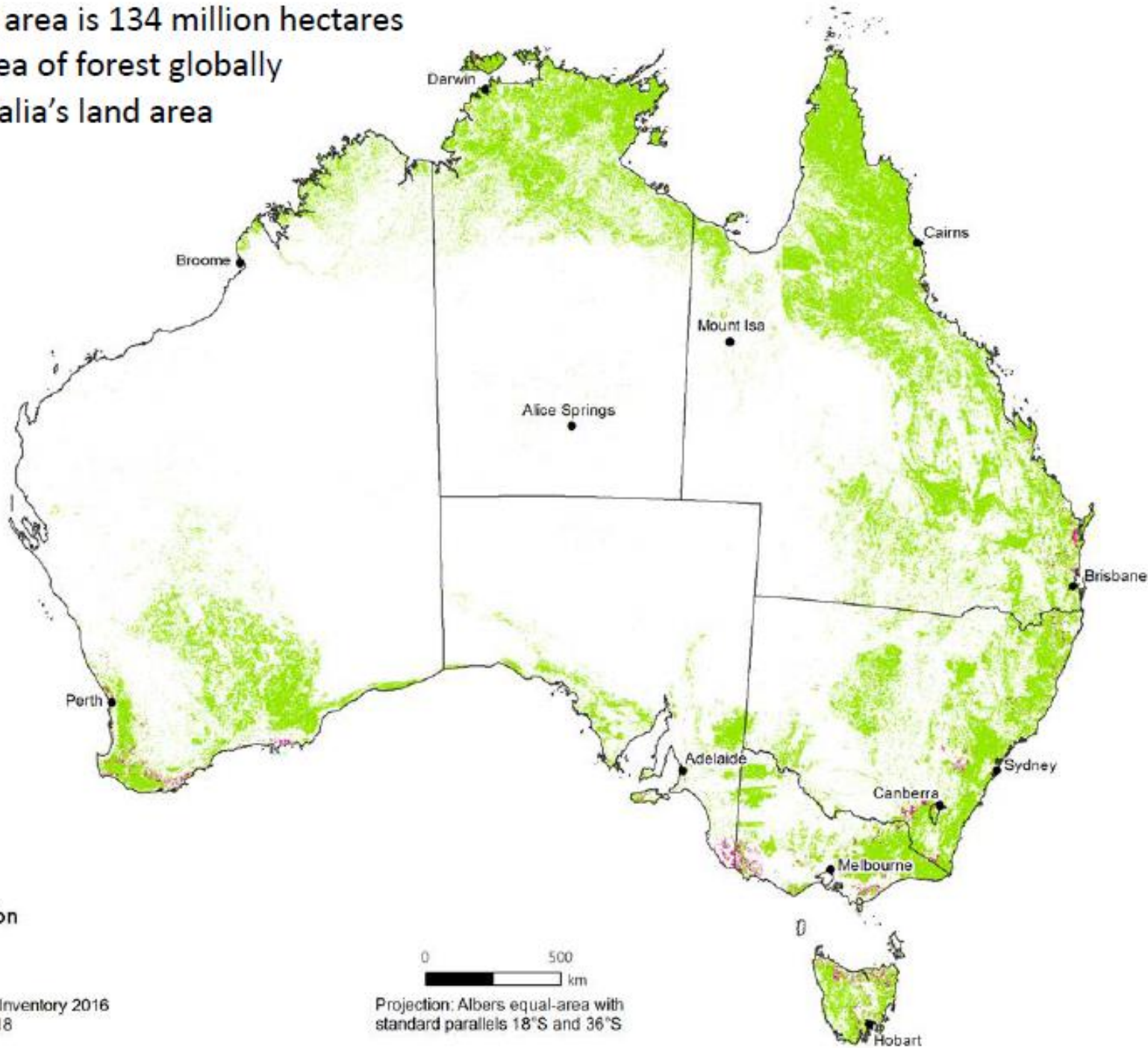# Threatened Plant Adviser

A decision support system for managing threatened flora species within the Tasmanian forest practices system

