

# IMPACTS ON MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE EXPECTED TO BE GENERATED BY THE PROPOSED REPCO RALLY

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## BACKGROUND

RepcO Rally Australia proposes to hold a large rally event bi-annually across many areas of high conservation value within the Tweed and Kyogle Local Government Areas (LGAs). Biolink (2009) prepared an Ecological Assessment of six proposed stages in the Tweed LGA and ten in the Kyogle LGA. Within each stage the event is proposed to involve at least several helicopter flyovers, the passage of three vehicles with sirens, 60 movements of rally vehicles, ancillary activities and the cumulative impacts of spectator visitation. In certain stages the proposal involves volunteers with air horns, road upgrades and vegetation clearance activities.

The following report details impacts on matters of national environmental significance expected to occur if the Rally were to proceed, and provides a critical review of the Biolink (2009) Ecological Assessment of this proposal. This report provides a particular focus on the adequacy of determinations of significance of impact as well as shortcomings and errors contained in Biolink (2009).

## LIKELY IMPACTS ON MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE

In my opinion Biolink (2009) has not adequately or comprehensively addressed the range of significant impacts upon matters of national environmental significance likely to be generated by the proposal. It is my opinion that significant impacts are likely to occur as a result of the proposal particularly for the several properties within the Gondwana Rainforests of Australia World Heritage Area and the following listed species (*Table 1*):

*Table 1: Species listed on the EPBC Act for which significant impacts are likely to occur as a result of the proposed Repco Rally.*

<b>ENDANGERED</b>	<b>VULNERABLE</b>
Fleay's Barred Frog, <i>Mixophyes fleayi</i>	Long Nosed Potoroo, <i>Potorous tridactylus</i>
Giant Barred Frog, <i>Mixophyes iteratus</i>	Grey-headed Flying-Fox, <i>Pteropus poliocephalus</i>
Spotted Tailed Quoll, <i>Dasyurus maculatus</i>	Albert's Lyrebird, <i>Menura alberti</i>
	Black Breasted Button Quail, <i>Turnix melanogaster</i>
	Three Toed Snake Toothed Skink, <i>Coeranoscincus reticulatus</i>

## **MATTERS OF NATIONAL ENVIRONMENT SIGNIFICANCE**

### **SPECIES LISTED UNDER THE ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT, 1999 (EPBC ACT)**

A considerable number of Endangered and Vulnerable species listed on the Environment Protection and Biodiversity Conservation Act (EPBC Act) are known to occur along many of the stages proposed for the Repco Rally. Significant impacts are expected upon many of these species should the event proceed. Significant impacts expected to occur are detailed below for each of these species:

#### **ENDANGERED SPECIES**

##### ***Giant Barred Frog, *Mixophyes iteratus****

The Giant Barred Frog has declined markedly across its range. The Northern Rivers supports several areas known to be strongholds for this Endangered species. In particular the Byrill Creek and Peacock Creek areas are recognised as supporting viable breeding populations of this species. A significant impact is likely to occur if the proposed Repco Rally is staged in these areas. This is due to the following factors:

- ***Reduce the area of occupancy of the species***

Proposals to stage the Repco Rally at both the Byrill Creek and Peacock Creek areas is highly likely to reduce the area of occupancy for this species. The greatest likelihood for significant impact is on the larval stages of the species. These impacts are attributable to the mobilisation of sediments as either dust clouds during dry weather or the immense potential for contamination of aquatic environments with sediment runoff in the event of wet weather. This is likely to substantially reduce the area of occupation of this species. The proposal by Biolink (2009) to place booms below road crossings will not act to prevent sediment contamination of breeding streams in the event of wet weather as this is a widespread and dispersed impact that can not be controlled at a single point.

There is a further risk of petrochemical contamination to waterways through the presence of Polycyclic Aromatic Hydrocarbons and other hydrocarbon materials and rubber residues from racing activities. The deployment of booms proposed by Biolink (2009) will not adequately address this impact because of the dispersed and diffuse generation of pollution through extensive areas of occupied habitat.

- ***Disrupt the breeding cycle of a population***

The likelihood of significant disruption to the breeding cycle of the Giant Barred Frog at both Byrill Creek and Peacock Creek is very high. The peak of the Giant Barred Frog breeding season is from September to February coinciding with the proposed event.

