



**CHRISTMAS ISLAND**  
PHOSPHATES

**ML106 Clearing Permit Referral Supporting Documentation**

**April 2022**

**This page left intentionally blank**

## CONTENTS

		<b>Page</b>
1.0	Introduction	4
2.0	Proposed Clearing Information	4
3.0	Existing Environment	4
4.0	Geology and Soils	4
5.0	Landforms	4
6.0	Hydrology	4
7.0	Flora	5
8.0	Fauna	5
9.0	Site Information	6
9.1	ML106 – Access Road	6
<b>Figures</b>		
1	ML106 Application Area	6
2	ML106 Vegetation Map - Digital Spatial Data 2014	7
<b>Plates</b>		
1	Roadside Vegetation	7
2	Fern Field – beginning of proposed access track	8
3	Fern Field – proposed pathway – STP106B in background	8
4	Fern Field – cross view	9
5	Fern Field – cross view	9

## **1.0 Introduction**

Phosphate Resources Limited (PRL) was granted Mining Lease MCI 70/1A on the 4<sup>th</sup> August 1997; in 2013, the lease was extended until 2034 and operates phosphate mining, processing and shipping operations from Christmas Island under the trading name Christmas Island Phosphates (CIP).

Mining Lease MCI 70/1A occupies approximately 1636 hectares. During its tenure, CIP have conducted vegetation clearing for exploration and mining purposes within the mine lease boundaries.

Christmas Island is an Indian Ocean Territory of Australia, located approximately 2,600 km North - West of Perth. The island is predominantly National Park (63%). The boundaries of the National Park and the original mining lease were determined from aerial photography. The areas operated under mine lease have all been previously cleared and under lease conditions no primary rainforest can be cleared for mining operations.

## **2.0 Proposed Clearing Areas**

Areas applied for under this application is a fern field growing over soft pinnacle. The clearing is required to enable access to ML106 STP106B which included within CPS 4506 and covers 0.25ha.

## **3.0 Existing Environment**

Christmas Island has a tropical monsoonal climate with distinct wet and dry seasons and little seasonal variation in temperature. The dry season (May-November) is dominated by low and sporadic rainfall events with consistent south-east trade winds. The wet season generally occurs from December – April with the island receiving most of its rainfall during this period.

Temperatures remain relatively uniform throughout the year, the island has high humidity throughout the year with frequent dews and heavy mists during the wet season.

## **4.0 Geology and Soils**

Christmas Island is one of a series of seamounts that rise above the 5,500m deep abyssal areas of the West Australian Basin. At the core of the island are volcanic rocks, mainly composed of basalt with a layer of limestone generally covering these volcanic rocks, with occasional outcrops.

A series of geological uplifts and successive layering of coral reefs over the basalt core of the island have led to the eruption of new cliffs and terraces from the ocean, forming stepped terraces and inland cliffs. Limestone is mixed with dolomite sediments, basalts and tuffs. Phosphate rich soil covers the limestone over approximately half of the island.

## **5.0 Landforms and Topography**

The island is characterised by sea cliffs that rise via a series of terraces to a central plateau. The shoreline is dominated by cliffs with a few small beaches. The islands natural landscape is dominated by karstic surface landforms and cave systems.

## **6.0 Hydrology**

A major feature of the island is the lack of surface drainage. Rainfall mostly infiltrates the land surface and is utilised by plants, contributes to soil water stores or recharges to groundwater.

Christmas Island soils are generally highly permeable and there is consequently little runoff or erosion in the wet season when the soils are saturated, runoff can during heavy rainfall have some risk of erosion and sedimentation carriage.

Permanent surface water habitats on Christmas Island are limited to a number of spring fed streams found along coastal or sloping areas of the island. Hosnie Springs and The Dales are both listed as a Wetland of International Importance under the Convention on Wetlands of International Importance, Water Fowl Habitat 1971 (RAMSAR Convention) and are listed in the Directory of Important Wetlands in Australia.

## **7.0 Flora**

The Christmas Island National Park covers 63% of the island, approximately 25% of the islands original vegetation has been cleared for mining and infrastructure.

The geology and climate on Christmas Island create the biophysical environment and constraints for the vegetation communities. These factors determine the soil nutrient status, seasonal availability of moisture and degree of exposure to wind which in turn control the distribution, structure and functioning of the natural vegetation.

