New South Wales Government
Independent Planning Commission

| **MATTHEW BAILEY** | | **OBJECT** | Submission ID: 216102 |
|---|---|---|---|
| Organisation: | *N/A* | Key issues: | *Biodiversity,Traffic,Other issues* |
| Location: | *New South Wales* | | |
| Attachment: | *Attached overleaf* | | |

Submission date: 11/20/2024 1:35:02 PM

*Dear Independent Planning Commissioners,*

*My name is Matthew Bailey, I am a consulting ecologist of 29 years experience with undergraduate and post graduate qualifications in Environmental Science. I am also a NSW Biodiversity Assessment Method accredited assessor under the Biodiversity Conservation Act 2016 (BC Act). I reside in nearby Karuah and I am familiar with the local area.*

*I was invited by Megan Benson of Gloucester Environment Group and Jo Lynch of Hunter Community Environment Centre to review, comment and provide a submission regarding the Stone Ridge Quarry Proposed for Wallaroo State Forest in my capacity as a consulting ecologist.*

*My submission regarding this proposal is provided in the attached submission document.*

[redacted]

13th November 2024

NSW Independent Planning Commission
Level 15, 135 King Street
SYDNEY NSW 2000

**Re: State significant development application (SSD-10432) for the Stone Ridge Quarry project**

Dear Independent Planning Commissioners,

My name is Matthew Bailey, I am a consulting ecologist of 29 years' experience with undergraduate and post graduate qualifications in Environmental Science. I am also a NSW Biodiversity Assessment Method accredited assessor under the *Biodiversity Conservation Act 2016* (BC Act). I reside in nearby Karuah and I am familiar with the local area.

I was invited by Megan Benson of Gloucester Environment Group and Jo Lynch of Hunter Community Environment Centre to review, comment and provide a submission regarding the Stone Ridge Quarry Proposed for Wallaroo State Forest in my capacity as a consulting ecologist. As I am away working in the south of NSW at the time of the IPCN meeting I have provided this letter submission to Jo Lynch to present in full or part at the meeting.

I am aware that the Stone Ridge Quarry proposal is one of ten hard rock quarries either approved or proposed in a concentrated area, centred on a locality including Balickera, Karuah, Seaham, Eagleton, Limeburners Creek, Booral and Martins Creek. There is however no overall planning proposal for this lower hunter/mid coast area to be developed into an intensive hard rock quarry zone to my knowledge. Instead, each individual proposal is being assessed separately, on an ad hoc basis, with little to no regard to cumulative biodiversity impacts.

The Cumulative Impact Assessment Guidelines for State Significant Projects (DPIE, 2022) are part of the NSW Government Rapid Assessment Framework introduced in 2021, aimed at improving the assessment of state significant projects in NSW. The Stone Ridge Quarry EIS makes a very limited cumulative assessment including nearby Eagleton and Boral Seaham Quarries however the statutory BDAR makes no cumulative assessment. The nearby Eagleton Quarry EIS made a very minor assessment on the cumulative impacts of dust, noise and local traffic only. The Eagleton BDAR (and EIS) made no assessment at all of Eagleton Quarry truck movements on the M1 Pacific Highway and their indirect impact through roadkill/vehicle strike on the local population of Koalas nor a cumulative impact assessment. The Boral Seaham Quarry EIS and BDAR has attempted to make a cumulative assessment under the NSW DPIE guidelines however it only considers the nearby Eagleton, Stone Ridge and Kings Hill developments.

A proper and full assessment of the impacts of each proposal requires an assessment of existing and accumulating impacts in the local area so that a precise baseline is established. This is especially important with regard to the cumulative high number of daily truck movements and the cumulative indirect impact (indirect impacts are referred to as indirect consequences under the Environment Protection and Biodiversity Conservation (EPBC) Act 1999) of these on koalas and other native wildlife via roadkill and vehicle strike. It is a requirement under the EPBC Act that all direct and indirect consequences (impacts) are identified. In addition, the NSW Biodiversity Conservation Act 2017 (BC Act) hierarchy of avoid, minimise and offset can only be properly and effectively applied to all impacts, both direct and indirect if they are first identified.

**It has been established that mining can have both direct (habitat clearance) and indirect impacts (roadkills) on Koala populations.** Scientists from Central Queensland and Griffith Universities and CSIRO have discovered that many koalas (145 counted in 2023) are killed along a 51-km stretch of highway in Central Queensland because of the high volume of traffic, much of which is going to and from the 48 active coal mines in the Bowen Basin. The high death toll is clearly an indirect consequence of mining operations (Schlagloth et al 2024).