It is likely that the sediment pollution generated from the event (either as dust or muddy runoff) will severely disrupt the breeding cycle of known populations of the species in these areas. Furthermore the potential for petrochemical/hydrocarbon runoff is high and is likely to further disrupt the breeding cycle and success of breeding in known populations of the species.

- ***Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline***

The runoff that will be generated by the proposed Byrill Creek and Peacock stages of this event will adversely impact on and modify water quality within known habitat areas to the extent that there will be a decrease in available habitat and a decline in habitat quality. This is highly likely to generate impacts to the extent that a decline in the species is expected to occur.

### **Fleay's Barred Frog, *Mixophyes fleayi***

A viable breeding population of the Endangered Fleay's Barred Frog (*Mixophyes fleayi*) is known from the Byrill Creek catchment.

The report of a Stuttering Frog (*Mixophyes balbus*) at Byrill Creek is of great interest, particularly given that this site is approximately 80km north and east of the known range of the species. The Stuttering Frog is only known to occur north and east to the Timbarra Plateau and the Cataract River catchment to the east of Tenterfield (*personal records*). The author is unaware of the existence of any populations of the Stuttering Frog east of the Clarence River.

A significant impact is likely to occur if the proposed Repco Rally is staged in this area. This is due to the following factors:

- ***Reduce the area of occupancy of the species***

Proposals to stage the Repco Rally at Byrill Creek is highly likely to reduce the area of occupancy for this species. The greatest likelihood for significant impact is on the larval stages of the species. These impacts are attributable to the mobilisation of sediments as either dust clouds during dry weather or the immense potential for contamination of aquatic environments with sediment runoff in the event of wet weather. This is likely to substantially reduce the area of occupation of this species. The proposal by Biolink (2009) to place booms below road crossings will not act to prevent sediment contamination of breeding streams in the event of wet weather as this is a widespread and dispersed impact that can not be controlled at a single point.

There is a further risk of petrochemical contamination to waterways through the presence of Polycyclic Aromatic Hydrocarbons and other hydrocarbon materials and rubber residues from racing activities. The deployment of booms proposed by Biolink (2009) will not adequately address this impact because of the dispersed and diffuse generation of pollution through extensive areas of occupied habitat.

- ***Disrupt the breeding cycle of a population***

The likelihood of significant disruption to the breeding cycle of Fleay's Barred Frog at Byrill Creek is very high. The peak of the breeding season for this species is from September to February. It is likely that the sediment pollution generated from the event (either as dust or muddy runoff) will severely disrupt the breeding cycle of known populations of the species in these areas. Furthermore the potential for petrochemical/hydrocarbon runoff is high and is likely to further disrupt the breeding cycle and success of breeding in known populations of the species.

- ***Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline***

The runoff that will be generated by the proposed Byrill Creek stages of this event will adversely impact on and modify water quality within known habitat areas to the extent that there will be a decrease in available habitat and a decline in habitat quality. This is highly likely to generate impacts to the extent that a decline in the species is expected to occur.

### **Spotted-tailed Quoll, *Dasyurus maculatus***

Biolink (2009) determined that a significant impact on the Spotted Tailed Quoll is likely to occur in the Urliup stage of the event (*pages 110-111*) on the basis of a reduction in the area of occupancy of this species and the disruption to the breeding cycle of the species. **This determination of significant impact is considered sufficient to require a referral to the Minister for Environment, Water, Heritage and the Arts.**

In numerous other proposed stages such as Capeen, Peacock, Byrill Creek and Upper Clarence, a significant impact is expected to occur on the Spotted Tailed Quoll particularly a reduction in the area of occupancy of the species; a disruption to the breeding cycle of a population; modification, destruction, removal, isolation and decrease in the availability and quality of habitat to the extent that the species is likely to decline. There is a very high risk of road kill for this species, furthermore this carnivorous predator and scavenger is highly likely take advantage of any fauna that has been injured or killed by motor vehicles and is likely become road kill in so doing.