## **8.0 Fauna**

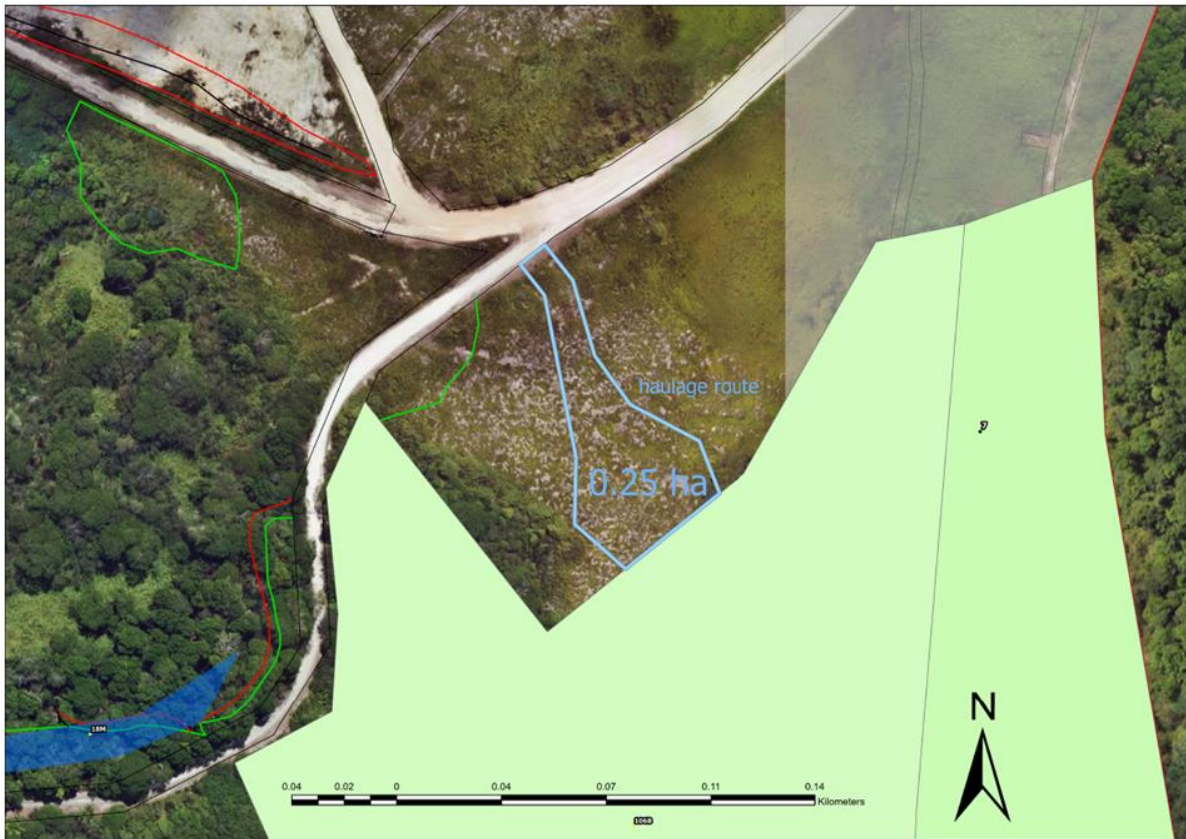
There have been 22 terrestrial fauna species identified as significant. These include 3 seabirds; 7 forest birds; 6 reptiles and 3 land crabs. Of these 2 mammals, 6 birds and 2 reptiles are listed as Threatened under the EPBC Act.

