

RESPONSE TO

FLORA AND FAUNA ISSUES

RAISED OVER

THE SEVEN PART TEST REPORT

ON THE PROPOSED SUBDIVISION

OF

LOT 284 DP 806310

SALAMANDER WAY,

SALAMANDER BAY

By Garry Worth
11 Hough Street
Tea Gardens
0429826258

RATIONALE OF THE REPORT

The rationale behind the Flora and Fauna evaluation undertaken for the proposed subdivision and civil works was that in order to comply with Section 79 (C) of the EPA Act, Council (as the determining authority), must 'take into account' any impact of the development upon the natural environment. This may be interpreted as being a requirement that Council be fully informed of the potential impacts but does not in itself prescribe whether any particular impact may or may not prevent a development from proceeding.

There is no provision within the Act for the refusal of a development upon the grounds of Flora or Fauna impacts. The Seven part Test under Section 5A defines a requirement that, should a proposal have an impact 'such that a viable local population of a Threatened Species, Endangered Population or Endangered Ecological Community is likely to be driven to extinction', then a Species Impact Study (SIS) may be called for. In determining the significance of the impact of a proposal it is not unknown for the Council to apply the 'Precautionary Principle' and call for an SIS if there is reasonable doubt regarding the significance of the impact.

The Land and Environment Court appears to accept that ecology is an inexact and complex science, allowing some level of doubt to apply and determining applications on the basis of a reasonable outcome.

In undertaking the Seven-part Test over this proposal it was determined that there would be no significant impact. This conclusion took into account the history of disturbance of the site (as shown in Figures 1 and 2), the condition of the habitats present, the size and distribution of similar habitat nearby and the degree of capability of some species or communities to adapt to changes in their environment. Also considered were the ameliorative actions being offered to mitigate the impacts on the site and to correct some impacts from previous development.

It was considered that the probability of an unrecognised significant impact was low, but because a finite probability existed, the offer of off-site environmental off-sets was seen to be an additional ameliorative measure confirming the 'no significant impact' assessment result.

OFFSET PROPOSALS

As stated above, the Statement of Effect on Threatened Species considered two types of amelioration of impacts, those to be undertaken on the site and off-site measures. The on-site measures only were taken into consideration when assessing the significance of ecological impact under the Seven-part Test. For example the Seven-part Test for Koalas (page A7) found that there would be no significant impact on this species given:

- the small number of feed trees to be removed (10) taken in the light of the feed trees available in the immediate area (approximately 60) and the loss as a proportion of available feed trees on the Tomaree Peninsula,
- the small area of habitat to be removed taken in the light of the area of habitat available on the Tomaree Peninsula,
- the retention of many of the feed trees on the site, and
- the offer to plant approximately 300 feed trees as part of the landscaping plan.

This assessment found that there would not be a significant impact on this species such that the loss of 10 trees of varying size upwards from 50mm DBH up would cause a viable local population of Koalas to be driven to extinction however, it was recognised that the loss of any habitat represented an on-going pressure on Koala populations. The provision of an off-set preservation area was seen to be a supplementary amelioration of impact that provided a precautionary measure to ensure the long-term presence of Koala habitat in the locality.

The area proposed as an offset was to be the same habitat with the same attributes except that it had been subject to less anthropogenic disturbance and was more pristine. It must also be kept in mind that, of the feed trees in the immediate vicinity of proposed Lot 4, approximately 40 had been planted at the time of the development of the library.

In a recent revision to the plan it is noted that the number of feed trees to be removed has been reduced to 8.

Similarly, in the case of the EEC Swamp Sclerophyll Forest, it was found that the proposal would not lead to the local extinction of this community and that the provision of off-set areas was a supplementary ameliorative measure (page A5 para 3). Seven-part Tests for the other species considered to have any habitat value present produced similar results.

The land designated for off-set was on Lot 100 Salamander Way and contained a substantial area of high quality bushland of the same community in better condition than that on the site. The proposal that the off-set area be four times the EEC to be removed from the development site was based on the publication by Gibbons *et al* (2009), which is considered to be a current and rigorous body of work. The actual land to be offered as an off-set was not identified at the time of production of the report but consultation with the proponent has identified approximately 17 ha of land as shown in the map appended (Figure 3). While this area is more than the 12 ha suggested as an appropriate off-set it consists of about 12 ha of the Swamp Forest offset and 5 ha of another EEC (Freshwater Wetland), which in this locality is often associated with the Swamp Forest. It is suggested that the areas of Freshwater wetland be banked as an off-set against future development likely to affect such an EEC. This off-set proposal is seen as a voluntary action but it is recognised that there will have to be a binding caveat on the land for its preservation in perpetuity and that it will need to be managed under the terms of a site specific Environmental Management Plan.

