GOVERNMENT OF
WESTERN AUSTRALIA

# CLEARING PERMIT

*Granted under section 51E of the Environmental Protection Act 1986*

| | |
|---|---|
| **Purpose Permit number:** | CPS 8472/1 |
| **Permit Holder:** | Department of Infrastructure, Regional Development and Cities |
| **Duration of Permit:** | 23 September 2019 to 23 September 2024 |

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

## PART I – CLEARING AUTHORISED

1. **Purpose for which clearing may be done**
   Clearing for the purpose of upgrading of existing drainage infrastructure

2. **Land on which clearing is to be done**
   Murray Road reserve - 11831914, Christmas Island
   Murray Road reserve - 11831915, Christmas Island
   Murray Road reserve - 11831916, Christmas Island
   Murray Road reserve - 11344302, Christmas Island
   Lot 282 on Plan 218258, Christmas Island
   Lot 415 on Plan 192160, Christmas Island
   Lot 472 on Plan 219656, Christmas Island
   Lot 554 on Plan 221294, Christmas Island
   Lot 604 on Plan 74724, Christmas Island
   Lot 606 on Plan 74724, Christmas Island
   Unallocated Crown Land - 1190061, Christmas Island

3. **Area of Clearing**
   The Permit Holder must not clear more than two hectares of native vegetation within the area cross-hatched yellow on attached Plan 8472/1.

4. **Application**
   This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

## PART II – MANAGEMENT CONDITIONS

5. **Avoid, minimise and reduce the impacts and extent of clearing**
   In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:
   (a) avoid the clearing of native vegetation;
   (b) minimise the amount of native vegetation to be cleared; and
   (c) reduce the impact of clearing on any environmental value.

6. **Weed control**
When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds*:
(a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
(b) ensure that no known *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
(c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

## PART III – RECORD KEEPING AND REPORTING

7. **Record keeping**
The Permit Holder must maintain the following records in relation to the clearing of native vegetation authorised under this Permit:
(a) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
(b) the date(s) that the area was cleared;
(c) the size of the area cleared (in hectares);
(d) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 5 of this Permit; and
(e) actions taken to minimise the risk of the introduction and spread of *weeds* in accordance with condition 6 of this Permit.

8. **Reporting**
The Permit Holder must produce the records required under condition 7 of this Permit when required by the *CEO*.

## DEFINITIONS

The following meanings are given to terms used in this Permit:

***CEO*** means the Chief Executive Officer of the Department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*;

***fill*** means material used to increase the ground level, or fill a hollow;

***mulch*** means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

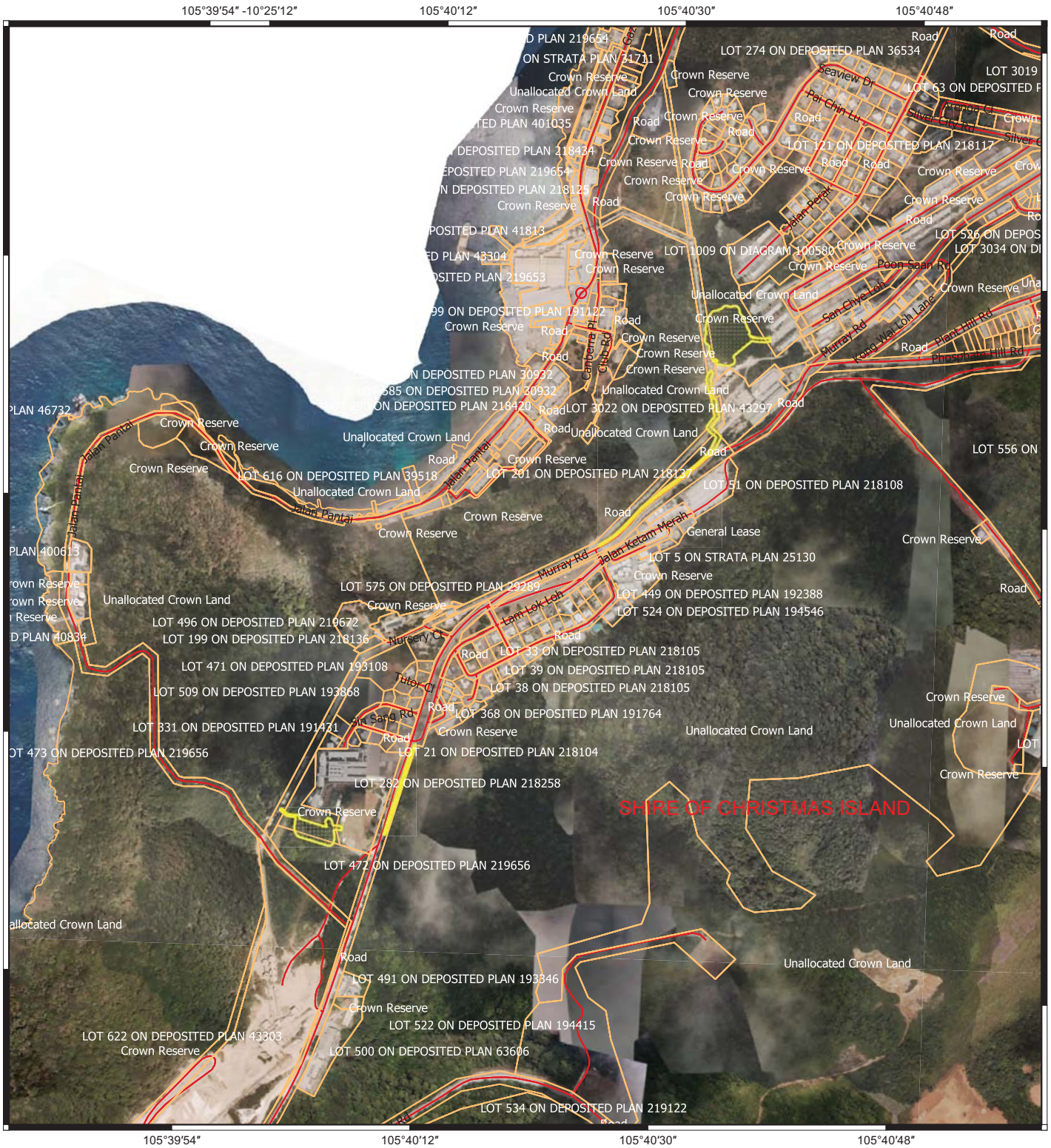
***weed/s*** means any plant -
(a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or
(b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or
(c) not indigenous to the area concerned.

Samara Rogers
MANAGER
NATIVE VEGETATION REGULATION

*Officer delegated under Section 20*
*of the Environmental Protection Act 1986*

19 August 2019

# Plan 8472/1




## Legend

- CPS areas approved to clear
- Cadastre
- Roads
- Local Government Authorities

Image

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Officer with delegated authority under Section 20
of the Environmental Protection Act 1986

GOVERNMENT OF
WESTERN AUSTRALIA

Government of Western Australia
Department of Water and Environmental Regulation

# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

**Permit application No.:** 8472/1
**Permit type:** Purpose Permit

### 1.2. Applicant details

**Applicant's name:** Department of Infrastructure, Regional Development and Cities
**Application received date:** 18 April 2019

### 1.3. Property details

**Property:**
Murray Road reserve - 11831914, Christmas Island
Murray Road reserve - 11831915, Christmas Island
Murray Road reserve - 11831916, Christmas Island
Murray Road reserve - 11344302, Christmas Island
Lot 282 on Plan 218258, Christmas Island
Lot 415 on Plan 192160, Christmas Island
Lot 472 on Plan 219656, Christmas Island
Lot 554 on Plan 221294, Christmas Island
Lot 604 on Plan 74724, Christmas Island
Lot 606 on Plan 74724, Christmas Island
Unallocated Crown Land - 1190061, Christmas Island

**Local Government Authority:** Shire of Christmas Island
**Localities:** Christmas Island

### 1.4. Application

| Clearing Area (ha) | No. Trees | Method of Clearing | Purpose category: |
|---|---|---|---|
| 2 | | Mechanical Removal | Drainage |

### 1.5. Decision on application

**Decision on Permit Application:** Grant
**Decision Date:** 19 August 2019

**Reasons for Decision:**
The clearing permit application has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986* (EP Act). It has been concluded that the proposed clearing may be at variance to principle (h), and is not likely to be at variance to the remaining principles.