I have reviewed the Stone Ridge Biodiversity Development Assessment Report (BDAR). My recommendation to the IPCN is to reject the Stone Ridge Quarry proposal for the following reasons:

1. **The Stone Ridge Quarry blasting impacts on the resident threatened microchiropteran bat populations in the Balickera canal have not been properly assessed and nor has an impact assessment been undertaken in consideration of the cumulative blasting impacts of the nearby Boral Seaham and Eagleton Quarries.**

   The Stone Ridge Quarry BDAR relies on a blasting subconsultant analysis who is not an ecologist and uses a blasting vibration threshold obtained from a 2015 Western Australian bat study. It is not clear if this study is at all relevant to the species present in Balickera canal.

   The blasting consultant report points to the anecdotal observed tolerance of blasting by native species such as kangaroos as evidence that blasting is tolerated by native wildlife. However, bat species are known to be sensitive to both noise and vibration and this includes the three species of micro bat recorded in Balickera canal with Southern Myotis known to abandon pups due to stress associated with noise and vibrations.

   The establishment of a monitoring program is mentioned so that any impacts can be found and then mitigated. **The details of this theoretical monitoring program should be detailed within the BDAR given its importance to mitigate impacts on bat species present in Balickera canal. It is essential to know that the canal entrances are monitored in real time so that work can be stopped immediately should micro bats be observed leaving the canal roost in large numbers during the day or in response to a quarry associated activity.**

   Given blasting occurs in the nearby Boral Seaham Quarry monitoring of the effects of blasting on micro bat species using Balickera canal could have already begun and informed the BDAR with relevant study data rather than relying on assumptions, supposition and broad comparisons. This would have allowed a baseline of vibration and noise from both blasting and truck passage to be established and a quantification of what is already tolerated by the resident micro bat populations and an understanding of their behavioural changes or response to blasting and vibration regimes via thermal cameras placed within the canal. Given that blasting activities associated with the Stone Ridge proposal may overlap with the adjacent Boral's Seaham Quarry and proposed Eagleton's Quarry the existing baseline vibration and noise in Balickera canal needs to be quantified as does the cumulative impacts of all three quarries.

   While the Stone Ridge Quarry BDAR and Blasting sub-report recommend that ongoing liaison and interaction between quarries is developed to avoid the possibility of concurrent blasts. This should not be left up to the respective quarries to voluntarily develop and implement on their own. This needs to be overseen by an independent body and the agreement between the quarries negotiated prior to approvals (and later set out in the conditions of approval if approved) for quarries so that there is an acceptable level of certainty with regard to how these impacts will be managed given the potential catastrophic outcome for resident threatened micro bat species.

   Balickera canal is a significant location for microchiropteran bats, with three of the species roosting there listed as 'Vulnerable' under the NSW BC Act 2016. It is home to one of the most substantial roost sites in NSW for the Little Bent-winged Bat (*Miniopterus australis*). It also supports 2% of the Southern Myotis (*Myotis macropus*) population, providing roosting and breeding habitat and is also used by the Large Bent-winged Bat (*Miniopterus orianae oceanensis*) (ELA 2021).

   **The lack of detail as to how the risks to the three Vulnerable micro bat species roosting in Balickera canal will be managed creates uncertainty such that the risk is unacceptable. This is**

**because the potential outcome for these micro bat species is so catastrophic.** For the breeding population of threatened Southern Myotis this risk is the abandonment of a generation of young and the abandonment of a breeding roost or being forced to find another breeding roost that may or may not be within the environmental parameters of a breeding roost and the possible loss of another generation of young. Abandonment of roost by adults during daytime would be a catastrophic event. For the threatened species Little Bent-winged Bat and Large Bent-winged Bat, for which the canal represents roost habitat only, there is the risk of roost abandonment. Should this occur during daylight it would be potentially catastrophic for these populations. Roost abandonment at night would be slightly less catastrophic however these populations would be forced to find another roost that meets their highly specific roost requirements. **The level of uncertainty regarding impacts and mitigation strategies warrants the application of the precautionary principle especially because the worst-case outcomes for these populations are so catastrophic.**

2. **The Stone Ridge Quarry indirect impacts on the Endangered Koala via the projected truck movements on the M1 Pacific Highway haulage route have not been assessed which is a major oversight and nor has an impact assessment been undertaken in consideration of the cumulative impacts of all nearby Quarry and urban expansion projects (both current and planned) with respect to the BC Act (2017) and the EPBC Act (1999). This oversight is likely to result in long-term irreversible effects on the local koala population.**

   In contrast to the Stone Ridge Quarry BDAR, the Boral Seaham BDAR identifies the indirect cumulative impact increase in traffic along the local roads, including Italia Road and M1, from nearby projects and therefore a cumulative increase in potential for fauna strike by vehicles travelling along these roads is recognised. **Vehicle strike and roadkill is regarded as a significant impact on Koalas. Mortality by vehicle strike is a significant threat to Koalas and is particularly prevalent along transportation routes which occur in proximity to Koala habitat (DAWE 2022).** While the Eagleton Quarry and Boral Seaham Quarry are stated as considered in cumulative traffic assessment reports these are with respect to traffic planning and not biodiversity impacts for Stone Ridge Quarry.

