



DOC18/24014

Mr Clay Preshaw
Director Resource Assessments
Department of Planning and Environment
clay.preshaw@planning.nsw.gov.au

Dear Clay

Invincible Southern Extension Modification - Bathurst Copper Butterfly Additional Information

I refer to your email dated 11 January 2018 requesting comments from the Office of Environment and Heritage (OEH) on the additional information that has been provided by the proponent regarding the presence of the Bathurst copper butterfly at the project site, and how this impacts on draft approval conditions, and the options for land-based offsets or supplementary measures.

The proponent has fulfilled the requirements of Condition 33 and this can now be removed from the draft notice of modification. The targeted survey for the Bathurst copper butterfly has been completed; however, OEH note that the survey results have not been entered into the BioBanking Credit Calculator. Using the proponent's statement that 0.2 hectares of habitat is present, the species credit requirement is 15.4 credits. This credit amount can only be confirmed once the proponent has provided OEH with the species polygons.

Table 9 in Condition 31 will need to be updated to include the species credits for the Bathurst copper butterfly when the credit liability is confirmed. The note in this condition should also be expanded to state that the biodiversity credits were calculated using the Framework for Biodiversity Assessment (FBA). We suggest that Condition 32(a) is amended so that the words "*acquiring or*" are deleted. Given that the Bathurst copper butterfly credit requirements will now be contained in Condition 31 and 32, Condition 34 can also be deleted.

The proponent states in Section 2.2.5 of the December 2017 Request for Additional Information report (referred to herein as "the report") that it "*will be a difficult species to find on a land-based offset due to its cryptic nature, limited distribution and small timing window for surveys*". There are approximately 30 known populations of the Bathurst copper butterfly that occur across a range of land tenures. Before the proponent can enact the supplementary measures option under the FBA, the consent authority must be satisfied that "*the proponent can demonstrate that all reasonable steps have been taken to secure the number and types of species credits impacted at the development site*" (Section 10.5.7.5(b) of the FBA).

If the proponent adequately addresses this requirement they may proceed to using supplementary measures to meet their biodiversity offset credit obligation. We note that in the proponent's report they attempted to convert the FBA credits to Biodiversity Assessment Method (BAM) credits by applying a 50% reduction to the FBA credits. There is no foundation to this conversion rate. The OEH Chief Executive is yet to determine the 'reasonably equivalent' credit obligation that remains to be satisfied by the retirement of biodiversity credits. OEH is yet to publish further details about the process for determining this. OEH will advise DPE when the conversion rate has been finalised.

OEH advise that as at 18 January 2018 the Biodiversity Offset Payment Calculator stated that the cost of 15.4 Bathurst copper butterfly species credits is \$45,295.23. We are unable to comment on what this figure will be when the conversion calculator is finalised and if/when the proponent chooses to pay into the Biodiversity Conservation Fund.

Attachment A outlines a potential Bathurst copper butterfly project that has been developed by the North West Region of OEH. Supplementary funding from the Invincible Southern Extension project could form part of the funding source for this project.

OEH is pleased to learn of and is very supportive of the proponent's willingness to undertake a translocation of the *Bursaria spinosa* plants to be impacted by the project. The specifics of a translocation project will require planning, research and review of similar projects so unfortunately, we cannot provide further details at this stage of a project outline. However, given the very specific habitat requirements of the butterfly, OEH would like to consider a range of translocation sites and methods before finalising the project to maximise its success. We do not want to be limited only to the proponent's proposal of translocating the plants to a rehabilitation site at the Invincible mine site.

Given that the butterfly is listed under the *Biodiversity Conservation Act 2016* and any outcomes from a translocation project would be of great interest to future management of this species, OEH would like to work closely with the proponent and as such we would propose being a project partner.

To ensure this translocation project goes ahead and is adequately monitored we suggest that it is captured appropriately in a statement of commitments.

If you have any questions regarding this matter please contact Renee Shepherd on 02 6883 5355 or email renee.shepherd@environment.nsw.gov.au.

