

Ecological Assessment of Impact on Threatened Entities

NSW Biodiversity Conservation Act 2016 Test of significance

PCT 3975 – Southern Lower Floodplain Freshwater Wetland is listed as endangered under the *Biodiversity Conservation Act 2016* (BC Act). This test of significance has been developed in accordance with the *Threatened Species Test of Significance Guidelines* (OEH, 2018).

Key terminology

Composition: both the plant and animal species present, and the physical structure of the ecological community. Note that while many ecological communities are identified primarily by their vascular plant composition, an ecological community consists of all plants and animals as defined under the BC Act that occur in that ecological community.

Direct impacts: are those that directly affect the habitat of species and ecological communities and of individuals using the study area. They include, but are not limited to, death through predation, trampling, poisoning of the animal/plant itself and the removal of suitable habitat. When applying each factor, consideration must be given to all of the likely direct impacts of the proposed activity or development. When applying each factor, both long-term and short-term impacts are to be considered.

Extent: the physical area removed and/or the compositional components of the habitat and the degree to which each is affected.

Habitat: the area occupied or used, including areas periodically or occasionally occupied or used, by any threatened species or ecological community and includes all the different aspects (both biotic and abiotic) used by species during the different stages of their life cycles.

Importance: related to the stages of the species' life cycles and how reproductive success may be affected.

Indirect impacts: occur when project-related activities affect species or ecological communities in a manner other than direct loss within the subject site. Indirect impacts may sterilise or reduce the habitability of adjacent or connected habitats. Indirect impacts can include loss of individuals through starvation, exposure, predation by domestic and/or feral animals, loss of breeding opportunities, loss of shade/shelter, reduction in viability of adjacent habitat due to edge effects, deleterious hydrological changes, increased soil salinity, erosion, inhibition of nitrogen fixation, weed invasion, noise, light spill, fertiliser drift, or increased human activity within or directly adjacent to sensitive habitat areas. As with direct impacts, consideration must be given, when applying each factor, to all of the likely indirect impacts of the proposed activity or development. When applying each factor, both long-term and short-term impacts are to be considered.

Life cycle: the series or stages of reproduction, growth, development, ageing and death of an organism.

Local occurrence: the ecological community that occurs within the study area. However, the local occurrence may include adjacent areas if the ecological community on the study area forms part of a larger contiguous area of that ecological community and the movement of individuals and exchange of genetic material across the boundary of the study area can be clearly demonstrated.

Local population: the population that occurs in the study area. The assessment of the local population may be extended to include individuals beyond the study area if it can be clearly demonstrated that contiguous or interconnecting parts of the population continue beyond the study area, according to the following definitions:

- The *local population* of a threatened *plant* species comprises those individuals occurring in the study area or the cluster of individuals that extend into habitat adjoining and contiguous with the study area that could reasonably be expected to be cross-pollinating with those in the study area.
- The *local population* of *migratory or nomadic fauna* species comprises those individuals that are likely to occur in the study area from time to time or return year to year.
- The *local population* of *resident fauna* species comprises those individuals known or likely to occur in the study area, as well as any individuals occurring in adjoining areas (contiguous or otherwise) that are known or likely to utilise habitats in the study area.

In cases where multiple populations occur in the study area, each population should be assessed separately.

Locality: the same meaning as ascribed to local population of a species or local occurrence of an ecological community.

Risk of extinction: the likelihood that the local population will become extinct either in the short term or in the long term as a result of direct or indirect impacts on the viability of that population.

Study area: means the subject site and any additional areas which are likely to be affected by the proposal, either directly or indirectly. The study area should extend as far as is necessary to take all potential impacts into account.

Subject site: means the area directly affected by the proposal. The subject site includes the footprint of the development and any ancillary works, facilities, accesses or hazard reduction zones that support the construction or operation of the development or activity.

Viable: the capacity to successfully complete each stage of the life cycle under normal conditions.

PCT 3975 – Southern Lower Floodplain Freshwater Wetland – Test of Significance

Section (BC Act)	Question	Response
7.3.1 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
7.3.1 b) (i)	In the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity: <ul style="list-style-type: none"> 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 	No vegetation associated with this endangered ecological community will be removed or disturbed as part of the proposal. It is unlikely that the proposal will have an adverse effect on this ecological community such that its local occurrence is likely to be placed at risk of extinction.
7.3.1 b) (ii)	In the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity: <ul style="list-style-type: none"> 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 biodiversity of the ecological community within the study area is low due to the highly modified state of the site and impacts of slashing and grazing. The proposal is unlikely 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 proposed weed management and revegetation of the disturbed areas of the project footprint with local native species would aim to improve the condition of the endangered community.
7.3.1 c) (i)	In relation to the habitat of a threatened species or ecological community: <ul style="list-style-type: none"> the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity 	The habitat of the endangered ecological community will not be removed as part of the proposal. Habitat of this community could be modified to a degree, due to potential erosion and sedimentation. However, this is likely to be very minor considering the mitigation measures that would be implemented. No significant changes to the water regime are expected to occur as a result of the proposal.
7.3.1 c) (ii)	In relation to the habitat of a threatened species or ecological community:	The proposal will not remove any vegetation associated with the community and will not result in the community to be fragmented or isolated from other areas of habitat.

Section (BC Act)	Question	Response
	<ul style="list-style-type: none"> 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 	
7.3.1 c) (iii)	<p>In relation to the habitat of a threatened species or ecological community:</p> <ul style="list-style-type: none"> the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality 	<p>This endangered ecological community has a restricted distribution and has been extensively cleared and modified in the region. Approximately 3,500 ha were recorded in the lower Hunter – Central Hunter region in the 1990’s. The community within the study area occurs in a disturbed landscape and is in poor condition. However, it does have value for the long-term survival of the community in the locality.</p>
7.3.1 d)	<p>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)</p>	<p>No areas of outstanding biodiversity value are located within or in proximity to the study area. No adverse effect is likely.</p>
7.3.1 e)	<p>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</p>	<p>The proposal is not a key threatening process or part of a key process, nor is it likely to increase the impact of a key threatening process. Although clearing of vegetation will occur (1.3 ha) this is non-native vegetation and pasture, and some of this will be revegetated following works. The clearing of this non-native vegetation is unlikely to have an impact on the suitability of the study area for this community.</p>
Conclusion	<p>Is the proposal likely to significantly affect threatened species or ecological communities, or their habitats.</p>	<p>No.</p>

References

DECC. (2008). Department of Environment and Climate Change. *Freshwater Wetlands on Coastal Floodplains (Freshwater Wetlands)*. National Heritage Trust.

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