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Photopoint Monitoring  
Vegetation Offset  
Gurgeena State Forest –  
Year 2 -April 2016

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Prepared for:  
Ahearn Earthmoving

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Date:  
20 May 2016

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## 1 Introduction

The Humphrey-Binjour Road landslip remediation project resulted in unavoidable impacts to flora species of conservation significance listed in the Queensland *Nature Conservation Act 1992* (NCA) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC). The landslip remediation works were required to remediate a failed section of slope adjacent to Humphrey-Binjour Road. The civil works required to repair the landslip resulted in the removal of

- Four *Pomaderris clivicola* plants, listed as vulnerable under the EPBC Act and NC Act; and
- Eighty-two *Bertya pedicellata* plants, listed as near-threatened under the NC Act

A clearing permit (Permit number WICL1306341) was issued by the Department of Environment and Heritage Protection (DEHP) on 27 June 2013 for impacts to *P. clivicola* and *B. pedicellata*. This permit was issued for 6 months. A subsequent clearing permit (Permit number WICL14184614) was issued on 26 February 2014.

The following conditions of the Permit number WICL14184614 relate to the preparation of an offset plan and pro

*PB1 An offset plan must be developed by the permit holder and provided to EHP for assessment within 3 months of the permit start date. The offset plan must identify an offset site in State forest on the Binjour Plateau in consultation with the Department of National Parks, Recreation, Sport and Racing (Maryborough office) and the Queensland Herbarium. Clearing can only commence after the offset plan has been approved by EHP. The development of an offset plan should be in accordance with the "Guidelines for the Translocation of Threatened Species in Australia" (Vallee et al., 2004).*

*PB2 Pomaderris clivicola and Bertya pedicellata must predominantly be propagated from vegetative stock. Pomaderris clivicola must be propagated from all 34 plants; therefore, at least 34 plants must be established at the offset site to ensure the best conservation outcome for the endangered species.*

*PB3 To ensure genetic integrity, all plants must be propagated from stock of local provenance. This permit authorises vegetative material to be collected in accordance with "The Code of Practice for the take and use of protected plants", to the extent that the offset relating to this permit can be met.*

*PB5 Clearing under this permit must only commence after it is demonstrated that the required number of Pomaderris clivicola and Bertya pedicellata have been successfully propagated.*

On 13<sup>th</sup> September 2013 the Commonwealth Department of Sustainability, Environment, Water, Population and Communities (DSEWPC) published a **draft recommendation report** for the approval of the controlled action for impacts to *P. clivicola* (Reference number 2013/6893).

*1. The person taking the action must prepare a Pomaderris clivicola Offset Strategy to compensate for significant residual impacts to Pomaderris clivicola. The Pomaderris clivicola Offset Strategy must be submitted to, and approved by the Minister prior to commencement of the action.*

*The Pomaderris clivicola Offset Strategy must:*

*a) identify an offset site;*

*b) detail how the Pomaderris clivicola Offset Strategy will establish at least 34 Pomaderris clivicola plants at the offset site (hereinafter referred to as the 'new population'). The new population must be vegetatively propagated from all 34 Pomaderris clivicola plants at the subject site;*

*c) include a scientifically robust discussion of the suitability of the offset site to support the new population;*

*d) include detailed methodology for the propagation and planting required to establish the new population;*

*e) detail how the person taking the action will manage the new population for a period of no less than 2 (two) years following planting; and*

*f) include a textual description and map to clearly define the offset site's description, location and boundaries. This must be accompanied with the Latitude and Longitude location point, offset attributes, and a shape file.*

The offset management plan, "Humphrey- Binjour Road landslip remediation. Offset management plan for *Pomaderris clivicola* and *Bertya pedicellata*, dated 6 August 2014", was developed by ARUP and was developed to meet the permit conditions of both the Clearing Permit issued under the NCA and a controlled action approval permit under the EBPC Act.

## 2 Offset Site

The offset site is located within the Gurgeena State Forest 172, North Burnett Regional Council. The offset site is located within the north-east corner of Lot 172 on FTY743, approximately 30km north-west of Gayndah and 17km north-east of Mundubbera, on the Binjour Plateau (Figure 1). The offset area is 20.71ha in size.

