Attachment 1

Lighting Impacts of Development on the Sunshine Coast in terms of retaining a healthy and resilient Environment

OSCAR, December 2025

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1. Introduction

This component of the response to the Ministerial "Call In" for Sunshine Coast Regional Council's (SCRC) Development Application MC24/0154 (DA) relating to the Coochin Fields Festival site highlights the extensive, scientifically documented impacts of artificial light at night (ALAN) on both human health and ecological integrity. The proposal presents significant and likely irreversible risks to the region's environmental values, including the health of the adjacent RAMSAR-listed Pumicestone Passage. Approving this DA would also directly undermine SCRC's stated objective, in the proposed Planning Scheme to protect and sustain a healthy, resilient environment.

2. Effects of artificial night light on Humans

Scientific literature demonstrates that artificial light at night has significant and well-documented negative effects on human health. These include sleep disturbance, metabolic dysfunction, cardiovascular disease, reduced immune function, and impaired mental wellbeing. Reference is made to the following peer-reviewed research and advisory publications below:

a. We're All Healthier Under a Starry Sky
b. Missing the Dark: Health Effects of Light Pollution - PMC
c. Light and Shade: In Praise of Darkness
d. Effects of Artificial Light at Night on Human Health

e. Light Pollution Affects Human Health

3. Effects of artificial night light on Wildlife

The waterways adjacent to the proposed site is the RAMSAR listed Pumicestone Passage. The impact of lighting will impact on the resident wildlife as well as the migratory shorebirds. Sky glow will also negatively impact on the priority species such as sea turtles. The Pumicestone Passage is part of the international East Asian–Australasian Flyway for migratory shorebirds so lighting impacts on the health of shorebirds are not localised to the Sunshine Coast Local Government Area. ALAN disrupts navigation, feeding and resting behaviours, contributing to the decline in migratory shorebird populations.

SCRC's own sky-glow monitoring shows that regional ALAN increased by more than **50%** between mid-2017 and mid-2022. The development would exacerbate this trend substantially.

In a recent article in ''Our Sunshine Coast'' (11 December 2024)–a SCRC publication, a story about Dr Ken Wishaw, an advocate for dark skies wrote the following:

More than 80 per cent of the world's population lives under light polluted skies, and 90 per cent for those living in the USA or Europe.

"Environmentally, it's important we protect our wildlife, many of which rely on the night in their predator-prey relationships," Dr Wishaw said.

"Further, one third of plant pollination occurs at night and is seriously affected by excessive lighting."

That's because night pollinators such as bats and insects need dark nights to travel and feed.

Excessive light at night impacts human health and wellbeing, also contributing to more greenhouse gas emissions and higher energy demand.

"From a heritage point of view, we should remember that we're looking up at the same stars that navigators have used for thousands of years," Dr Wishaw said.

"Particularly our First Nations people, who were the first astronomers and the first navigators to use the night sky throughout their ways of navigating across the country."

4. National Light Pollution Guidelines

As population and building height density increase, so too do the negative impacts of night lighting. Artificial lighting adversely affects humans, flora, and fauna. Despite measures to mitigate lighting effects, increased population unavoidably brings increased sky glow due to the accompanying increased number of lights. A festival site not only

needs lights for safety as people move around but live shows increasingly use lighting, including laser lights and pyrotechnics, as part of their entertainment.

The Australian Federal Government has determined guidelines for light pollution[1] as it affects wildlife. SCRC has included the requirement for light mitigation[2] relating to sea turtles in the proposed new Planning Scheme. OSCAR has submitted that these guidelines also need explicit requirements for migratory shorebirds.

Nothing in the DA indicates the development would be able to comply with these guidelines.

5. Recommendation

The proposal is incompatible with:

- The protection of a healthy and resilient environment;
- The ecological values of the RAMSAR-listed Pumicestone Passage;
- Federal wildlife light-pollution guidelines;
- The long-term wellbeing of Sunshine Coast residents.

Based on this evidence, OSCAR respectfully requests that the Minister does not approve DA MC24/0154.

[1] https://www.dcceew.gov.au/environment/biodiversity/publications/national-light-pollution-guidelines-wildlife

[2] "The Biodiversity, waterways and wetlands overlay code (Part 6.5) includes specific lighting provisions relating to priority species – sea turtles (PO15 to PO20 of the code). This code is triggered where development is subject to the Biodiversity, waterways and wetlands overlay relating to sea turtles.

