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## Nature Conservation Saves for Tomorrow

### BMCS-LEG Comments on Coalpac's Response to PAC Review Submissions [CRPRS]

## PART 1

### 1. Introduction

The Coalpac document [CRPRS] is under 'Coalpac Response to Further Submissions' on the DP&I website [[http://majorprojects.planning.nsw.gov.au/index.pl?action=view\\_job&job\\_id=4332](http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=4332)]. A list of the documents to which Coalpac is responding is outlined in CRPRS Section 2. The document purports to provide a response to each additional issue raised.

The present document is PART 1 of the joint groups' response to some of the matters raised in the 'Coalpac Response to Further Submissions'. The joint groups have opted to provide several parts to their response because the only way of refuting some deceptive aspects of Coalpac's document is with photographic evidence, this inevitably resulting in attachments which are excessively large.

It is disappointingly noted that the DP&I will very shortly place its report on its website and is at a stage where the content of PART 1 and other parts of the joint groups' response will not be available to it.

### 2. Definition of Significant Pagoda Landforms and Sandstone Outcrops

CRPRS Section 3.1.1 notes the opposition to the subdivision of pagodas into SPL and SO. There is no attempt to refute the rejection of the SPL/SO subdivision on any scientific grounds. In fact, by citing Haydn Washington, the CRPRS is acknowledging his and his co-author's authority.

The subdivision (SPL/SO) remains a pragmatic device for the differential treatment of pagodas within the Contracted Project. With open-cut mining up to the pagodas and highwall mining beneath the majority of them, the aesthetic and environmental values will be destroyed and/or compromised.

### 3. Impacts to Significant Pagoda Landforms and Sandstone Outcrops

CRPRS Section 3.1.2 misconstrues the purpose of Annexure A to the 'joint submission' (here designated JS) by focusing on the two pagodas within the proposed open cut. Interestingly, even with Coalpac's extremely restrictive pagoda definition, the one at locality 4 will be spared; the one at locality 11 will be trashed!

Given more time, BMCS could have shown that there are pagodas at other areas in the open cut; for example, on the spurs NNW of locality 4, N of locality 7 and SSE of 11a.

BMCS makes the following points:

- Annexure A shows the broad distribution of pagodas within Project area, NOT just the contracted open cut. The photos are a **sample of many pagodas** – they are **NOT** the only pagodas.
- Annexure A shows that the vast majority of the pagodas are proposed to be undercut by highwall mining. CRPRS 3.1.2 focuses on the open cut '*avoidance*' principle, but conveniently overlooks the '*inclusiveness*' principle of the highwall footprint.

- As noted above (Section 2) and also shown on the maps in Annexure A, the combined open cut and highwall footprint will destroy and/or compromise the aesthetic and environmental values.

#### 4. Ben Bullen Pagoda Land System Concept

CRPRS Section 3.1.3 p7 states that the JS (joint submission) considers the “...*BBPLS is unique because it is the only example of a landscape where pagoda landforms on Triassic sandstones occur adjacent to intact grassy tableland woodland located on the Permian Illawarra Coal Measures...*” This is a crude dilution of the BBPLS as for example described in the JS p7 bottom paragraph. Nevertheless, having set up a simplified target, CRPRS Figure 2 shows a geological map of Triassic Sandstone above Permian Coal Measures effectively implying that the BBPLS is common because the stratigraphy is common. If this is a serious implication, it is clear that the CRPRS is disregarding the JS Executive Summary p2 paragraphs 3-5 and p3 paragraphs 1-2.

CRPRS Section 3.1.3 pp7-9 (citing Walker 1991) states that “...*a land system is typically a unique combination of different land units*; the JS’s system is precisely that! It also states: “...*the units might be the hill crests, the upper slopes, the lower slopes, the minor drainage lines and the major drainage lines...*” and “*One of the key aspects...is that the individual land units which together make up a land system can occur in more than one land system...*” The JS’s system has units which comprise tracts of country showing a high degree of uniformity in landform, parent material, soil, climate, and vegetation. This is because, as stated in the JS, climate, geology and landform interact over time to influence the distribution of soils and vegetation. The JS has no problem with an **individual land unit** occurring in more than one land system; **but different land systems cannot have the same units with the same spatial relationships!**<sup>1</sup>

