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Ernest Dupere
Director
Benedict Industries

Re: Proposed Georges Cove Marina - *Biodiversity Conservation Act 2016* assessments of significance

Dear Mr Dupere,

This letter provides assessments of significance for the proposed Georges Cove Marina in accordance with Section 7.3 of the *Biodiversity Conservation Act 2016* for two endangered ecological communities and two microbat species listed as vulnerable under the Act.

1 Endangered ecological communities: River Flat Eucalypt Forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions and Swamp Oak Floodplain Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions

a) **In the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.**

Not applicable.

b) **in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:**

i) **is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or**

ii) **is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction.**

The local occurrence of River Flat Eucalypt Forest (ie within a 5 km radius of the site) covers approximately 270 ha, while Swamp Oak Floodplain Forest covers approximately 96 ha (OEH 2013). The local occurrence contains some larger patches of the two floodplain communities, but mostly occurs in a highly fragmented state along the Georges River and its tributaries, surrounded by residential and industrial land. As the patch to be removed is fragmented from other patches of the community, impacts would be isolated to this area and would not adversely modify its composition such that it is placed at risk of extinction.

Up to 0.37 ha of River-flat Eucalypt Forest and 0.017 ha of Swamp Oak Floodplain Forest may be removed for the project, which represents a reduction of 0.13% and 0.02% in the local occurrences of these communities. This is a very small proportion of the community within the locality and therefore will not adversely affect the local occurrence such that it would be placed at risk of extinction.

All works will be undertaken in a manner that minimises any impacts to remnant trees or to the few (if any) characteristic understorey species.

c) **in relation to the habitat of a threatened species, population or ecological community:**

i) **the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity; and**

ii) **whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity; and**

iii) **the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality.**

Only small areas of the EECs (up to 0.13% of River Flat Eucalypt Forest and 0.02% of Swamp Oak Floodplain Forest occurring in the locality) may be removed. The floodplain EECs are already highly fragmented at the site. No further fragmentation would occur from the areas potentially removed for access. The areas to be removed are not important to the long-term survival of the community in the locality as they are part of a small patches, already isolated from other remnants.

d) **whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly);**

No areas of outstanding biodiversity value occur within the site.

e) **whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.**

Thirty-eight key threatening processes (KTPs) are listed under the BC Act. The action proposed represents the following:

- clearing of native vegetation.

The proposed activity will not increase the impact of this KTP as it does not comprise the substantial removal of one or more strata layers of vegetation.

Conclusion: The proposed activity will not result in significant impacts on the floodplain EECs given the small area to be removed, and the temporary nature of disturbance.

2 Microbats (Eastern Freetail Bat and Yellow-bellied Sheathtail Bat)

a) **In the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.**

The proposed activity may require the removal of vegetation along the boundaries of the site. The trees proposed to be removed do not comprise a significant area of canopy within the locality and consequently do not comprise a significant area of foraging habitat within the locality. One large hollow-bearing tree suitable for roosting and breeding habitat is present at the site (Total Earth Care 2011). This tree will be retained and therefore the project will not reduce breeding habitat availability or adversely affect their life cycles such that viable local populations are placed at risk of extinction. Six other trees with small hollows potentially suitable for microbat breeding occur in the area where machinery access for bank stabilisation

will be required (subject to a separate application). While it has been recommended, that removal of these trees is avoided if possible, this assessment conservatively assumes that they may be removed.

Additional lighting installed as part of the proposed activity may disrupt foraging and commuting microbat species. Directional lighting is recommended for the final design to limit disruptions to foraging microbats and other nocturnal fauna.

b) **in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:**

i) **is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or**

ii) **is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction.**

Not applicable.

c) **in relation to the habitat of a threatened species, population or ecological community:**

i) **the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity; and**

ii) **whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity; and**

iii) **the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality.**

The proposed activity requires the clearing of River-flat Eucalypt Forest (0.37 ha) that represents potential foraging habitat for the microbat species. representing potential foraging habitat for the two species.

The local occurrence of River Flat Eucalypt Forest (ie within a 5 km radius of the site) covers approximately 270 ha, and therefore only 0.13% of potential foraging habitat would be removed from the locality. The area of potential habitat is already highly fragmented at the site, and therefore the works would not result in a substantial increase in fragmentation. The areas to be removed are not important to the long-term survival of the microbat species in the locality as they are part of a small patches, already isolated from other remnants.

d) **whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly);**

No areas of outstanding biodiversity value occur within the site.

e) **whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.**

Thirty-eight key threatening processes (KTPs) are listed under the BC Act. The action proposed represents the following:

- clearing of native vegetation.

The proposed activity will not increase the impact of this KTP as it does not comprise the substantial removal of one or more strata layers of vegetation.

Conclusion: The proposed activity will not result in significant impacts on the listed microbat species as it would only remove 0.13% of foraging habitat from the locality.

3 White-bellied Sea Eagle

a) **In the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.**

A pair of White-bellied Sea Eagles was observed to be hunting along the fringes of the Georges River, proximal to the proposed activity (Total Earth Care 2011). No nests constructed by the species were observed, however one large isolated tree within the site could provide suitable a suitable nesting site. This tree will be retained and protected under the voluntary planning agreement over the site, and therefore the proposed activity will not adversely affect the breeding cycle of the species.

b) **in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:**

i) **is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or**

ii) **is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction.**

Not applicable.

c) **in relation to the habitat of a threatened species, population or ecological community:**

i) **the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity; and**

ii) **whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity; and**

iii) **the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality.**

The proposed activity requires the clearing of River-flat Eucalypt Forest (0.37 ha) that represents part of the species hunting range along the Georges River. Important habitat components within this habitat comprise perching sites (ie trees) from which the species would hunt. The large isolated tree will be retained and protected under the voluntary planning agreement over the site. While it has been recommended, that removal of these trees is avoided if possible, this assessment conservatively assumes that they may be removed.

d) **whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly);**

No areas of outstanding biodiversity value occur within the site.

e) **whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.**

Thirty-eight key threatening processes (KTPs) are listed under the BC Act. The action proposed represents the following:

- clearing of native vegetation.

The proposed activity will not increase the impact of this KTP as it does not comprise the substantial removal of one or more strata layers of vegetation.

Conclusion: The proposed activity will not result in significant impacts on White-bellied Sea-eagle as the area to be removed represents a small part of a large hunting range for the species along the Georges River.

Yours sincerely

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References

Office of Environment and Heritage (OEH) 2013, *The Native Vegetation of the Sydney Metropolitan Area*.