   In 2020, the NSW Government DPIE estimated 3500 koalas were killed by vehicles on NSW roads between 1980 and 2018, and that Port Stephens was among four LGA's with the highest number of koalas killed on roads during Spring season. These numbers killed are likely an underestimate because many koalas injured or killed by vehicles are unlikely to be reported. Given the controversy in the local community around some of these Quarry developments it is unlikely that Quarry truck drivers would report any Koala roadkills. An analysis of Bionet Koala records over the proposed haulage route for Stone Ridge, Eagleton and Boral Quarries (Italia Road to Southern Karuah exit) extended to the northern Karuah exit on the M1 Pacific Highway so that the hard rock quarries located there are also included shows twenty-four Koala roadkills at five relevant clusters:

**Table 1: NSW Bionet Koala roadkill records November 2024**

| | Itala Road and M1 Intersection | Medowie Road and M1 Intersection | The Bucketts Way Intersection | Karuah South Interchange | Karuah North Interchange |
|---|---|---|---|---|---|
| **Road Kills 1989-2005** | None reported | 3 | 3* | None reported | None reported |
| **Road Kills 2006-2016** | None reported | 2 | 2 | None reported | 1 |
| **Road Kills 2017-2024** | 1 (2017) | 3 (2017-2018) | None reported | 6 (2017, 2018 x 2, 2024^) | 3 (2020, 2023 x 2) |
| **TOTALS** | **1** | **8** | **5** | **6** | **4** |

*Female and Joey counted.

^Local Karuah community record, healthy young male deceased on the M1 at the southern Karuah exit, 11/10/2024 reported to WINC.

The cumulative impacts of the ten new or expanding quarries in the Lower Hunter are estimated to generate up to 5000 truck movements per day on the rural roads leading to and including the Pacific Highway between Raymond Terrace and Karuah (HCEC 2024). This must be considered within the context of continually increasing traffic volumes.

MidCoast and Port Stephens Councils together with NSW and Federal MPs have acknowledged the need for the intersections at Bucketts Way and Medowie Road to be upgraded to interchanges so that safety concerns at current traffic levels are addressed but also to cater for future (non-quarry) regional development. These intersections, as they currently are, also represent a significant risk for Koala vehicle strike as evidenced by the roadkill clusters (see Figure 1, at document end).

The haulage route as proposed by Stone Ridge Quarry and used by other quarries is not fit for purpose, never designed for this volume of truck movements, with the current Medowie Road, Bucketts Way and Italia Road intersections unsuitable and dangerous for the current level of road users and wildlife. Both the northern and southern Karuah interchanges are old infrastructure and also unfit for the purpose of high-volume industrial quarry truck movements together with urban residential traffic and holiday traffic. The wildlife exclusion fencing at these Tarean Road interchanges is old, dilapidated in places and is incomplete along the haulage route proposed.

**Table 2: Actual and potential quarry related heavy vehicle movements**

| | |
|---|---|
| Stone Ridge | 334 truck movements per day (30 Light Vehicles movements per day) |
| Brandy Hill | 600 truck movements per day with the extension |
| Boral Seaham | 800-900 truck movements per week which may double if extension approved |
| Eagleton | 170 truck movements per day |
| Limeburners Creek | Up to 155 truck movement per day |
| Bucketts Way | Up to 300 truck movements |

**(Koala Koalition Econetwork Port Stephens Inc. 2023)**

**The Stone Ridge Quarry BDAR uses the 2002 Port Stephens Council CKPoM koala habitat mapping which is considered outdated data.** Most of the proposed Stone Ridge Quarry site (and that of the Port Stephens LGA west of the M1 Pacific Highway) is mapped as Marginal Habitat with some smaller patches of Preferred Koala Habitat by this mapping. However, the canopy tree species recorded on the proposed quarry site include seven known Koala feed trees including the primary Koala feed tree species Forest Red Gum (*Eucalyptus tereticornis*). Just across Italia Road, Boral found twenty four out of thirty-one sites surveyed by Koala detection dog showed evidence of Koalas. The NSW Department of Planning, Industry and Environment (DPIE 2019) Koala Habitat Suitability Model mapping undertaken as part of the NSW Koala Strategy shows the Stone Ridge Quarry site as having mid to high Koala Habitat probability. Validation of this dataset in the Northern Rivers region of NSW by Dr Jo Green found it to have a high level of accuracy. The NSW Koala Habitat Information Database resource offers the best available spatial data on koala distribution, koala preferred trees and koala sightings for NSW. **A BDAR is expected under law to use the best available datasets.**

In 2023 Dr Ryan Witt (wildlife conservation scientist) undertook a thermal drone survey of Wallaroo SF and detected a low-density koala population. Dr Witt has also undertaken broader thermal drone surveys across the Port Stephens LGA and these surveys show for the entire landscape to the west of the highway a low-density Koala population is present. Dr Witt has also evaluated the health of a nearby, but connected population, and it showed a high level of chlamydia. This is a stressor on this population of Koalas and is often symptomatic of other environmental stresses koalas are experiencing such as habitat loss.

