.

Cox, R, Barron, A 1998, *Great Artesian Basin Resource Study*, Great Artesian Basin Consultative Council.

Crossman, DG, Reimer, DS 1986, Mammals, birds, reptiles and amphibians of the Taroom Shire, central Queensland, *Queensland Journal of Agriculture and Animal Science* 43, 55-72.

Department of Defence 2009, *State of the Environment Report for Shoalwater Bay Training Area 2008*, Commonwealth of Australia, Canberra.

Department of Environment and Energy (DEE) 2017, *Australia's 15 National Biodiversity Hotspots*, http://www.environment.gov.au/biodiversity/conservation/hotspots/national-biodiversity-hotspots accessed 7 June 2017.

Department of Environment and Heritage protection (EHP) 2014, *Biodiversity Assessment and Mapping Methodology. Version 2.2*, Department of Environment and Heritage Protection, Queensland Government, Brisbane.

Department of Environment and Heritage protection (EHP) 2016, *A Biodiversity Planning Assessment Southeast Queensland Bioregion v4.1*, Landscape Expert Panel Report: Department of Environment and Heritage Protection, Queensland Government, Brisbane.

Department of Environment and Science (DES). 2018. A Biodiversity Planning Assessment for the Brigalow Belt Bioregion: Summary Report. Version 2.1. Brisbane: Department of Environment and Science, Queensland Government.

Environmental Protection Agency (EPA) 2008a, *Biodiversity Planning Assessment Brigalow Belt South Flora Expert Panel Report v1.3*, Environmental Protection Agency, Queensland Government.

Environmental Protection Agency (EPA) 2008b, *Biodiversity Planning Assessment Brigalow Belt South Fauna Expert Panel Report v1.3*, Environmental Protection Agency, Queensland Government.

Environmental Protection Agency (EPA) 2008c, *Biodiversity Planning Assessment Brigalow Belt South Landscape Expert Panel Report v1.3*, Environmental Protection Agency, Queensland Government.

Environmental Protection Agency (EPA) 2008d, *Biodiversity Planning Assessment Brigalow Belt North Landscape Expert Panel Report v1.3*, Environmental Protection Agency, Queensland Government.

Fensham, RJ, 1998a, The grassy vegetation of the Darling Downs, south-eastern Queensland, Australia, Floristics and grazing effects, *Biological Conservation* 84, 301-310.

Fensham, RJ, 1998b, Mound springs in the Dawson River valley, Queensland. Vegetation-environment relations

and consequences of a proposed impoundment on botanical values, *Pacific Conservation Biology* 4, 42-54.

Fensham RJ 1999, Native grasslands of the Central Highlands, Queensland, Australia. Floristics, regional context and conservation, *Rangeland Journal* 21, 82-103.

Fensham, RJ, Laffineur, B, Silcock, JL 2017, *In the wake of bulldozers: Identifying threatened species in a habitat decimated by rapid clearance*, Queensland Herbarium, Department of Science, Information Technology and Innovation, Brisbane.

Fielder, DP, Davidson, W, Barratt, PJ. 2011, *Aquatic Conservation Assessments (ACA), using AquaBAMM, for the wetlands of the Queensland Murray–Darling Basin*, Department of Environment and Resource Management, Brisbane.

GHD 2009, *Report for Proposed Abbot Point Multi Cargo Facility - Terrestrial and Aquatic Ecological Assessment*, Report to North Queensland Bulk Ports Corporation Limited.

Gordon, G 1984, Fauna of the Brigalow Belt, In *The Brigalow Belt of Australia*, Bailey, A (ed), pp 61-70, Royal Society of Queensland and Department of Primary Industries, Brisbane.

Groves, RH 1981, *Australian Vegetation*, Cambridge University Press.

Gunn, RH 1984, Soil Landscapes of the Brigalow Belt in Queensland, In *The Brigalow Belt of Australia*, Bailey, A (ed), pp 7-21, Royal Society of Queensland and Department of Primary Industries, Brisbane.

Hannah, D, Woinarski, JCZ, Catterall, CP, McCosker, JC, Thurgate, NY, Fensham, RJ 2007, Impacts of clearing, fragmentation and disturbance on the bird fauna of eucalypt savanna woodlands in central Queensland, Australia, *Austral Ecology* 32, 261-276.