## 9.0 Site Information

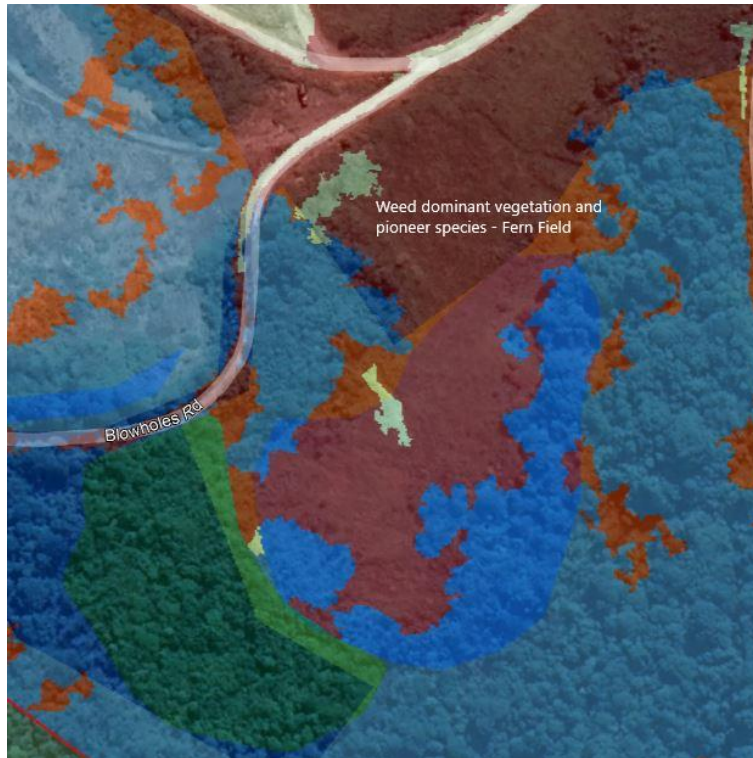
### 9.1 ML106 STP106B Access Road

ML106 STP106B covers 5.739ha, and has been approved for clearing within CPS4506. The referral application covers 0.25ha outside of the current clearing permit which is required to create safe access to the stockpile through a fern field.

In support of this application please see Figures and Plates below.



**Figure 1 ML106 Application Area**



**Figure 2** ML106 Vegetation Map - Digital Spatial Data 2014



**Plate 1** Roadside Vegetation



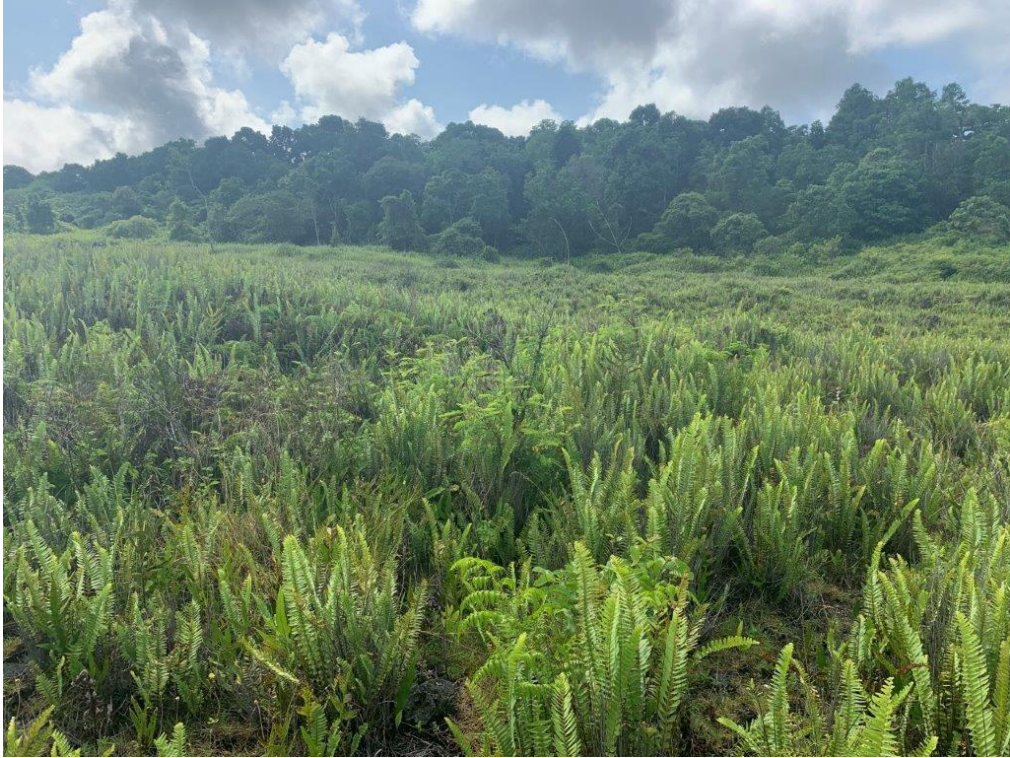


**Plate 2 Fern Field – beginning of proposed access track**



**Plate 3 Fern Field – proposed pathway – STP106B in background**





**Plate 4 Fern Field – cross view**



**Plate 5 Fern Field – cross view**