**The long-term viability of Koala populations can be particularly sensitive to slight changes in mortality rates.** For example, Phillips et al. (2007) concluded, based on a population viability analysis, that a small increase in the mortality rate of 2–3 % (as a function of total population size) from road mortality would lead to population decline in an otherwise demographically stable Koala population in south-eastern Queensland. **For the low-density population of Koalas occurring west of the M1 Pacific Highway (and the likely low-density population occurring within 6 kilometres east of the M1 Pacific Highway from Karuah to Raymond Terrace) just one or two Koala mortalities from vehicle strike per year may lead to a population decline.** Where the Koala impacted is a female this may have an even more profound effect on the viability of a population, disrupting the breeding cycle of a population. Mature males are increasingly at risk as they have larger home ranges and increased mobility during the breeding season. Young males typically disperse more frequently and over larger distances than their female counterparts and the removal of subadult males by vehicle strike has the potential to critically disrupt geneflow. Preece (2007), who modelled threats to koalas in SE Queensland, concluded that urban koala populations will not be able to withstand the high rates of anthropogenic mortality, such as roadkill, in addition to natural mortality with the result being localised extinctions. **If a koala population is already under severe stress, then the addition of extra major stressors (e.g. clearing of habitat for multiple quarry developments, corridor/movement routes disrupted and elevated vehicle strike arising from increased truck movements) may significantly contribute to the catastrophic decline of that local population.**

The Stone Ridge Quarry BDAR stated that no koala breeding activity has been observed within the quarry Development Footprint and it is therefore considered that the Project is not likely to disrupt the breeding cycle of a population of this species. **However, the Stone Ridge koala survey was extremely limited and it is not known if Koalas breed within the project area and disturbance footprint.** They certainly do in the broader area from Raymond Terrace to Karuah either side of the M1 Pacific Highway as female Koalas with joeys have been recorded. This area alongside the proposed haulage route will be impacted by increased truck movements both from the Stone Ridge Quarry proposal but also the cumulative truck movements of all quarries in this area and are likely to increase the incidence of Koala roadkill. **This has the potential to disrupt the breeding cycle of this population of Endangered koala. This has not been evaluated nor the impact of increased vehicle strike for the Koala along the haulage route (including Italia Road and M1) in the EPBC referral regarding the Commonwealth MNES significant impact on the Koala prepared by the Stone Ridge Quarry consultants. In this respect the Stone Ridge Quarry EPBC referral is flawed and incomplete. Any approval on this basis maybe successfully challenged in court.** Sub-section 75(2) of the EPBC Act requires that the Minister responsible for administering the EPBC Act or their delegate (the Minister) when deciding whether an action is a controlled action, consider 'all adverse impacts (if any)' the action has, will have, or is likely to have, on protected matters (DSEWPC 2013). **This includes both direct and indirect consequences (impacts) of the action.**

The Boral Seaham expansion BDAR has identified an increased risk of vehicle strike on native ground fauna, including the Koala, though it failed to identify the increased risk of vehicle strike along the entire haulage route in a serious oversight. However, in regard to the identified increased risk of vehicle strike on Italia Road, Boral proposes to investigate the installation of artificial connectivity measures to establish and or maintain connections between habitat and favoured movement corridors. This may be in collaboration with other quarry developers in the surrounding area and may include fauna underpasses, utilizing existing culverts, on Italia Road stated Boral in their BDAR.

Though Boral make no commitment to such mitigation measures, this recognition, along with the statement with regard to impacts that there will be an increase in traffic along the local roads, including Italia Road, from all projects and therefore a cumulative increase in potential for fauna strike is in stark contrast to the BDAR by Stone Ridge Quarry which makes no recognition of this significant indirect impact.

**The Senate committee (Commonwealth of Australia 2011) has recommended that where the Australian Government provides funding for roads or other infrastructure in or adjacent to koala habitat, it be contingent on the provision of adequate koala protections (Shumway *et al.* 2015).** Another recommendation was that the Australian Government work with the states to develop new national guidelines to ensure that all new roads and upgrades in or adjacent to koala habitat are koala-friendly. Roadkill is an ever-present threat to koalas across their entire range in NSW. We can expect that the use of vehicles will steadily rise with the increasing human population size, and that koala habitat will continue to be lost, or fragmented, with more and more developments and thus more roads and road upgrades. The consequence is that koala roadkill will remove an ever-increasing proportion of what is recognised as a decreasing koala population in NSW (Adams-Hosking et al. 2016). Koalas are an endangered species in Australia, with vehicle strike a key threatening process and one that can quickly disrupt a low-density population. Yet it is not too difficult to mitigate koala roadkill (Lunney D *et al.* 2022).