## VULNERABLE SPECIES

### **Long Nosed Potoroo, *Potorous tridactylus***

Potential impacts on this species have not been considered in the Ecological Assessment for the Repco Rally (Biolink Consultants, 2009). Numerous records of the Long Nosed Potoroo exist within the study area defined by Biolink (2009), particularly along the Richmond Range and the Tweed Coast, where both Cudgen and Cobaki populations are nearing extinction (NSW Threatened Species Scientific Committee).

The Long Nosed Potoroo is known to occupy habitat along several stages of the proposed Repco Rally. Records of this vulnerable species have been made near Toonumbar Dam, Bungdoozle and Cudgen. Occupied habitat is likely to extend considerably further than these records due to excellent connectivity and good availability of high quality habitat for the species particularly along the Richmond Range and includes the proposed route of the Peacock stage of the rally.

The proposed Toonumbar and Capeen stages pass directly through habitat occupied by the Long Nosed Potoroo and the Upper Clarence stage passes through habitat that is contiguous with areas known to support the Long Nosed Potoroo.

- ***Reduce the area of occupancy of an important population***

It is highly likely that a significant impact upon the area of occupancy of an important population of the Long Nosed Potoroo at the Toonumbar and Capeen stages will occur as a result of activities proposed for the Repco Rally including:

1. Direct mortality through road kill;
2. Disturbance impacts resulting from helicopter overpasses, 60 noisy rally vehicle, vehicles with sirens, cumulative pressures of ancillary activities and spectators are highly likely to result in a reduction in area of occupancy;
3. Fragmentation of habitat resulting from road construction activities to be undertaken in the Capeen stage for the purposes of staging the event.

- ***Disrupt the breeding cycle of an important population***

Disturbance impacts including helicopter overpasses, vehicles with sirens, 60 noisy rally vehicles, machinery for roadworks and other cumulative disturbance pressures (identified above) associated with the event are likely to disrupt the breeding cycle of important populations of the Long Nosed Potoroo occurring along the Richmond Range.

- ***Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline***

With proposals to upgrade roads for the Capeen stage of the rally within the formal conservation reserve system (Richmond Range National Park) there is a high likelihood that these activities will result in the modification, destruction and removal of habitat for the Long Nosed Potoroo. Furthermore it is likely that these activities are likely to isolate populations of the Long Nosed Potoroo and decrease the availability and quality of habitat available to the species to the extent that declines are likely to occur. Road upgrade works will increase public visitation to, and vehicle speeds in the area, with associated threats such as road mortality to sensitive listed species such as the Long Nosed Potoroo.

Direct mortality due to road kill will lead to declines in important populations of this species.

- ***Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat***

The road works proposed to be undertaken to prepare for the Capeen stage of this event within the formal conservation reserve system (Richmond Range National Park) are likely to have a significant impact on the Long Nosed Potoroo as they will increase the risk of establishment of invasive exotic plant species (weeds) that are harmful to the Long Nosed Potoroo. This is likely to occur through reduction in habitat quality and suitability for occupation by the Long Nosed Potoroo including the loss of dense groundcover through exotic species invasion, loss of host species for the fungi that this mycophagous species forages upon

#### **Grey-headed Flying-fox, *Pteropus poliocephalus***

- ***Disrupt the breeding cycle of an important population***

The Bray Park maternity camp of the Grey-headed Flying-fox (GHFF) is located 300m from the proposed Murwillumbah rally route. The imposition of numerous helicopter flyovers, vehicles with sirens, 60 noisy rally vehicles and other disturbances associated with the proposed event is highly likely to disrupt the breeding cycle of this important population of the species. The GHFF is known to abort fetuses when disturbed and distressed. The potential for this to occur from disturbance caused by the Murwillumbah stage of the rally in close proximity to this important maternity camp is very high.

### **Albert's Lyrebird, *Menura alberti***

This vulnerable species occurs from the Eastern Slopes of Springbrook and Urliup westwards along the McPherson Range to the Focal Peak region and the Richmond Range. When disturbed by vehicles a behavioural characteristic of this species is to flutter along the ground and run along the carriageway rather than scattering away from the road (*pers. obs*). This behaviour places the species at great risk of direct road traffic mortality from the proposed rally, particularly given the speed at which vehicles will travel through substantial areas of occupied habitat that surround many of the proposed stages of the rally. The timing of the event will coincide with the fledging period of this species with increased likelihood of young birds with poorer flying ability being killed due to traffic movements.