EEC IMPACT

Consideration of the impact of the removal of 3 ha on the EEC found that it would not be significant such that the representation of the EEC in the locality would be extinguished. Again the off-set provision is seen to be a precautionary and supplementary ameliorative measure.

CKPoM ASSESSMENT

Compliance with the performance criteria of the CKPoM requires that the degradation or loss of native vegetation generally and the loss of individual Koala feed trees be 'minimised', and that the retention of native vegetation be 'maximised'. One way of

achieving these criteria would be to prohibit any alteration to the bushland on the site, although the words 'minimise' and 'maximise' are open to subjective interpretation in regard to a level of vegetation disturbance that may be acceptable. From the wording of the performance criteria it appears that the total prohibition of any development in Koala habitat is not the intention of the CKPoM. This is supported by the inclusion of the 'waiver provision' that provides guidelines for development that is otherwise non-compliant.

It was also considered that previous activity on the site would have removed Koala feed trees and has replaced them with plantings of two species of feed tree, one of which is not even naturally found in the locality (*Eucalyptus tereticornis*). These trees are now being utilised by Koalas and this is seen to provide a precedent that some habitat disruption is able to be tolerated by the Koalas.

The replacement feed trees may be germinated from seed collected in the locality but whether it be from naturally occurring trees or from previously planted trees is open to question.

FLORA

The plant *Tetratheca juncea* and three threatened species of orchid that were considered to have some level of habitat present were not surveyed during their flowering period which is during late winter to spring (for the *Diuris* species) and summer (for *T. juncea* and *Cryptostylis hunteriana*) and remain cryptic at other times of the year. The Seven-part Test was not conducted any differently to what would have been done if they had been discovered during the survey of the site.

Searches for two of these, *T. Juncea* and *C. hunteriana*, were undertaken over the whole site on 12 January 2010 which was within the flowering period for the species. No evidence was found of their presence.

The reported habitat preferences for the two *Diuris* species are:

Diuris arenaria:- coastal heathy dry sclerophyll forest with patches of *Themeda* on sandy flats (Bishop, 1996), eucalypt forest with grassy understorey on clay soil in undulating country (DECCW, 2005),

Diuris praecox:- in eucalypt forest on hill tops and slopes (Bishop, 1996), open forest (Carolin and Tindale, 1996), sclerophyll forest (Harden, 1993), on well drained sandy soil (Environment Australia, 2008)

Both of these species were listed in the flora and fauna report as having potential habitat of some value on the site. *D. arenaria* is usually associated with stands of *Themeda triandra*, which was present as very sparsely scattered individual plants in most of the vegetation communities on the site. It was present as the dominant grass species in concentrated stands in only three places on the top of the northern dune, each patch being estimated as less than 100 m². None of these patches was on a sandy flat or associated with sclerophyll forest, which are also preferences for *D. arenaria*.

Similarly the northern dune on the site provided the well drained sandy soils for which *D. praecox* shows a preference, but not the forest overstorey.

The presence of these species in the Tomaree Peninsula has been long known and they are well reported as shown by the DECCW database records. All the recorded sightings appear to be on the extensive sandy Shoal Bay Landscapes which cover about half of the Tomaree Peninsula and correspond to the northern sand dune but not the lower areas of the site supporting Swamp Forest.

Taking all of these matters into consideration, it was determined that if either species was present but undetected, it would at best, be as a very small number of individuals growing in less than optimal habitat, leading to the conclusion that impact upon the species would not be significant.