Koala populations are not only affected directly by vehicle strike, but also by the fragmentation effect that roads have on habitat. Roads can have a significant barrier effect for wildlife, resulting in increased fragmentation of both habitat and populations. Habitat fragmentation forces koalas to travel more frequently to sustain themselves, therefore increasing the risks of vehicle strike or dog attack while on the ground. It is imperative that regional wildlife movement solutions, around and across roads, are appropriately planned and implemented ahead of time (i.e., during initial construction/developmental expansion), if they are to serve as effective mitigation for remaining local koala populations.

**The Stone Ridge Quarry BDAR and EIS contain no such mitigation strategies for vehicle strike and habitat fragmentation impacts arising from their proposal as well as cumulative impacts and what analysis of Koala impacts is provided is based on outdated data.** The Stone Ridge BDAR provides only the following mitigation strategy for koala vehicle strike on Italia Road: *the implementation of a driver code of conduct which will include a reduced speed limit for trucks travelling to and from the quarry and limitation of hours of operation to daylight hours*. This should be regarded as completely inadequate and not a genuine mitigation strategy.

A recent example where roadkill impacts on the Koala have not been effectively avoided or mitigated comes from Appin Road in South West Sydney, particularly at the northern end where the Mt Gilead development is sited. The low-density Campbelltown Koala population is the only known chlamydia free population in NSW. Appin Road bisects critical habitat between the Nepean and Georges Rivers, which poses an existing significant threat to Koalas significantly increased by the proposed Appin Road upgrades, those associated with the Mt Gilead development and the associated increasing traffic volumes. Despite expert advice given to the NSW Minister for Roads by Koala ecologists that overpasses must be constructed prior to the Appin Road upgrades and the initiation of the Mt Gilead development, no mitigation measures were put into place. In total 46 koalas have been killed on Appin Road since 1st January 2022. Over 30 Koalas were killed in just over a year which represents approximately 10% of the local population. This is a catastrophic loss placing this population at serious risk of further declines.

Recently Port Stephens Council has partnered with State & Federal agencies, and key local stakeholders to deliver significant outcomes for the local Koala population. To this end the following Council projects have been initiated:

- Koala Vehicle Strike Mitigation Project
- Koala Dietary Content Study
- Vegetation Mapping Update
- Koala Habitat Mapping Update

The current understanding of the Port Stephens Koala population is that there are two different population types:

- Eastern – An urbanised population utilising wetland-based habitats with smaller home ranges.
- Western – Utilising forest and open woodland habitats with larger home ranges.

Port Stephens Koala Population represents an Area of Regional Koala Significance (ARKS) under NSW Koala Strategy. The following threats to this population have been identified as increasing: bushfire, disease, vehicle strike, habitat removal and modification. Significant population declines have been reported by scientists and carers. **It is also understood that local offsets & appropriate mitigation are critical for local populations.**

The $1.5 million Koala Vehicle Strike Mitigation Project, funded by and delivered in partnership with the NSW Koala Strategy aims to reduce Koala fatalities along one of the worst Koala vehicle-strike locations in NSW (Port Stephens Drive), whilst maintaining or improving connectivity. This project has delivered:

- 4 km of Koala-proof fencing
- 850m of retrofitted Koala-proof fencing to existing fencing
- 1 x 20m Koala underpass
- 3 x Koala grids
- Koala escape structures

**For the low-density Western Port Stephens Koala population, it is essential that both the individual and cumulative direct and indirect impacts of the multiple quarry developments are clearly quantified especially those of habitat loss, connectivity loss and the indirect impact of increased vehicle strike risk as there is a serious risk of further declines, local population collapse and extinction. The Stone Ridge Quarry proposal avoids none of these impacts and the mitigations offered are severely lacking, in part no doubt due to the proposal impacts on the koala population not being fully assessed and that a cumulative impact assessment is lacking.** All quarry proposals in the local area should be in alignment and consistent with the Port Stephens Council Koala projects currently underway, the NSW Koala Strategy and broader assessments to understand Koala movements and corridors.

