

Our ref: AU213012164.001

Level 3, 500 Hay Street  
Subiaco, WA 6008  
T +61 8 9211 1111

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Bridie Howe-Keetelaar  
Development Planning Coordinator  
Rottnest Island Authority  
PO Box 693 Fremantle WA 6959

Dear Bridie,

### Ground-truthing: Qualitative assessment of vegetation in proposed Parker Point Road clearing area

This letter report discusses the qualitative assessment RPS undertook of the vegetation and its condition in the proposed clearing area on Parker Point road, Rottnest Island.

On Friday 15<sup>th</sup> September, RPS Lead Botanist Martin Henson visited Rottnest Island to conduct a qualitative assessment of the vegetation within the proposed clearing area (NVCP site) (Figure 1).

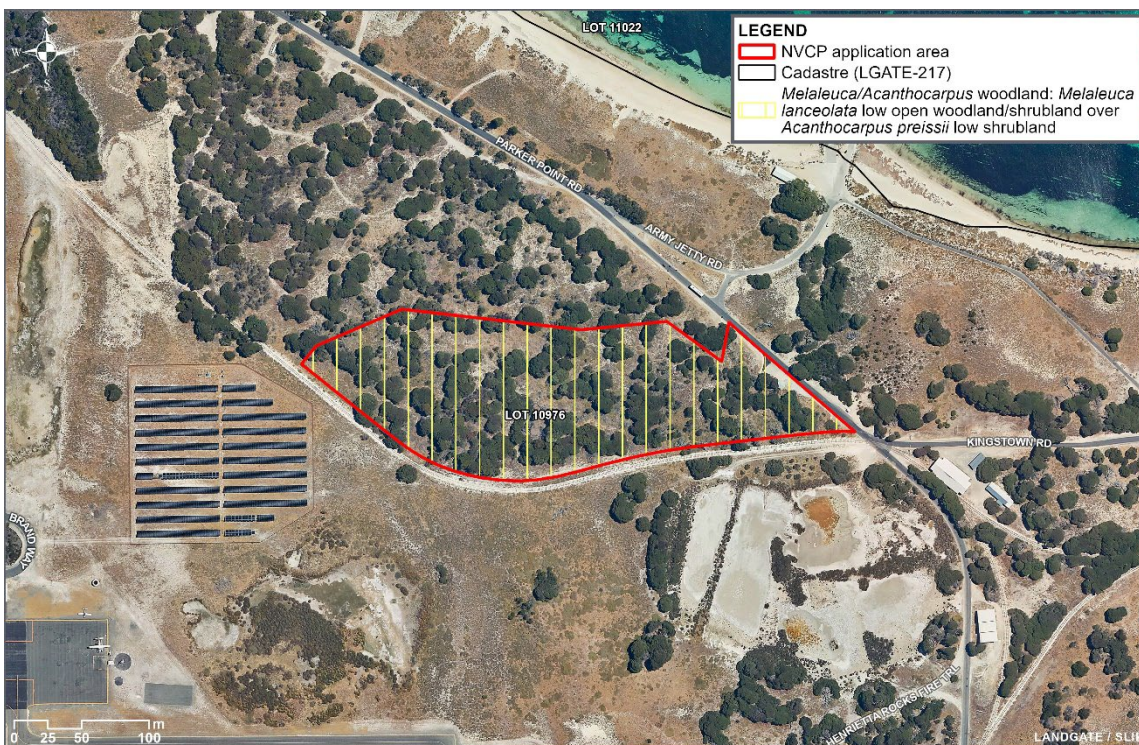


Figure 1 Proposed clearing area

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Previous work (Focused Vision Consulting, 2022) mapped this area as:

- **MIAp:** *Melaleuca/Acanthocarpus* woodland: *Melaleuca lanceolata* Tall Shrubland over *Acanthocarpus preissii* Low Open Shrubland.

Vegetation Condition was mapped as:

- Very Good by the scale of Keighery (1994) (Focused Vision Consulting, 2022; 360 Environmental, 2022).

Examination of the mapping provided shows that the surveying botanists (Focused Vision Consulting) placed one quadrat (Q11) just north of the northern boundary of the site, and walked one traverse across the current site from north-west to south-east in the western portion of the site, and then along the southern boundary following the rail line back to Parker Point Road. The purpose of this assessment was to ground-truth the mapping presented in the previous reports. Focused Vision Mapping is included as Figures A and B at the end of this document.