Hocknull, SA 2005, Ecological succession during the late Cainozoic of central eastern Queensland: extinction of a diverse rainforest community, *Memoirs of the Queensland Museum* 51, 39-122.

James, CD, Saunders, DA 2001, *A Framework for Terrestrial Biodiversity Targets in the Murray Darling Basin*, CSIRO Sustainable Ecosystems and Murray-Darling Basin Commission, Canberra.

James, D (ed) 2001, *A Community Plan for Natural Resource Management in Townsville-Thuringowa*, Townsville-Thuringowa Landcare Association, Townsville.

Jaensch, R, Westley, S and Smith, P 2015. A prioritisation of Fitzroy Basin wetlands for NRM investment. Report to Fitzroy Basin Association.

Kingsford, RT, Bino, G, Porter, J, Brandis, K 2013, *Waterbird communities in the Murray-Darling Basin -1983-2012*, Australian Wetlands, Rivers and Landscapes Centre, University of New South Wales, report to Murray-Darling Basin Authority.

Kirkpatrick, TH 1966, Mammals, birds and reptiles of the Warwick District, Queensland. 1. Introduction and mammals, *Queensland Journal of Agriculture and Animal Science* 23, 590-598.

Kirkpatrick, TH, Amos, PJ 1977, Mammals and birds of Millmerran Shore, south-east Queensland, *Queensland Journal of Agriculture and Animal Science* 34, 123-133.

Leverington, A 2011, *Protecting naturally restricted species in fragmented landscapes. A case study from the Brigalow Belt South bioregion, Queensland Australia*, University of Queensland, Brisbane.

Lloyd, PL 1984a, The Climatic Environment of the Brigalow Belt of Queensland, In *The Brigalow Belt of Australia*, Bailey, A (ed), pp 23-40, Royal Society of Queensland and Department of Primary Industries, Brisbane.

Lloyd, PL 1984b, Agricultural and Pastoral Land Use in the Brigalow Belt of Queensland, In *The Brigalow Belt of Australia*, Bailey, A (ed), pp 81-96, Royal Society of Queensland and Department of Primary Industries, Brisbane.

Lundie-Jenkins, G, Maag, G, Manning, B 2006, *An aerial survey of the feral horse populations in Carnarvon National Park and neighbouring properties in central Queensland*, Environmental Protection Agency, Toowoomba.

Mason, H 1997, The Bellevue Swamp, In *Going Bush with Chinchilla Nats*, Hando R, Hando, V (eds), pp 55-56, Chinchilla Field Naturalists' Club, Chinchilla.

McDonald, WJF 2010, *National recovery plan for the "Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions" ecological community*, Report to Department of the Environment, Water, Heritage and the Arts, Canberra by Queensland Department of Environment and Resource Management, Brisbane.

McFarland, D, Haseler, M, Venz, M, Reis, T, Ford, G, Hines, B 1999, *Terrestrial Vertebrate Fauna of the Brigalow Belt South Bioregion: Assessment and Analysis for Conservation Planning*, Queensland Environmental Protection Agency, Brisbane.

Morton, SR, Short, J, Barker, RD 1995, *Refugia for Biological Diversity in Arid and Semi-arid Australia*, Biodiversity Series, Paper No. 4, CSIRO, Canberra.

National Parks, Recreation, Sport and Racing (NPRSR) 2013a, *Alton National Park Management Statement 2013*, Department of National Parks, Recreation, Sport and Racing, Brisbane.

National Parks, Recreation, Sport and Racing (NPRSR) 2013b, *Blackdown Tableland National Park Management Statement 2013*, Department of National Parks, Recreation, Sport and Racing, Brisbane.

National Parks, Recreation, Sport and Racing (NPRSR) 2013c, *Erringibba National Park Management Statement 2013*, Department of National Parks, Recreation, Sport and Racing, Brisbane.

National Parks, Recreation, Sport and Racing (NPRSR) 2013d, *Cania Gorge National Park Management Statement 2013*, Department of National Parks, Recreation, Sport and Racing, Brisbane.