In CRPRS Section 3.1.3 p9, Cumberland Ecology (CE) notes that the JS “...*contains the component features of a land system...*” but the concept “...*is incorrectly applied in this case.*” And why is this? Because the JS “...*defines a land system rather narrowly (in contravention of the original intended application of the concept), and has identified a very small area that is termed the BBPLS.*”

BMCS rejects CE’s opinion because:

- The BBPLS potentially covers a larger area, but as was clearly stated in the JS (see Executive Summary and Section 4.3 p12), portions of it have been cleared for agricultural purposes, impacted by coal mining, heavily logged and climatically limited; the Coalpac-Pine Dale region remains the best-preserved example of the BBPLS.
- I<sup>2</sup> have used land-systems analysis as part of air-photo interpretation over very large regions where the geology and climate have been relatively constant, and applied it in much smaller regions where the geology and physiography have varied rapidly.
- Advocating restriction to a perceived original concept is ridiculous – it inhibits the development of ideas and, in this particular case, would preclude matching a technique (land systems analysis) to the spectrum of available data.
- Arguing that a technique initiated at one scale must not be used at a different scale is absurd. There is no fundamental reason why looking at the integrated behaviour of rocks, soils, climate, and topographic form and orientation, and vegetation should be valid at macroscale (not defined by CE, but let’s say 1,000,000 ha), perhaps at 100,000 ha, but not perhaps at 10,000 ha or 1000 ha because "...*it is not faithful to the original concept as developed by CSIRO...*"
- Finally, despite it being CE’s “...*considered opinion that the application of the land system concept in this situation is fundamentally flawed and entirely inappropriate*”, this would seem to be a case of opinion being matched to the needs of the occasion!

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<sup>1</sup>Logically, if supposedly ‘different’ land systems have the **same** units with the **same** spatial relationships, they must be the same land system.

<sup>2</sup>Brian Marshall - when working in Tasmania, the NT and Qld, western Canada and Greenland.

Having argued that the JS has misused the land-use system because of scale, CE then presents a ‘potential’ land system which reflects the consultant’s obsession with scale, irrespective of the amount of knowledge available in the broader region. CE suggests (Section 3.1.3 p10) a land system with units comprising **sandstone plateaus, pagodas, and undulating woodlands**. In doing this, CE is largely disregarding the inputs of topographic orientation, climate and soil-types on plant species and ecological communities over their large area of consideration; these are in fact the things which are specific to the Coalpac-Pine Dale region and make it worthy of conserving.

If CE wishes to ignore important data solely to satisfy its adherence to ‘concept’ and promoting Coalpac’s case for destroying a unique region, it is entitled and indeed paid to do so, but let’s look a little further:

- **Figure 3** (Section 3.1.3 pp11) is said to show (p10) “*...the extent of these land units or land system in the region as mapped by Cumberland Ecology*”. The context referred to CE’s land units, but it is apparent from the map and legend in Figure 3 that **CE has presented its interpretation** of the JS land system.  
**Please recognise that whereas Figure 3 labels the units with the JS terminology, the interpretation is entirely CE’s and its extent to the E and N is not accepted by BMCS and its co-authors!**
- CE claims the mapping (in Fig.3) shows that (p10) “*...Permian geology co-occurs with Triassic sandstones and pagoda outcrops in many areas of the region, and confirms that it is far more widely spread than just in close proximity to the Project Boundary.*” **So what!** BMCS notes: (a) the map with the geology is in **Figure 2** and is not contentious; (b) a substantial portion of **Figure 3** (east of Capertee N Pk and NE of Donkey Mtn) is wrong – perhaps a drafting error, but there is an inconceivable mismatch between the boundaries of the two units across an E-W line; and (c) an even larger proportion of Figure 3 effectively has pagodas as part of a sandstone continuum (see CRPRS Figs. 2 and 3) and, to that extent, fails to conform with either JS’s or CE’s land systems<sup>3</sup>.
- Taking Figure 3 at face value (i.e., it portrays CE’s interpretation of the potential distribution of the BBPLS), it shows that the JS Tablelands Grassy Woodlands Complex Unit is largely restricted to the Coalpac-Pine Dale tract.
- Finally, despite CE applying mischievously similar names to the units in its potential land system, to those in the JS land system, BMCS sees no problem in the two systems coexisting. The CE and JS land units have been determined **at different scales of observation and have different descriptive definitions**, so the separate sets of land unit constitute different but overlapping land systems. **The loosely defined CE land system can overlap the JS system, but at a different scale the tightly controlled JS units still define a land system which is unique and demands protection.**

The foregoing shows how and why the JS land system is unique and why a minimisation approach as presented in CRPRS Section 3.1.3 p12 paragraph 2 is inapplicable.

