



## ***Littoral Rainforest (LRF) Communities in the Cape Flattery Region***

The Queensland Government designated the Northern Silica Project (NSP) as a coordinated project in early 2024. An Environmental Impact Statement (EIS) will be required to be undertaken for the project using an accredited process under both State and Federal legislation. This follows the Federal Government's decision (following referral of the project in mid-2023) that the NSP is a controlled action.

These processes recognise the scale of potential environmental impacts from the Project that need to be studied and mitigated, but also the economic and social benefits a project such as the NSP can provide to local and regional communities. This includes alignment with Government policies such as the Queensland Critical Minerals Strategy.

### ***What is Littoral Rainforest?***

'Littoral Rainforest' or LRF is a broad definition that relates to rainforest ecological communities occurring across landforms typically associated with coastal processes (e.g. dunefields, coastal headlands, islands).



## ***Do forest ecological communities have different conservation status?***

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In the Cape Bedford to Cape Flattery region, forest is widely spread across the coastal zone and is principally associated with Regional Ecosystem (RE) 3.2.12 *Acacia crassicarpa*, *Syzygium banksii* low closed forest +/- emergent *Araucaria cunninghamii* var. *cunninghamii* on coastal dunefields and beach ridges (including both RE3.2.12a and RE3.2.12b). Each of these REs are listed as 'Least Concern' for the purposes of management under the *Queensland Vegetation Management Act 1999*.

However, where the RE 3.2.12 occurs within 2km of the coast it is "critically endangered littoral rainforest under the federal Environmental Protection and Biodiversity Conservation Act 1999



**Image of LRF communities in the study area**

The 'Littoral Rainforest and Coastal Vine Thickets of Eastern Australia' Threatened Ecological Community (TEC) is a **littoral rainforest** that has high ecological value and is protected under the federal *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*. It typically occurs at or near the coastline – defined within **2 km of the high water mark**.

This LRF ecological community is protected under the EPBC Act as a Threatened Ecological Community (TEC) due to historical widespread clearing for urban development along coastal areas in Queensland, New South Wales and Victoria. The TEC is currently listed as 'critically endangered' at a national scale.





## ***Is there LRF within or adjacent to Diatreme's Northern Silica Project?***

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Diatreme has undertaken detailed aerial mapping and ground-truthing surveys as well as employing independent desktop and field assessment by ecological expert consultants to define the LRF in and adjacent to the proposed mine site.

Based on these surveys, littoral rainforest has been confirmed across the NSP area, consistent with the widespread occurrence of the community in the region.

The vast majority of forest directly affected by the NSP is the 'least concern' Regional Ecosystem 3.2.12 vegetation type. While the vegetation is not a threatened ecological community in its own right, wildlife (fauna) surveys are currently being undertaken across the site to assess if this community provides critical habitat for threatened fauna species (key species for investigations have been identified by the Government in the Draft Terms of Reference for the EIS). This will be reported in the Draft EIS.

Using the LRF mapping methodology devised by CSIRO & JCU (Murphy et al, 2016) desktop studies followed up with on-ground surveys have also identified and confirmed that the littoral rainforest TEC (the higher value community that is protected under the EPBC Act) occurs along the coastal strip adjacent to the mine site, exclusively within 2 km of the coastline. Some isolated patches of Regional Ecosystems 3.2.12a and 3.2.12b connected to areas of the TEC extend further inland from the coastal strip (as per map page 4). These inland areas may provide ecological connectivity and additional refuge for plants and animals dependent on the LRF TEC but are otherwise considered of Least Concern in the *Vegetation Management Act 1999*.





## What are the expected direct impacts to LRF from the project?

RE 3.2.12 forest that is of 'least concern' in the mining footprint is permissible to be cleared but will be subject to a **Progressive Rehabilitation and Closure Plan (PRCP)** that is approved by the Government as part of the EIS and project approvals. Re-establishing and potentially increasing the extent of the TEC LRF will be a key focus of the PRCP which would be implemented in parallel with mining operations to provide connected habitat for wildlife and limit the time that the dunes are exposed to wind erosion.

There are extensive studies being undertaken by suitable qualified experts as part of the EIS to understand underlying soil structure and chemistry, groundwater movement on the site as well as obtaining botanical expertise around rehabilitation requirements. In addition, the mining will not extend below the natural groundwater table. There is therefore a high likelihood of rehabilitation success as the base conditions to support regrowth will remain.



## ***What are the expected direct impacts to the high value LRF TEC from the Project?***

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While some of the LRF TEC occurs in the potential infrastructure footprint identified by Diatreme, mine panels are designed so as to avoid any direct clearing (as per map page 4) of the TEC as part of resource extraction activity.