The offset site is mapped as containing least concern regional ecosystems;

11.5.15 - Semi-evergreen vine thicket. The following species are commonly present in the tree layer: *Flindersia australis*, *Flindersia collina*, *Alstonia constricta*, *Excoecaria dallachyana*, *Geijera parviflora*, *Notelaea* spp., *Planchonella cotinifolia* var. *pubescens*, *Diospyros humilis* and *Denhamia oleaster*, with emergent *Brachychiton rupestris* or *Flindersia australis*. A dense shrub layer of *Psydrax odorata* and *Acalypha eremorum* is often present. May contain emergent *Eucalyptus decorticans* or *Eucalyptus melanoleuca* in some southern locations. Occurs on remnant Tertiary surfaces. Deep red and yellow earths. (BVG1M: 7a)

11.7.6 *Corymbia citriodora* and/or *Eucalyptus crebra* woodland. On adjacent footslopes, scattered *E. crebra*, *C. clarksoniana* and *C. tessellaris* may occur. There is usually a distinct tall shrub layer often dominated by *Acacia* spp. The ground layer varies from sparse to moderately dense and is dominated by perennial grasses. Occurs on Cainozoic lateritic duricrust. (BVG1M: 10a)

The patch of SEVT within the offset site covers approximately 11.60ha. The remainder of the offset site contains eucalypt open forest. ARUP's Offset Management Plan states the SEVT supports *Bertya opponens* (EPBC Act Vulnerable), *Fontainea fugax* (NC Act Endangered) and *Zieria vagans* (NC Act Endangered). Whilst *B. opponens* and *F. fugax* are all located within the SEVT, some *Z. vagans* occur in the ecotone between the SEVT and the open eucalypt forest. (ARUP Offset Management Plan).

The primary management objectives and intent of the offset site, in accordance with the permit conditions include:

- Creation of new, viable populations of *P. clivicola* and *B. pedicellata*; and
- Removal of declared pest plants

Secondary management objectives that will provide additional conservation benefits include:

- Protect intact example of SEVT on the Binjour Plateau; and
- Protect an area of high conservation significance, with habitat for threatened flora.

### 3 Monitoring Requirements

The Offset Management Plan identifies monitoring requirements over an initial 5 year period:

Year	Monitoring Requirements
Year 1	<ul style="list-style-type: none"> <li>• Single visual and photopoint monitoring event</li> <li>• Flora transect within remnant eucalypt forest and SEVT to establish baseline conditions</li> <li>• Reporting to be submitted to DEHP and DSEWPC following completion of permanent flora transect.</li> </ul>
Year 2	<ul style="list-style-type: none"> <li>• Two visual and photopoint monitoring events, 6 months apart.</li> <li>• Reporting to be submitted to DEHP and DSEWPC.</li> </ul>
Year 3	<ul style="list-style-type: none"> <li>• One visual and photopoint monitoring events, 6 months apart.</li> <li>• Reporting to be submitted to DEHP and DSEWPC.</li> </ul>
Year 4	<ul style="list-style-type: none"> <li>• One visual and photopoint monitoring events, 6 months apart.</li> <li>• Reporting to be submitted to DEHP and DSEWPC.</li> </ul>
Year 5	<ul style="list-style-type: none"> <li>• One visual and photopoint monitoring events, 6 months apart.</li> <li>• Flora transect within remnant eucalypt forest and SEVT to record conditions.</li> <li>• Reporting to be submitted to DEHP and DSEWPC.</li> </ul>
Years 6-10	<ul style="list-style-type: none"> <li>• If needed yearly visual and photopoint monitoring until evidence of natural recruitment of <i>P. clivicola</i> and <i>B. pedicellata</i> plants is achieved.</li> <li>• Reporting to be submitted to DEHP and DSEWPC following evidence of natural recruitment.</li> </ul>

## 4 Monitoring – Year 2

The two aims of monitoring in Year 2 are:

- Observe the health and condition of installed *P.clivicola* and *B.pedicellata* plants
- Observe any changes in habitat structure
- Observe plant establishment
- Observe the status of weeds

### 4.1 Photopoint Monitoring

Five photopoint monitoring sites are identified in the Offset Management Plan for *Pomaderris clivicola* and *Bertya pedicellata* (ARUP 2013). Baseline photopoint monitoring was carried out in September 2015 at the sites identified in the Offset Management Plan and shown in Figure 2. These photo points were visited, marked with a star picket with a yellow plastic cap, labelled and photos taken in four directions; north, east, south and west.

Since the baseline photopoint monitoring was undertaken, a significant number of *P. clivicola* and *B.pedicellata* have been planted. These plants all occur within the ecotone of the SEVT and the open eucalypt forest. Only one of the 5 photopoint monitoring sites identified in the Offset Management Plan is located within this area. The rest are located in areas that have not had any of the threatened species planted and as such the photopoint monitoring would not yield the desired results.

As a result 4 new photopoint monitoring sites were selected throughout the area in which these plants have been planted. This will enable the photopoint monitoring to monitor the health and success of these installed plants over time. The location of the photopoint monitoring sites are shown in Figure 3.