The vegetation unit described in the extrapolated mapping of the NVCP site is analogous to the state listed Threatened Ecological Community (TEC) “*Callitris preissii* (or *Melaleuca lanceolata*) forests and woodlands of the Swan Coastal Plain (floristic community type 30a as originally described by Gibson *et. al.* 1994)”. This TEC is listed as Critically Endangered (State of Western Australia, 2023).

## Methods

The site was traversed in an east-west direction (Figure 2) and four relevé sites were described. Digital photos were taken at these and other points.

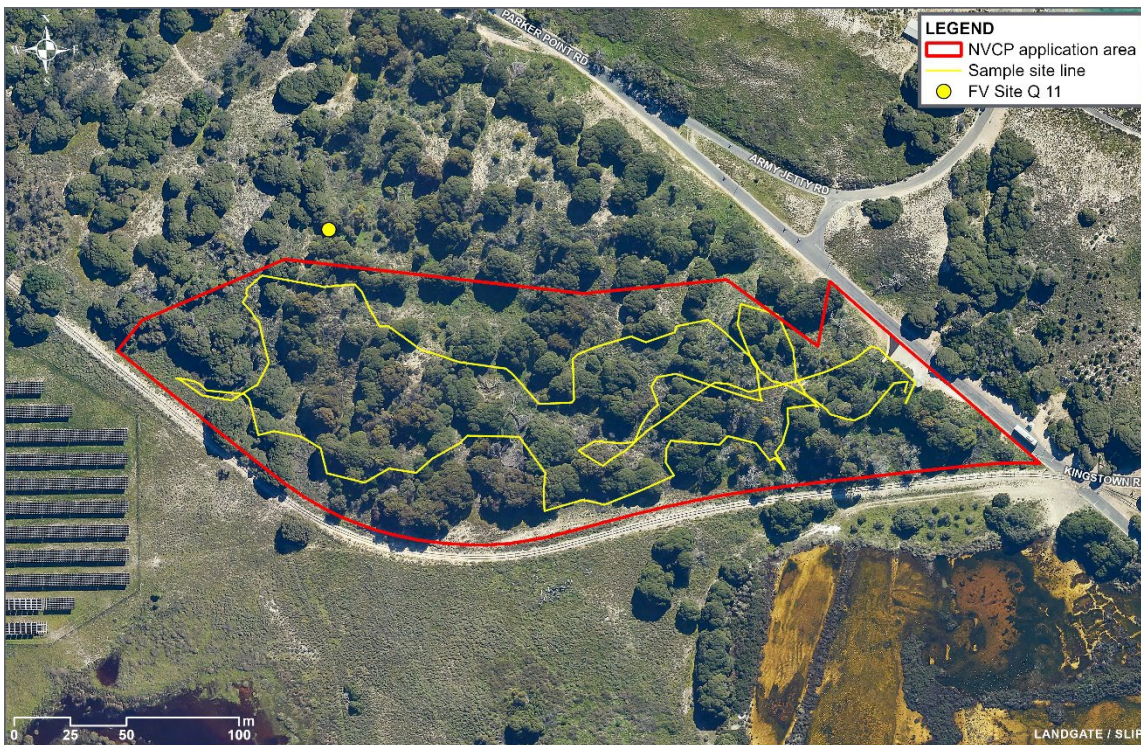


Figure 2 RPS survey tracks, including Focused Vision quadrat 11 site

## Results and Discussion

RPS considers the extrapolated vegetation type mapping of the NVCP site is generally correct. The vegetation type *Melaleuca/Acanthocarpus* woodland as described by Focused Vision Consulting (2022) is dominant, although RPS would modify the description provided by Focused Vision Consulting (2022) to:

- **MIAp:** *Melaleuca/Acanthocarpus* woodland: *Melaleuca lanceolata* (*Callitris preissii*) low open woodland/shrubland over *Acanthocarpus preissii* low shrubland (Figure 3).

Plate 1 shows the vegetation type across the proposed clearing area.

A few examples of the Rottnest Island Pine, *Callitris preissii* were noted. The introduced eucalypt *Eucalyptus utilis* (Coastal Moort) was noted as present and appears well established (Plate 2).



Figure 3 Vegetation in the proposed clearing area



Plate 1 *Melaleuca/Acanthocarpus* woodland



**Plate 2**     *Eucalyptus utilis*

Vegetation condition was assessed as Very Good by the Scale of Keighery (1994) by Focused Vision Consulting (2022) and 360 Environmental (2022), based on Focused Vision Quadrat 11 which was placed just to the north of the proposed clearing area boundary.

‘Very Good’ condition, as defined by the Keighery (1994) scale, is when:

- Vegetation structure (is) altered; obvious signs of disturbance. Disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.”