CE concluded (CRPRS Section 3.1.3 p12): “*...it is very hard to understand the basis upon which the BBPLS is considered to be unique...it is well represented and conserved in the region with the vast majority of it falling within existing National Parks and other conservation reserves.*”

There are several possible responses to the above quotation:

- If the approach of integrating a range of available data sources to define land units within a land system is rejected, because the original concept was applied over much larger regions where there was little available data, then there is no way forward. However, it is illogical to reject the BBPLS (remember that the JS defined it), and then argue that it is widely represented and conserved in the greater region. Somewhat facetiously, it doesn’t exist but I see it everywhere!

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<sup>3</sup> Or perhaps the text on CRPRS Section 3.1.3 p10 is sloppy and the JS and CE land systems were mentally conflated in relation to Figure 3?

- If one accepts the BBPLS and its land units and argues it is widely distributed in parks and reserves, then show us where! The three land units (and particularly the Tablelands Grassy Woodlands Complex Unit) were defined as a function of geology, geomorphology, topographic orientation, climate, pedology, naturally developed vegetation and associated ecosystems. When other areas where the BBPLS might have developed were checked, some were found to be impacted by mining, clearing and logging, slopes were too steep and/or wrongly oriented, valleys were insufficiently incised to reach the Permian substrate, and there were sufficient climatic differences to generate different vegetation types. Conclusion: the Coalpac-Pine Dale region contains the best preserved examples of the BBPLS.
- This leaves rejecting the BBPLS and defining a far less constrained ‘pagoda-focused’ land system with ill-defined associated units, and then conflating it with the BBPLS. This has seemingly happened with CE in the above quotation and the confusion between the text and figures in CRPRS Section 3.1.3
- And of course: “*There are none so blind as those who will not see!*”<sup>4</sup>

## 5. CAR Reserve System

Considerable time was spent on Section 4 because the unique attributes of the BBPLS were disputed and this needed to be refuted.

BMCS has shown in Section 4 that the Coalpac-Pine Dale region contains the remaining **intact** portion of a land system (termed the BBPLS). In other portions of the BBPLS, the principal units (and particularly the Tablelands Grassy Woodlands Complex Unit) have been compromised by mining, farming and logging. The uniqueness of the BBPLS in the Coalpac-Pine Dale region stems from it being the region where relationships between the Cullen Plateau Unit, the Ben Bullen Range Pagoda Unit and, in particular, the Tablelands Grassy Woodlands Complex Unit are well-developed and well-preserved.

CRPRS Section 3.1.4 p14: “...*the BBPLS...is considered to form part of a much larger regional scale ecosystem associated with and represented by the pagoda complex landscapes identified by Washington and Wray (2011)*”. The JS’s BBPLS is the best preserved portion of a landscape, in which the other portions are compromised and provide no adequate replication. CE’s regional-scale ‘pagoda-focused’ system is defined so as to overlap the region containing the BBPLS (including its compromised portions), but it offers **NO** replication of the BBPLS.

Accordingly:

- the implication (CRPRS Section 3.1.4 p14) that BBPLS is NOT an irreplaceably unique land system is rejected; and,
- the statement that (CRPRS Section 3.1.4 p14) “...*similar landscapes* [BMCS emphasis] occur, and are already conserved, outside the Project Boundary...” is precisely that! They have similarities, but they are not the same.
- **The rejection of the CAR analysis in the CRPRS is wrong and based on perpetuation of entrenched misconceptions.**

## 6. Conservation of pagoda landscapes [CRPRS Section 3.1.5]

This section is a response to a series of questions which were raised and answered in the JS. It is intensely repetitive. BMCS will attempt to constrain this as best it can.