National Parks, Recreation, Sport and Racing (NPRSR) 2013e, *Chesterton Range National Park Management Statement 2013*, Department of National Parks, Recreation, Sport and Racing, Brisbane.

National Parks, Recreation, Sport and Racing (NPRSR) 2013f, *Mount Etna Caves National Park Management Statement 2013*, Department of National Parks, Recreation, Sport and Racing, Brisbane.

National Parks, Sport and Racing (NPSR) 2015, *Lake Murphy Regional Park Management Statement*, Department of National Parks, Recreation, Sport and Racing, Brisbane.

Neldner, VJ, Niehus, RE, Wilson, BA, McDonald, WJF, Ford, AJ, Accad, A 2017, *The Vegetation of Queensland. Descriptions of Broad Vegetation Groups. Version 3*. Queensland Herbarium, Department of Science, Information Technology and Innovation, Brisbane.

Nix, HA 1993, Bird distributions in relation to imperatives for habitat conservation in Queensland, In *Birds and Their Habitats: Status and Conservation in Queensland*, Catterall, CP, Driscoll, PV, Hulsman, K, Muir, D, Taplin, A (eds) pp 12-21, Queensland Ornithological Society, Brisbane.

Parkinson, G 1986, *Atlas of Australian Resources, Third Series, Volume 4 Climate*, Commonwealth of Australia, Canberra.

Parsons Brinckerhoff 2008, *Wandoan Coal Project. MLA Area and Surrounds - Terrestrial Ecology Impact Assessment*, Report to Wandoan Joint Venture.

Ponce Reyes, R, Firn, J, Nicol, S, Chadès, I, Stratford, DS, Martin, TG, Whitten, S, Carwardine, J 2016, *Priority Threat Management for Imperilled Species of the Queensland Brigalow Belt*, CSIRO, Brisbane.

Queensland CRA/RFA Steering Committee, 1998, *Flora data analysis, EH 1.1.4*, Forest Assessment Unit, Queensland Department of Environment and Heritage, Brisbane.

Queensland National Parks and Wildlife Service (QNPWS) 1998, *Southwood National Park Management Plan*, Department of Environment, Brisbane.

Queensland Parks and Wildlife Service (QPWS) 2005, *Carnarvon National Park – Management Plan*, Environmental Protection Agency, Brisbane.

Queensland Parks and Wildlife Service (QPWS) 2011, *Narrien Range National Park – Management Plan*, Department of Environment and Resource Management, Brisbane.

Rollason, SN, Howell, S 2012, *Aquatic Conservation Assessments (ACA), using AquaBAMM, for the non- riverine wetlands of the Great Barrier Reef catchment, Version 1.3*, Department of Environment and Resource Management, Brisbane.

Seabrook L, McAlpine, C, Fensham R 2006, Cattle, crops and clearing: Regional drivers of landscape change in the Brigalow Belt, Queensland, Australia, 1840-2004, *Landscape and Urban Planning* 78, 373-385.

Seabrook, L, McAlpine, C, Maron, M 2016, EcoCheck: can the Brigalow Belt bounce back? http://theconversation.com/ecocheck-can-the-brigalow-belt-bounce-back-57128, accessed 10 June 2017.

Sinclair Knight Merz 2012, *Nathan Dam and Pipelines EIS*, Report to SunWater.

Smyth, AK 1997, *Mammals, Birds, Reptiles and Frogs of the Brigalow Belt Bioregion of Queensland - The Past, Present and Future*, Centre for Conservation Biology, University of Queensland, Brisbane.

Stanisic, J, 1999, Land snails and dry vine thickets in Queensland: using museum invertebrate collections in conservation, In *The Other 99%, The Conservation and Biodiversity of Invertebrates*, Ponder, W, Lunney, D, pp 257-263, Transactions of the Royal Zoological Society of New South Wales, Mosman.

Stanisic, J, Shea, M, Potter, D, Griffiths, O 2010, *Australian Land Snails Volume 1: A field guide to eastern Australian species*, Bioculture Press, Mauritius.

URS 2009, *Santos GLNG CSG Field Report - Nature Conservation*, Final report to Santos Ltd.

Venz, M, Mathieson, M, Schulz, M 2002, *Fauna of the Lower Dawson River Floodplain - An Assessment of the Fauna Downstream of the Proposed Nathan Dam*, Queensland Parks and Wildlife Service, Brisbane.