Anne Chuter, Angela Gardner and Mark Wapstra

FPA
FOREST PRACTICES AUTHORITY

Australia's forest area is 134 million hectares

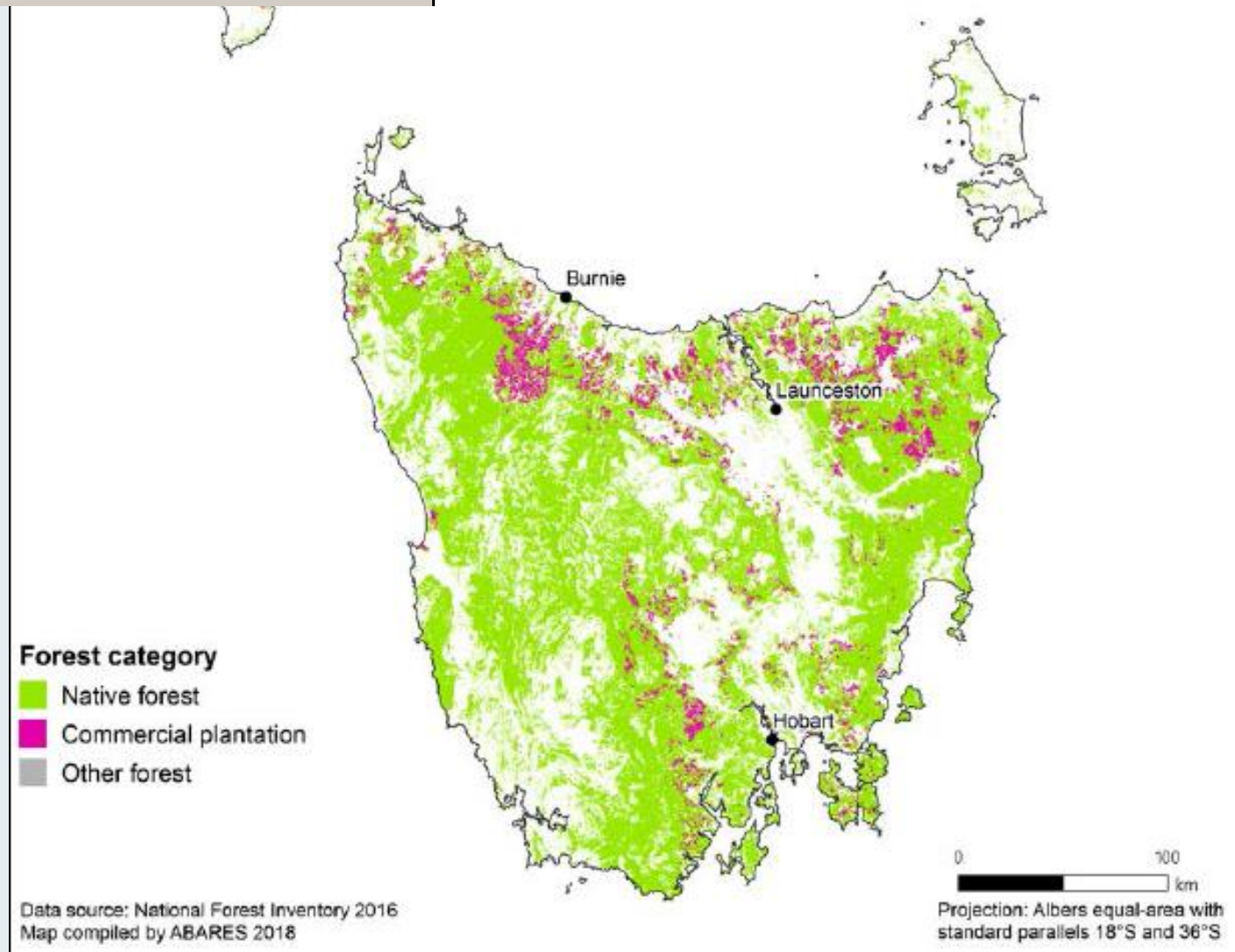- 7th largest area of forest globally
- 17% of Australia's land area

Forest category

- Native forest
- Commercial plantation
- Other forest

Data sources: National Forest Inventory 2016
Map compiled by ABARES 2018

Projection: Albers equal-area with
standard parallels 18°S and 36°S

Tasmania's forest area is 3.70 million hectares
- native forest 3.34 million hectares
- commercial plantations 0.31 million hectares