3. The Stone Ridge proposal is within State Forest, an area of climate refugia which presently hosts habitat for threatened species including the Koala, Squirrel Glider and Brush-tailed Phascogale. **With a direct impact footprint of 68.2 hectares this will reduce bushland connectivity in both an identified Regional Biodiversity Corridor, and an area of three overlapping Climate Corridors mapped as essential to the survival of threatened species to escape the effects of climate change.**

4. **The Stone Ridge proposal will increase disturbance impacts and increase pinch points along the Balickera Tunnel land bridge.** This is detrimental to the movement of a wide range of fauna including threatened species such as the Koala, Brush-tailed Phascogale and Squirrel Glider. Appropriate mitigation measures such as: the construction of a new section of land bridge over the Balickera Canal to facilitate fauna movement (particularly to the south-east of the tunnel portal), Fauna underpass at Italia Road, Glider bridges or poles, signage and road markings for koala crossings to enhance driver awareness and mitigate impacts and an enforceable lower speed limit on Italia Road have not been provided in the Stone Ridge proposal.

5. **The Stone Ridge proposal has undertaken no broader analysis or study to understand Koala movements in the local area.** Habitat loss of 68.02 hectares and impacts on connectivity arising from the Stone Ridge proposal together with cumulative impacts arising from other quarry and urban development proposals have not been assessed with regard to the potential for the project to further impede gene flow from Koalas south of Italia Road to the Kings Hill population and the impact that this is likely to have into the future. The primary connection for the King Hill Koala population is the land bridge over the Balickera Canal. Koalas moving Northeast and south west across habitat either side of Italia Road will be forced to move in habitat closer to the M1 Pacific Highway due to the location of the proposed Stone Ridge Quarry. Cumulative and direct impacts on the Western Koala population are potentially significant. The Stone Ridge proposal should thoroughly evaluate the broader impacts on the region's biodiversity, especially as other developments are currently under assessment. Consideration of the proposed footprint and cumulative effects on the region's biodiversity is essential. Cumulative and direct impacts on the Koala population could be substantial.

6. **Wallaroo State Forest was last logged in 1986 and is increasing in structural diversity and habitat value year by year for a suite of species including the threatened Koala, Brush-tailed Phascogale and Squirrel Glider recorded on site. It also provides habitat for a substantial population of the threatened Rustyhood orchid.** Wallaroo State Forest provides important habitat as well as ecosystem services such as clean water and carbon storage which are vital in a climate crisis. The location of the proposed Stone Ridge quarry means that there will be a large hole of approximately 650m wide by 1200m long within a corridor of approximately 2500 width along the western side of the M1 Pacific Highway. This significantly comprises this corridors functionality. The location of the footprint will also compromise the entire surrounding forest of Wallaroo State Forest through the indirect impact of dust accumulation and other edge effects including weed invasion resulting from the placement of a large, cleared hole, 650m x 1200m within otherwise intact, maturing forest.
7. **The Stone Ridge proposal lacks adequate monitoring and additional offsetting for uncertain impacts, such as changes to vegetation structure and composition resulting from groundwater drawdown, hydrological impacts and habitat suitability reduction from blasting, vibration and dust accumulation.** Comprehensive baseline surveys of vegetation condition, Rustyhood Orchid, Koala, Squirrel Glider and Brush-tailed Phascogale populations are required before commencement of works and ongoing for the life of the development however this has not been provided for in the proposal.
8. **No Stewardship site proposal on adjoining lands within Wallaroo State Forest has been put forward by the proponent. Therefore, no certainty is provided for the protection of adjoining habitat and habitat connectivity which could potentially adequately offset the project locally and mitigate some of its impacts. This should be considered a significant issue with this proposal and any other quarry proposal.** The establishment of the offset Stewardship site or lodgement of the Biodiversity Stewardship Site Assessment Report (BSSAR) should occur simultaneously with the BDAR lodgement. This would prevent quarry proponents from later contesting conditions of consent in court post development approval and ensure there is local habitat conservation to offset proposals. Alternatively, the nomination of the proposed Stewardship site within the local area in the development application phase would allow this to be included in the conditions of consent for projects and also provide the public with some certainty that local biodiversity is protected from further development. To ensure such conditions of consent are undertaken they could be secured by a bond arrangement equivalent to the cost of purchase and establishment of a BSSAR offset property.
9. **No cumulative impact assessment has been undertaken by the proponent, under the Cumulative Impact Assessment Guidelines for State Significant Projects (DPIE, 2022).**
10. **68.02ha of native vegetation is to be cleared within Wallaroo State Forest in the greenfield Stony Ridge Quarry proposal compared to 32.03 ha in the greenfield Eagleton Quarry Project (approved) and 26.74 hectares of native vegetation in the (existing quarry) Boral Seaham proposal. This comparatively high level of native vegetation and habitat loss within public land in the Stone Ridge Quarry proposal is unacceptable and warrants rejection on that basis alone so that such a loss can be avoided. Avoidance of loss has been established as paramount under NSW case law.**
11. There are other impacts such as water draw down and aquifer changes in relation to Groundwater Dependant Ecosystems which maybe significant cumulatively but are beyond the scope of this review. Their absence from this letter review should not indicate that they are not a significant issue.