It has been determined that the proposed clearing may impact the environmental values of adjacent vegetation through the introduction or spread of weeds.

In determining to grant a clearing permit, the Delegated Officer determined that potential impacts to adjacent vegetation and conservation areas can be adequately minimised and/or avoided by imposing weed management measures.

## 2. Site Information

**Clearing Description**
The application is to clear two hectares of native vegetation within Murray Road reserve (PINs 11831914, 11831915, 11831916 and11344302), Lot 282 on Deposited Plan 218258, Lot 415 on Deposited Plan 192160, Lot 472 on Deposited Plan 219656, Lot 554 on Deposited Plan 221294, Lot 604 on Deposited Plan 74724, Lot 606 on Deposited Plan 74724 and unallocated Crown land (PIN 1190061), Christmas Island, for the purpose of upgrading of existing drainage infrastructure. The application area is described as three distinct areas in this assessment, distinguished as the 'school site – drainage basin area, 'school site – Murray Road area' and as Silver City Area (basin and incline)' (figure 1).

**Vegetation Description**
The vegetation within the application area is mapped as:
**School site** (both at the proposed basin and along Murray Road): predominantly 'Regrowth' with some minor areas of 'Mixed weed and pioneer species';
**Silver City** (proposed basin): predominantly contain '*Leaucanea leucocephala* dominant' with some areas of 'Regrowth'; and
**Silver City** (along the incline): 'Mixed weed and pioneer species' and some small areas of 'Regrowth' (GeoScience Australia, 2011-2014, as referenced in GHD, 2019).

A vegetation and fauna assessment/survey of the application area undertaken on 20-21 February 2019 recorded the application area to comprise the following vegetation types:

**School site – drainage basin area:** the vegetation is marginal rainforest and consists of a range of forest tree species up to 30 metres high, over lower level trees and palms, with a very limited understorey. At the outer edges of the forest, adjacent to the school, a number of weed shrub and herb species are present, in a dense layer at the base of the trees;

**School site – Murry Road area:** Only a few semi-mature trees of the marginal rainforest vegetation type are present in the survey area, with much of the vegetation being mown weeds or introduced shrubs (the latter in a strip 2-3 metres wide). Included were a non-native palm and an introduced, unidentifiable small tree/shrub from the Fabaceae family;

**Silver City area (including incline):** What remains of the native vegetation consists of scattered trees and shrubs of marginal rainforest. The majority of the plants are introduced shrubs and small trees in disturbed soils, dominated by the introduced species, *Leucaena leucocephala* (GHD, 2019).

**Vegetation Condition**

Good; Vegetation structure significantly altered with obvious signs of multiple disturbance. Retains basic vegetation structure or ability to regenerate (Keighery, 1994);
To
Degraded; Basic vegetation structure severely impacted by disturbance, scope for regeneration but not to a state approaching good condition without intensive management (Keighery, 1994).

**Soil type**

The soils within the application area are described as:
**School site – drainage basin area:** The vegetation is on an upper/middle terrace of the Island, in relatively shallow soils over some areas of outcropping limestone boulders and sheets;
**School site – Murry Road area:** The vegetation is on an upper/middle terrace of the Island, in sandy soils;
**Silver City area (including incline):** The vegetation is on an upper/middle terrace of the Island. Much of the area has been previously excavated for drainage and/or soil borrow, which has exposed outcropping limestone and boulders (GHD, 2019).