Attachment 2

Management of Bushfire Risk for the Development of an Outdoor Music Festival and Exhibition Event Site at Coochin Creek, Sunshine Coast

OSCAR, December 2025

Table of Contents

1. Introduction

The proposed outdoor music festival site is to hold multiple events each year with a maximum capacity of 35,000 patrons/day[1]. Of these, camping facilities are to be provided for greater than 15,000 people at an average of 2.5 people per site[2].

A Bushfire Management Plan[3] (BMP) was developed and presented in support of the application for a material change of use from rural to Outdoor Sport and Recreation (Outdoor music festival and exhibition event site). A supplemental report was provided[4] in 2025.

[1]Murray & Associates. Coochin Fields Masterplan Planning Report No. 100854. June 2024.
[2]Comisky Group. Coochin Fields Masterplan. Issue 5. 27/10/2025.
[3]Land and Environment Consultants Pty Ltd. Bushfire Management Plan. Report 23008 . 15 May 2024
[4]Land and Environment Consultants Pty Ltd. Bushfire response to information request for Department of State Development. 29 October 2025.

2. Issues

The provided BMP was developed by addressing radiant heat exposure during a fire event. A severe fire event was determined from:

- "Catalyst" as having a 5 % annual exceedance probability forest fire danger index, that is, a 1 in 20 chance in any one year
- local estimated load conditions and
- radiant heat exposure assessment using the Queensland Public Safety Business Agency Potential Bushfire Intensity Calculator version November 2014.

The plan includes an assessment of compliance with the Sunshine Coast Planning Scheme 2014 Bushfire hazard overlay code. To this extent, the BMP takes a prescriptive approach to compliance rather than addressing site risks. As such, omissions exists as are discussed below. The omissions are very serious when considering the safety of up to 35,000 people on site during the day and possibly 15,000 overnight at the camping facilities. As a festival is often to be multi-day event, it is likely patrons will stay for the entire event. The risks are heightened due conditions changing considerably over those number of days for each event, often not forecast.

2.1 Intensification of bushfires

An assessment of changes in bushfire characteristics was undertaken by QFS and reported in 2019[5]. They found:

- a significant increase in annual accumulated Forest Fire Danger Index (FFDI), a proxy for average daily FFDI, of 51% from 1950 to 2018 for the South East Coast subregion of Queensland; this increase was the highest in the state
- the changes have been more rapid in recent decades and
- climate change projections show a clear trend towards more dangerous near-surface fire weather conditions for Australia based on the FFDI and a future change towards more severe conditions throughout Queensland.

The Australian Research Council[6] identified that El Niño events also heighten the risk of bushfires.

The BMP recommends placement of camping facilities and buildings at the contour of acceptable radiant heat boundary being 29 kW/m^2 radiant heat flux. Given the reported rise in FFDI by QFS in 2019, ongoing continuing increases expected with climate change

[5]BOM. Changes to Fire Weather in Queensland. A report from the Australian Bureau of Meteorology, prepared for Queensland Fire and Emergency Services. 2019

[6]Australian Research Council. El Niño's Impact on Australia's Weather and Climate. Climate extremes. ARC centre of Excellence. 2024.

and a further increase in general during El Niño events, we would have expected a precautionary recommendation beyond the 2014 criteria.

The parking lots were not considered in this assessment and parked cars will be exposed to high radiant heat. The risk of a fire outbreak here was not determined.

The BMP has not addressed the risk of lithium battery fires from scooters and bikes, a growing concern elsewhere.

2.2 Ember attack

The BMP is based on radiant heat. The risk from embers is simply not mentioned in the plan. Embers are expected associated with any fire with winds. A threat is expected for several hundred metres in advance of a fire front and much further in extreme fire[7]. To illustrate this point, the ABC News reported on 7 December 2025 that fire jumped 1 km over water in NSW to destroy houses.

The flammability of the camp ground and festival grounds was not considered in the bushfire management plan other than with respect to landscape vegetation. The threat of embers initiating fires within these proposed ‘shelter in place’ locations was not addressed.

This oversight is significant especially given the real difficulties in managing an evacuation from the site.

