

12 December 2007
Paul May
Planning Initiatives
PO Box 750 CAMDEN NSW

Dear Paul,

Re: Comments sought in relation to issues raised by DoP on the proposed subdivision at Grandfather's Gully for D & J Brewer

This letter provides additional information in relation to a number of issues raised by DoP and are now seeking further comment.

Natural regeneration

The subject land is situated on Ordovician metasediments with the existing vegetation species being typical of the region on clay soils. This vegetation consists of species derived from Coastal Lowlands Cycad Dry Shrub Forest (Forest Ecosystem 9 in Thomas *et al* 2000) on the ridge and upper slopes, tending towards Northern Foothills Moist Shrub Forest (Forest Ecosystem 21) in the gullies and lower parts of the site. In both these communities the dominant tree is spotted gum (*Corymbia maculata*) with blackbutt (*Eucalyptus pilularis*), white stringybark (*E. globoidea*) and grey ironbark (*E. fibrosa*). Small trees consist largely of black sheoak (*Allocasuarina littoralis*) and wattles, *Acacia mabellae*, *A. longifolia*, *A. mearnsii* and *A. implexa*. The understorey is drier in the Cycad Dry Shrub Forest and includes burrawang (*Macrozamia communis*) and shrubs including *Acacia stricta*, *Acacia terminalis*, *Hibbertia aspera*, *Daviesia ulicifolia*, *Leucopogon lanceolatus* and *Bursaria spinosa*.

The existing clearing of the site comprises of numerous shrubs, which due to repeated slashing of the land, are unable to grow in a natural form and exist as prostrate or as low height shrubs. Numerous vines and creepers are also present in the existing clearings. These features would indicate, that in the absence of frequent slashing of the ground vegetation, that it would in fact, naturally regenerate. Evidence to support the process of natural regeneration being relevant to the subject land comes from a site also in the Batemans Bay area. Clearing of the same vegetation community occurred approximately six years ago, and in the absence of site development or slashing, this vegetation has naturally regenerated to between 3-4 metres in height (Plate 1).

Fencing to allow movement of wildlife

Rural style fencing has the potential to impact on native fauna movement across the site if constructed from materials without consideration of this factor. Appropriate style fencing as per the following guidelines would allow continued fauna movement across the site.

- a) The use of barb-wire should not be permitted. This will protect native gliding and flying fauna.
- b) Fencing wire should be free from 'netting' type material, and should consist solely of three single strands of fencing wire (not barbed). This method of construction allows movement of terrestrial fauna without obstruction. The removal of vegetation for fence construction should be undertaken with a minimum of vegetation to be removed. By using handtools such as chainsaws, brushcutters and lawn mowers, it is possible to limit the removal of vegetation for fencing to a width of 1m.

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- c) No canopy trees should be removed for fence construction.



Plate 1: Regeneration of Coastal Lowlands Cycad Dry Shrub Forest near Batemans Bay.

Weed Management

The biodiversity addendum highlights that the site hosts an extensive infestation of whisky grass (**Andropogon virginicus*), which was probably established by slashing of the site. This species is widespread across the Eurobodalla local government area wherever slashing has occurred, in particular, on roadside reserves (pers.obs). This species is not listed as a noxious weed as defined by the *Noxious Weeds Act*. Weed control, while unlikely to be effective due to the occurrence of this weed at a active landscape level,, could include the prohibition of grass slashers or mowers while the grass is seeding to assist in controlling the spread of this grass across the site and beyond. These actions within the sites boundaries, are unlikely to decrease the spread of this plant throughout the shire as roadside slashing continues.

The only recorded weed listed as noxious in Eurobodalla Local Government Area is a single Pampas grass (**Cortaderia selloana*), a garden escape which is located on the east-facing slope above the small dam. The growth and spread of this plant species must be controlled according to the measures specified in a management plan published by the local control authority (if such a plan is available). The single plant should be removed and the seed heads bagged for safe disposal (Jackie Miles, pers. com, May 2007).

Given the occurrence of a single specimen of a noxious weed, it would be premature to require that a weed management plan for a single plant of a noxious weed species, as it is doubtful that this would be beneficial to the proposed activity or the subject land.

Threatening Species

The plague minnow (*Gambusia holbrooki*) was identified on the site and is listed as a key threatening species under schedule 3 of the *Threatened Species Conservation Act 1995*. Plague Minnow have spread widely throughout NSW since their introduction in the 1920s and thrive in shallow low flowing waterbodies¹.

While the plague minnow was present at the site, the risk of downstream contamination is considered low. This drainage line travels less than 1km and outfalls into the Pacific Ocean, and while it is known to inhabit brackish waters, it would not survive the saline conditions of the ocean. Upstream the drainage line does not appear to host any dams similar to that found within the subject land and could only be considered ephemeral in nature.

The Plague minnow is common across the region. In a recent study of coastal streams and wetlands in search of frogs it was revealed that *Gambusia* was found across many sites on the NSW South Coast, including the Eurobodalla local government area². To the direct south of the subject land, Plague Minnow was identified at Malua Bay. Surveys in the sub-catchment to the north of the site, also revealed the presence of this fish³. Their presence at the subject land is not surprising in a regional context. This species is likely to be more widely distributed than presently known.

The control of Plague Minnow is difficult in the absence of specific methods which target only this species of fauna. The only known effective control methods for this species will kill all fish species present, and will often result in deaths of other fauna such as frogs⁴.

In summary, this fish species is present across the Eurobodalla and within catchments to the north and south of the subject land. Downstream of the subject land where this fish was recorded, provides an ephemeral stream with minimal habitat for this species before flowing into the ocean less than 1km from the dam. Control of Plague Minnow is very destructive, resulting in the death of not only Plague Minnow, but other fauna species present at the treatment site.

It is considered that the Plague Minnow is already likely to have contaminated the drainage line downstream of the subject land from the dam overflow, however, only a small stretch of aquatic habitat is present in an ephemeral state before it reaches the ocean. Control of this species within the subject land would be potentially damaging to other fauna species and would result in the eradication of this fish in only a small section of drainage line before reaching the ocean, where it would not survive. This management action would not be considered appropriate.

Should you require any further information in relation to these matters, please contact me directly.

Regards,



Steven Sass

Ecologist

¹ NSW Fisheries (2007) NSW Fisheries webpages www.fisheries.nsw.gov.au.

² Gaia Research (2001) Surveys of the Green and Golden Bell Frog *Litoria aurea*, on the Far South Coast of NSW. Prepared for the NSW National Parks and Wildlife Service.

³ Nghienvironmental (2007) Flora and Fauna Impact Assessment, Proposed Bulky Goods Retail Centre, George Bass Drive, Surf Beach, NSW. Prepared for Walker Corporation Pty Ltd and Eurobodalla Shire Council.

⁴ NSW NPWS (2003). NSW Threat Abatement Plan. Predation by *Gambusia holbrooki* – The Plague Minnow. NPWS. Hurstville, NSW.