Forest category
- Native forest
- Commercial plantation
- Other forest

Burnie

Launceston

Hobart

0   100
km

Data source: National Forest Inventory 2016
Map compiled by ABARES 2018

Projection: Albers equal-area with
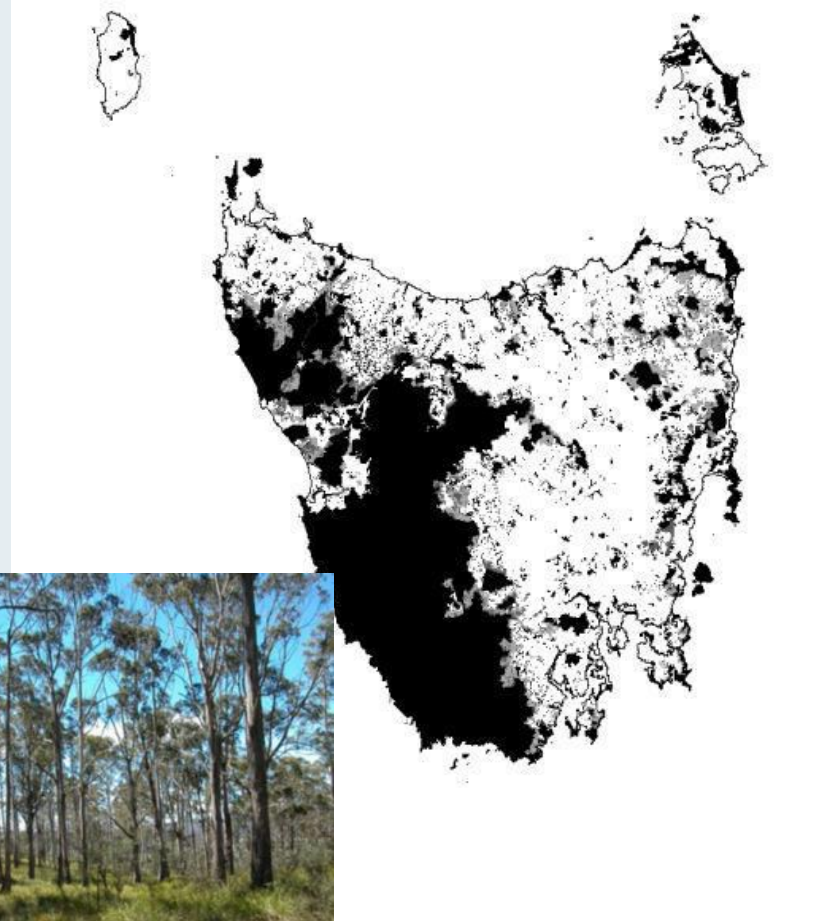standard parallels 18°S and 36°S
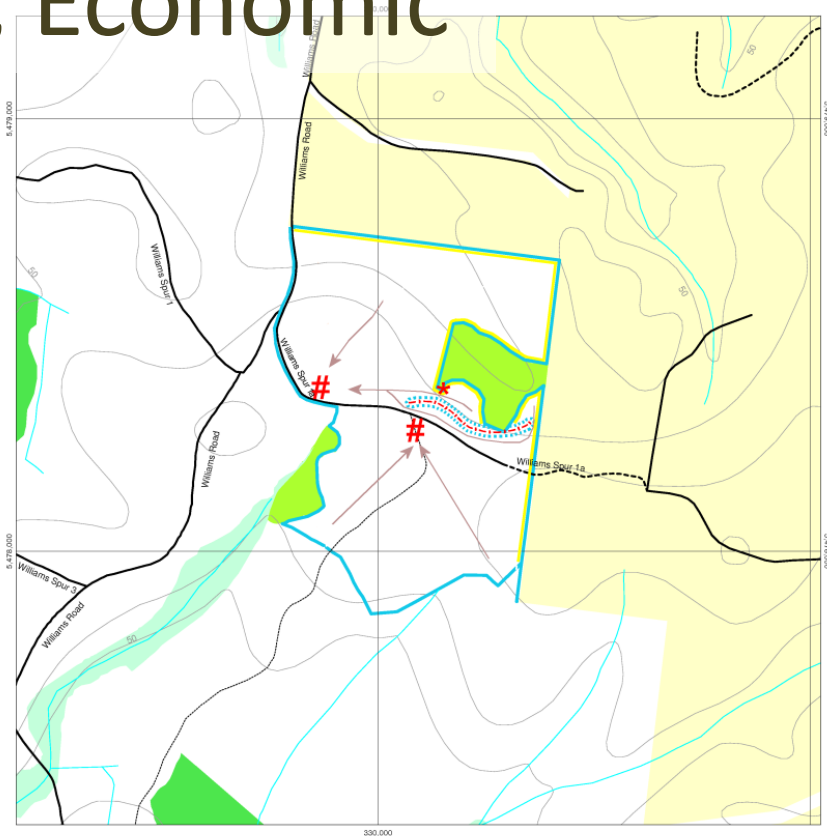
Tasmania's forest conservation

1. Comprehensive, Adequate, Representative (CAR) reserve system

2. Permanent native forest estate

3. 'Off-reserve' management actions

Environmental, Social, Economic

Threatened flora management

350 threatened species (out of approx. 500 listed species) can occur in forest in Tasmania.

Ben Lomond leak orchid
Prasophyllum stellatum (e, CR)

Prioritisation process

Conservation management priority →

Group Three
112

Group Two
91

Group One
106

- Data deficient
- High risk

Threatened Plant Adviser

Threatened Plant Adviser 2018

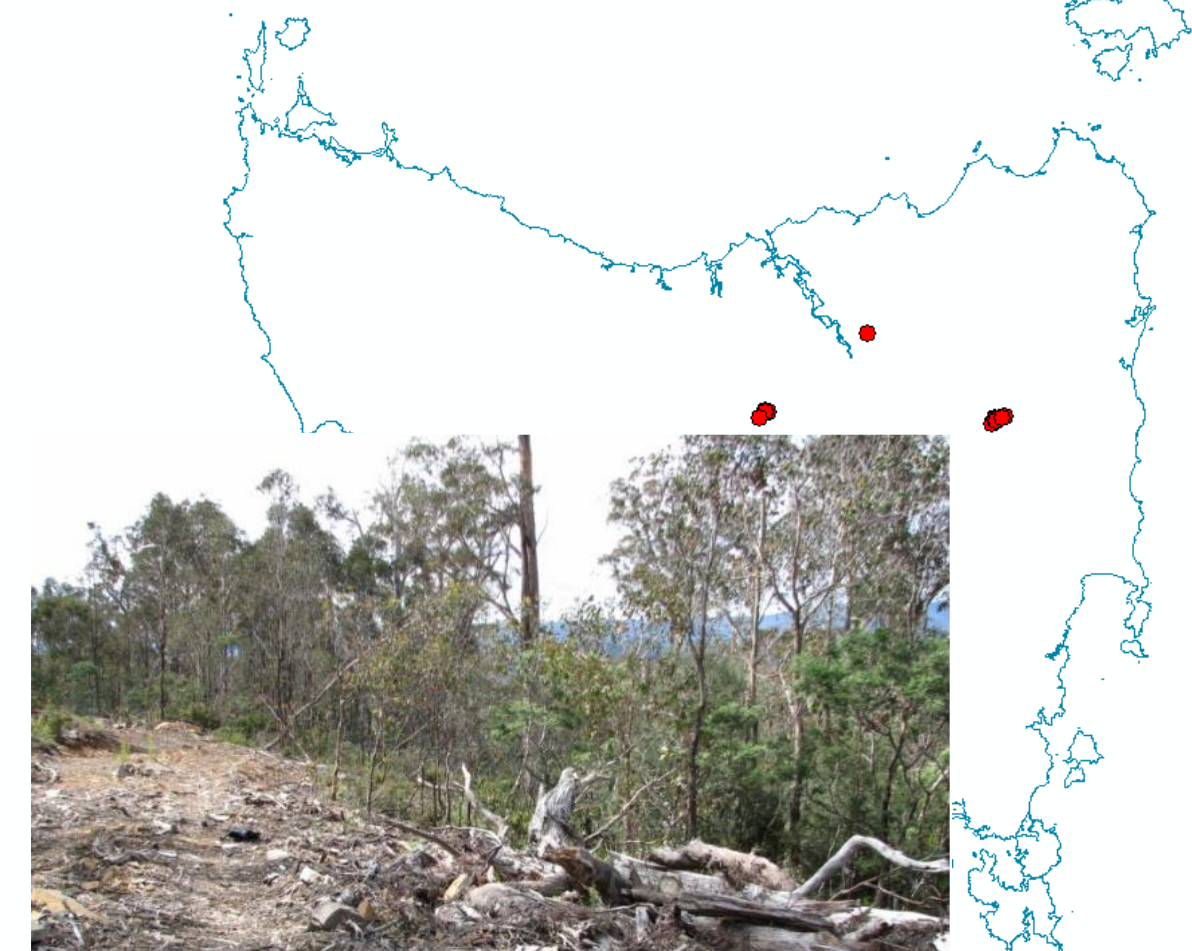A decision-support system to advise on the management of threatened plants in wood production forests in Tasmania

