

Stormwater, Sewage and Flooding:

Community Concerns regarding the Proposed Dalmeny Development

To the Eurobodalla Shire Council,

Summary

In this submission we are sharing residents' serious concerns about the effects of:

- Clearing a very large area of the Mummaga Lake catchment,
- Disturbing highly erodible soils
- Dramatically increasing stormwater runoff
- Potentially increasing the population of Dalmeny by 1000 people

Can ESC please provide information on the progress of studies, projects and commitments made in relation to the proposed Dalmeny development?

1. The creation of an [Estuarine Management Steering Committee](#)
2. The [Water Quality Risk Management Study](#) for Mummaga Lake which was to inform the Development Control Plan
3. The [early involvement of the community](#) in this study
4. A [study to consider the extent of future tidal inundation](#) around Mummaga Lake
5. A 'system of offsets' for Mummaga Lake to ensure development might have a 'neutral effect' outlined in the Eurobodalla Estuarine CMP Revised Risk Assessment ([table 6 comment 1](#))
6. An assurance that an emergency evacuation scenario would not be made worse for locals if the development is approved
7. Confirmation of who would own and manage riparian and wetland areas within the Dalmeny LRA into the future?
8. How stormwater retention system, riparian zone and wetland area management programs and restoration work will be funded into the future if development goes ahead?
9. The capacity of the Kianga Sewage Treatment Facility in regards to projected population increases in Dalmeny
10. Upgrades to the [Dalmeny sewer pumping stations](#)

Please see below for explanation and additional information.

Background

We wrote to Council on [February 12 2024](#) asking for further information regarding the Draft Master Plan for the Dalmeny Land Release Area on behalf of the many community members who raised concerns with our association and attended our community meeting.

Recent Events

In the period pending a response from ESC, there have been more significant rain events. Mummaga Lake has recently been closed to swimmers because water testing found high levels of bacteria.

The increasing frequency of sewage overflows and localised flooding in the past 3 years highlights the community's concerns that issues with stormwater runoff into Mummaga Lake, sewage overflows and flooding will be made worse as a result of the proposed development in the Lake catchment area.



2022



2024



2024

We understand that it has been a challenging time for ESC and we appreciate the ongoing work of staff and Councillors. We support ESC in advocating for new housing to be located close to services, on already urbanised land.

Purpose of this submission

As ESC continues work on the Dalmeny LRA Draft Master Plan and Development Control Plan, we take the opportunity to reiterate concerns about the proposed development with additional information.

Key areas of concern and specific queries are further detailed in [Attachment A](#). Also included as [Attachment B](#) is a report from a local retired soil and salinity consultant procured by Dalmeny Matters.

We ask that ESC work with the community to find an alternative to this development proposal, which would protect our local environment and pose less risk to the community.

Contact Person:

Sally Christiansen

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On behalf of Dalmeny Matters Inc

Attachment A - Key Areas of Concern and Specific Queries

[Eurobodalla Estuarine Coastal Management Program](#)
[Assessment of Water Quality and Risks to Mummaga Lake](#)
[Stormwater and Flooding](#)
[Wetland and Riparian Restoration and Management](#)
[Lime Kiln Bay Example](#)
[Sediment and Erosion](#)
[Sewage](#)

Eurobodalla Estuarine Coastal Management Program



Mummaga Lake Estuary is a drawcard for tourists and important habitat for threatened species

In 2022, we raised concerns during the drafting and approval of the Eurobodalla Estuarine Coastal Management Program. The proposed Dalmeny development had not been included in the assessments made for Mummaga Lake, and population increase [was estimated at less than 10 % over 15 years](#). Clearly the proposed Dalmeny development would see a much larger population increase. Even at low estimate, the risk to the Lake from stormwater runoff was considered high.

The Management Program and Revised Risk Assessment makes clear that:

- Mummaga Lake is not presently well understood in regards to water quality and the impacts from runoff. ([revised risk assessment](#))
- *“It is rare that development can have a positive or neutral impact when a previously undisturbed part of the catchment is developed, unless a **system of offsets** is somehow adopted.”* ([revised risk assessment](#))

Can ESC confirm whether:

- **Is such a “system of offsets” for Mummaga Lake to form part of the Draft Master Plan as mentioned in ESC’s Revised Risk Assessment?**
 - **If not, is ESC willing to approve a development which would have a negative impact on Mummaga Lake?**
 - **Under the Estuarine CMP Management Program an Estuarine Management Steering Committee was to be established. Has this been done?**
-

Assessment of Water Quality and Risks to Mummaga Lake



The proposed development area is the catchment for Mummaga Lake

Can ESC provide an update on the progress of the Water Quality Risk Management Study, [action Mu6](#) of the Eurobodalla Estuarine CMP?

The approved Management Program states that the DCP must be informed by this Study. ESC staff recently confirmed that assessments of the water quality and impacts from runoff on Mummaga Lake have not, as yet, formed part of the drafting process for the Master Plan.

