

## 1 Executive Summary

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The Australian Heritage Commission (AHC) has listed on the Interim Register of the National Estate sections of the ADI site, St Mary's, Sydney (western Sydney Shale Woodlands). The ADI / Lend Lease Joint Venture have objected to the listing of several sections of the site which are currently within the boundary of the interim listing.

The AHC engaged Ian Perkins Consultancy Services (IPCS) to provide an independent assessment of the vegetation within 6 of the disputed areas of the ADI site in western Sydney, particularly in the north-west sector of the site. The extent of these 6 disputed areas is outlined on Figure 2 (pg. 22).

In terms of native plant communities and native plant species, a significant basis for the objections provided by ADI / Lend Lease was that the areas which occurred outside of the Section 22 Biodiversity zones established on site (ie. the disputed areas) were highly degraded, depauperate areas lacking significant native plant species or viable plant communities and therefore the validity of listing these areas was questioned.

No comprehensive or systematic surveying of the vegetation within the study area (disputed areas) had been undertaken prior to the commissioning of Ian Perkins Consultancy Services. Preliminary assessment by the consultants to ADI / Lend Lease (c. 1995) concluded that the disputed areas (particularly the "north-west sector") were highly degraded and lacking in significant values, however the basis for this conclusion has not been clearly determined.

The vegetation assessment provided in this report to the AHC aimed to provide an independent survey of the disputed areas and provide to the AHC information relevant to the native plant species diversity or plant community presence in the area. In addition, the vegetation assessment was to consider the appropriateness of the Interim National Estate Boundary (relative to the results of the flora assessment) and, if necessary, provide advice to the AHC as to a revised boundary.

Vegetation within the study area was surveyed by Ian Perkins (Ian Perkins Consultancy Services) with assistance from Teresa James (Consulting Botanist).

A preliminary vegetation assessment was undertaken to determine the nature and extent of plant communities present. The site was mapped into 2 classes of vegetation, determined through a detailed assessment of the degree of weed infestation and level of native plant species present in the groundcover layer of the site.

- **Class 1** areas were identified as those sections of the site where **native species dominated** the groundcover.
- **Class 2** areas were identified as those sections of the site where **exotic species dominated** the groundcover.

Additional classification of Class 1 areas was undertaken based on level of fragmentation and disturbance (high and moderate quality).

A series of 13 quadrats were established in locations representative of the range of plant communities / classes identified. Two quadrats were established within the adjacent Section 22 biodiversity zone to allow a comparison of data between the disputed and non-disputed areas.

Data collection within the quadrats established within the disputed areas identified that:

- Class 1 (high and moderate quality) vegetation areas identified contain a significant number of "characteristic" Cumberland Plain Woodland species;
- Class 1 (high and moderate quality) vegetation areas identified have not been disturbed to a point where their recovery to a structure representative of the Cumberland Plain Woodland community as defined under the NSW *Threatened Species Conservation Act* (1995) would not be readily achievable through minor threatening process mitigation measures;

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- an average of 33% of the "characteristic" Cumberland Plain Woodland species (or a minimum of 19 "characteristic" species) occur within class 1 (high and moderate quality) areas;
- an average of 19 additional native species occur within class 1 (high and moderate quality) areas;
- Five regionally significant (high priority for conservation) were identified within class 1 quadrats. Additional regionally significant species (eg. *Grevillea juniperina*) were noted as also occurring within sections of the north-west sector although they did not occur within the quadrats. 29 species considered to be regionally vulnerable were identified as occurring within the class 1 area.
- species diversity, whilst not as diverse as the control sites established in the Section 22 biodiversity area, is still high (varying only in 9 recorded "characteristic" species);

The results of the vegetation assessment indicate that several significant areas of remnant Cumberland Plain Woodland (as defined by the NSW Threatened Species Conservation Act (1995)) occur within the disputed areas. It appears that the assumption, made at a previous stage of flora surveying on site, that the entire north-west sector was so heavily degraded that it no longer contained species or communities of significance or sufficient diversity to be significant was unjustified. Accordingly, the conclusions of the section 22 assessment process may have been adversely influenced by the lack of data collection in the north-west sector.

Mitigation of existing land management practices (ie. slashing) and re-establishment of natural processes (eg. fire regimes) are considered to be the minimum required to facilitate the natural regeneration of the community (as permissible under the definition of Cumberland Plain Woodland adopted under the Threatened Species Conservation Act (1995)).

It is considered that the areas of class 1 (high and moderate quality) vegetation identified within the disputed sections of the site (the study area) can be considered to have a range of values which are equivalent (or have a high capability of being equivalent given the implementation of simple threatening process mitigation measures) to areas within the Section 22 Biodiversity zone and accordingly have sufficient values in terms of native flora and endangered ecological communities to satisfy the National Estate assessment criterion A.1. and B.1.

It is considered that the Cumberland Plain Woodland remnants identified in the disputed Areas 5 and 6 assessed as part of this study can also be considered to contain sufficient values in terms of native flora and ecological communities to satisfy the National Estate assessment criterion A.1. and B.1. Whilst these areas, and particularly area 5, are more fragmented than other areas assessed by this study, sufficient diversity of native Cumberland Plain Woodland species exist to justify inclusion. Modification to the interim National Estate Boundary is recommended (as illustrated on Figure 1) to exclude areas of intense disturbance and the *Casuarina glauca* thicket within area 5 as this association is not a component of the Cumberland Plain Woodland community and comparative data on its ecological values have not been assessed as part of this study. The association is, however, a component of the Sydney Coastal River Flat Forests which are on the Interim list of endangered ecological communities under the NSW Threatened Species Conservation Act (1995).

A revised boundary to the Interim National Estate Boundary reflecting the extent of Class 1 (high and moderate quality) remnant Cumberland Plain Woodland identified has been recommended. This revised boundary has been accurately plotted and is presented on Figure 1 (pg. 3).