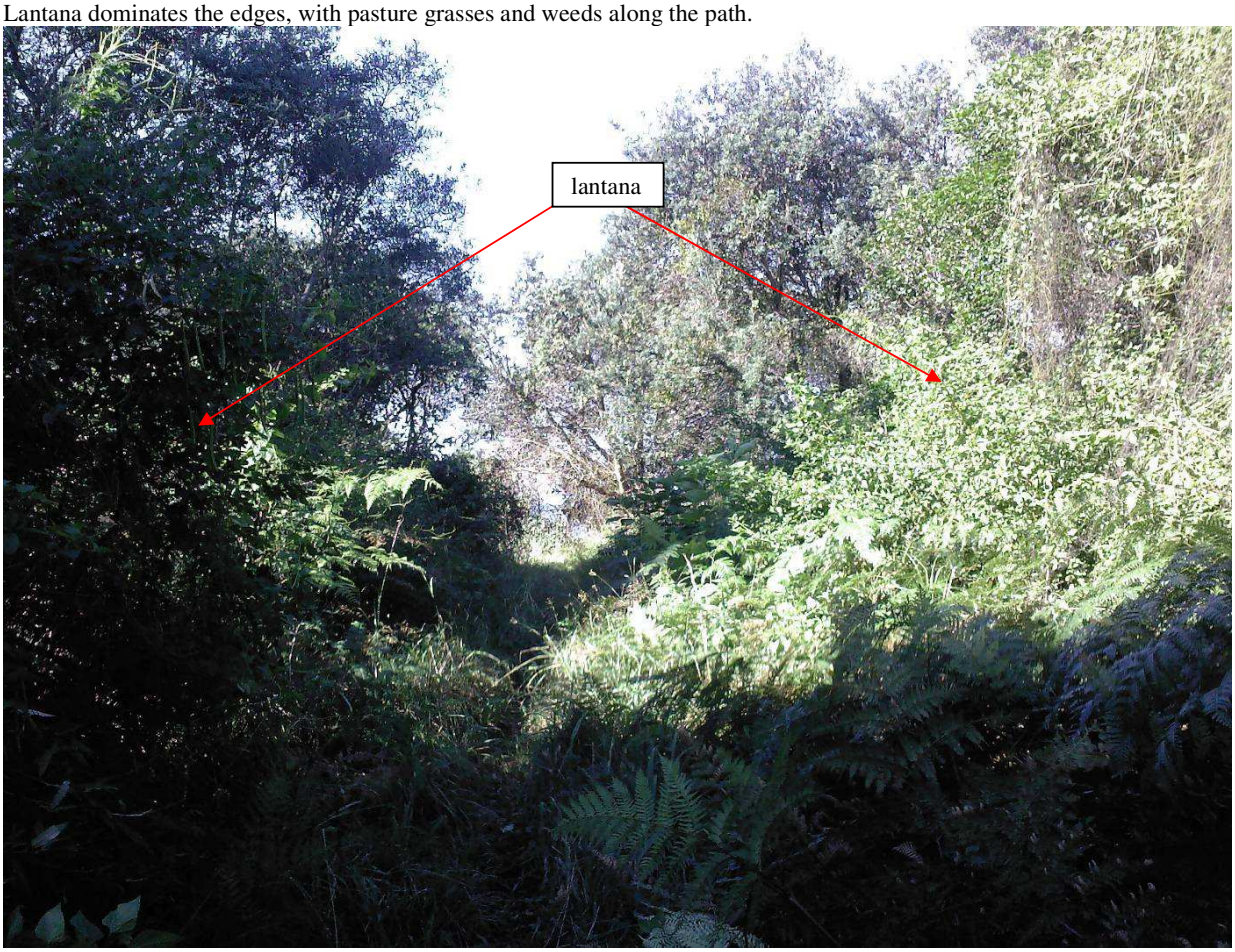
Photo 8: Weeds along current beach access
Lantana dominates the edges, with pasture grasses and weeds along the path.



3.3 SOUTHERN EDGE TREATMENT

This area refers to the area south of the beach access, from the edge of the dune succession on the Crown land to the edge of a proposed cycleway/pathway which will exit the southeast following a cleared overhead powerline easement south to Bonny Hills.