2.3 Pasture to north and east

The management plan identified mown pasture to the north of the camp facilities on neighbouring property and a grassy wetland to the south. Aerial imagery shows a band of trees also immediately to the south of the camp ground. No fire risk and hence no buffers have been ascribed to the north and south boundaries.

The management plan states that it expects similar ground conditions to the north, that is, it is expected that the landholder will continue to manage this pasture by regular mowing as required by the Comisky Group. This assumption falls into the ‘best case’ option which should not be accepted where there is a risk to people’s lives.

[7] Bushfire Behaviour – Embers. Webinar by Dr Justin Leonard, CSIRO. 2022. https://bushfireresilience.org.au/topics/ember-attack/

The risk from an ember fire in the grassy wetland during a drought was simply not considered. This is important as the muster area for the camp ground is located immediately adjacent to the tree line.

It was noted that even though the bushfire plan recommended emergency water tanks to be located in central areas, the one for the camp ground is near the southern tree line and the festival site tank is to the east also next to trees.

2.4 Evacuation

Between 80 to 90% of the route to the proposed site from the highway is within forest. The BMP states that access and egress along Roys Road is through this high bushfire hazard area and access may be affected by bushfire attack. SARA has included unacceptable traffic outcomes in their assessment[8] undertaken in May 2025 noting that traffic management under controlled conditions could result in a 3.9km queue length from the Bells Creek Road intersection with a 26 minute delay. Delays would therefore be expected during a less controlled exit such as an evacuation with people possibly remaining in stationary cars for considerable periods of time in a high bushfire risk area. Very early evacuation even before regional alerts may be required but this very dangerous situation has not been addressed.

Any delays would be exacerbated in the event of an accident. Excess traffic and accidents that may impede access by emergency and fire service vehicles.

2.5 Planning scheme performance outcomes

The BMP has assessed fire management as conforming to the planning scheme provisions within the Sunshine Coast 2014 Bushfire hazard overlay code.

Some of the performance outcomes that the plan claims to be in conformity with relate to a single dwelling or lot. It is simply inappropriate that these are considered as the requirements for camp ground with up to 15,000 people present.

PO6: The scheme requires dead-end roads to be avoided and the management plan claims this outcome has been achieved. The plan is silent on the single road access to the camp ground and that the entire festival site itself is located on a dead-end road. Brushing aside the safety requirements of such a location and design by addressing internal roads of the festival site only should be unacceptable.

[8]SARA advice notice - Coochin Fields - 1641 Roys Road & Roys Road, Coochin Creek. 2 May 2025.

PO9: The management plan has deemed that AO9.3 and 9.4 are not relevant as the proposal is not an urban development. These AO relate to:

- pumps that pressurise water output from the tank, swimming pool or drain are able to be operated without reticulated power; and
- fire hydrants along perimeter roads adjacent to National Parks and other conservation reserves are located not more than 100 metres apart.

We note that the planning scheme table does not specify these relate to an urban area only and further, when planning for an emergency with up to 30,000 people or 15,000 campers, the intent of these provisions, that is, an assured power supply and sufficient outlets to protect high value conservation areas as well as the site itself surely must be addressed.

3. Recommendation

Based on the above omissions and issues, OSCAR requests that the Minister does not approve the festival facilities to cater for 30,000 people during the day and up to 15,000 campers at a location that presents real dangers under both evacuation and 'shelter in place' situations.

Attachment 3

Management of Noise Issues of an Outdoor Music Festival and Exhibition Event Site at Coochin Creek, Sunshine Coast

OSCAR, December 2025

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1. Introduction

The proposed outdoor music festival site is to hold multiple events each year with a maximum capacity of 35,000 patrons/day[1]. Of these, camping facilities are to be provided for greater than 15,000 people at an average of 2.5 people per site[2].

The noise environment after development was investigated by MWA Environmental[3] in support of the application for a material change of use from rural to Outdoor Sport and Recreation (Outdoor music festival and exhibition event site).

2. Issues

2.1 Change of use

The application is to change the land use zoning from Rural to Outdoor Sport and Recreation.