**<u>Other current and future quarry proposals for the Lower Hunter area</u>**

**I recommend a moratorium on any further quarry developments in the local area be immediately imposed by the NSW Government** till an appropriate overarching strategic planning and conservation body is formed with the capacity to adequately consider the cumulative impacts and other planning and conservation considerations arising from both quarry developments and urban residential developments planned for this Lower Hunter local area. I recommend this for the following main reasons;

1. **So that the current BC Act amendment bill before NSW parliament comes into effect and therefore can be properly applied for net positive outcomes.**
2. **So that cumulative impacts can properly be assessed across all proposals** and the hierarchy of avoid, minimise and offset can be properly and effectively applied. Importantly the cumulative losses of native vegetation, threatened species habitat and habitat connectivity can be assessed fully. **The native vegetation losses already approved in the Eagleton Quarry Project together with those of the Boral Seaham Quarry proposal and Stone Ridge are unacceptable and are inconsistent with avoiding biodiversity loss. Vegetation loss associated with the other seven or more quarry proposals are similarly inconsistent with State Government objectives of avoiding biodiversity loss.**
3. **So that Quarry proposals can be assessed on a comparative basis across the local area allowing, for example, greenfield applications to be ranked least desirable.**
4. **So that a standardised approach for the requirement of Stewardship sites in the development application phase be formulated so that offsets are adequate <u>in the local area</u>, important habitat protected and habitat connectivity also protected <u>in the local area</u>.**
5. **So that both the Vegetation Mapping for Port Stephens LGA project and the Updated Koala Habitat Mapping Project can be completed.**
6. **So that the 2002 Port Stephens Koala Plan of Management can be urgently updated as it is out of date.**
7. **So that the significant impact of vehicle strike on Koalas along the M1 Pacific Highway between the northern Karuah on/off ramps and Italia Road be properly addressed before any further developments are approved which will increase traffic volumes.** As part of this wildlife overpasses, underpasses and Koala proof fencing are urgently required to allow Koalas safe movement for Koalas east/west across the M1 Pacific Highway and across Italia Road. These should be designed and constructed together with the necessary Italia Road, Medowie Road and Bucketts Way intersection upgrades. This would also benefit other species including the threatened Brush-tailed Phascogale and Squirrel Glider which are recorded in the local area and on many of the various Quarry proposal sites.

**Stone Ridge Quarry proposal and other local Quarry proposals in relation to the BC act amendment**

The BC Act establishes a hierarchy for dealing with the impact of development on biodiversity values, firstly by way of avoidance of impacts, secondly by minimisation of them and for offsets as the last resort. The development industry has been placing primary reliance on offsets and this has been a key criticism of the BC Act.

In recent years the primacy of avoidance of impacts on biodiversity values has been well established in NSW case law.

In Tomasic v Port Stephens Council [2021] NSWLEC 56 (Tomasic) Preston CJ set out the regulatory framework created by the BC Act and stated that:
169. … *The biodiversity mitigation hierarchy requires, in order, avoiding impacts, minimising impacts and only then offsetting or compensating for residual impacts that remain after all steps are taken to avoid or minimise these impacts. The proposed subdivision fails to take all appropriate avoidance and minimisation measures.*

In Planners North v Ballina Shire Council [2021] NSWLEC 120 (Planners North) Preston CJ in asserting the primacy of avoiding impacts focused on the primacy of the provisions of the BC Act over Part 4 of the Environmental Planning and Assessment Act 1979 to the extent of any inconsistency. Preston CJ's decision in *Planners North* also carried implications for the criteria by which impacts can constitute a serious and irreversible impacts (SAII) as defined in the Act.

Following the independent statutory review by Dr Ken Henry into the Biodiversity Conservation Act 2016

the Biodiversity Conservation Amendment (Biodiversity Offsets Scheme) Bill 2024 was introduced in August this year by the State Government. This bill is currently in its review phase before being passed in NSW Parliament. While under the BC Act a 'framework' to avoid, minimise and offset the impacts of proposed development and land use change on biodiversity has been established, the Act does not explicitly refer to a hierarchy. This amendment would recognise the hierarchy that the previous Case Law examples from the NSW Land and Environment Court have been applying in practice. The proposed 'avoid, minimise and offset hierarchy' would require proponents to take '*all reasonable measures*' to avoid or minimise impacts, whereas biodiversity assessment reports will need to assess '*genuine measures*'.

Another significant reform to the BC Act is that the Biodiversity Offset Scheme is to transition to delivering an overall **net positive** outcome over time. This is a departure from the current approach in the BC Act of 'no net loss' and carries with it an emphasis on restoration and repair of environmental values.