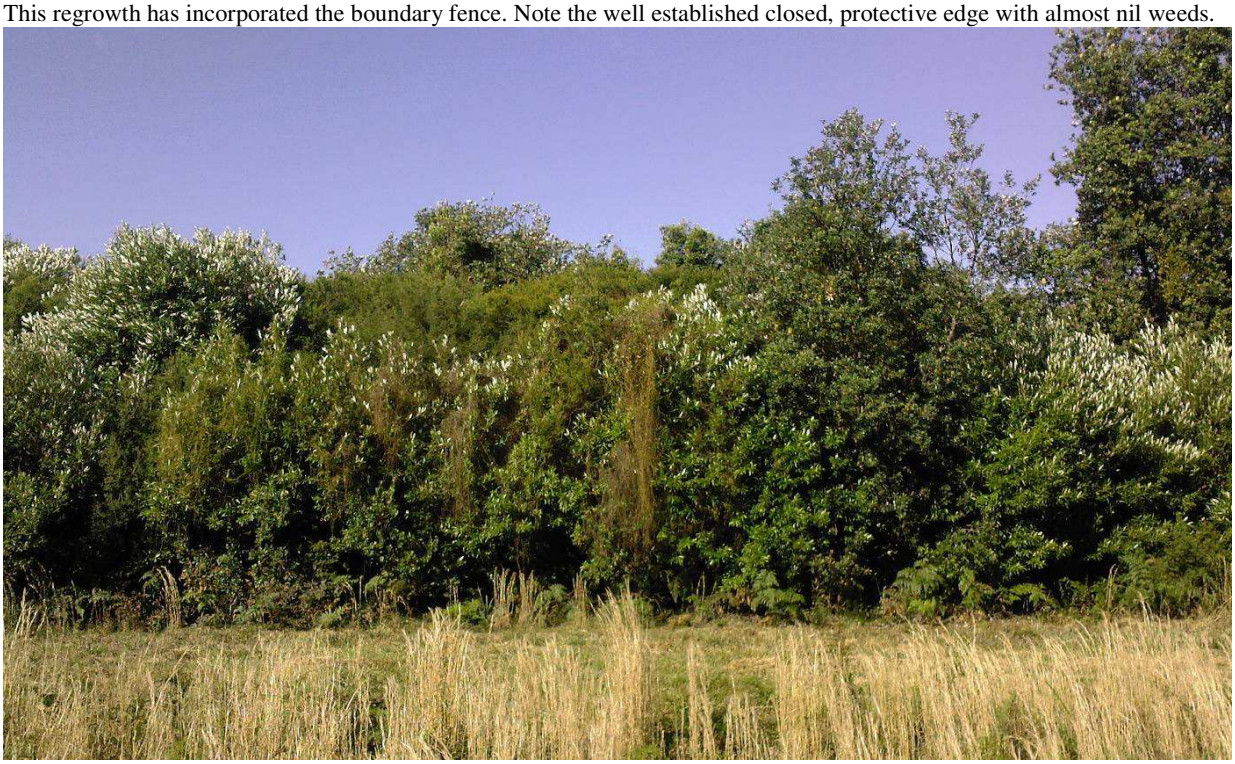
The edge of the forest on the Crown land (subject to the Dept of Land's permission) is to be treated as in section 3.2.1 (ie removal of all weeds), and planted over a width of 5m with suitable edge species such as Cheese Tree, banksias, wattles, etc, to the edge of the pathway. The primary function of these plantings is to protect the adjacent recovering dune succession community from environmental stresses from the west ie setting sun and dry hot westerly winds. The outermost edge of these plantings to the edge of the pathway will mimic a natural ecotone, and is to contain shrubs and Spiney-Headed Matrush to both provide insulation from the western winds and setting sun, and deter the public from entering.

Photo 9: View south along southern edge

Slashed path approximates the location of new edge plantings to a width of 5 metres within the subject land, and adjoin the footpath/cycleway. The existing fence has been incorporated within existing regrowth.

Photo 10: Example of current western edge of southern dune vegetation

This regrowth has incorporated the boundary fence. Note the well established closed, protective edge with almost nil weeds.



3.4 OTHER THREAT MANAGEMENT

Most of the following are not specifically relevant to the subject Part 3A applications, but are recommended for future development applications where relevant.

3.4.1 Artificial Lighting

3.4.1.1 Street Lighting

Street lighting is to be strategically located and/or designed to minimise light spillage on the adjacent native vegetation. This could be facilitated by directional lighting, bollard style lighting, and/or sensor lighting.

Lighting is not recommended to be located at the entrance to or along the beach access.

3.4.1.2 Other Lighting

Lighting within and around the future tourist facility is to minimise light spillage onto native vegetation by innovative use of lighting technology and design, and strategic location.

3.4.1.3 Carpark Screen Plantings

Road and carpark design should take light spillage from headlights and streetlighting into primary consideration in preliminary design stages. For example, access to the area and carparking should direct light from oncoming traffic away from the dune vegetation, and if parking is to be provided along the eastern boundary, it should be arranged parallel not perpendicular to minimise the amount and frequency of light directed into the dune and other remnant vegetation.

To further mitigate this impact, strategic landscaping using native species indigenous to the local area (Duchess Gully to the dune vegetation) such as Banksias and Cheese Trees should be used to filter or block light from traffic entering the site.

3.4.2 Beach Access Formalisation

As mentioned in section 3.2.2.2, the current beach access will be formalised and will provide the only access from the property to the beach. The existing track is at least 2m wide, hence no further clearing is considered required. As noted in section 3.2.2.2, weeds currently dominating the track and its edges will be removed, with the edge rehabilitated.

Clean fill (eg beach sand) will have to be imported or a concrete path constructed to make the access all-weather. The access currently cuts to the foot of the foredune nearly to mean high tide level, and is highly eroded by runoff directed along the track (several such gullies occur along the dune system from Middle Rock to this access – pers. obs.), and/or major storm surges resulting in wave penetration. As shown in the photo below, this access and recent storm surges have led to considerable erosion and further in, it is undermining the root systems of mature banksias, which in turn are major stabilisers of the dune system and protect hind vegetation. In addition to undermining dune stability, this gap and others like it along the dune system pose a threat to the dune vegetation given predicted sea level rises under climate change scenarios. Furthermore, this and other low lying gaps combined with the tunnel like nature of the path provides a funnel for deep penetration of maritime stresses which may impact littoral rainforest, or advantage the colonisation of Bitou (as shown in photo 6).

It thus follows that the appropriate course of action to address these threats is to refill the cutting and restore the previous foredune height. The beach access will then have to be strategically located over the top of this structure, and its structural design formulated to negate the risk of erosion by traffic.