Woinarski, JCZ, Catterall, CP 2004, Historical changes in the bird fauna of Coomooboolaroo, northeastern Australia, from the early years of pastoral settlement (1873) to 1999, *Biological Conservation*, 116, 379-401.

Woinarski, JCZ, McCosker, JC, Gordon, G, Lawrie, B, James, C, Augusteyn, J, Slater, L, Danvers, T 2006, Monitoring change in the vertebrate fauna of central Queensland, Australia, over a period of broad-scale vegetation clearance, 1973-2002, *Wildlife Research* 33, 263-274.

WWF-Australia 2008, *Brigalow Belt bioregion - a biodiversity jewel*, WWF Australia http://awsassets.wwf.org.au/downloads/sp049_brigalow_belt_bioregion_1jun08.pdf accessed 9 June 2017.

Young, PAR, Wilson, BA, McCosker, JC, Fensham, RJ, Morgan, G, Taylor, PM 1999, Brigalow Belt, In *The Conservation Status of Queensland's Bioregional Ecosystems,* Sattler, PS, Williams, RD (eds), pp 11/1-11/81, Environmental Protection Agency, Brisbane.

Information relating to non Brigalow Belt bioregion special area decisions was sourced from the following references:

Department of Environment and Resource Management (DERM), 2009a, *Biodiversity Planning Assessment Einasleigh Uplands Bioregion v1.1. Flora Expert Panel Report*, Department of Environment and Resource Management, Townsville.

Department of Environment and Resource Management (DERM), 2009b, *Biodiversity Planning Assessment Einasleigh Uplands Bioregion v1.1. Fauna Expert Panel Report*, Department of Environment and Resource Management, Townsville.

Department of Environment and Resource Management (DERM), 2009c, *Biodiversity Planning Assessment Einasleigh Uplands Bioregion v1.1. Landscape Expert Panel Report*, Department of Environment and Resource Management, Townsville.

Department of Environment and Resource Management (DERM), 2012a, *Biodiversity Planning Assessment, Desert Uplands Bioregion Flora Expert Panel Report*, Central West Region, Department of Environment and Resource Management, Queensland Government.

Department of Environment and Resource Management (DERM), 2012b, *Biodiversity Planning Assessment, Desert Uplands Bioregion Fauna Expert Panel Report*, Central West Region, Department of Environment and Resource Management, Queensland Government.

Department of Environment and Resource Management (DERM), 2012c, *Biodiversity Planning Assessment, Desert Uplands Bioregion Landscape Expert Panel Report*, Central West Region, Department of Environment and Resource Management, Queensland Government.

Environmental Protection Agency (EPA) 2006a, *Biodiversity Planning Assessment New England Tableland Flora Expert Panel Report v2.3*, Environmental Protection Agency, Queensland Government.

Environmental Protection Agency (EPA) 2006b, *Biodiversity Planning Assessment New England Tableland Fauna Expert Panel Report v2.3*, Environmental Protection Agency, Queensland Government.

Environmental Protection Agency (EPA) 2006c, *Biodiversity Planning Assessment New England Tableland Landscape Expert Panel Report v2.3*, Environmental Protection Agency, Queensland Government.

Environmental Protection Agency (EPA) 2009a, *Biodiversity Planning Assessment Mulga Lands Flora Expert Panel Report v1.4*, Environmental Protection Agency, Queensland Government.

Environmental Protection Agency (EPA) 2009b, *Biodiversity Planning Assessment Mulga Lands Fauna Expert Panel Report v1.4*, Environmental Protection Agency, Queensland Government.

Environmental Protection Agency (EPA) 2009c, *Biodiversity Planning Assessment Mulga Lands Landscape Expert Panel Report v1.4*, Environmental Protection Agency, Queensland Government.