“4.3.6 Action Mu6: Water Quality Risk Management Study

... The DCP for the Dalmeny Land Release should be informed by and updated as a recommendation of the Water Quality Risk Management Study. In modifying the approach taken, the study is to incorporate the findings from risk-based framework studies being completed at several estuaries on the NSW coast under the Marine Estate Management Strategy.

Importantly, the community needs to be involved in this study from an early stage to ensure that their concerns are being adequately accounted for and addressed by the

study. The study will be used to inform an urban stormwater management strategy which considers ongoing growth of the population surrounding Mummaga Lake.”
(Eurobodalla Estuarine Coastal Management Plan Part 2 Pg 69)

The community expects ESC to undertake assessments in order to:

- **Provide baseline data of Mummaga Lake’s biodiversity and water quality**
- **Demonstrate that Mummaga Lake will not be adversely affected by the proposed development, and**
- **To enable ESC to monitor impacts to Mummaga Lake if development is approved.**

Sediment and Erosion



Dalmeny - Narooma Shared Pathway Erosion reported to ESC 07.05.24

There is concern that sediment management activities are already unable to be met by ESC, let alone more extensive works required into the future if the development goes ahead.

Several residents in flood prone areas of Dalmeny have formally requested that ESC conduct sediment removal from the drainage easement adjacent to their properties as this has not been undertaken in a long time.

In recent upgrades to the Dalmeny- Narooma Shared Pathway erosion controls were not properly managed. Sediment and pollution were washed into Mummaga Lake resulting in a formal complaint to ESC.

If stormwater runoff is not managed correctly at all stages of construction by the developer the effect on wetland areas and Mummaga Lake could be destructive.

“There are clearly recognised links between urban growth and impacts on water quality and / or potential destruction of important ecosystems” ([Eurobodalla Estuarine CMP](#))

There is further information in the consultant’s report [Attachment B](#).

“The additional runoff into Mummaga Lake, not only contains silt but it also contains higher levels of salt than has been normal in the past. The additional salt will impact on the quality of the freshwater component in the lake, causing potential damage to the current biological environment of the lake, particularly during the times when the lake is closed to the sea.”

Coila Lake Example

At 41 Anderson Ave Tuross Heads, on the shore of Coila Lake, current construction works are being impacted by significant rain events. According to locals, sediment laden runoff is impacting the Lake and has been reported to ESC.

There is serious concern that serious problems of the nature occurring in the Coila Lake example may impact Dalmeny if rain events coincide with clearing, construction and excavation. The consultant’s report at [Attachment B](#) explains why this is such a concern when clearing Spotted Gum forest.

- *“Salinization of the soils that exist under most Spotted Gum forested areas can cause the clay in the soil to disperse, thus creating very difficult conditions for road construction and any other excavation associated with housing development. Wet weather will create chaotic conditions for any excavation activities.”*
- *“If a major rainfall event occurs during the site development and early construction stages of works, the subsequent erosion can severely damage*

incomplete excavation works, access tracks and road construction. This can cost the developer hundreds of thousands and it can be very hard to pass that cost on to prospective buyers.”



Anderson Ave, Tuross. Zombie development next to Coila Lake 11.05.24

Lime Kiln Bay Example

There are examples from other NSW areas where the ongoing maintenance of sediment traps and constructed wetlands has become problematic and costly for Local Councils.

The Local Council responsible has faced serious issues managing the cost of sediment removal and safe sediment disposal from the stormwater management system in Lime Kiln Bay.



Putrid sediment ponds in Lime Kiln Bay Wetland to be cleaned out

“Georges River Council is moving to clean out putrid sediment ponds in Lime Kiln Bay Wetland and refocus future maintenance efforts. The state of the ponds was revealed by the Leader in February, with environmental groups blaming increased development for growing stormwater pollution.” St George and Sutherland Shire Leader

Stormwater and Flooding



2010 Mort Ave and Binnalong St: adjacent to the Dalmeny Land Release, main Hwy access

ESC staff have confirmed that the proposed development would significantly increase the volume and speed of stormwater runoff from the development area. Severe rain events are becoming more frequent as climate change worsens.

Several low-lying areas of Dalmeny experience regular issues with flooding during rain events, including the RFS Station, Community Hall and residential areas. Residents are very concerned that an increase in stormwater and sewer overflow would seriously impact their properties, as well as human and environmental health.

The Eurobodalla Estuarine CMP indicates that flood mapping for Dalmeny will need to be investigated to inform future planning.

“Considering the Extent of Future Tidal Inundation around Mummuga Lake

The future tidal inundation extents for Mummuga Lake are of some importance to inform planning decisions and to gain an appreciation of how the wetlands in and around the lake will migrate as sea levels rise. There are some low-lying areas adjacent to the Lake that are already prone to flooding when the lake is closed to the ocean. This is expected to be exacerbated as sea levels rise. For future planning purposes, this needs to be better understood.” ([Eurobodalla Estuarine CMP Part 2 Page 58](#))

Can ESC please provide further information on how the Draft Master Plan is incorporating any updated flood mapping for Dalmeny including the impact of increased storm water as a result of the development?