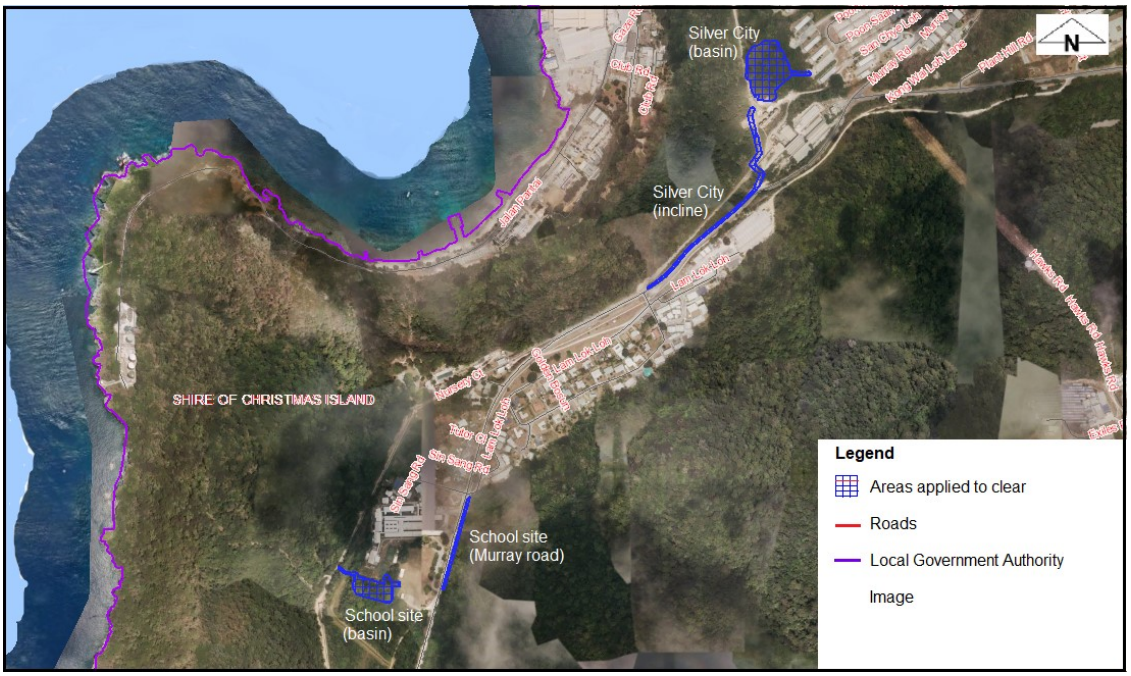


**Figure 1: Application area**

## 3. Minimisation and mitigation measures

The applicant has minimised the clearing of native vegetation by choosing locations which have been historically cleared and those close to previously cleared areas. Additionally the areas disturbed have been located in places where the drainage will be the most functional, thereby minimising the impact of major, uncontrolled drainage flows over other areas of native vegetation, which in the past have resulted in some landslides, damaging vegetation (GHD, 2019).

The applicant has also committed to limiting construction works to those times outside of crab migration, as advised by Christmas Island National Parks (GHD, 2019).

## 4. Assessment of application against clearing principles

### (a) Native vegetation should not be cleared if it comprises a high level of biodiversity.

**Proposed clearing is not likely to be at variance to this Principle**
Christmas Island has over 240 native flora species, with at least 18 known to be worldwide endemics. About half of the non-endemic native species are not known to occur anywhere else in Australia or its Territories. Exotic species now comprise a major component of the island's flora, with at least 390 exotic species known and 221 of these identified as posing a current or potential weed threat (Director of National Parks, 2014).

No priority flora species are listed for Christmas Island.

Christmas Island is home to three threatened flora species, being; *Asplenium listeri* (Christmas Island Spleenwort), *Tectaria devexa* var. *minor* and *Pneumatopteris truncate*. A survey of the application area did not record any conservation significant flora species within the application area (GHD, 2019).

No state or federally listed priority or threatened ecological communities (TEC) are located on Christmas Island.

