



Clearing Permit Referral Supporting Information

Sampan Project - *Gyrocarpus americanus*

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Version date: 28.07.2023

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CHRISTMAS ISLAND PHOSPHATES







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1.0 Introduction

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%).

2.0 Proposed Clearing

The planned clearing is to remove one tree (*Gyrocarpus americanus*) which is located within local Shire reserve in the Area known as Smith Point. There is no evidence of nesting within the tree of the immediate vicinity and removal of the tree is planned in a manner to minimise impact on any of the surrounding vegetation.

The request to remove the tree is to enable the building/carving of a traditional Malay Sampan. The process of building/carving the Sampan will be filmed to record the process for future generations, as the craft has not been passed onto the next generation due to the lack of suitable trees which can be accessed. This may be the last Sampan to be built on Christmas Island.

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 island's 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.

7.1 Site Vegetation

Vegetation within the nominated area contains *Ficus microcarpa*, *Pandanus elatus*, *Macaranga tanarius*, *Maclura cochinchinensis*, and *Leuceana leucocephala*. Dominate species are *Ficus microcarpa*, *Pandanus elatus* and various weed species.

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. There is no threat to fauna within the proposed action.



9.0 Site Information
9.1 Smith Point Tree Site

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

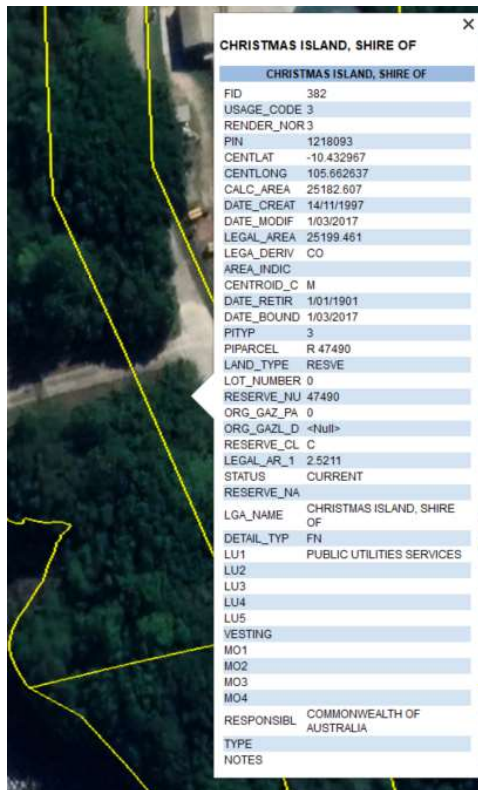


Figure 1 Tree Site at Smith Point



Plate 1 Ficus surrounding Gyrocarpus with Pandanas growing at base



Plate 2 Ficus surrounding Gyrocarpus with various weed species and Pandanas growing at base



Plate 3 Vegetation look towards the ocean – this vegetation in this area is made up of Ficus, Leuceana and Pandanas



Plate 4
process.

Parking area edging vegetation (Leuceana) which may be impacted during tree removal



Plate 5
process.

Roadside edging vegetation (Leuceana) which may be impacted during tree removal