Some disturbance, however, will occur to the LRF TEC for **ancillary infrastructure** associated with the mine (i.e. slurry pipeline, stockpile, conveyor). These impacts are unavoidable due to the need for this infrastructure to occur on the coast and connect the mining lease to the Port of Cape Flattery. The NSP must use the Port of Cape Flattery for export to address the requirements in the Great Barrier Reef 2050 Protection Plan which identifies that no new ports are allowed in the Great Barrier Reef World Heritage Area.

The total impact to the **LRF that is TEC** from the coastal infrastructure associated with the NSP is currently expected to be 5.2ha based on the currently proposed project footprint. The details of this will be described and mapped in the Draft EIS when released.

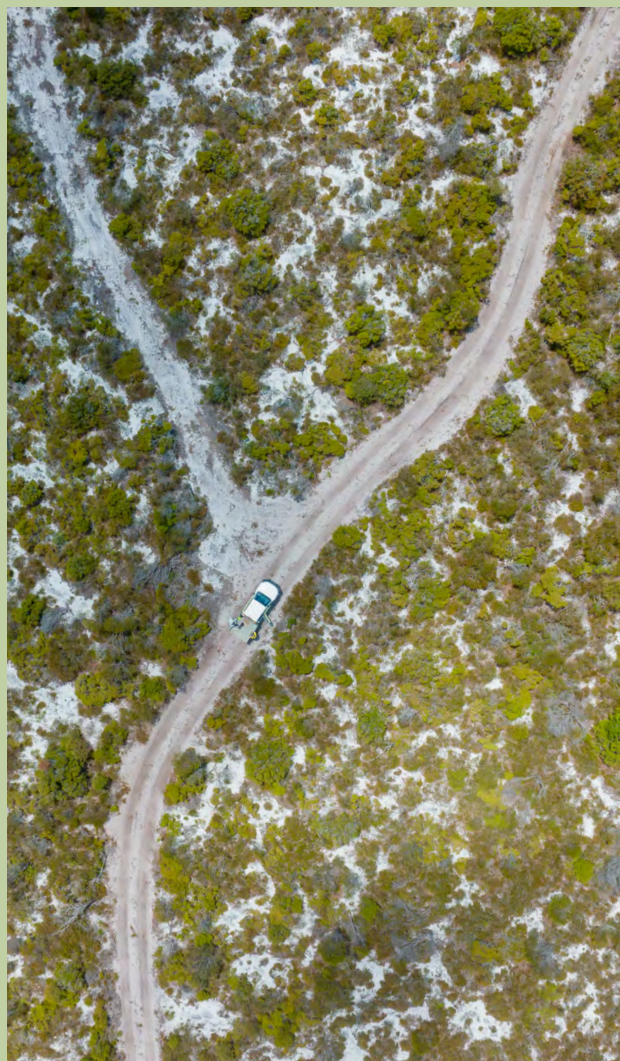
## ***How can the impacts to LRF TEC be minimised or offset?***

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The exact location and alignment of the coastal infrastructure is being progressed under the Draft EIS with a view to limiting impact on the LRF TEC as far as is practicable. However, this must also take into account consideration of other important issues such as cultural heritage, suitable ground conditions, crossing of waterways and land tenure considerations.

A practical example of this is to adopt an inland route for the above ground material conveyor (though the Cape Flattery Silica Mine mining lease area) between the Northern Silica Mine site and the Port that utilises an existing partially cleared access track.

While the TEC affected by infrastructure will also be rehabilitated at the end of mine life, Diatreme are also actively exploring **environmental offsets** for the loss of TEC LRF. This will be done in accordance with Federal and State policies on environmental offsets and is being done in consultation with local and regional entities that are already advancing LRF-related rehabilitation projects.





## ***How are indirect impacts to LRF and other natural values being managed by the Northern Silica Project?***

LRF, wetlands and lake features in the study area that are outside of the direct mining footprint can be impacted indirectly from mining through changes to groundwater levels as a result of groundwater extraction (groundwater is required for the silica processing), changes to surface water run-off, wind erosion and from indirect disturbance to wildlife from noise, light and other emissions.

Indirect impacts to these ecological features will be managed by ensuring groundwater that is extracted for processing is carefully monitored and then recharged into the aquifer. Appropriate vegetated buffers will also be maintained and enhanced between mining panels and features of ecological significance, including 100 m minimum buffers to wetlands and lakes.

The potential impacts, including predictive modelling of groundwater extraction and recharge, and associated mitigation measures will be outlined in the Draft EIS and assessed and conditioned as part of the Government approval process.

### ***For more information***



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or visit our **Diatreme Hope Vale office** for further information.