Developed by the Forest Practices Authority in cooperation with the Department of Primary Industries, Parks, Water and Environment, and funding support from the CRC for Forestry

To be used in conjunction with the Biodiversity Values Database

The Threatened Plant Adviser has been designed for use in the planning of forestry activities. It should only be used by persons who have been trained and accredited in its use by the FPA.
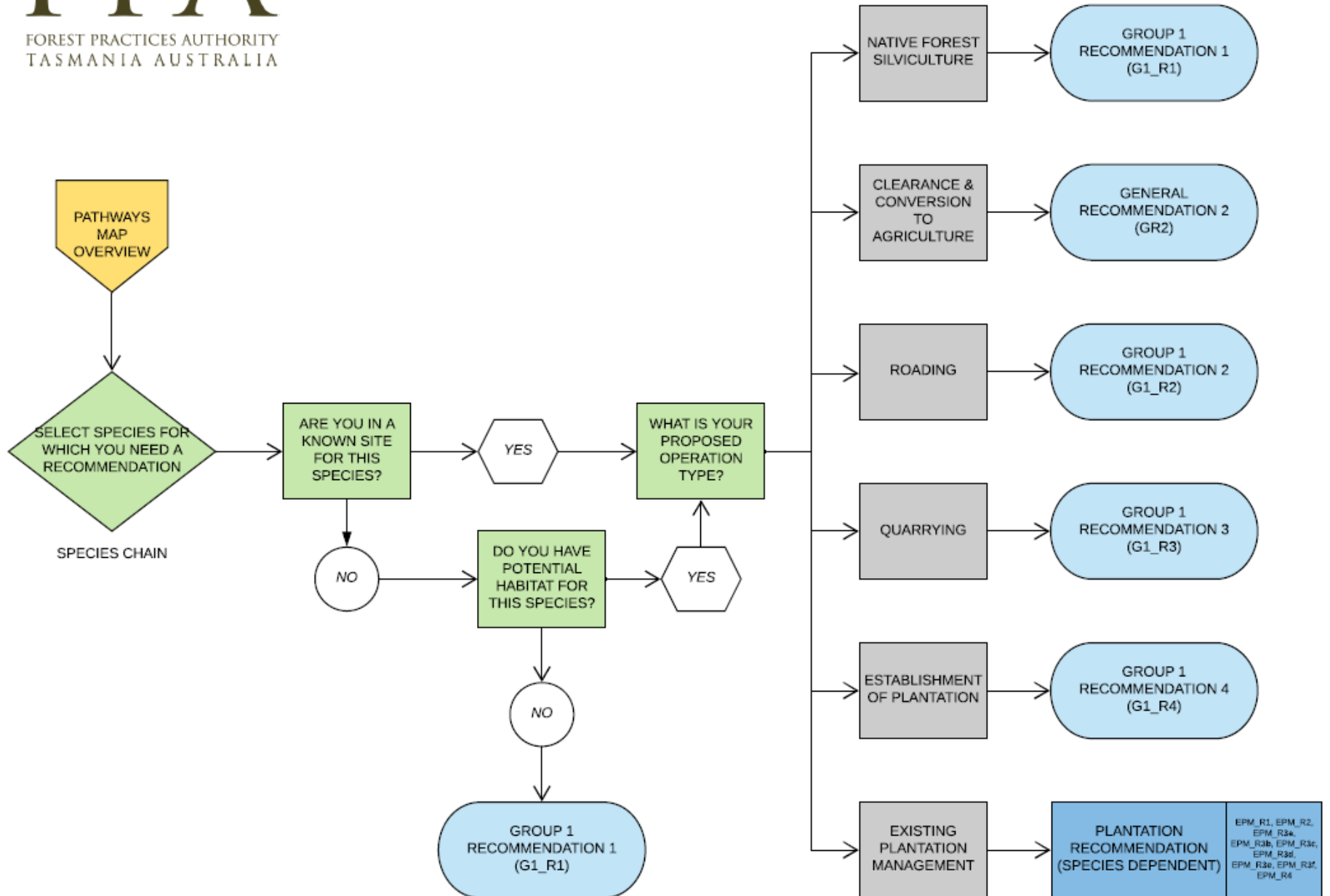
| Help | Continue |

CRC for Forestry

FPA

Tasmanian Government

A decision tree expert system.