6 Appendix 1: Acronyms and Abbreviations

ACA	Aquatic Conservation Assessment
BAMM	Biodiversity Assessment and Mapping Methodology
BBN	Brigalow Belt north
BBS	Brigalow Belt south
BOT	Back on Track
BPA	Biodiversity Planning Assessment
BRB	Brigalow Belt Bioregion
BVG	Broad Vegetation Group
CAMBA	China-Australia Migratory Bird Agreement
CORVEG	The site survey database maintained by the Queensland Herbarium
CP	Conservation Park
CQC	Central Queensland Coast Bioregion
DCDB	Digital Cadastral Database—a spatial database of Queensland property boundaries.
DES	Department of Environment and Science
DEU	Desert Uplands Bioregion
DIWA	Directory of Important Wetlands Australia
EHP	Department of Environment and Heritage Protection
EIU	Einasleigh Uplands Bioregion
EVNT	Endangered, vulnerable or near threatened under the Queensland *Nature Conservation Act 1992* and Commonwealth *Environment Protection and Biodiversity Conservation Act 1999.*
EPA	Environmental Protection Agency (former Queensland Government department)
EPBC	*Environmental Protection and Biodiversity Conservation Act 1999*
GAB	Great Artesian Basin
GCDI	Ground Cover Disturbance Index
GDE	Groundwater-dependent Ecosystem
GIS	Geographic information system
HAT	Highest astronomical tide
HERBRECS	Specimen based register of plants held by Queensland Herbarium

JAMBA	Japan-Australia Migratory Bird Agreement
MUL	Mulga Lands Bioregion
NCA	*Nature Conservation Act 1992*
NET	New England Tablelands Bioregion
NP	National Park
NPRSR	Department of National Parks, Recreation, Sport and Racing
NR	Nature Refuge
QPWS	Queensland Parks and Wildlife Service
RE	Regional ecosystem
REDD	Regional Ecosystems Description Database
ROKAMBA	Republic of Korea-Australia Migratory Bird Agreement
RR	Resource Reserve
SDRN	State Digital Road Network
SEQ	Southeast Queensland bioregion
SF	State Forest
SLATS	State-wide Landcover and Trees Study
TR	Timber Reserve
WILDNET	Department of Science, Information Technology and Innovation (DSITI)'s corporate wildlife application containing records and other information on Queensland flora and fauna

7 Appendix 2: Datasets available to the expert panel during the workshop

GIS

Geographic data

Catchment boundaries

Contours (10m interval)

Topographic maps (1:100 000).

Cadastral, government and locational data

Cadastral data (DCDB) for BRB study area local government areas

Local government boundaries

Pastoral holdings database

Places

Towns

State Digital Road Network (SDRN)

Stock routes.

Vegetation

Regional Ecosystem Description Database (REDD)

Draft pre-clearing vegetation

Draft remnant (RE10) RE mapping

Species

All fauna species records were obtained from Queensland Historical Fauna database. Flora species records were obtained from Herbrecs, WildNet and Corveg databases

BriMapper (Herbrecs species records viewer).

Wetlands

Queensland Wetland Mapping

Directory of Important Wetlands

RAMSAR

Drainage network—rivers

Drainage network—creeks.

Biodiversity Planning Assessment data

Queensland bioregion and subregion boundaries

Terrestrial and riparian state bioregional corridors

Results from BRB bioregion BPA v1.3.

Protected areas

Protected areas

Nature refuges

Imagery

Landsat mosaic of the BRB bioregion

SPOT imagery (10 metres).

Documents available electronically

EHP 2014, *Biodiversity Assessment and Mapping Methodology. Version 2.2*, Department of Environment and Heritage Protection, Brisbane.

Hard copy maps

BRB bioregions and subregions (Queensland)

Broad vegetation groups (1:5M)

State-wide corridors

BRB BPA v1.3 outputs.