On 30 April 2016 photopoint monitoring was carried out. Each of the 5 photopoint sites identified in Figure 3 were visited and photos taken in four directions; north, east, south and west.. Observations were made about health and condition of installed *P.clivicola* and *B.pedicellata* plants and the general health of the offset site. The photos are shown below in Table1.

In essence this photopoint monitoring event will be used as the baseline photopoint monitoring.

April 2016	
Site PP1	
North	East
	
South	West
	

April 2016	
Site PP2	
North	East
 A photograph showing a tree trunk with a pink marker tied around it. The view is looking north, showing a forest floor with reddish-brown soil and sparse vegetation.	 A photograph showing a tree trunk with a pink marker tied around it. The view is looking east, showing a forest floor with reddish-brown soil and sparse vegetation.
South	West
 A photograph showing a tree trunk with a pink marker tied around it. The view is looking south, showing a forest floor with reddish-brown soil and sparse vegetation.	 A photograph showing a tree trunk with a pink marker tied around it. The view is looking west, showing a forest floor with reddish-brown soil and sparse vegetation.

Site PP3			
April 2016		September 2015	
North		North	
			
East		East	
			

Site PP3			
April 2016		September 2015	
South		South	
			
West		West	
			

April 2016	
Site PP4	
North	East
 A photograph showing a northward view of a forest clearing. The ground is reddish-brown soil with sparse vegetation. A black marker with a pink ribbon is visible in the foreground. The background shows a dense forest of tall, thin trees.	 A photograph showing an eastward view of the same forest clearing. The ground is reddish-brown soil with sparse vegetation. A black marker with a pink ribbon is visible in the foreground. The background shows a dense forest of tall, thin trees.
South	West
 A photograph showing a southward view of the forest clearing. The ground is reddish-brown soil with sparse vegetation. A black marker with a pink ribbon is visible in the foreground. The background shows a dense forest of tall, thin trees.	 A photograph showing a westward view of the forest clearing. The ground is reddish-brown soil with sparse vegetation. A black marker with a pink ribbon is visible in the foreground. The background shows a dense forest of tall, thin trees.

April 2016	
Site PP5	
North	East
 A photograph showing a forest path leading north from a tree marked with pink tape. The ground is reddish-brown soil with sparse vegetation.	 A photograph showing a forest path leading east from a tree marked with pink tape. The ground is reddish-brown soil with sparse vegetation.
South	West
 A photograph showing a forest path leading south from a tree marked with pink tape. The ground is reddish-brown soil with sparse vegetation.	 A photograph showing a forest path leading west from a tree marked with pink tape. The ground is reddish-brown soil with sparse vegetation.

General photos of the offset area were also taken.



General view of the offset site.



Offset site – each plant has a picket and tag.



*Pomaderris clivicola*



Recently planted *Pomaderris clivicola* and *Bertya pedicellata*



*Pomaderris clivicola* and pickets with labels.



*Pomaderris clivicola*



*Bertya pedicellata* picket and tag.



*Bertya pedicellata*

## 5 Findings and Conclusions

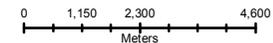
The plants that were planted initially have grown significantly (see photos at site PP3 and PP4). The height of *Bertya pedicellata*'s are in the vicinity of 1.5 -3m and the *Pomaderris clivicola* range in height up to 2m. The fencing that originally surrounded these plantings has been predominantly removed. These plants are looking healthy and well established at this site.

The more recently planted plants all look healthy and seem to have settled in well to their new site. Each plant is marked with a picket and tag to assist in monitoring survival and health of each species.

This site appears to be supporting the establishment and ongoing growth and survival of both the *Bertya pedicellata* and *Pomaderris clivicola*.

The next photopoint monitoring will occur in approximately 6 months' time, which will be September/October 2016.

