



## **NEW ACLAND COAL MINE**

# **CONSERVATION ZONE MONITORING AND REHABILITATION MONTHLY REPORT**

**NOVEMBER 2023**

**Prepared for  
New Hope Group Pty Ltd**

**Biodiversity Assessment and Management Pty Ltd  
PO Box 1376  
CLEVELAND 4163  
November 2023**

**Specialised ecological knowledge that reduces your risk**

15 December 2023

Helen Morrison  
Senior Environmental Advisor  
New Acland Coal Mine  
New Hope Group Pty Ltd  
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Dear Helen,

**RE: Conservation Zone Monitoring and Rehabilitation Monthly Report – November 2023**

BAAM was commissioned by New Hope Group to monitor rehabilitation progress and undertake maintenance works in the Bottle Tree Hill and Lagoon Creek conservation zones at New Acland Coal Mine from June to December 2023. The following report describes the monitoring and rehabilitation activities undertaken during the November 2023 monitoring event, 29<sup>th</sup>-30<sup>th</sup> November.



Works during this period focused on assessing the recent planting at Bottle Tree Hill and continuing the primary treatment of Tree Pear (*Opuntia tomentosa*) along Lagoon Creek.

Please do not hesitate to contact BAAM if you require further information.

Yours sincerely,



Emma Green  
**Project Ecologist**  
**Biodiversity Assessment and Management Pty Ltd**

File No	Author	Reviewer
0412-005g		

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## 1.0 CONSERVATION ZONE MONITORING

### 1.1 BOTTLE TREE HILL PLANTING

Conservation monitoring during the November 2023 site visit included visual assessment of the planting area at Bottle Tree Hill, where 690 plants were installed into prepared beds on 30<sup>th</sup>-31<sup>st</sup> October. The CZMP requires that revegetation areas are visually monitored monthly for the first six months (or until plants are self-sufficient), including presence of any active rill/gully erosion, weed species, general assessment of seedling establishment, and quantification of any general failure of rehabilitation works.

Since planting works were undertaken, NAC has installed tree guards around the plants to prevent grazing by macropods and hares, and has undertaken watering consistent with the recommended schedule. A total of 97mm of rainfall was also recorded for the month of November (Oakey Airport weather station, WillyWeather 2023).

The visual assessment found minimal erosion present, despite significant rainfall events in the days preceding the site visit. Weed presence within the planting site has increased with the increase in rainfall and consists mostly of emerging Green Panic, Couch, Verbena, Fleabane, and Purslane between the planted rows (**Photos 1 and 2**). Regrowth of previously treated weeds surrounding the planting site were also apparent, including Cape Honeysuckle, Orange Trumpet Vine, and Brazilian Nightshade.

Plant survival was assessed through two sample counts taken on opposite sides of the planting. Groundcover species averaged 69% survival and trees and shrubs 79% survival.

Emerging native plants including an Acacia species (**Photo 3**) and native groundcover Saltbush *Atriplex sp.* (**Photo 4**) were located in some spots between the planted rows. Examples of these plants have been flagged to be referred to by weed control personnel during maintenance works to avoid off-target damage.



Photo 1. Bottle Tree Hill Planting – eastern side





Photo 2. Bottle Tree Hill Planting – western side



Photo 3. Acacia seedling



Photo 4. Saltbush *Atriplex* sp.

## 1.2 LAGOON CREEK

Monitoring along Lagoon Creek focused on assessing the effectiveness of stem injection treatments of Tree Pear (*Opuntia tomentosa*) conducted in August 2023. All treated plants inspected were exhibiting distress and many were found to be completely dead, especially the smaller individuals (**Photo 5 and 6**). New growth was observed on some of the larger treated plants (**Photo 7**), though it is understood this also occurred to some treated plants at Bottle Tree Hill, which eventually succumbed to the herbicide treatment despite evidence of new growth.



These individuals will continue to be monitored during on-going maintenance works to determine any requirement for further treatment. New growth from dropped pads on the ground surrounding treated plants was also commonly observed (**Photo 8**). These and other emergent Tree Pear will be targeted for treatment in the new year.



Photo 5. Treated tree pear near LC10



Photo 6. Treated tree pear near LC04



Photo 7. New pads shooting from treated plant



Photo 8. New pads shooting from dropped pads

## 2.0 REHABILITATION AND MAINTENANCE WORKS UNDERTAKEN

### 2.1 BOTTLE TREE HILL

Follow-up watering and installation of tree guards has been undertaken at the Bottle Tree Hill planting site. No other maintenance or rehabilitation works are known to have occurred during the month of November.

### 2.2 LAGOON CREEK TREE PEAR TREATMENT

During the November site visit, BAAM personnel continued stem injection treatment of mature Tree Pear within the Lagoon Creek Conservation Area. About 30 mature plants were stem injected between areas of previous treatment undertaken in August (see **Figure 1**). Several large individuals were treated in the vegetated fence line connecting to Willeroo Mine Road.





Figure 1. Tree Pear treatment locations



### **3.0 FUTURE REHABILITATION AND MAINTENANCE**

#### **3.1 BOTTLE TREE HILL REVEGETATION**

The existing planting at Bottle Tree Hill is currently in good condition; however, on-going weed maintenance is recommended to control weed regrowth and emerging weeds within and surrounding the planting area. Now is an ideal time to conduct herbicide treatments while conditions are favouring active growth.

Targeted spot spraying is recommended to avoid off-target damage to emerging native species. Weeds growing within tree guards should be hand-weeded to reduce competition. Spreading mulch between the planted beds may also assist in weed suppression. This should ideally follow ground cultivation, which will be required for additional revegetation.

#### **3.2 LAGOON CREEK TREE PEAR**

Further stem injection of mature Tree Pear along Lagoon Creek is required to complete primary treatment throughout the conservation area. It is anticipated all remaining primary treatment of Tree Pear will be completed in the following month's visit.