During the 2019 surveys, GHD identified two fauna species of conservation significance, *Turdus poliocephalus erythropleurus* (the Christmas Island thrush) and *Ninox natalis* (the Christmas Island hawk owl), both of which are highly mobile species. The Christmas Island thrush was observed within the application area during the survey, as well as throughout other locations on the island. The Christmas Island hawk owl was heard within proximity of the school site during the survey, however no potential nesting hollows were observed within the application area (GHD, 2019). The adjacent intact vegetation in the rain forests contains more suitable habitat for these two species. The proposed clearing is also not expected to cause any fragmentation of habitats due to their extent and locations, therefore is not likely to have a minimal impact on migration pathways for red crabs (GHD, 2019). Fauna is discussed in more detail under principle (b).

Noting that parts of the application area have been previously cleared and does not contain a high level of biodiversity when compared to remnant forest which covers approximately 65 per cent of the island, the proposed clearing is not likely to be at variance to this principle.

### (b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.

**Proposed clearing is not likely to be at variance to this Principle**
Christmas Island provides habitat for several species of fauna indigenous to the island including fourteen native bird species and nine species of seabird which use the island for breeding. Four seabird taxa and nine land bird taxa are endemic to the island. A further 108 migratory or vagrant bird species have been recorded on the island. Six of the island's endemic birds are listed as threatened under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Based on available databases, the application area is likely to support suitable habitat for *Chalcophaps indica Natalis* (Christmas Island emerald dove), *Turdus poliocephalus erythropleurus* (the Christmas Island thrush) and *Ninox natalis* (the Christmas Island hawk owl). A field survey by GHD identified the Christmas Island thrush within the application area and heard the Christmas Island hawk owl within proximity of the school site (GHD, 2019).

The Christmas Island thrush is listed as Endangered under the EPBC Act. This species is confined to Christmas Island, where it is considered to be widespread. The extent of occurrence is estimated to be 137 kilometres squared (DotEE, 2019a).

The Christmas Island hawk owl is confined to Christmas Island and occupies permanent territories in all forest types on the island, with highest densities in primary forest and lowest in post-mining regrowth (DotEE, 2019b). The Christmas Island hawk owl was heard within proximity of the school site during the survey, however no potential nesting hollows were observed within the application area (GHD, 2019).

Both these species are highly mobile and therefore the proposed clearing is not likely to significantly impact upon these species. In addition, approximately 63 per cent of the island is National Park which provides better quality habitat for these species.

In addition to the above two threatened species, five other conservation significant fauna species were observed during the flora survey, being; robber crab (*Birgus latro*), red crab (*Gecarcoidea natalis*), Christmas Island white eye (*Zosterops natalis*), Christmas Island imperial pigeon (*Ducula whartoni*) and tree sparrow (*Passer montanus*) (GHD, 2019).

The Christmas Island white eye, Christmas Island imperial pigeon and the tree sparrow are widespread and highly mobile and therefore the proposed clearing is not likely to significantly impact upon these species. In addition, approximately 63 per cent of the island is National Park which provides better quality habitat for these species.

Red crabs are most common in the moist environment of the rainforest, however also inhibit a variety of other habitats. The only habitat they are not found in are the areas cleared of rainforest and stripped of soil for phosphate mining. Current estimates of population size are about 50-60 million (Orchard, 2015). At the beginning of the wet season (around October to December) every year adult red crabs migrate from the forest to the coast, to breed and spawn. Red crabs were observed at the school site, but were not seen at the other sites (GHD, 2019). The application areas are not located within important migration pathways for the red crab. The proposed clearing is also not expected to cause any fragmentation of habitats due to their extent and locations, therefore is not likely to have a minimal impact on migration pathways for red crabs (GHD, 2019). The applicant has also committed to limiting construction works to those times outside of crab migration, as advised by Christmas Island National Parks (GHD, 2019).

Christmas Island supports the world's largest population of the world's largest terrestrial invertebrate, the robber crab. Robber crabs have a wide distribution across many Indian and Pacific oceanic islands but in most of their range they are now scarce, heavily hunted and in serious decline. Although abundant on Christmas Island their exact conservation status is unknown (DotEE, 2019c). Robber crabs were observed at the school site, but were not seen at the other sites (GHD, 2019). Noting their distribution on Christmas Island and noting that the majority of the application area is in degraded condition, the application area is not likely to support significant habitat for the robber crab.