### 6.1 What is an appropriate definition for the pagoda landscape complex, including gullies, aprons and slopes associated with the rocky outcrops?

It is gratifying that CRPRS p15 seems to accept that (JS p18) “*a generic definition for all pagoda landscape complexes (plural) is provided by Washington and Wray (2011)*”. The rest is a reiteration of its opposition to the BBPLS and therefore a rejection of what was presented in JS Section 8.1. BMCS stands by the description and statement on JS p19.

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<sup>4</sup> Attributed to John Heywood (1546), but it might derive from Jeremiah 5:21 (‘Hear now this, O foolish people, and without understanding; which have eyes, and see not; which have ears, and hear not’).

## **6.2 How much of the platy pagoda landscape complex exists in the region?**

Neither the CRPRS nor the JS was able to answer this question. The CRPRS opted to comment an Annexure A and push the line that there will be no impact on the featured pagodas. The JS emphasised that: there are a range of pagoda complexes when considered in a landscape context; the BBPLS is limited to Ben Bullen State Forest and is best expressed in the Coalpac-Pine Dale region; and potential replicates are compromised or belong to a different land system.

The CRPRS p15 states: “*...platy pagodas occur in a much wider area of the “pagoda country” than within the Contracted Project Disturbance Boundary or the Ben Bullen State Forest, including the Newnes Plateau, Wolgan Valley and the Gardens of Stone National Park (see Figure 4 and Plate 1 to Plate 3).*” This is true, but it is worth emphasising that pagodas in the Newnes and Ben Bullen State Forests (including those in Plates 2 and 3) are not protected, and, as has repeatedly been stated by Haydn Washington, all are of international significance and none should be compromised.

## **6.3 How much [of the platy pagoda landscape] exists within the project boundary or immediately adjacent to the project disturbance footprint? For example, to what extent is the area within the open-cut mining area considered part of this landscape complex?**

The CRPRS pp19, 21 and Figure 5 engages in classically deceptive minimisation; CE is to be congratulated.

First, we are told that the entire 762 ha within the contracted project disturbance boundary is 1.3% of the 60,000 ha of unspecified pagoda landscape complexes – it should be noted that, in Figure 5, the contracted project disturbance boundary only encompasses the open cut areas – the contracted highwall mining area which will undercut the pagodas is excluded!

Second, CE presents the data from Figure 3 which happens to be its interpretation of what constitutes JS’s BBPLS – this Figure is not accepted in its entirety by BMCS (for reasons presented in Sections 4 and 5 above), so the numerical data have little value beyond being very crude ‘ballpark’ approximations. Regardless, Figure 5 is then used to determine the amounts of the BBPLS actually **removed by the open cut** (as opposed to being in any way affected by highwall mining!) and the old percentages game is played. As the first set of the CRPRS numbers will have exaggerated the area of the Ben Bullen Range Pagoda Unit, and some of the pagodas (examples of which were provided in Annexure A) are omitted from Figure 5, there is a strong probability that the impact on the Ben Bullen Range Pagoda Unit is underestimated relative to the Cullen Bullen Plateau Unit.

Third, from Figure 5 it is clear that calculations for the Tablelands Grassy Woodland Complex Unit include areas in part destroyed by existing mine workings or cleared for agricultural purposes, so expressing these data as a percentage to the second decimal point is ridiculous. Nevertheless, the most significant point is that the mine will remove, on its own calculations, an additional 249 ha of the Tablelands Grassy Woodland Complex Unit. This land unit is a fundamental component of the BBPLS and has been progressively destroyed along much of the western escarpment by past mining processes. The open cut will also remove and destabilise portions of the talus which are an important component of the Ben Bullen Range Pagoda Unit (JS p20).

## **6.4 How significant or special is the platy pagoda landscape complex from a local, regional, national and international perspective?**

CRPRS p21 seemingly accepts the ‘significance’ statements in JS p20.

It noticeably fails to comment on the statement that (JS p20): “*A unique feature of the Ben Bullen area is the sequence of pagoda landforms stretching through to tableland vegetation types on the valley floor*”. This is contrasted with other areas such as the Wollengambe region, the Wolgan Valley, and the Capertee and Cudgegong Valleys, all of which would perhaps be included in CE’s more regional land system.