If all ten quarry proposals were considered together as a cumulative proposition for the local area and the same hierarchy of avoid, minimise and offset be applied it is likely that greenfield quarry proposals like that of Stone Ridge would likely be rejected in favour of considering proposals which expand existing quarries or proposals where quarries are sited on degraded cleared land and are therefore **genuinely** avoiding biodiversity impacts. Such planning outcomes would be consistent with the reforms to the BC Act currently before the NSW Parliament.

Yours sincerely,

[redacted]

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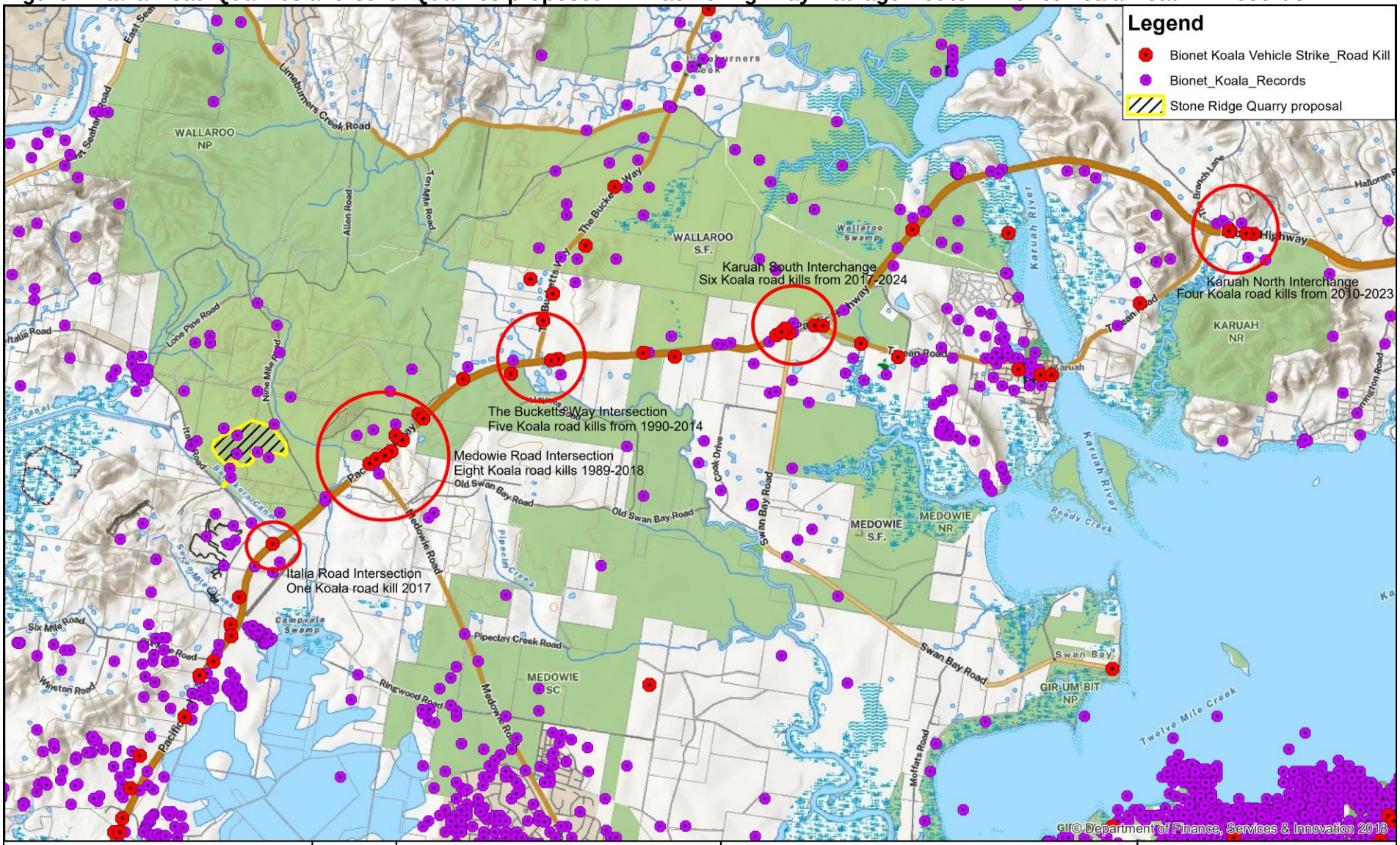
**Figure 1. Italia Road Quarries and other Quarries proposed M1 Pacific Highway Haulage Route – Bionet Koala Roadkill Records**

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| Figure Name: | Bionet Koala Roadkill Records - Italia Road toTarean Road Hard Rock Quarry Haulage Route |
| Date: | 4/11/2024 |
| Site: | Italia Road toTarean Road Pacific Highway Hard Rock Quarry Haulage Route |
| Map Projection: | MGAz56 |
| Map Datum: | GDA94 |
| Page: | 1 of 1 |
| | IPCN - Stone Ridge Quarry proposal |

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