Noting the above, the proposed clearing is not likely to be at variance to this principle.

**(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.**

**Proposed clearing is not likely to be at variance to this Principle**
Christmas Island is home to three species listed as threatened under the EPBC Act. These three species are *Asplenium listeri* (Christmas Island Spleenwort), *Tectaria devexa* var. *minor* and *Pneumatopteris truncata*.

*Tectaria devexa* var. *minor* is described as growing in shaded positions in the primary rainforest on the plateau, usually in areas of deep soil, where it may be the only forest floor species (Butz, 2004a).

*Asplenium listeri* (Christmas Island Spleenwort) is a fern endemic to Christmas Island, where it is known from a very small number of localities growing among rocks and on cliffs of exposed limestone outcrops (Butz, 2004b).

*Pneumatopteris truncata* grows colonially on permanently moist sites, in marginal rainforest and in shaded areas, between 50 and 140 metres above sea-level (DotEE, 2019d).

Flora surveys of the application areas did not identify any of the abovementioned species (GHD, 2019).

Given the above, the proposed clearing is not likely to be at variance to this principle.

**(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.**

**Proposed clearing is not at variance to this Principle**
No TECs have been recorded on Christmas Island.

Therefore, the propose clearing is not at variance to this principle.

**(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.**

**Proposed clearing is not likely to be at variance to this Principle**
Christmas Island retains approximately 75 per cent native vegetation, of which 84 per cent (63 per cent of total island area) is protected as National Park.

The application area contains vegetation in good (Keighery, 1994) to degraded (Keighery, 1994) condition and does not contain significant habitat for indigenous fauna. Also given the amount of vegetation remaining on Christmas Island it is not a significant remnant in an area that has been extensively cleared.

Therefore, the proposed clearing is not likely to be at variance to this principle.

**(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.**

**Proposed clearing is not at variance to this Principle**
The proposed clearing is not growing in or is associated with a watercourse or wetland.

Perennial surface water features on Christmas Island are limited to spring fed streams on coastal or sloping areas of the island.

The proposed clearing is not at variance to this principle.

**(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.**

**Proposed clearing is not likely to be at variance to this Principle**
Christmas Island has a high annual rainfall of approximately 2000 millimetres per year. Despite this, the island has very little in the way of natural running water. Approximately 70 per cent of the rainfall is taken up by the island's plants and the remaining infiltrates through the soil to recharge the groundwater. The soil and underlying limestone rock is very porous and there is very little runoff except during torrential wet season downpours (GHD, 2007).

The project is considered necessary to improve the stormwater and drainage infrastructure on the island due to a number of landslip events and increasing erosion. This is a result of flooding events which have caused significant damage to down-gradient infrastructure. The most significant areas currently affected are located in between the Drumsite and Flying Fish Cove and specifically along the Kampong residential area. The flooding events and consequent high levels of erosion are causing major damage to vegetation in the area. The proposed clearing to upgrade the drainage infrastructure in this area is anticipated to significantly reduce the number of flooding events and associated erosion and therefore will have a positive impact for land degradation (GHD, 2019).

The proposed clearing is not likely to be at variance to this principle.

**(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.**

**Proposed clearing may be at variance to this Principle**
Two Ramsar listed wetlands (Honsie's Spring and The Dales) are located on Christmas Island. Both of these conservation areas are located within the National Park. At its closest point, the application area is located approximately 4500 metres northwest of Honsie's Spring. The Dales are approximately 12 kilometres southwest of the application area. Given the distance to these Ramsar sites the proposed clearing is not likely to impact on the environmental value of these areas.

Christmas Island retains approximately 75 per cent native vegetation, of which 84 per cent (63 per cent of total island area) is protected as National Park. The majority of the National Park is uncleared primary rainforest.