The areas proposed as off-set for the EEC to be removed generally do not constitute suitable habitat for these species as they support Swamp Forest which, in accordance with the habitat descriptions given above, is not considered to be optimal habitat for them. Other extensive areas of suitable habitat are present within the Tomaree National Park

REFERENCES

Bishop, T. (1996). *Field guide to the orchids of NSW and Victoria*. UNSW Press, Sydney

Carolin, R and Tindale, M. (1996). *Flora of the Sydney region*. Reed Press, Chatswood NSW

DECCW, 2005. Threatened species profile.
www.threatenedspecies.environment.nsw.gov.au

Environment Australia, 2008 Conservation advice.
www.environment.gov.au

Gibbons, P., Briggs, S., Ayers, D., Seddon, J., Doyle, S., Cosier, S., McElhinny, C., Pelly, V., and Roberts, K. (2009). An operational method to assess impacts of land clearing on terrestrial biodiversity. *Ecological Indicators* 9; 26-42

Harden, G.J. (1993). *Flora of NSW*. Royal Botanic Gardens, Sydney

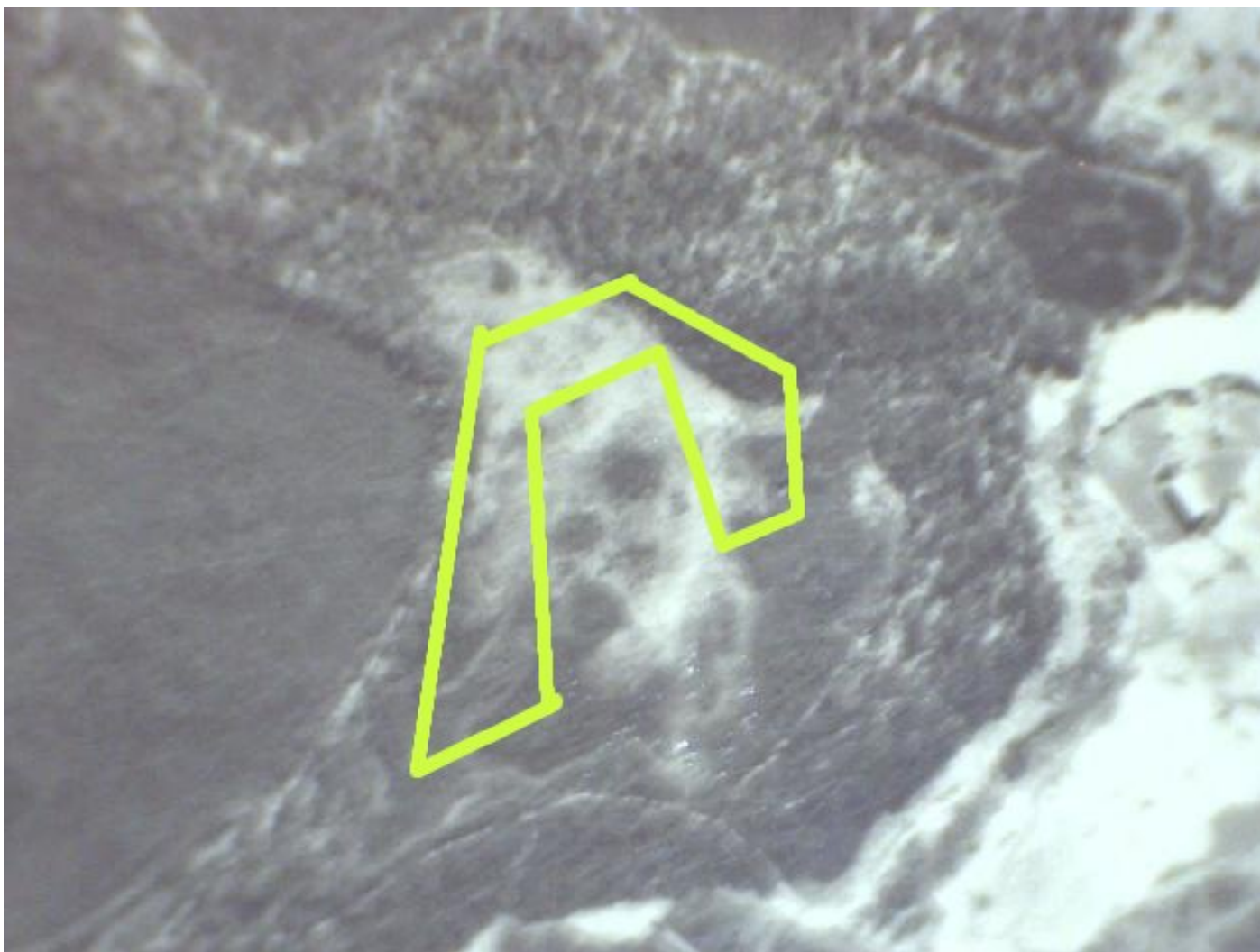


Figure 1 – 1972 air photo showing site disturbance (photo is oblique)