XpertRule software
➢ Expert system that uses if-then rules
➢ Knowledge base

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Threatened Flora Advisor: Pathways Map A - Group 1 Species

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TASMANIA AUSTRALIA

```
PATHWAYS
MAP
OVERVIEW
   │
   ▼
SELECT SPECIES FOR        ARE YOU IN A              WHAT IS YOUR
WHICH YOU NEED A ──────▶  KNOWN SITE ──▶ YES ────▶  PROPOSED
RECOMMENDATION            FOR THIS                  OPERATION
                          SPECIES?                  TYPE?

SPECIES CHAIN                 │
                              ▼
                             NO
                              │
                              ▼
                          DO YOU HAVE
                          POTENTIAL ──────▶ YES
                          HABITAT FOR
                          THIS SPECIES?
                              │
                              ▼
                             NO
                              │
                              ▼
                          GROUP 1
                          RECOMMENDATION 1
                          (G1_R1)
```

Operation types and recommendations:

- NATIVE FOREST SILVICULTURE → GROUP 1 RECOMMENDATION 1 (G1_R1)
- CLEARANCE & CONVERSION TO AGRICULTURE → GENERAL RECOMMENDATION 2 (GR2)
- ROADING → GROUP 1 RECOMMENDATION 2 (G1_R2)
- QUARRYING → GROUP 1 RECOMMENDATION 3 (G1_R3)
- ESTABLISHMENT OF PLANTATION → GROUP 1 RECOMMENDATION 4 (G1_R4)
- EXISTING PLANTATION MANAGEMENT → PLANTATION RECOMMENDATION (SPECIES DEPENDENT) | EPM_R1, EPM_R2, EPM_R3a, EPM_R3b, EPM_R3c, EPM_R3d, EPM_R3e, EPM_R3f, EPM_R4

Threatened Plant Adviser 2018

A decision-support system to advise on the management of threatened plants in wood production forests in Tasmania

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To be used in conjunction with the Biodiversity Values Database

Select Flora Species:

Exit	Back	Continue

Select the species or species group for which you need a recommendation

- Acacia axilli
- Acacia pata
- Acacia sicul
- Acacia ulici
- Acacia unci
- Acrotriche d
- Agrostis au
- Agrostis die
- Allocasuari
- Allocasuari
- Alternanthe
- Ambuchana
- Amphibrom

Known Site

Do you have a known site for this species?

For the purposes

- ● Yes
- ○ No

Operation Type

What is the planned operation type?

- ● Native Forest Silviculture
- ○ Clearance and Conversion to Agriculture
- ○ Roading
- ○ Quarrying
- ○ Establishment of New Plantation
- ○ Existing Plantation Management

Exit

TPA_Final_Report

GROUP 2: NATIVE FOREST SILVICULTURE - *ACACIA AXILLARIS*

Acacia axillaris is primarily found in the Midlands-Lake Leake area, but has an important outlying population at Mt Barrow

The management objective for this species is to implement actions that will maintain the species across its range, with particular emphasis on maintaining an outlying population.

To achieve the management objective the following actions are recommended.

Mt Barrow area

- The extent of the population of *Acacia axillaris* within the FPP area must be surveyed and mapped (refer to *FPA Survey Guidelines*).
- Retain a minimum of 90% of the mapped population of *Acacia axillaris* within areas excluded from harvesting. This can be within and/or adjacent to the FPP area (e.g. extended streamside reserves, wildlife habitat clumps, etc.). The 90% threshold is arbitrary, intended to result in "most" of the mapped population being retained. It does not necessarily refer to the area extent and/or the number of individuals but rather to an ideal outcome

Midlands-Lake Leake area

- No special management prescriptions are required.

In accordance with the procedures for the management of threatened species agreed between DPIPWE and FPA under section D3.3 of the Forest Practices Code the above is recommended to meet objectives for the management of threatened flora and/or fauna in areas covered by the Tasmanian forest practices system. The recommended management actions must be applied to the relevant operation/situation", unless:

1. alternative management actions are accepted by the FPA as a way of meeting the management objective for the species; or
2. the actions recommended above together with the actions recommended by other relevant FPA planning tools individually or collectively exceed the duty of care thresholds in the Code. In such cases, unless the actions are to be achieved on a voluntary basis with the landowner, the FPO must seek further advice from the FPA to determine whether modified actions can be formulated to achieve the management objective for the species within the duty of care thresholds, or whether the matter may need to be addressed through other legislative mechanisms.