[1]Murray & Associates. Coochin Fields Masterplan Planning Report No. 100854. June 2024.
[2]Comisky Group. Coochin Fields Masterplan. Issue 5. 27/10/2025.
[3]MWA Environmental. Noise Impact Assessment Proposed Festival Site 'Coochin Fields'. 30 October 2025

An assessment of the management of noise from outdoor concert venues in south-east Queensland was present by Henry and Marchuk[4] who found key characteristics of successful sites were:

- historical use;
- order of occupancy and character of the area; a venue located in a cultural or commercial precinct or otherwise noisy environment will fare better than a site located in a residential area;
- type of venue; events such as classical, choir or ballet present little to no risk of negative community feedback as opposed to amplified music based festivals;
- a local community focused cultural event will generally have a higher level of community acceptance than a commercial music event focused on attracting an audience broader than the local community
- one night events fare better than multi day and night events.

The proposed use change conflicts with all of the key characteristics. The proponent is seeking a land use change from a quiet rural land use to a very noise commercial land use even if intermittent.

Current upper noise levels determined by MWA for the area as 53, 20 and 12 dBA $L_{Aeq,adj,1hr}$ for day and evening (7am-10pm), late night (10pm-12am) and early morning (12am to 7am). EPP Noise[5] establishes an upper noise level for health and well-being of residences as 50 dBA for outdoor daytime and evening periods (7am-10pm) and 30 dBA at night. The upper noise levels at residents was modelled as 69 dBA at approximately 500m and 63 dBA at approximately 750m. Noise would also increase from a very quiet 20 dBA to 44 dBA from 10pm-12am, a fourfold noise increase, and exceed EPP Noise night time limits for health and well-being by 14 dbA. Corresponding sensitivity increases would be 16 and 10 dB at 550m and 750m respectively in the daytime and evening.

Modelling indicates the venue would only just achieve prescribed commercial levels of noise. It intends to operate up to the permitted noise levels. Studies by Brisbane City Council found that of 54 outdoor events between 2019 and 2024, there were 81 noise exceedances recorded occuring on average for every second event. The proponents have selected a site immediately between two residential areas in a rural environment and propose to operate at commercial compliance levels with a possible 50% chance of non-compliance.

[4]F. Henry and A. Marchuk. (2024). *Beyond the Decibel – Managing Noise from Outdoor Concert Venues.* Proceedings of Acoustics, Australian Acoustical Society p 2-8. November 2024, Gold Coast, Australia

[5]Environmental Protection (Noise) Policy 2019. Subordinate Legislation 2019 No. 154, Environmental Protection Act 1994

2.2 Impact on protected environmentally sensitive areas

The selected site immediately abuts the Pumicestone National Park being State protected estate to the south and east and is approximately 150m east of a MNES listed Commonwealth Threatened Ecological Community with some minor occurrences on site[6]. The festival site is only 100m from Ramsar listed wetlands at its closest.

The Matters of National Environment Significance reported by 28°S Environmental as possibly found in the adjoining national park and wetlands included:

- 5 Listed Threatened Ecological Communities
- 98 Listed Threatened Species
- 79 Listed Migratory Species.

Species considered of local ecological significance by the SC Council do not appear to be reported.

The Threatened Ecological Communities dominate the surrounding vegetation (Figure 5 of the 28°S report) together with their component fauna species integral to the health of these communities.

The impact of noise on fauna was reviewed by 28°S Environmental addressing the following impacts:

- behavioural responses possibly leading to population-level consequences such as reduced habitat use
- call masking which can impact survival and reproduction through its effects on mate attraction, territorial defence, social bonding and anti-predator behaviour
- threshold shifts leading to hearing damage tough 28°S report this is unlikely in birds in the area
- acute noise can be deleterious if coinciding with critical periods of a species life-cycle, for example nesting and feeding of migratory birds.

OH&S noise controls were offered as preventative measures for environmental noise as well as monitoring of noise at nearby residences 500 to 750m distant.

The review of noise impacts related largely to birds relying significantly on work by Dooling and Popper.

Attachment 3 of the MWA noise report modelled noise levels away from the venue. Their results suggest that the noise distribution as % of the area over Pumicestone National Park within 750m of the venue approximates:

[6] 28°S Environmental. (2023). Coochin Fields Masterplan Ecological Assessment Report. 12 October 2023.