A review of the Focused Vision report shows that a total of 5 taxa were recorded in the quadrat on which the condition assessment of the proposed clearing area was based, one of which is introduced (\**Trachyandra divaricata*). The photo provided of Quadrat 11 (Plate 3) shows the same vegetation type as is shown in the plates displayed here from the RPS survey. While the quadrat retains some structure in the upper stratum (trees *Melaleuca lanceolata* and *Allocasuarina huegeliana*, and the shrub/tree *Acacia rostellifera*) the lower stratum is represented by two taxa, *Acanthocarpus preissii* and the weed \**Trachyandra divaricata*. This shrub/herb layer can be interpreted as depauperate in that it lacks diversity as it is dominated by one native taxon and includes the presence of an aggressive weed.



**Plate 3 Focused Vision Quadrat 11 (from Focused Vision 2022)**

During the RPS survey vegetation condition was assessed to differ from that previously mapped. Using the scale of Keighery (1994) RPS assessed the vegetation condition as Degraded with patches of Good, with a small patch around a shelter and interpretive installation as Completely Degraded/Cleared (Figure 4).



**Figure 4 RPS vegetation condition assessment**

The vegetation within the proposed clearing area was also found to be depauperate in the shrub layer, also being dominated by the *Acanthocarpus preissii*. Occasional *Guichenotia ledifolia* and *Lysianthus calycinus*

were noted, however, the introduced species *\*Trachyandra divaricata* was more common and widely distributed. The relevant Keighery scale (1994) condition definitions are:

- Good: Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.
- Degraded: Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weed at high density, partial clearing, dieback and grazing.
- Completely Degraded: The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'Parkland Cleared' with the flora comprising weed or crop species with isolated native trees and shrubs.

There have been multiple disturbances to the vegetation in the NVCP site:

- Historical photography (Plate 4) shows the area as cleared at the time of taking (1981);
- Poole *et al* (2014) notes that intensive browsing by the Quokka has substantially impaired revegetation on Rottnest, and as *Acanthocarpus preissii* is not shown to be a preferred food plant it can be inferred that the taxon has benefitted from the selective grazing pressure reducing competition for space. As a food plant for Quokka, *\*Trachyandra divaricata* was recorded in 68.7% of faecal samples (second only to *Guichenotia ledifolia* at 77.6%) as opposed to 0% for *Acanthocarpus preissii* (Poole *et al*, 2014);
- Phillips (2016) found that the density of Quokkas was significantly higher around the Settlement areas and this was correlated with tourism, escalating to its highest point around summer. It could be argued that this density is a man-made phenomenon and that overgrazing of palatable species (eg *Guichenotia ledifolia*) in the Settlement area or nearby is a result of human influence; and
- Weed invasion particularly by *\*Trachyandra divaricata* (and to a lesser extent *\*Asphodelus fistulosus*), and deliberate introduction of non-endemic species.



**Plate 4** 1981 orthophoto, approximate clearing area in red (photo courtesy of RIA).

RPS considers these disturbances to constitute a severe impact to the vegetation and its structure and therefore considers the vegetation to be in a Degraded condition over the majority of the proposed clearing area, with patches that may be considered Good. Plates 4 & 5 show the degraded nature of the vegetation.

One small area at the southern end of the proposed clearing area was assessed as 'Completely Degraded'. This area appears to have been established as an interpretive site for the Noongar seasons and various bush foods and other useful plants, with a gazebo and boardwalk in a fenced area. Currently, despite the upper stratum cover of *Melaleuca lanceolata*, there is little growing inside the fenced area except *Trachyandra divaricata*. The area can be said to be 'Parkland Cleared'.



**Plate 5** Degraded vegetation on dune



**Plate 6** Degraded stand of *Melaleuca lanceolata*

### **Conservation significant flora**

No conservation significant flora were recorded in the proposed clearing area.

### **Conclusion**

The vegetation in the NVCP site is analogous to the state listed TEC "*Callitris preissii* (or *Melaleuca lanceolata*) forests and woodlands of the Swan Coastal Plain (floristic community type 30a as originally described by Gibson *et. al.* 1994)". This TEC is listed as Critically Endangered.



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The vegetation has been subject to multiple disturbances and is currently in a Good (small patches) to Completely Degraded condition. This does not match the condition mapping in the Focused Vision Consulting (2022) report, which was achieved largely by extrapolation of the condition from a single quadrat placed just outside the boundary of the proposed clearing area.

Yours sincerely,  
for RPS AAP Consulting Pty Ltd



**Martin Henson**  
Lead Botanist  
martin.henson@rpsgroup.com.au  
+61 8 9211 3533

## References

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