## Appendix 1 – Figures



Scale: 1:150,000

Legend

-  Offset Site
-  State Forest 172FTY743

Figure 1  
Location of Vegetation  
Offset Site

Local Government: North Burnett

Job No.:2015\_0040

Date:20/08/2015

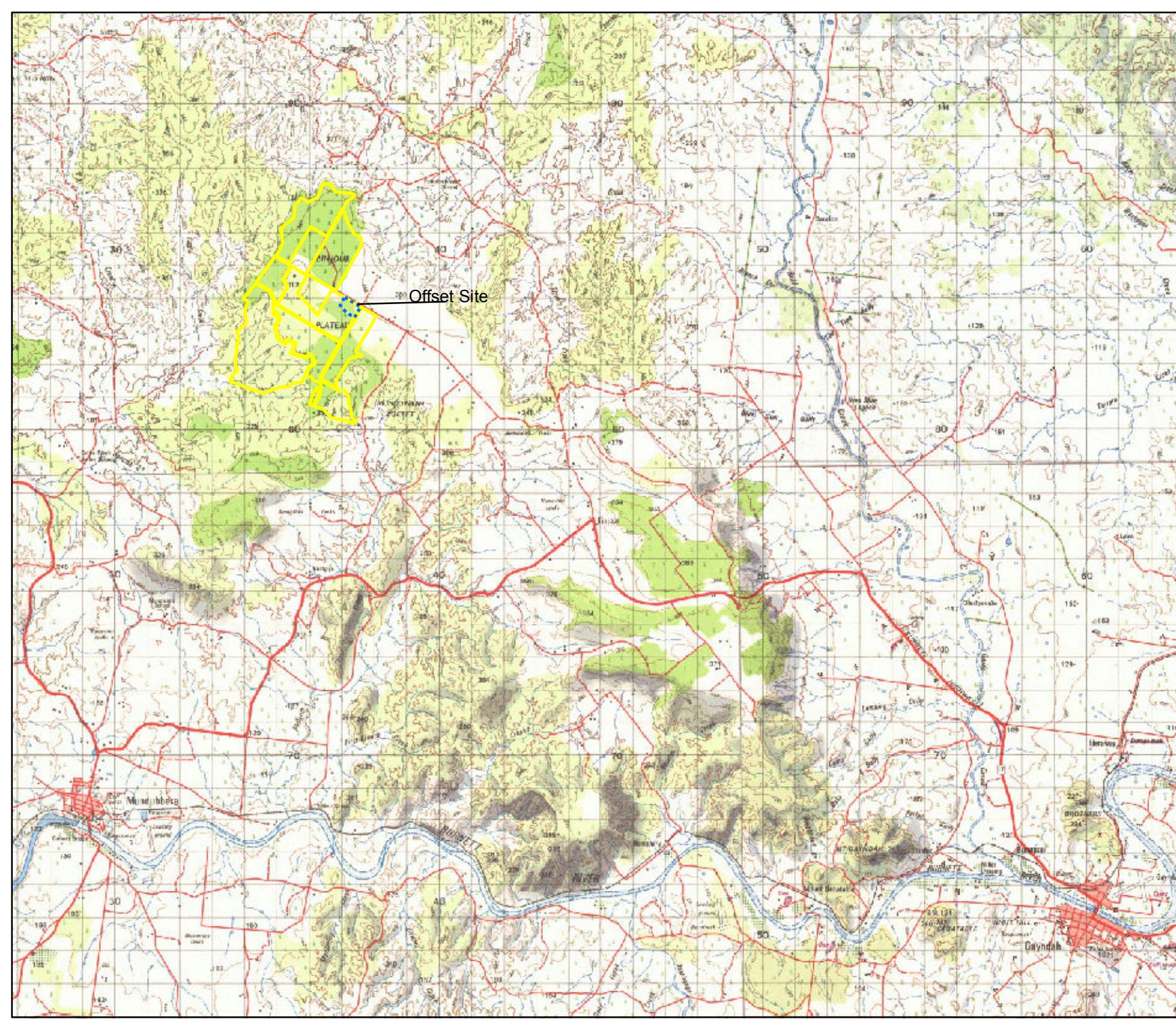
Drawn by:Jane Barratt

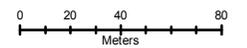
Source: Qld Govt 2015

The data and information used to produce this drawing was current at the date of the drawing. WBB Environmental does not accept liability for any errors contained with the data supplied on this map and any changes made after the date of the drawing.



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Scale: 1:3,000

Legend

- Transect\_2
  - Transect\_1
  - Photopoint
  - Transect
  - Biocondition Assessment Site
  - Offset Site
- Vegetation Community**
- Eucalypt Open Forest
  - SEVT
  - Cadastre



Figure 2  
Location of Photopoint  
Monitoring Sites

Local Government: North Burnett

Job No.:2015\_0040

Date:20/08/2015

Drawn by:Jane Barratt

Source: Qld Govt 2015

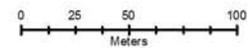
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Photopoint	Easting	Northing
PP1	337552	7183748
PP2	337535	7183788
PP3	337507	7183764
PP4	337521	7183832
PP5	337530	7183862

Projection: UTM (MGA Zone 56) Datum: GDA94



Scale: 1:3,500

Legend

- April\_2016\_Sites
- Offset Site
- 172FTY743

**Vegetation Community**

- Eucalypt Open Forest
- SEVT
- Cadastre

Figure 3  
April 2016 Photopoint  
Monitoring Sites

Local Government: North Burnett  
 Job No.: 2016\_0054  
 Date: 14/05/2016  
 Drawn by: Jane Barratt  
 Source: Qld Govt 2016  
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