- 32% >70 dBA $L_{Aeq,adj,1hr}$
- 39% between 67-70 dBA $L_{Aeq,adj,1hr}$
- 28% between 64-67 dBA $L_{Aeq,adj,1hr}$
- 2% between 61-64 dBA $L_{Aeq,adj,1hr}$

A meta-analysis of 49 datasets[7] from across the globe found that bird populations decline within 1km of human infrastructure, including roads.

A controlled experiment[8] with day time noise levels of only 55 dBA applied to undisturbed woodland for only four days found significant impact on bird numbers (reduction) and condition (reduction). Laboratory studies suggested noise levels as low as 55 dBA were associated with a 20% increase in vigilance time, a 50% reduction in foraging events with a 20% reduction in length of time for each forage event.

A review[9] of noise sensitivities amongst animals reported noise increase sensitivities of between 10-60, 10-20, 0-10 and 20 dB for amphibians, reptiles, birds and mammals. Approximately a third of this adjoining area of the national park will be exposed to noise increases of 17 dB producing probable impacts to amphibians, reptiles and mammals as well as birds.

The 28°S Environmental recommended studies on migratory birds. The study methods were not reported and results do not appear to be submitted with application documents.

The above studies all suggest impacts on fauna behaviour and presence up to 750m from the venue affecting a considerable area of national park and including Ramsar listed wetlands. Based on the above application data, noise is expected to impact local fauna particularly within 700m of the national park and 500m of Ramsar wetlands during events. Even though for only several days, impacts may occur during breeding and migration seasons.
Until peer-reviewed data is presented demonstrating that the local fauna and particularly migratory birds behave differently to those studied overseas, impacts to protected estate are likely.

[7]Benítez-lópez A, Alkemade R, Verweij PA (2010) The impacts of roads and other infrastructure on mammal and bird populations: A meta-analysis. Biol Conserv 143(6):1307–1316
[8]H. Ware C. McClure J. Carlisle, & J. Barber (2015). A Phantom Road Experiment Reveals Traffic Noise is an Invisible Source of Habitat Degradation. Boise State University Scholar Works Department of Biological Sciences. 29-9-2015
[9]1435–1439.
Bowles A. E. (1995) *Response of wildlife to noise*. In: Wildlife and Recreationists (eds R. L. Knight and K. J. Gutzwiller), pp. 109–156. Island Press, Washington.

3. Recommendation

It is recommended that the Minister does not approve the festival facilities that are expected to impact protected species between 500-600m into protected estate including Ramsar wetlands.

Attachment 4

Hydrology Issues of the Outdoor Music Festival and Exhibition Event Site at Coochin Creek, Sunshine Coast

OSCAR, December 2025

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1. Introduction

The proposed outdoor music festival site is to hold multiple events each year with a maximum capacity of 35,000 patrons/day[1]. Of these, camping facilities are to be provided for greater than 15,000 people at an average of 2.5 people per site[2].

The site is to be located immediately adjoining the Pumicestone National Park and between 100-250m from Ramsar wetlands. The site is serviced by a single access road that crosses a flood-prone tributary of Coochin Creek referred to as Roys Road crossing.

2. Issues

2.1 Access susceptible to flooding

The flood report[3] modelling demonstrates Roys Road is inundated at Roys Road crossing in events greater than the 39% AEP (2-year ARI) event to non-trafficable depths taken as >250mm depth of flood waters. An assessment of duration times for isolation represented in their Figure5-2 indicates that the road is submerged even during the 2-

[1]Murray & Associates. Coochin Fields Masterplan Planning Report No. 100854. June 2024.
[2]Comisky Group. Coochin Fields Masterplan. Issue 5. 27/10/2025.
[3]Water Engineering Plus (2024). Coochin Fields, Flood Report. File Reference: 300115.001. 21 May 2024.

year ARI event. As the depth is less than 250mm, the authors consider the road trafficable. Government contrary advice to the community is *If it's flooded, forget it*[4].

This advice is to save lives and injuries. It is inappropriate that a venue catering for up to 35,000 people in a day has planned for patrons to drive over a flooded road.

The road closure site is low lying with the HAT level meeting the road at Roys Road crossing. The tidal zone is to progressively encroach on a long section of road at the crossing as sea level rises (Figure 4.1 of the 2025 flood report[5]). The flood risk will also progressively increase with the road flooding on more frequent storm events to come especially under high tide conditions.

