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White-bellied Sea-Eagle nest, Chisholm: Final Report

Background

I was engaged by Avid Properties to investigate the existing nest structures of the White-bellied Sea-Eagle and advise on any impacts of proposed construction activity on the eagle, at the proposed residential development at McFarlanes Road and Dragonfly Drive, 'Waterford', Chisholm, NSW. Specifically, I was asked to consider whether the original eagle nest and tree, situated within the proposed development footprint, could be removed without significantly endangering the eagle. Facts established as at May 2022, on the basis of field investigations by Anderson Environment & Planning (AEP) and on-site and aerial imagery, were that:

1. The old nest (#1) in the dead tree is an abandoned White-bellied Sea-Eagle nest that has not and will not be re-used, as Sea-Eagles prefer the cover provided by the canopy of a living nest-tree. This nest was a traditional site said to have been used for about 30 years, and to have been abandoned before 2018 after development encroached to about 80 m from the tree.
2. The newer nest (#2) in the large living Spotted Gum was built by and had been occupied by a pair of Sea-Eagles since 2018, with one eagle or the pair photographed on the nest in 2018 and 2020 and reported to have bred in that nest in 2021. This nest was, at May 2022, about 100 m from the development front.
3. The eagles were not observed by AEP ecologists at nest structure #2 through May 2022, dates on which nest renovation and vocalisations by the eagle pair could be expected if they were going to use the nest in 2022. This nest was not renovated in 2022.
4. AEP discovered a new Sea-Eagle nest (structure #3) being built by the eagles on the bank of Four Mile Creek, more than 250 m from the edge of the proposed development footprint, although within 500 m of the proposed ultimate development footprint.

The lack of activity at nest tree #2 in May 2022, and the concurrent discovery of a new nest (#3) being built, indicated that the eagles would not use nest #2 in 2022 and intended to use nest #3. Although Sea-Eagles can have alternative nests which they may use in alternate years, a new nest (in this case #3) typically means that a previous nest (in this case #2) is unlikely to be reused. It is likely that the eagles chose to move to a new nest site (#3) because they were uncomfortable with the development front

being only 100 m from nest #2, and the disturbance associated with existing development is likely to discourage them from reusing nest #2 in the future.

There are precedents for Sea-Eagle pairs being able to build a new nest at a new site, after removal of an existing nest tree at an appropriate (non-sensitive) time, if there is suitable alternative nesting habitat available within their territory. That scenario applied to the current proposal in the 2022 nesting season. In light of the above considerations, removal of nest #2 outside the breeding season is unlikely to significantly endanger the eagles or their breeding attempts. The eagles now have an alternative nest site (#3) which, being in a riparian zone, would have some degree of statutory protection.

Field inspection

I visited the subject eagle nest area for 2 hours on the late afternoon to sunset of 27 June 2022, and on the following morning 28 June for approximately 1 hour. Based on the AEP inspections and my understanding of the White-bellied Sea-Eagle, I can confirm that:

- Nest structure #1 is long abandoned. The eagles are highly unlikely to return to this nest, given that the supporting tree is dead.
- Nest structure #2 was falling into disrepair and showed no reoccupation or rebuilding. Given the proximity of development, and the timing, it is considered highly unlikely that the White-bellied Sea-Eagles will ever return to this nest.

Given these circumstances, construction works within 250 m of Nests 1 and 2 are highly likely to have no impact on the eagles, as these nest structures are no longer important resources for the eagles.

Further monitoring

Ongoing monitoring by AEP personnel established that the pair of Sea-Eagles had eggs in nest #3 in 2022, and proceeded to rear two young to successful fledging by early December 2022 (photographic evidence reviewed by me). This outcome means that nest #3 is functioning as a successful substitute nest for the old and abandoned nest structures #1 and #2. The location of nest #3, remote from construction activity, means that the eagles' future nesting activities at nest #3 are unlikely to be disturbed by further construction work for the proposed development.

The concept of viewsheds

The Threatened Biodiversity Data Collect document for a Biodiversity Assessment Report includes the concept of viewsheds from the nest of a threatened raptor. A viewshed refers to the landscape view a raptor can see from the nest, out to defined distance limits in specified directions. A maximum viewshed of 1000 m from development activities is specified for the White-bellied Sea-Eagle, such that if development activities within up to 1000 m are visible from the nest then a disturbance-free buffer of that radius should be applied for the duration of the breeding season. In the present context at Chisholm a viewshed buffer of 1000 m in

the breeding season is impractical, unrealistic and unachievable, as the birds have already shown themselves tolerant of, and capable of breeding successfully within, a viewshed to existing development and concurrent construction activities of less than 300 m.

Conclusions and recommendations

Nest #3 is more than 250 m, and thus beyond the DPIE/EES recommended buffer radius, from the proposed development footprint, and therefore the eagles, and nesting attempts in structure #3, are unlikely to be disturbed by the development proposal. It is noted that the 250-m buffer is applicable to peri-urban areas where eagles would be habituated to human presence and development, as in the present case, whereas 500 m is applicable to more remote locations where eagles have less contact with people and urban development. Similarly, the 1000 m viewshed buffer was based on remote areas where the eagles nest on cliffs and human disturbance is from above, on the cliff top.

The eagles' use of nest structure #3 means that any Council conditions relating to structure #2 can be relaxed, as structure #2 will not be used again. Instead, conditions on works in the vicinity of structure #3 could be imposed, such as: (i) restricting construction activities to outside a radius of 250 m from the nest, and (ii) performing potentially disturbing construction activity (road batters) at the closest point to nest #3 during the period outside the eagles' breeding season, as far as practicable. The breeding season is May to December, enabling a construction window of January to April for road batters closest to the nest.

Greater confidence in the security of nest #3 could be realised by a greater level of protection, if possible, for the area in which nest #3 is located, which is flood-prone land.



Stephen Debus

16 December 2022