- ***Reduce the area of occupancy of an important population***

With the proposal to hold the Repco Rally in numerous stages within areas known to support important populations of Albert's Lyrebird (a species essentially endemic to the area across which the event is proposed to be held) there is a high likelihood of a reduction in the area of occupation of several important populations such as those occurring at:

- the Eastern McPherson Range/Springbrook/Urliup area due to the proposed Urliup stage of the rally – these are the most easterly populations along the NSW-Queensland Border, occur at a lower density than populations further west and are more sensitive to disturbance impacts and direct mortality.
- the Mt Warning/Wollumbin/Mebbin/Border Ranges area - the proposed Byrill Creek stage is centered on this critically important connective habitat area
- the Toonumbar/Richmond Range/Dome Mountain area – the proposed Upper Clarence, Capeen and Peacock stages essentially bisect the important populations of the Albert's Lyrebird in these areas.

When disturbed by vehicles a behavioural characteristic of this species is to flutter along the ground and run along the carriageway rather than scattering away from the road. This behaviour places the species at great risk of direct mortality from the proposed rally, particularly given the speed at which vehicles will travel through substantial areas of occupied habitat that surround many of the proposed stages of the rally. The timing of the event will coincide with the fledging period of this species with increased likelihood of young birds with poorer flying ability being killed due to traffic movements. A proposal for volunteers to blow hand-held air-horns (Biolink, 2009) has not been demonstrated to be an effective means of deterrence to this sensitive species.

- ***Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline***

The proposal to stage this event in important habitat areas for this vulnerable species is likely to result in the modification and isolation of known habitat and decrease the availability and quality of habitat to the extent that the species is likely to decline. This is particularly the case for the Urliup, Byrill Creek, Capeen and Peacock stages where the high level of disturbance attributable to:

- multiple helicopter flyovers
- vehicles with sirens
- 60 noisy rally vehicles
- volunteers with airhorns and
- the cumulative pressures of road upgrades and increased visitation caused by spectators;

are highly likely to significantly impact on this sensitive species by modifying (reducing) habitat quality and availability and isolating population to the extent that the species is likely to decline.

There is a high risk of direct mortality to this species as when disturbed by vehicles a behavioural characteristic of this species is to flutter along the ground and run along the carriageway rather than scattering away from the road. This behaviour places the species at great risk of direct mortality from the proposed rally, particularly given the speed at which vehicles will travel through substantial areas of occupied habitat that surround many of the proposed stages of the rally. The timing of the event will coincide with the fledging period of this species with increased likelihood of young birds with poorer flying ability being killed due to traffic movements. A proposal for volunteers to blow hand-held air-horns (Biolink, 2009) has not been demonstrated to be an effective means of deterrence to this sensitive species.

### **Black Breasted Button Quail, *Turnix melanogaster***

- ***Reduce the area of occupancy of an important population***

The Black Breasted Button Quail has been recorded numerous times in very close proximity to the proposed Byrill Creek route of the Repco rally. All populations in NSW are important (DEWHA 2009 - [http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon\\_id=923](http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=923)) and the Mebbin and Byrill Creek areas support one of the greatest concentrations of records for the species in NSW. The Black Breasted Button Quail forages on the ground and fly at a low level when disturbed. This places the species at great risk of mortality due to road strike, particularly given the very fast speeds that rally vehicles will be travelling.

On the basis of the ecology of the species and the range of disturbances associated with the proposed Repco Rally there is a very high likelihood that significant impact will occur resulting from a reduction in occupancy of an important population at Byrill Creek.



