

Memo



To: Regina Flugge, Leichhardt Salt Pty Ltd
From: James Stoddart
Date: 26 June 2023
Subject: Peer Review – Benthic Mat Study

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Leichhardt Salt Pty Ltd (Leichhardt) proposes to construct and operate the Eramurra Solar Salt Project, a solar salt project with an annual average production capacity of 5.2 million tonnes per annum (Mtpa), and up to 6.8Mtpa deposited in a low rainfall year, of high-grade salt (sodium chloride (NaCl)) from seawater. The salt will be produced using a series of concentration ponds and crystallisers with a processing plant, transport corridor, stockpiling and export from the Cape Preston East Port (the Proposal). The concentration ponds and crystallisers will be located on mining leases. Leichhardt is currently preparing documentation for environmental approval of the Project. As part of that process, you have requested MScience Pty Ltd to provide marine experts to undertake a peer review of the document *Benthic Mat Study: Productivity Estimate of Proposed Eramurra Project*, actis Environmental Services, ESSP-EN-14-TRPT-0024, June 2023.

This memo covers the outcome of a peer review of the above document in the context of the document providing sufficient information to:

1. Quantify the productivity of the algal mats in the pond's development envelope of the Eramurra Solar Salt Project; and
2. Determine the direct loss of algal mat productivity from the proposed Scenario 7.2 footprint.

The peer review is to determine whether the report does the above in a form which would allow subject experts and the Western Australian Environmental Protection Authority to have confidence in its findings. The primary technical assessment of this document has been conducted by Dr Erik Paling. Dr Paling has a long history of environmental impact research in the Pilbara, specifically regarding algal mats and mangroves and has published research papers in both areas. That assessment has been reviewed and confirmed by Dr James Stoddart, MScience Pty Ltd's Chief Scientist.

Overall Findings

Given the caveat that high biomass does not always indicate high productivity and vice versa, the current report provides credible evidence that Chlorophyll a biomass may be used as an effective indicator of relative productivity in the microbial mats that occur in the coastal environment within and around the Eramurra project area.

Thus, the use of microbial mat productivity, in relation to predicted seasonality and wetting, as a tool to both predict and reduce project impacts would seem appropriate in this setting.

Furthermore, it is considered that a reasonable degree of confidence can be attributed to the report's conclusion that the total productivity loss due to the construction of the salt field under the proposed scenario (7.2) would indeed be 25.2%.

The report would be greatly improved with some rigorous editing to tighten the wording, remove needless repetition and clarify some of its argument. Despite those drawbacks, the report does do enough to support its case that Chlorophyll a can act as a surrogate for productivity in this system and, based on adequate mapping of habitat subdivisions supported by a limited field sampling, that this surrogate has been used to provide both a reasonable estimate of the productivity of the algal mats in the proposed Eramurra development envelope and an estimate of the likely loss of productivity resulting from that development.

Thus we find that the report does do enough to provide sufficient information to support your objectives 1 & 2 above. We have not commented further on possible editorial changes, as that is outside the scope of this peer review.