Further advice must be sought from the Forest Practices Authority if:

- endorsed or recommended actions cannot be implemented (for any reason);
- a variation is made to the Forest Practices Plan that affects threatened species not covered by the actions in the FPP; or
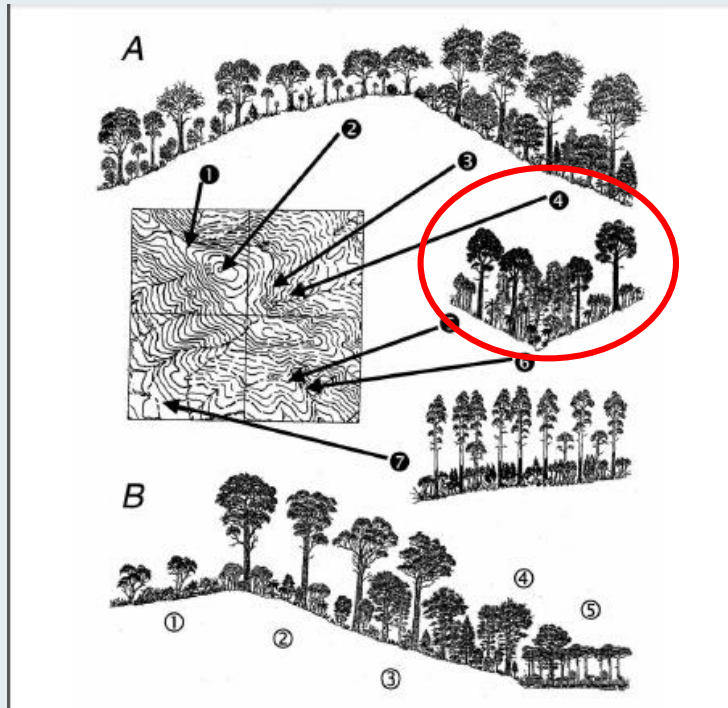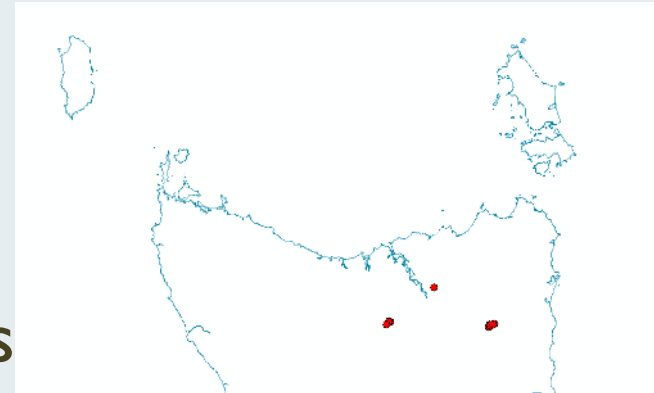- additional threatened species values are identified in the FPP area.

If agreement on management prescriptions cannot be reached by the FPO and FPA specialists, the FPO must refer the case to the CFPO for a determination. If the applicant for the FPP is aggrieved by a decision to amend or refuse the FPP the applicant may lodge an appeal with the Forest Practices Tribunal pursuant to s.25 of the Forest Practices Act 1985.

"Note: Forest Practices Officers must ensure that the certified Forest Practices Plan includes all actions required for threatened flora and/or fauna. Appropriate wording must be included in the certified Forest Practices Plan. The recommended management action must be worded such that the action is clear to landowners and those responsible for implementing the FPP (e.g. contractor and supervisors). The recommendations delivered via the Threatened Species Adviser should be used to develop management prescriptions appropriate to the operation and incorporated into the FPP. Note that simply transferring all of the wording from the Threatened Species Adviser into an FPP will usually be inappropriate, selection and/or modification of phrasing is acceptable provided that the desired outcome is met.

Recommendation accessed at:
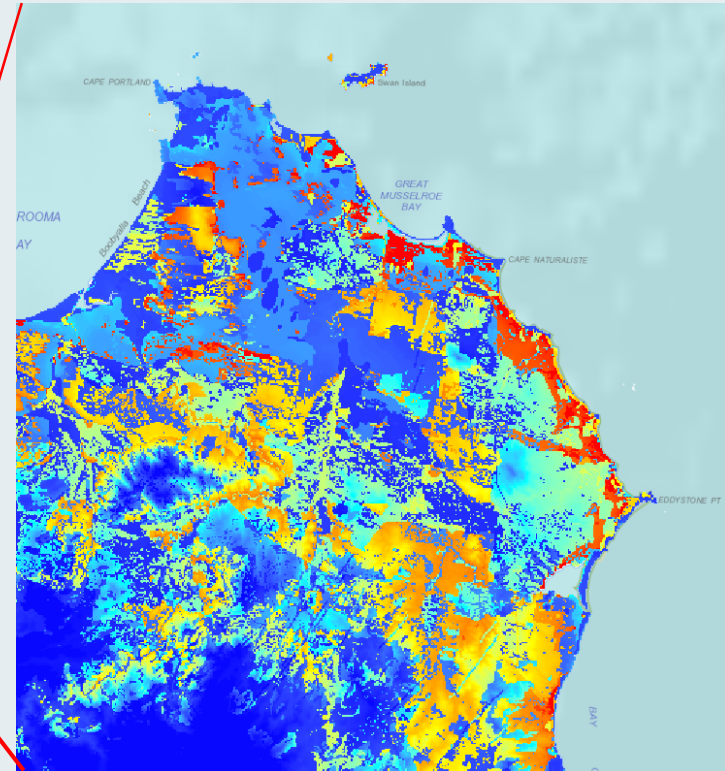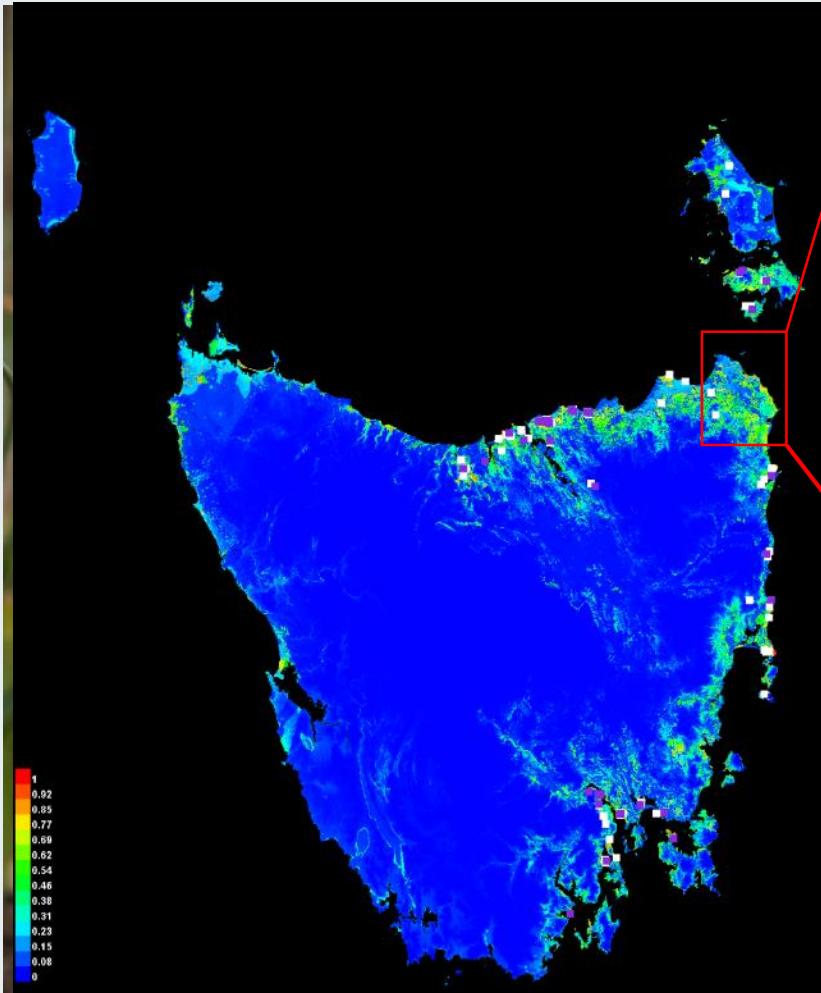TPA version: 06/05/2019
By: anne
Couped FPA