- ***Disrupt the breeding cycle of an important population***

All populations of the Black Breasted Button Quail in NSW are important (DEWHA 2009 - [http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon\\_id=923](http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=923)) and the Mebbin and Byrill Creek areas support one of the greatest concentrations of records for the species in NSW. The Black Breasted Button Quail breeds from September to May, the proposed Repco Rally is therefore during the breeding season and chicks and pre-fledglings are likely to be particularly susceptible to traffic threats.. The Repco Rally is highly likely to create a significant impact on the species due to major disruptions to an important population during the breeding season resulting from:

- multiple helicopter flyovers
  - vehicles with sirens
  - 60 noisy rally vehicles
  - volunteers with airhorns and
  - the cumulative pressures of increased visitation caused by spectators.
- ***Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline***

The Byrill Creek population of the Black Breasted Button Quail is likely to be significantly impacted by the proposed Repco Rally due to the modification to habitat availability and quality to the extent that the species will decline. This level of modification is directly attributable to the high level of disturbance caused by the proposed event including:

- multiple helicopter flyovers
- vehicles with sirens
- 60 noisy rally vehicles
- volunteers with airhorns and
- the cumulative pressures of road increased visitation caused by spectators

this will result in a diminishment of suitable habitat for this species to the extent that a decline is likely to occur.

### **Three-toed Snake-toothed Skink, *Coeranoscincus reticulatus***

Potential impacts on this species have not been considered in the Ecological Assessment for the Repco Rally (Biolink Consultants, 2009). Several records of the highly cryptic Three-toed Snake-toothed Skink exist within the study area defined by Biolink (2009), particularly along the Richmond Range. The Capeen and Peacock stages of the Repco Rally are considered likely to create a significant impact on this species (as follows):

- ***Reduce the area of occupancy of an important population***

Whilst not considered in the Ecological Assessment for the proposed Repco Rally (Biolink, 2009) the Three-toed Snake-toothed Skink is known to occur within habitat surrounding the proposed Capeen and Peacock stages (Wildlife Atlas of NSW). All populations of this rarely encountered and poorly known reptile are important for conservation purposes. The risk of roadkill is high along sections of both the Peacock and Capeen stages and this high potential for mortality, even of single individuals, is considered highly likely to generate a significant impact on the species to the extent that it will lead to a reduction in the areas of occupation of this important population.

- ***Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline***

Proposals to upgrade roads within Richmond Range National Park as part of the Capeen stage of the event, modification and destruction of habitat for the Three-toed Snake-toothed Skink is likely to occur to the extent that a decline in the species will be likely. Increased public traffic throughout the year as a result of improved access will generate a much greater potential for road kill of this species. Furthermore road kill of even single individuals of this species has the potential to isolate and modify the availability and quality of habitat for a breeding population of the species.

- ***Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat***

With proposals to upgrade roads within the Richmond Range National Park as part of the proposed Capeen stage of the event, there is a very high likelihood of a significant impact occurring. This significant impact will result from the high likelihood of invasion of environmental weeds into known areas of habitat, leading to a degradation of habitat values and will be harmful to this vulnerable species.

## **WORLD HERITAGE VALUES**

It is considered that the following impacts are likely to be generated on World Heritage values of several of the Gondwana Rainforests of Australia World Heritage Properties:

- One or more of the World Heritage Values to be lost
- One or more of the World Heritage values to be degraded or damaged
- One or more of the World Heritage values to be notably altered, modified, obscured or diminished.

Many stages of the proposed Repco Rally are recognised as having World Heritage Values and provide critically significant connective values for several Gondwana Rainforests World Heritage Properties that include Mt Warning National Park, Border Ranges National Park and Toonumbar National Parks (eg. Wollumbin, Urliup and Toonumbar stages). These areas are known to support amongst the highest density of threatened species and their habitats in Australia. The Tweed Valley is recognised internationally as a biodiversity hotspot with numerous endemic Gondwanan relict plant species listed on the EPBC Act known to be in great abundance in areas such as Mooball, Round Mt, Byrill Creek and Urliup. The extent of disturbance attributable to the proposed Repco Rally will generate a major impact upon ecosystem function and ecological processes essential to the viability of these areas.

The Richmond Range is known to support the highest diversity of marsupials in the world; this constitutes a factor of international conservation value. The proposed Capeen, Upper Clarence, Toonumbar and Peacock stages all pass through areas recognised as supporting these internationally significant marsupial assemblages. The scale and magnitude of disturbance attributable to the proposed Repco Rally will impact upon essential behaviours of many of these species and adversely impact upon the viability of nationally significant populations of many marsupial species.

