

Annex E

Amended Ecological Assessment (ERM 2006)

WB & ME Walls

Seascape Grove, Belle
O'Connor Street, South
West Rocks, Stage 1
*Addendum to UMWELT
(2004) Ecology Report*

August 2006

**Environmental Resources Management
Australia**
Suite 3/146 Gordon Street
PO Box 5279
Port Macquarie, NSW 2444
Telephone +61 2 6584 7155
Facsimile +61 2 6584 7160
www.erm.com

WB & ME Walls

Seascape Grove, Belle
O'Connor Street, South
West Rocks, Stage 1
*Addendum to UMWELT
(2004) Ecology Report*

August 2006

Reference: 0043974ecology

For and on behalf of Environmental
Resources Management Australia

Approved by: Christine Allen



Signed:

Position: Project Director

Date: 10 August 2006

This report was prepared in accordance with the scope of services set out in the contract between Environmental Resources Management Australia Pty Ltd ACN 002 773 248 (ERM) and WB & ME Walls. To the best of our knowledge, the proposal presented herein accurately reflects the intentions of WB & ME Walls when the report was printed. However, the application of conditions of approval or impacts of unanticipated future events could modify the outcomes described in this document. In preparing the report, ERM used data, surveys, analyses, designs, plans and other information provided by the individuals and organisations referenced herein. While checks were undertaken to ensure that such materials were the correct and current versions of the materials provided, except as otherwise stated, ERM did not independently verify the accuracy or completeness of these information sources.

CONTENTS

1	INTRODUCTION	
2	AMENDED ASSESSMENT OF IMPACTS	
2.1	FURTHER DATA COLLATION	1
2.2	FIELD SURVEY	1
2.2.1	METHODOLOGY	1
2.2.2	SURVEY OBSERVATIONS	2
2.3	IMPACT ASSESSMENT	2
2.3.1	THREATENED SPECIES PREVIOUSLY RECORDED IN THE LOCALITY	2
2.3.2	PART 5A TEST OF SIGNIFICANCE	3
2.4	CONCLUSION	7
2.4.1	RECOMMENDED MITIGATION MEASURES	8

LIST OF TABLES

TABLE 2.1	THREATENING PROCESSES LISTED IN SCHEDULE 3 OF TSC ACT	6
TABLE 2.2	THREATENING PROCESSES LISTED UNDER FM ACT 1994	7

1

INTRODUCTION

This report amends the previous assessment by UMWELT (May 2004) of the proposed Stage 1 'Seascape Grove' subdivision in light of changes to Test of Significance as contained within the *Threatened Species Conservation Act* and referred to under Section 5A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and additions to threatened species listings since the original.

It also provides an assessment of the proposal to impact on an area of Scribbly Gum woodland on Lot 22 DP 1071657 to provide for stormwater treatment infrastructure and a bushfire perimeter road. This 25-metre wide strip adjacent to the common property boundary is outside the study area of the UMWELT report, so is assessed herein.

2

AMENDED ASSESSMENT OF IMPACTS

The ecological assessment of the proposed activity has been prepared in order to determine the significance of potential impacts on threatened species, populations and ecological communities as listed on the NSW *Threatened Species Conservation Act 1995* (TSC Act) (as amended by the *Threatened Species Conservation Amendment Act 2002*).

Both the original UMELT (2004) study area and the additional area of impact on Lot 22 DP 1071657 is assessed.

2.1

FURTHER DATA COLLATION

Existing records of fauna species in the locality (i.e. within 10 kilometres of the study site) were obtained from the NSW DEC Wildlife Atlas (DEC 2006).

This background information search provided a revised list of state listed threatened species, populations and ecological communities relevant to the proposed activity.

2.2

FIELD SURVEY

2.2.1

Methodology

A further site inspection was undertaken on the area to be disturbed in Lot 22 DP 1071657 on the 27 March 2006. This was undertaken to note the distribution and extent of vegetation communities present.

A habitat assessment was also undertaken to identify suitable habitat resources for threatened fauna species on the study site. Habitat components were identified based on a qualitative assessment of:

- dominant vegetation type;
- structural vegetation characteristics;
- presence/abundance of hollow-bearing trees and flowering resources;
- level of disturbance;
- density of groundcover resources (eg. rocks, logs and leaf litter); and
- presence/absence of permanent or ephemeral freshwater resources.