Group 3 species

- Data deficient

- High risk from forestry operations

ThFl Probability Occurrence Models (POMs)

- The entire state has been divided into 100m x 100m grids each with a figure of relative probability of occurrence
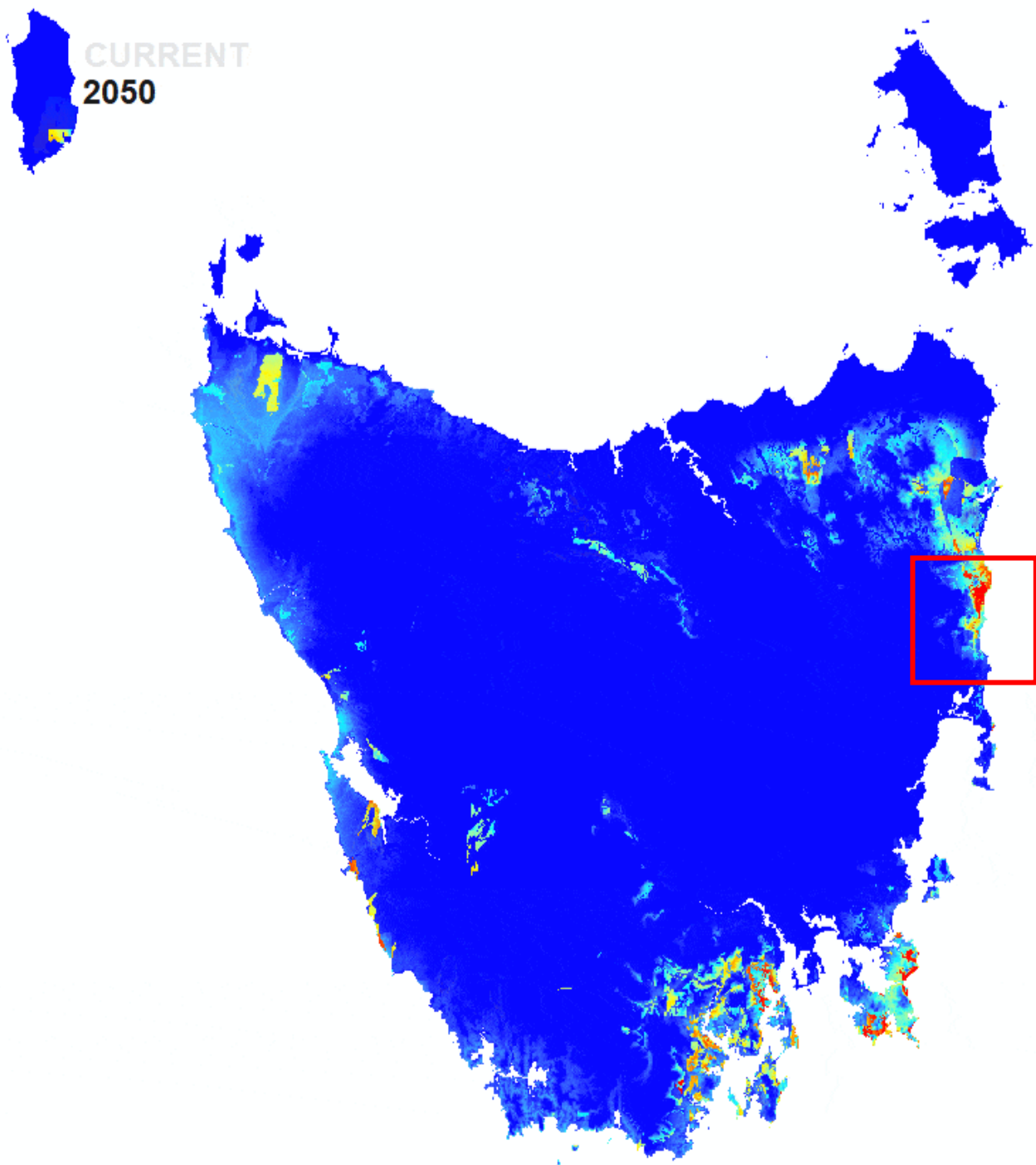
Climate Change