It is not clear that the modelling and subsequent flood evacuation plan or event cancellation[6] triggered by 50mm of rain assumed a HAT event or otherwise. It should be noted that HAT events themselves are normally exceeded multiple times in any one year. HAT conditions or higher could dramatically impact the effectiveness of the flood evacuation plan, thereby increasing danger risks for patrons.

2.2 Discharge management

The selected site immediately abuts the Pumicestone National Park being a State protected estate to the south and east and is approximately 150m east of a MNES listed Commonwealth Threatened Ecological Community with some occurrences also on site[7]. The festival site is only 100m from Ramsar listed wetlands at its closest.

Stormwater was investigated and reported by Covey Associates[8]. The report acknowledges the High Ecological Value (HEV) receiving environment (Pumicestone Passage) though not the wetlands recognised by the Sunshine Coast Council as Ecologically Important Areas (EIA) nor the Pumicestone National Park, which is protected estate, nor the threatened ecosystems.

Stormwater analyses were undertaken to demonstrate that urban water runoff loads of suspended solids, nitrogen and phosphorus to HEV environments do not deteriorate and gross pollutants are reduced by 90%, that is, a 10% loss of gross pollutants may occur. Stormwater runoff from only the developed portion of the site (2.48ha) was modelled

[4]https://www.getready.qld.gov.au/FloodedForgetIt
[5]Water Engineering Plus (2024). Coochin Fields, Flood Report. File Reference: 300115.001.05. 18 August 2025.
[6]Across the Line Consulting (2025).Operational Event Management Plan Appendix C. October 2025.
[7]28°S Environmental. (2023). Coochin Fields Masterplan Ecological Assessment Report. 12 October 2023.
[8]Covey Associates. (2025). Stormwater management plan. Coochin Fields Master Plan. Ref No M-240385Rpt Issue B. August 2025

with the camp site and majority of the festival site excluded. On this analysis, Covey concluded that the stormwater treatment measures for the developed 2.48 ha will allow the venue to achieve the performance criteria set by the SCC (2014) and by the SPP (2017).

The report never mentions the Environmental Protection (Water) Policy. The planning scheme requires that *development is designed to achieve the prescribed water quality objectives for waterways and wetlands in accordance with the Environmental Protection (Water) Policy 2009*[9]. PO9 of the Stormwater management code explicitly requires that development protects or enhances the *environmental values and water quality objectives of receiving waters* as prescribed in Schedule 1 of the Environmental Protection (Water) Policy.

It is unbelievable that rain during a festival is expected to result in water of background water quality from the camp ground for up to 15,000 people and the festival site with up to 35,000 patrons in a day. The report has <u>not</u> demonstrated that the planning scheme and SPP have been met. This omission is extremely serious given the ecologically sensitive areas of wetlands, national park and Ramsar wetlands immediately downstream of the site.

2.3 Protection of riparian areas on site

The 28°S environmental report refers to riparian protection areas (RPA) being on site. These RPA are identified in the biodiversity overlay map of the planning scheme and presented in Attachment 5 of the consultant's report. The planning scheme identifies RPA as ecologically important areas to be protected[10].

The report states that *There is minor encroachment into waterway and wetland buffers, but the nature of use proposed for these areas (and its temporary nature) <u>suggests</u> that the associated ecological values will not be directly affected* (our emphasis).

These minor encroachments include camp ground sites, an amenities building, temporary and permanent car parks, permanent building with permanent roads. The understanding of the environmental consultants has not been delivered in the Master Plan[11]. Given that the quality of runoff leaving the site during a festival has not been

[9]8.2.3 Biodiversity, waterways and wetlands overlay code 8.2.3.2 Purpose and overall outcomes 1(f)
[10]8.2.3 Biodiversity, waterways and wetlands overlay code Table 8.2.3.3.2 PO1 Protection of ecologically important areas
[11]Comisky Group (2025). Coochin Fields Masterplan. Rev S 27.10.2025.

investigated, the placement of intensive land uses in the RPA even if intermittent, should not occur.

3. Recommendation

It is recommended that the Minister does not approve the festival facilities as flood evacuation planning hass accepted vehicles can drive through flood waters, water quality discharge to high value ecological areas has not been investigated and required riparian protection areas have not been protected as required by the State Planning Policy.