2.2.2 Survey Observations

It was noted that the area to be disturbed consisted of grazing land, with an exclusive overstorey of scribbly gum (*Eucalyptus racemosa*). The understorey was a mixture of exotic and native grasses subject to historical grazing disturbance. A total of seven individual mature trees in the area to be disturbed would be removed as part of the proposal. These are identified by King & Campbell in the plans 'Existing Tree Detail' (2006).

The mature Scribbly Gums in the area to be disturbed contained no large hollows, with some minor fissures and dead wood present. No Koala scats were detected under any of the seven trees to be removed, nor adjacent Scribbly Gums.

2.3 IMPACT ASSESSMENT

2.3.1 Threatened Species Previously Recorded in the Locality

The DEC Wildlife Atlas (NSW DEC 2006) records indicates that no additional threatened species of fauna or flora as threatened under the NSW TSC Act had been recorded within 10km of the study area from the original UMWELT (2004) assessment. This included 19 threatened fauna species and no threatened flora species.

Endangered Ecological Communities were found to be present nearby, including:

- *Swamp Oak Floodplain Forest of the NSW North Coast, Sydney Basin and South east Corner bioregions;*

- *Littoral Rainforest in the NSW North Coast, Sydney Basin and South East Corner Bioregions;*
- *Coastal Saltmarsh in the NSW North Coast, Sydney Basin and South east Corner Bioregions;*
- *Freshwater Wetlands on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions;*
- *River-Flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney basin and South East Corner bioregions; and*
- *Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions.*

However, none of these communities are present on the study site.

2.3.2

Part 5A Test of Significance

This assessment was undertaken in accordance with the Test of Significance as contained within the *Threatened Species Conservation Act* and referred to under Section 5A of the *Environmental Planning and Assessment Act 1979* (EP&A Act). It considers the impact of the proposal in terms of the original UMWELT (2004) report plus the addition of the seven scribbly gum trees on Lot 22 DP 1071657.

Factors for Consideration

(a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the lifecycle of the species such that a viable local population of the species is likely to be placed at risk of extinction;

No additional trees with significant hollows are to be removed on Lot 22 DP 1071657 as a result of the proposal. UMWELT (2004) indicated that no listed species with a medium or high likelihood of occurring on-site would be impacted by the proposal.

(b) in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the lifecycle of the species that constitutes the endangered population such that the viability of the population is likely to be placed at risk of extinction;

No endangered populations as listed in Part 2 Schedule 1 of the TSC Act or Part 2 Schedule 4 of the FM Act are likely to occur in the study site. Therefore, the proposed activity is unlikely to place any endangered population at risk of extinction.

(c) in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:

(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;

(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;

There are no Endangered Ecological Communities present in the study area. Therefore the extent of such communities in the locality will not be changed.

Water quality management will be practiced on-site to minimise impacts to downstream wetland areas. These are described in the King & Campbell Water Management Plan (2006).

In summary, the proposed works will not place the Endangered Ecological Community found in the study site at risk of extinction.

(d) 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 action;

(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action;

(iii) 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;

UMWELT (2004) indicated that the study site contains potential foraging habitat (grassland and mature trees) for a variety of fauna species. It contains no potential habitat for threatened flora species.

It was considered by UMWELT (2004) that the proposal is not considered likely to significantly impact threatened species recorded, or considered likely to occur in the study area. The proposal will not result in a local population of Grey-headed Flying-fox or threatened microchiropteran bats recorded during the UMWELT survey, or any potentially occurring threatened species, becoming extinct in the local area. The proposal will not result in the isolation of habitat or the removal of a regionally significant area of vegetation. These findings are also considered appropriate to the additional area of Scribbly Gum woodland on Lot 22 DP 1071657.

(e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly);

At the time of report production, no relevant areas of critical habitat occur in the study site. Therefore the proposed activity is unlikely to have an adverse effect on critical habitat either directly or indirectly.

(f) whether the action is consistent with the objectives or actions of a recovery or threat abatement plan.

The following recovery or threat abatement plans are relevant to the study site:

- Recovery Plan for the Large Forest Owls:

Powerful Owl *Ninox strenua*,
Sooty Owl *Tyto tenebricosa*; and

- Recovery Plan for the Koala (*Phascolarctos cinereus*)

The proposed activity will not impact upon existing mature trees suitable for nesting of forest owls and the site is not considered suitable habitat for koalas. Therefore the proposed activity is consistent with the objectives of the existing recovery plans for these species.

In summary, the proposed activity is not inconsistent with any recovery or threat abatement plan if careful irrigation management is practised.

(g) whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of a key threatening process.

At present there are 27 threatening processes listed on Schedule 3 of the TSC Act (see Table 5.2).