Climate Strike, Hobart, 2019

Climate change

- Intergovernmental Panel on Climate Change (IPCC) emissions scenarios

- A2 emissions scenario:
  - A world of independently operating, self-reliant nations.
  - Continuously increasing population.
  - Regionally oriented economic development.
  - Low emissions

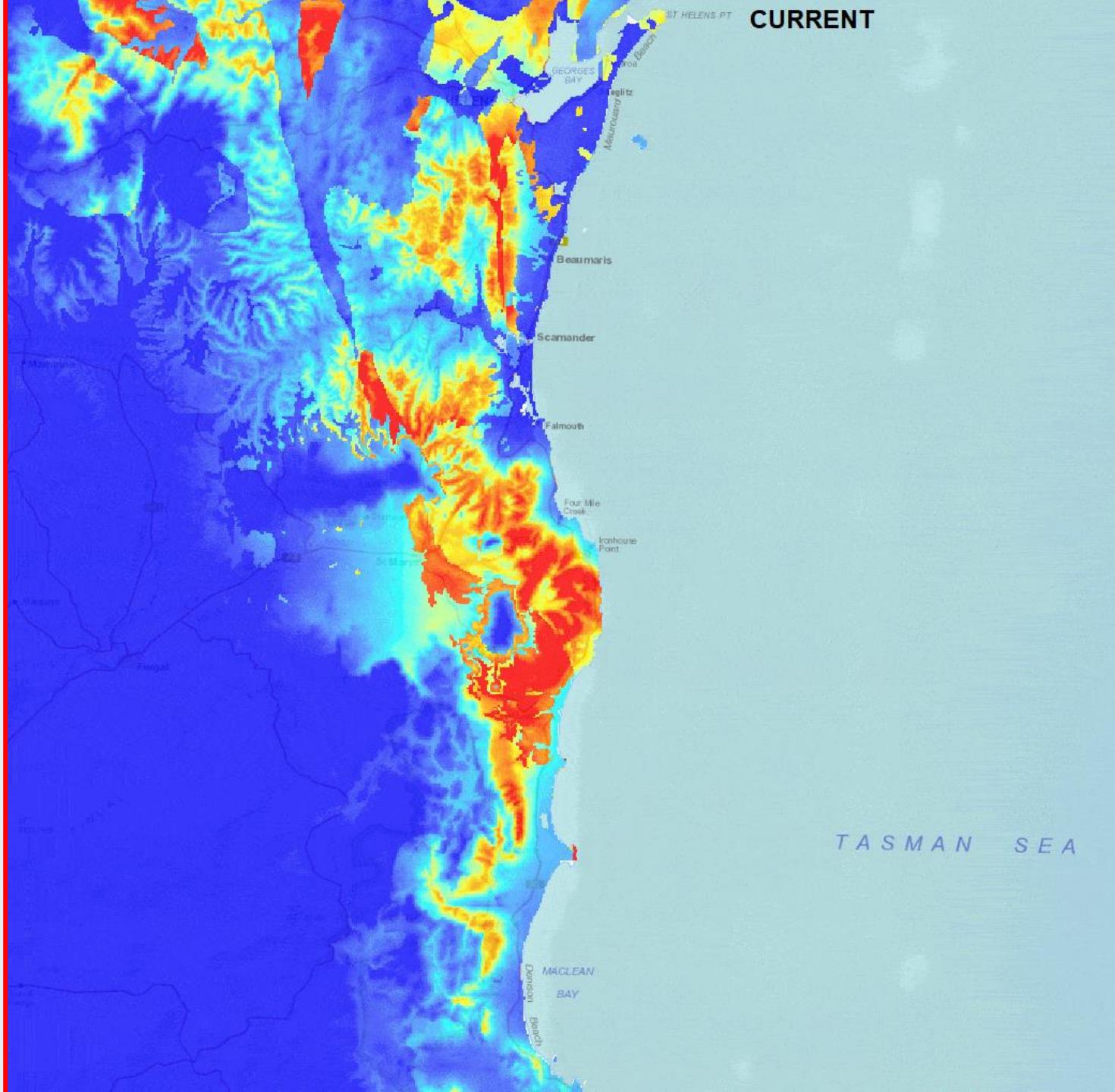# Slender tree fern
Cyathea cunninghamii

FPA

CURRENT

TASMAN SEA

- What is vulnerable?

- How do we prioritise and balance landuse?

- Where do we target restoration and mitigation?

Thank you

www.fpa.tas.gov.au

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