### **CONCLUSION ON IMPACTS ON WORLD HERITAGE VALUES**

The proposed Repco Rally event passes through some of the most critically significant landscape linkages for maintaining the ecological viability and functionality of several Gondwana Rainforests of Australia World Heritage Properties such as Mt Warning and Border Ranges National Parks. The scale and magnitude of the proposed event is so great that adverse impacts upon the natural values of these World Heritage reserves are highly likely to occur.

### **CRITICAL REVIEW OF BIOLINK (2009)**

#### **EPBC SPECIES FOR WHICH POTENTIAL IMPACTS WERE NOT CONSIDERED IN BIOLINK (2009)**

Several instances of omissions from consideration of impact on EPBC listed species were identified when reviewing Biolink (2009) namely:

- Long Nosed Potoroo – numerous records from several of the stages, yet no impacts considered;
- Three-toed Snake-toothed Skink – records along the Richmond Range, yet no impacts considered;
- Black Breasted Button Quail – records along Byrill Creek, yet no impacts considered;
- Rusty Rose Walnut – records along the Urliup and Cudgera stages, not identified as a species listed on the EPBC Act.

Without rigorously considering the full range of potential impacts on all EPBC listed species in the study area, the Biolink (2009) study can not reach credible conclusions as to impact.

### **INCORRECT LEGAL AND TAXONOMIC STATUS OF SPECIES CONTAINED IN BIOLINK (2009)**

The legal status of several listed species is incorrect within the Biolink report, for example, the Rusty Rose Walnut (*Endiandra hayesii*) is a species listed as Vulnerable under the EPBC, yet the Biolink study fails to list it as such (Tweed Report – page 38).

The Nightcap Plectranthus (*Plectranthus nitidus*) is listed by Biolink (2009) in the threatened flora table for the Capeen stage as Endangered in NSW, yet not listed as Endangered under the EPBC Act (page 19). When considering EPBC listed flora species (page 29) Biolink (2009) state that it is Endangered. Such inconsistencies reduce the veracity of conclusions as to significance of impact on Matters of National Environmental Significance.

The report of a Stuttering Frog (*Mixophyes balbus*) at Byrill Creek is of great concern given that this site is approximately 80km outside the known range of the species. The closely related Fleay's Barred Frog (*Mixophyes fleayi*) is known from this catchment.

Without ensuring that legal and taxonomic status of listed species is correct, the Biolink (2009) study can not reach credible conclusions as to impact.

### **GENERAL CRITIQUE OF BIOLINK (2009)**

#### **VERY LIMITED REVIEW OF POTENTIAL IMPACTS**

The focus on road kill risk to such a limited number of species is of great concern. For species such as the Three Toed Snake Toothed Skink, Albert's Lyrebird and Black Breasted Button Quail known to forage and move close to ground level there is a great risk to their survival that is completely unaddressed in the Biolink report.

The focus on road kill risk in Biolink (2009) is a very limited scope of assessment of the likelihood of significant adverse impacts on listed species known to occupy habitats at the various proposed stages. In only focusing on direct road kill risk there are a substantial number of other impacts that have not been considered including (but not limited to):

- the high levels of disturbance created by numerous helicopter flyovers, vehicles with sirens, people with airhorns and 60 noisy rally vehicles during the peak breeding season of many bird, mammal and amphibian species to the extent that breeding events may be aborted or fledging success impacted (eg. Grey-headed Flying-fox, Black Breasted Button Quail, Albert's Lyrebird) or major disruptions to population viability and social structure generated

- the great potential for contamination of waterways with sediments mobilised by the rally vehicles, specifically dust in the event of dry weather and muddy runoff in wet weather with resultant adverse impacts on nationally listed species.

A myriad of other impacts could be expected to occur should the rally proceed including:

- direct strike mortality;
- disturbance impacts leading to social disruption;
- sedimentation and major water quality impacts during wet weather;
- introduction of weeds and pathogens;
- loss of viable populations of threatened fauna.

### **CUMULATIVE IMPACTS OF MULTIPLE EVENTS**

The Biolink (2009) Ecological Assessment has merely considered a “one-off” event. The proposal is for events bi-annually. The cumulative impacts of staging a series of events will act to magnify impacts considerably and given the staging of the proposed event during September at the peak breeding season or many rare, threatened and sensitive species this cumulative impact is great cause for concern. This applies equally to the likely substantial increase in motor vehicle usage in the area attributable to the rally and follow-up visitation.