- **Residents need further information about how stormwater and sewer overflow will be mitigated in these events if the development is approved**
- **Many of these residents cannot access flood insurance**
- **If Dalmeny can expect a significant increase in population there must be an assurance that an emergency evacuation scenario would not be made worse for locals**

The last major flood event in 2010 saw large areas of Dalmeny impacted, some areas were completely cut off, including the RFS station. The Prince's Highway between Narooma and Dalmeny was impassable.



2010 Dalmeny RFS and Community Hall



2010 Residential areas of Dalmeny already affected by flooding, adjacent to the proposed development

Community members raised these concerns with ESC staff at the most recent community consultation session and were told that it is the developer's responsibility to demonstrate that increased stormwater will be mitigated and to contribute to the cost of system upgrades. They also indicated that this very costly element of a development is often something which a developer tries to 'avoid'.

Wetland and Riparian Restoration and Management



Information from a local consultant ([Attachment B](#)) gives further detail to residents' concerns that sediment, pollution and nutrient load entering riparian zones, wetlands and Mummaga Lake will have a detrimental effect on local ecosystems and water quality.

The ownership, responsibility and costs of retaining riparian and wetland areas into the future will be considerable. As will possible restoration works because of runoff or pollution from the development area.

Can ESC confirm:

- **Who will own and manage riparian and wetland areas within the LRA into the future?**
 - **How management and restoration work will be funded?**
-

Sewage



The Kianga Sewage Treatment Works is designed to cater for 8000 equivalent persons and ESC indicated that capacity is being increased. It currently services around 6,800 permanent residents across Dalmeny, Kianga, North Narooma and Narooma. An additional 1,000 residents will take it to 7,800 equivalent persons. During holiday peak periods the population increases dramatically.

Can ESC provide an update on:

- **Progress of works to increase the capacity of the Treatment Facility**
- **The population increases ESC is projecting for Dalmeny and surrounds as the basis for this work**

During several recent rain events Sewage Pumping Stations in Dalmeny have failed and this has been reported to ESC. When pumping stations fail in flood events residential properties are experiencing sewage overflow (overflow from manhole and other sewer inspection points) on their properties.

Residents impacted are concerned about the hazard to human health.



Flashing light indicates failure of sewage pumping station 10.05.24

ESC recently included information about upgrades to the sewer pumping stations in the information on the webpage for the Dalmeny Land Release Area.

“Dalmeny sewer pump station upgrades concept design. After the completion of sewer hydraulic modelling, it was identified that upgrades to the Dalmeny catchment was required for the stations.”

Can ESC confirm if the upgrades have been commenced, and if this work will be finalised prior to the proposed LRA Development?

Attachment B:

Potential benefits and risks of releasing forested land for the new residential development in the Dalmeny Area

2024 Assessment: Mike Young

Soil and Salinity Consultant (1984-2013)

(BSc Agr, Grad Dip Ed., Grad Dip Accounting & Financial Management)



Dalmeny wetland area in proposed development site

Benefits

1. Provides new land reserves for building new housing to meet the enormous demand for housing including affordable housing where it is urgently needed.
2. Provides long term employment for the construction and services industries.

Risks/ Costs

- Major increase in demand for drinking water supply, sewage services, drainage services, electrical supply infrastructure.
- Increased demand for bushfire protection.
- Increased risk of drainage pollution getting into Mummaga Lake and beach water.
- Widespread tree clearing. Removal of mature Spotted Gum canopies will result in rising water tables and salinization of the groundwater entering into relatively shallow soils.
- Salinization of the soils that exist under most Spotted Gum forested areas can cause the clay in the soil to disperse, thus creating very difficult conditions for road construction and any other excavation associated with housing development. Wet weather will create chaotic conditions for any excavation activities.
- Large scale clearing of Spotted Gum dominated country will expose quite shallow shale in a significant proportion of the cleared country— High cost of installation of pipes, in ground tanks (fire and water supply tanks as may be required in this high bushfire risk area), landscaping, road and path construction and housing foundations.
- Replacing mature tree canopies with house roofs significantly reduces the climate benefit of the trees capacity to convert CO₂ to O₂ and wood via photosynthesis, thus increasing the CO₂ in the local atmosphere.
- If a major rainfall event occurs during the site development and early construction stages of works, the subsequent erosion can severely damage incomplete excavation works, access tracks and road construction. This can cost the developer hundreds of thousands and it can be very hard to pass that cost on to prospective buyers.

- The additional runoff into Mummaga Lake, not only contains silt but it also contains higher levels of salt than has been normal in the past. The additional salt will impact on the quality of the freshwater component in the lake, causing potential damage to the current biological environment of the lake, particularly during the times when the lake is closed to the sea.
- Wildlife conservation: Risks to all species that benefit from the healthy, dense canopy of the native forest environment such as birds, mammals, insects, reptiles etc. As well as interference with symbiotic relationships eg Spotted Gum x Macrozamia Palms.