Figure2 – Air photo showing existing disturbance

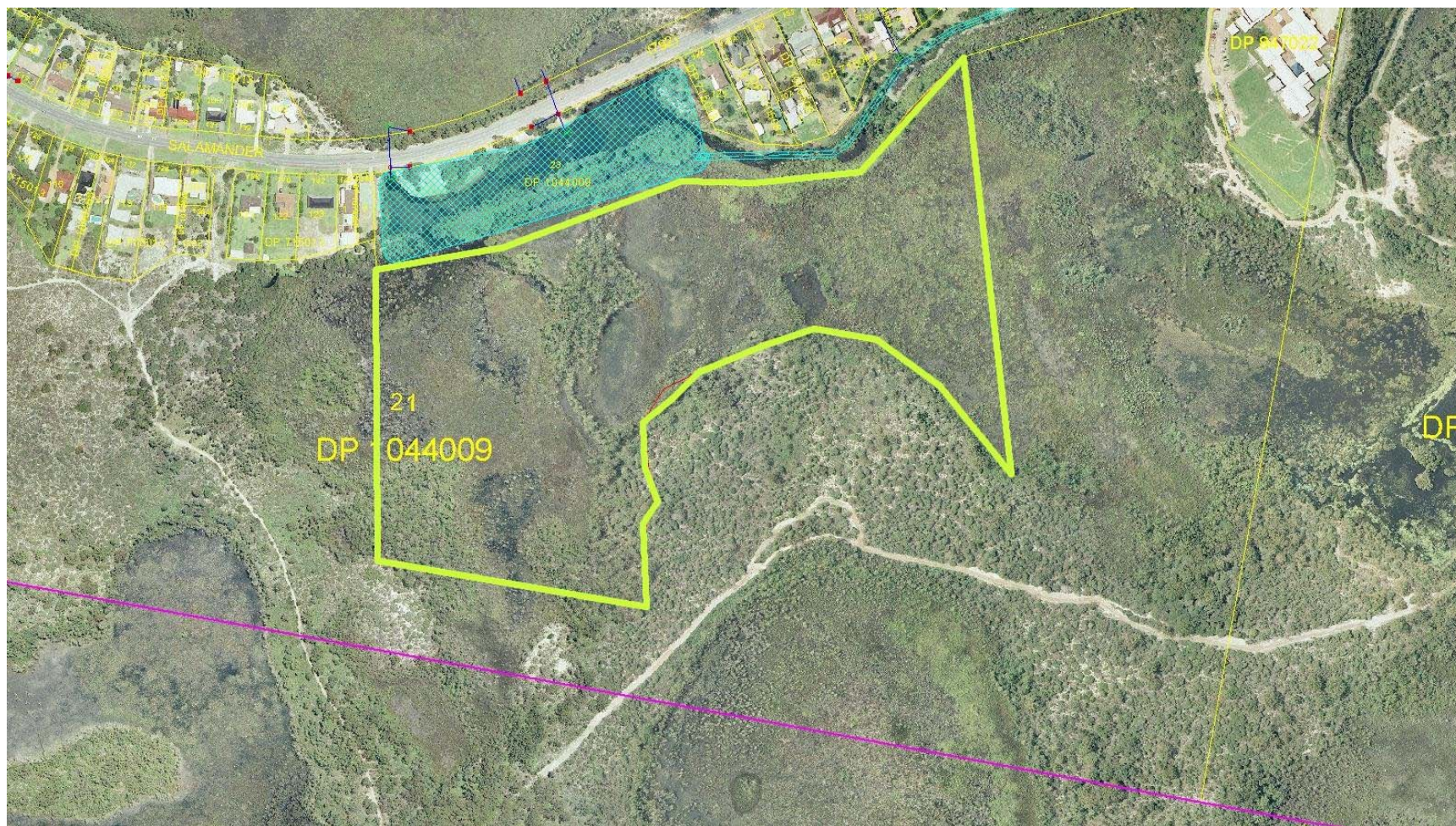


Figure 3 – Proposed off-set area on 100 Salamander Way