### **CRITICAL REVIEW OF CONCLUDING DISCUSSION AND RECOMMENDATIONS CONTAINED IN BIOLINK (2009)**

The Biolink (2009) Ecological Assessment has not rigorously and robustly assessed the ecological significance of the study area because:

1. It has not reviewed nor determined the risk to all elements of the lifecycle of all EPBC listed species known to occupy many of the proposed stages;
2. It entirely lacks literature or data to support the very limited number of ameliorative actions proposed and their purported efficacy;
3. The lack of a robust and detailed review of all impacts likely to be generated by the event.

Therefore the conclusions reached as to a lack of significant impact upon EPBC listed species are considered invalid.

Substantial deleterious impacts on EPBC (and TSC) listed nocturnal, crepuscular, fossorial and hollow dependent fauna species are highly likely to occur resulting from the imposition of helicopters, sirens, rally vehicle noise and general spectator pressure within areas of known habitat during the known breeding season of species such as the Marbled Frogmouth, Giant Barred Frog, Fleay’s Barred Frog, Black Breasted Button Quail, Stephens Banded Snake, Coastal Planigale and numerous listed microbat species.

### **RALLY DETERRENT FACTOR**

The conclusion arrived at by Biolink that the use of numerous vehicles with sirens, helicopters, numerous people with hand-held sirens and 60 loud rally vehicle movements

will act as a meaningful and functional deterrent to fauna is, in the opinion of the author, a gross under-representation of likely significant impacts and not supported by any literature. To the contrary for EPBC listed species such as the Alberts Lyrebird, Black Breasted Button Quail and Spotted Tailed Quoll in locations such as Urliup, Byrill Creek, Capeen and Peacock Creek this high level of disturbance has great potential to frighten and alarm these sensitive species leading to increased risk of mortality and a significant disruption to social structure and normal foraging behaviour and movement patterns.

## **GENERAL COMMENTS**

### ***Cut and Paste Errors***

Concerns over the use of “Cut and Paste” abound and raise serious questions as to the veracity of the contents of the report. Examples of this include:

- a) page 100 *Section 5.9* a section stating the conclusion and statutory determinations of impacts for “Mooball” when it should seemingly read “Round Mountain” and
- b) Continual mention of the Olive Whistler at lower elevation sites is considered of concern; a cursory review of NSW Wildlife Atlas records indicates that this species is exclusively recorded at high elevation in the Northern Rivers region (eg. Bar Mountain, Border Ranges National Park and Mt Burrell, Nightcap National Park).
- c) To repeatedly only mention *Cissus* sp as good/potential forage for Fruit Doves (*Ptilonopus* spp) is a massive under-representation of the value of the diverse resources of fleshy-fruit bearing rainforest species in these areas to these species.

### ***Lack of utilisation of pre-1980 records***

The use of only use post 1980 records is questioned. Many species such as the Rufous Bettong and Brush Tailed Phascogale may be reduced to populations constituting the final few individuals in the Tweed Valley. Such species are exceptionally difficult to survey for, and to determine their presence.

The proposed Repco Rally has great potential to adversely impact on occurrences of these few remaining individuals (as well as the large number of threatened species known to inhabit the Tweed Valley and Richmond Valleys) including through:

- direct strike mortality;
- disturbance impacts leading to social disruption;
- sedimentation and major water quality impacts during wet weather;
- introduction of weeds and pathogens;
- loss of viable populations of threatened fauna.

### ***Descriptions of Vegetation Communities in each of the stages***

Each proposed stage is unique in terms of vegetation communities, listed species, landscape characteristics, hydrology and sensitivities. The descriptive methods employed within Biolink (2009) for each stage do not provide an adequate description of vegetation

communities in the context of bioregional conservation status (an accepted standard of depiction of vegetation communities in ecological assessments. The existence of numerous vegetation communities listed under the NSW Threatened Species Conservation Act (1995) has not been detailed. A cursory inspection of vegetation mapping prepared for Tweed Shire Council confirmed this to be the case.



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