8 Appendix 3: Previous Expert Panel Attendees BRB BPA Version 1.3

Name	Organisation	Flora	Fauna	Landscape
Adam Clark	Wildlife Preservation Society of Queensland, Taroom			Attended
Al Young	Private		Out of session	
Alan House	Department of Primary Industries			Attended
Alison Goodland	World Wide Fund for Nature	Attended		
Bernie Doonan	Queensland Parks Wildlife Service			Out of session
Bill McDonald	Queensland Herbarium	Out of session		Attended
Bruce Forster	Department of Natural Resources and Mines			Attended
Bruce Lawrie	Queensland Parks Wildlife Service		Attended	
Bruce Thomson	Queensland Parks Wildlife Service		Out of session	
Bruce Wilson	Queensland Herbarium	Attended		Attended
Cath Thrupp	World Wide Fund for Nature			Attended
Charlie Zammit	Land Use Study Centre, University of Southern Queensland			Attended
Craig Eddie	Queensland Parks Wildlife Service		Attended	
David Halford	Queensland Herbarium	Out of session		
Derek Ball	Queensland Parks Wildlife Service			Attended
Derek Johnson	Queensland Herbarium			Attended
Don Butler	Botanist, Queensland Herbarium			Attended
Don Cook	Environmental Protection Agency			Attended
Dr Chris Hill	Environmental Protection Agency		Attended	
Dr David McFarland	Environmental Protection Agency		Attended	
Dr Geoff Lundie-Jenkins	Queensland Parks Wildlife Service		Attended	
Dr Hugh Possingham	University of Queensland			Out of session
Dr Michael Mathieson	Queensland Parks Wildlife Service		Out of session	
Dr Paul Clayton	Environmental Protection Agency		Attended	
Dr Rod Fensham	Queensland Herbarium	Out of session		
Dr Sue McIntyre	CSIRO			Out of session

Name	Organisation	Flora	Fauna	Landscape
Eric Vanderduys	Queensland Museum		Out of session	
George Bourne	Department of Natural Resources and Mines			Attended
Gethin Morgan	Environmental Protection Agency			Attended
Grant Paterson	DNRM			Attended
Greg Ford	Landcare		Attended	
John McCabe	Queensland Parks Wildlife Service			Attended
John Neldner	Queensland Herbarium			Attended
John Platten	Environmental Protection Agency			Attended
John Thompson	Queensland Herbarium			Attended
Jon Burgess	Department of Natural Resources and Mines			Attended
Joy Brushe	Queensland Herbarium			Attended
Juliana McCosker	Environmental Protection Agency			Attended
Kathy Watkins	Queensland Parks Wildlife Service			Attended
Kylie Joyce	Queensland Parks Wildlife Service			Attended
Lyn Bailey	Botanist			Attended
Malcolm Wilson	Lake Broadwater Natural History Association		Out of session	
Mark Weaver	Queensland Parks Wildlife Service			Out of session
Melanie Venz	Queensland Parks Wildlife Service		Attended	
Michael Bent	Fitzroy Basin Association			Attended
Mrs Kym Sparshott	Queensland Parks Wildlife Service	Attended		
Paul Forster	Queensland Herbarium	Out of session		Attended
Paul Grimshaw	Queensland Parks Wildlife Service	Attended	Out of session	Attended
Peter Naske	Queensland Parks Wildlife Service			Attended
Peter Sparshott	Department of Natural Resources and Mines		Out of session	
Peter Voller	Department of Natural Resources & Mines			Attended
Peter Young	Environmental Protection Agency	Attended		Attended
Richard Johnson	Queensland Parks Wildlife Service		Out of session	Out of session
Rod Fensham	Queensland Herbarium			Attended
Rod Hobson	Queensland Parks Wildlife Service		Attended	
Ross Walker	Department of Natural Resources and Mines			Attended

Name	Organisation	Flora	Fauna	Landscape
Sandy Pollock	Senior Botanist, Queensland Herbarium			Attended
Sarah Moles	Toowoomba and Region Environment Council / World Wide Fund for Nature			Attended
Shane Masterson	Project Officer, Fitzroy Basin Association			Attended
Steve Barry	Environmental Protection Agency	Out of session		
Steve Wilson	Queensland Museum		Out of session	
Stuart Collard	University of Southern Queensland			Attended
Stuart Henry	Queensland Parks Wildlife Service	Attended		
Teresa Eyre	Queensland Parks Wildlife Service		Out of session	Attended
Terry Adams	Private		Attended	
Tina Ball	Queensland Parks Wildlife Service			Attended
Tony Bean	Queensland Herbarium	Out of session		Attended
Support staff				
Brad Mayger	Environmental Protection Agency			
Maria Zann Schuster	Environmental Protection Agency			
Darren Fielder	Environmental Protection Agency			
David McFarland	Environmental Protection Agency			
Kristen Williams	Environmental Protection Agency			
Dr Chris Hill	Environmental Protection Agency			