## **6.5 What are the attributes of the pagoda landscape complex that contribute to its significance?**

The JS response (p20) emphasises the significance of the BBPLS and takes the opportunity to refer to aboriginal heritage and recreational and scenic values.

In contrast, CRPRS p21 states: “*Cumberland Ecology takes the view that the attributes present in the Project Boundary are widespread within the pagoda landscape complex or land system in the region.*” Interestingly, whereas the JS groups have investigated other potential portions of the region to investigate and state why they do not have the full attributes of the BBPLS, the CRPRS just makes assertions.

## **6.6 How much of this landscape is already protected in National Parks, and what level of protection is appropriate for pagoda landscapes outside National Parks?**

This was answered along the well-established ‘party lines’. JS (pp21-22) indicates that, whereas some of the **other pagoda complexes** are within National Parks, the complex within the BBPLS is unprotected.

CRPRS p22 again invokes CE as follows: “*Cumberland Ecology takes the view that this landscape or land system [as defined by CE] is well represented in National Parks and conservation reserves in the region...*” CE cites CRPRS Figure 3 indicating that the land system exists in sections of the Wollemi National Park, Blue Mountains National Park and Gardens of Stone National Park, and in the Mugii Murum-ban State Conservation Area. **BMCS would love this to be the case, but the BBPLS is not so represented.**

## **6.7 How significant is the platy pagoda landscape in (and near) the project in the context of the regional distribution of this landscape?**

CRPRS p22 continues to disregard the existence of a range of different pagoda landscape complexes and considers that “*...the pagoda landscape in and surrounding the Project Boundary is not considered to be unique or so significant as to prohibit the proposed development...*”

In complete contrast, JS p22 emphasises that there is a range of different pagoda landscape complexes, and that the “*Significance of the platy pagoda landscape in the proposed Coalpac project area is very high.*” It also notes that the “*...particular platy pagoda landscape, primarily the Ben Bullen Range Pagoda Unit and the Tablelands Grassy Woodland Complex Unit of this land system, extends entirely across Coalpac’s contracted project proposal.*”

## **6.8 How significant from a local/regional biodiversity perspective is the vegetation that would be cleared as a result of the project?**

JS p22 emphasises the importance and limited distribution of the vegetation which will be cleared for open cut mining. Predictably, CRPRS p23 denies this and argues that: “*Woodlands [unspecified] adjacent to pagodas are common within the broader pagoda landscape complex, and these woodlands would provide habitat for a similar suite of species as those in the Project Boundary.*” There is no substantiation of this and BMCS notes that the weasel word is ‘similar’!

## **6.9 What ecological function does this vegetation have in the context of the pagoda landscape complex and more broadly from a habitat connectivity perspective?**

CRPRS p23 acknowledges the importance of the habitat and the high biodiversity values emphasised in JS p23, but it seemingly disregards the important role of this area being a NNW-SSE connectivity corridor. The clear bottom line is that the company’s access to coal is all that matters.

**6.10 What level of significance does this vegetation have in the context of the potential reservation of the Ben Bullen State Forest under the NPW Act? i.e. would the clearing of this vegetation prevent any future reservation of Ben Bullen State Forest?**

JS p24 states: “...it is important to realise that much in the remainder of the Ben Bullen State Forest would still merit reservation” but “...it would be an inferior reserve outcome if the last intact example of the geodiversity and biodiversity of the Ben Bullen Land System were omitted.”

CRPRS pp23-24 firstly plays the minimisation card – the Contracted Project Disturbance Boundary only covers approximately 11% of the total area of the Ben Bullen State Forest. No doubt Pine Dale will wish to nibble off another 10-20%. This is a process involving cumulative destruction of important ecosystems! It secondly notes that there is no government policy for conservation of the Ben Bullen State Forest. As recently as Wednesday 5 June 2013 in a meeting with Minister Parker, it was stated that OEH wanted a reservation outcome, but the government wished to firstly reach a decision on Coalpac. This means that there is a preferred outcome but that Minister Hazzard’s process using delegated authority must run its course.



**Dr Brian Marshall,**  
**For the Management Committee of BMCS**  
**And on behalf of the Joint Groups**

**9 June 2013**