The majority of weeds on Christmas Island cannot survive in primary rainforest mainly due to low light and consumption by crabs. Potential plant invaders of intact rainforest must possess two key traits: the ability to establish and grow under heavy shade, and the ability of both seeds and seedlings to tolerate, evade, or resist consumption by red crabs (Green et al., 2003). The majority of weeds on Christmas Island do not have these key traits are therefore unable to penetrate primary rainforest. However, there are some shade tolerant species that can spread into forested areas.

Weed management practices should be sufficient to ensure that the environmental values of the National Park are not compromised.

The proposed clearing may be at variance to this principle.

**(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.**

**Proposed clearing is not likely to be at variance to this Principle**
The proposed clearing is not growing in or is associated with a watercourse or wetland.

Due to high infiltration rates on Christmas Island, erosion and sedimentation is generally localised to compacted areas such as roads and stockpiles. Therefore, the proposed clearing is not likely to cause deterioration in the quality of surface water.

Christmas Island retains approximately 75 per cent native vegetation and therefore the clearing of two hectares of vegetation will not result in an increase in groundwater salinity.

The proposed clearing is not likely to be at variance to this principle.

**(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.**

**Proposed clearing is not likely to be at variance to this Principle**
The proposed clearing will not increase the incidence or intensity of flooding due to the porous nature of the soils and the underlying rock structures on Christmas Island.

The proposed clearing is not likely to be at variance to this principle.

**Planning instruments and other relevant matters.**

The Shire of Christmas Island advised that the Shire has no objection to the proposed clearing (Shire of Christmas Island, 2019)

The proposed clearing has also been referred to the Department of the Environment and Energy to be assessed under the Environment Protection and Biodiversity Conservation Act 1999 (Reference 2019/8467).

The clearing permit application was advertised on the DWER website on 30 May 2019 with a 21 day submission period. The application was also advertised in The Islander on 7 July 2019. No public submissions have been received in relation to this application.

## 5. References


Butz M. 2004a. National Recovery Plan for the Christmas Island Spleenwort Asplenium listeri. Commonwealth of Australia, Canberra, ACT.

Butz M. 2004b. National Recovery Plan for Tectaria devexa. Department of the Environment and Heritage, Canberra.

Director of National Parks (2014). Christmas Island Biodiversity Conservation Plan – DRAFT. Department of the Environment, Canberra. Available from https://www.environment.gov.au/resource/draft-christmas-island-biodiversity-conservation-plan

Department of the Environment and Energy (2019a) *Turdus poliocephalus erythropleurus* - the Christmas Island thrush, Christmas Boobook in Species Profile and Threats Database, Department of the Environment, Canberra. Available from: http://www.environment.gov.au/sprat. Accessed August 2019

Department of the Environment and Energy (2019b) *Ninox natalis* — Christmas Island hawk-owl, in Species Profile and Threats Database, Department of the Environment, Canberra. Available from: http://www.environment.gov.au/sprat. Accessed August 2019

Department of the Environment and Energy (2019c) robber crab - *Birgus latro*, in Species Profile and Threats Database, Department of the Environment, Canberra. Available from: http://www.environment.gov.au/sprat. Accessed August 2019

Department of the Environment and Energy (2019a) *Pneumatopteris truncata* in Species Profile and Threats Database, Department of the Environment, Canberra. Available from: http://www.environment.gov.au/sprat. Accessed August 2019

GHD (2007) Christmas Island - Airport Upgrade Environmental Impact Statement. Document Number: 31978R4

GHD (2019) Application form and supporting Information for clearing permit application CPS 8472/1. Received by DWER on 18 April 2019 (DWER Ref: A1782736).

Green P.T, Lake P.S and O'Dowd D.J (2003) Resistance of island rainforest to invasion by alien plants: influence of microhabitat and herbivory on seedling performance.

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Orchard, M (2015) Crabs of Christmas Island. Accessed from https://www.christmasislandcrabs.com/ August 2019

Shire of Christmas Island (2019) Supporting Information for clearing permit application CPS 8427/1. Shire of Christmas Island. Received by DWER on 30 May 2019 (DWER Ref: A1792848).