Yours sincerely



PETER CHRISTIE
Director North West
Regional Operations

18 January 2018

Contact officer: RENEE SHEPHERD
02 6883 5355

Attachment A

Purple Copper Butterfly Project

The purple copper butterfly (*Paralucia spinifera*) is a small butterfly with a wingspan of 20 – 30mm. It is in the area bounded by Bathurst, Hartley and Oberon in NSW at altitudes greater than 850m ASL. It has rather specific habitat requirements due to it relying on the presence of *Bursaria spinosa ssp lasiophylla* for food and its complex relationship with an attendant ant *Anonychomyrma itinerans*. Following the third larval moult, the attendant ant keeps the larvae underground in the ant's nest during the day, shepherding them out at night to graze on *Bursaria* leaves. The ant's efforts are rewarded with a sugary honeydew from a gland on the larvae's backs. When fully grown, the larvae return to the ant's nest to pupate from January until the butterflies emerge in September.

Under the Saving our Species (SoS) program, recovery actions are currently being implemented for the purple copper butterfly. The SoS project has identified three management sites; Winburndale Nature Reserve, Lithgow Foothills and Kennedy Park. One of the populations has declined significantly with no observations of purple copper butterflies or larvae recorded in the two most recent survey years. This has highlighted the need to have additional management sites identified with recovery actions being implemented for the species.

One additional site proposed is Grants Block Travelling Stock Reserve and external funds are being sought to commence the implementation of recovery actions.

Site Information

Grants Block is a travelling stock reserve that lies at the southern junction of the Rydal-Hampton Road and Cheethams Flat Road (See Figure 1 & 2). A moderate size population of purple copper butterflies has been recorded previously on site and can be readily seen during optimal conditions. Due to the easy accessibility to the site and the ability to readily see the species during the peak flying-season, the site is suitable for community engagement activities.

Threats and Actions

Threat	Action
Inappropriate fire or absence of fire (senescence of <i>Bursaria</i>)	<ul style="list-style-type: none"> Continue to improve habitat protocols and implement ecological burns as required.
Weeds	<ul style="list-style-type: none"> Site based weed control.
Uncertainty of future land management practices, Inappropriate land management practices	<ul style="list-style-type: none"> Community education and awareness raising. Secure tenure of TSR.
Species Monitoring	<ul style="list-style-type: none"> Species abundance/population status monitoring <ul style="list-style-type: none"> Adult butterfly line transects counts, caterpillar multiple quadrat counts annually. Host plant (<i>Bursaria spinosa subspecies lasiophylla</i>) condition, occupancy and extent.
Threat Monitoring - Fire	<ul style="list-style-type: none"> Threat response, fire mapping. <ul style="list-style-type: none"> Opportunistically following fire, or following ecological burn. Using species monitoring data in addition to habitat condition to measure response to fire.
Threat Monitoring – Weeds	<ul style="list-style-type: none"> Estimates of percentage total weed cover in each 50m x 50m quadrat and individual species weed cover.

Actions to be funded

Action	Objective	Year 1	Year 2	Year 3
Continue to improve habitat protocols and implement ecological burns as required.	Maintain an appropriate fire regime for the species	\$0	\$2000	\$2000
Site based weed control	Reduce and maintain weed densities at low levels	\$15000	\$5000	\$5000
Community Education and Awareness Raising	Field day to raise awareness in the community	\$2000	\$2000	\$2000
Secure Tenure of TSR	Negotiate with landholder to change tenure, or secure through covenant agreement.	\$0	\$0	\$0
Species Monitoring	Measure changes in population trajectories. Identify habitat structure that promotes butterfly/larvae occupation to identify future management strategies e.g. pruning, reintroduction of ground cover.	\$4000	\$4000	\$5000
Threat Monitoring	Weed mapping	\$2000	\$0	\$2000
Total		\$23000	\$13000	\$16000
				<u>\$52000</u>

10 Kilometers



Figure 1 - Grants Block TSR in relation to other sites under management for the purple copper butterfly.



Figure 2. Grants Block Travelling Stock Reserve