Table 2.1 Threatening Processes Listed in Schedule 3 of TSC Act

Threatening Process	Applicable to Project
Alteration of natural flow regimes.	Yes
Alteration of habitat following subsidence due to longwall mining.	NA
Bushrock removal resulting in the removal and/or disturbance of habitat for native species that may find shelter in or under rocks, use rocks for basking, or which grow in rocky areas.	NA
Clearing of native vegetation.	Yes
Competition and grazing by the feral European rabbit (<i>Oryctolagus cuniculus</i>).	NA
Competition and habitat degradation by feral goats.	NA
Competition from feral honeybees <i>Apis mellifera</i> .	NA
Death or injury to marine species following capture in shark control programs on ocean beaches.	NA
Entanglement in or ingestion of anthropogenic debris in marine and estuarine environments.	NA
Feral pigs - predation, habitat degradation, competition and disease transmission.	NA
Herbivory and environmental degradation caused by feral deer.	NA
High frequency fire resulting in the disruption of life cycle processes in plants and animal and loss of vegetation structure and composition.	NA
Human caused climate change.	NA
Importation of red imported fire ants into NSW.	NA
Infection by Psittacine circoviral (beak and feather) disease affecting endangered psittacine species and populations).	NA
Infection of frogs by amphibian chytrid causing the disease chytridiomycosis.	NA
Infection of native plants by <i>Phytophthora cinnamomi</i> .	NA
Introduction of the large earth bumblebee (<i>Bombus terrestris</i>).	NA
Invasion of native plant communities by bitou bush and boneseed.	NA
Invasion of native plant communities by exotic perennial grasses.	NA
Invasion of yellow crazy ant.	NA
Loss and/or degradation of sites used for hill-topping by butterflies.	NA
Predation by mosquito fish (<i>Gambusia holbrooki</i>).	NA
Predation by feral cat (<i>Felis cattus</i>).	NA
Predation by fox (<i>Vulpes vulpes</i>).	NA
Predation by ship rat (<i>Rattus rattus</i>) on Lord Howe Island.	NA
Removal of dead wood and dead trees.	Yes

Existing agricultural management activities have produced the effects of several key threatening processes in the study site, including historical removal of native vegetation, invasion by perennial exotic grasses and some alterations to the flow of natural waterways.

The proposal to develop the land for residential purposes involves three key threatening processes, being alterations to natural flow regimes of the watercourses in the study site, removal of native vegetation and dead wood from the site. There is only minimal dead wood present on the site, and the removal of this material is negligible. Mitigation measures for the other two key threatening processes will be utilised to:

- **Alteration of natural flow regimes:** The proposed water treatment system maintains or improves pre-development water quality and retains water on-site that flows from sealed surfaces;
- **Clearing of Native Vegetation:** minimise the need to remove mature trees from the site, retain areas of trees on the mid and upper slopes, utilise native landscaping throughout;

It is considered that the proposal will not significantly perpetuate the three key threatening processes identified in Schedule 3 of TSC Act, and that are relevant to the activity.

At present there are seven threatening processes listed under *Schedule 6* of the *Fisheries Management Act 1994*. These are listed in *Table A2* below.

Table 2.2 *Threatening Processes listed under FM Act 1994*

Threatening Process	Applicable to Project
Current shark meshing program in NSW waters.	NA
Degradation of native riparian vegetation along NSW water courses.	
Hook and line fishing in areas important for the survival of threatened fish species.	NA
Installation and operation of in-stream structures and other mechanisms that alter natural flow regimes of rivers and streams.	NA
Introduction of fish to fresh waters within a river catchment outside their natural range.	NA
Introduction of non-indigenous fish and marine vegetation to coastal waters.	NA
Removal of large woody debris.	NA

The proposal does not directly relate to any listed key threatening process of the FM Act.

2.4 *CONCLUSION*

The UMWELT (2004) report identified that remnant vegetation in the study site may provide foraging habitat resources for several threatened fauna species. However the impact of the proposal was considered not to pose a significant impact any local populations of threatened fauna.

These findings were considered by ERM to be relevant to the relatively small additional area of disturbance proposed to seven scribbly gums on Lot 22 DP 1071657.

In summary, no viable local population of any threatened species or community is likely to be placed at greater risk of extinction than current agricultural management practices allow. Given the proposed mitigation measures, it is considered unlikely to have a significant impact on threatened species or communities that may occur in the study site.

2.4.1 *Recommended Mitigation Measures*

No additional mitigation measures from the set of measures identified by UMWELT (2004) are recommended.