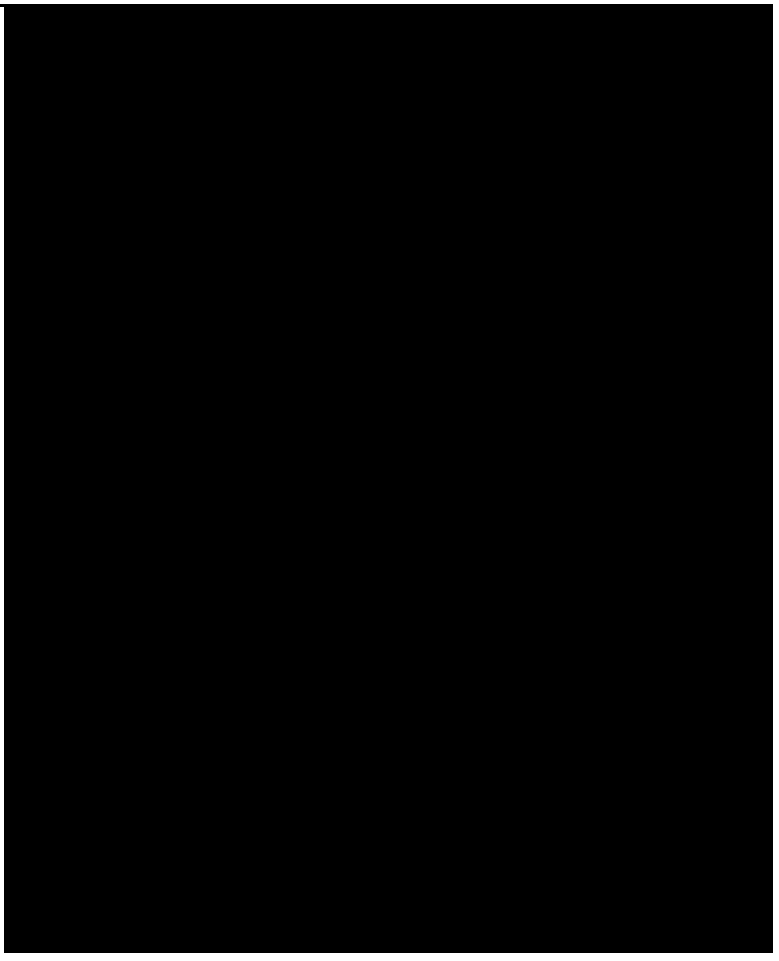
Threatened Plants Project

A project undertaken as part of the NSW Comprehensive Regional Assessments

August 1999



Threatened Plants Project

NORTHERN REGION

Peter Richards

A project undertaken for
the Joint Commonwealth NSW Regional Forest Agreement Steering Committee
as part of the
NSW Comprehensive Regional Assessments
project number NA 22/EH incorporating NU 03/EH Targeted Flora Survey
Project

August 1999

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CONTENTS

Project summary

1. INTRODUCTION 8
1.1 Approach 8
1.2 Study Area 10

2. METHODS 11
2.1 Data Collation 11
2.2 Data Checking 13
2.3 Data Validation 13
2.4 Selecting Target Taxa 14
2.5 Field Survey 15

3. RESULTS AND DISCUSSION 17
3.1 Data Validation 17
3.2 Selecting Target Taxa 17
3.3 Field Survey 19

Table 2.1: Data sources for significant vascular plant localities 11
Table 2.2: Significance Category codes derived for the Forest Biota Response to Disturbance Project 14
Table 3.1: List of Targeted Species for UNE and LNE CRA Study Areas 17
Table 3.2: Target taxa for which new populations were located during CRA targeted surveys 19
Table 3.3: Target taxa not located during CRA targeted surveys 19

References 21

Appendices
APPENDIX 1 23
APPENDIX 2 25
APPENDIX 3 28
APPENDIX 4 40

PROJECT SUMMARY

This report describes a project undertaken as part of the comprehensive regional assessments of forests in New South Wales. The comprehensive regional assessments (CRAs) provide the scientific basis on which the State and Commonwealth Governments will sign regional forest agreements (RFAs) for major forest areas of New South Wales. These agreements will determine the future of these forests, providing a balance between conservation and ecologically sustainable use of forest resources.

Project Objective/s

This report was undertaken to provide accurate data on threatened vascular flora of the Upper and Lower North East CRA regions in time to contribute to the development of a comprehensive, adequate and representative reserve network in north-east New South Wales**.**

Methods

To achieve this end, targeted flora surveys were initiated to provide information on the distribution, population attributes, ecology and threatening processes pertaining to priority vascular plant species in the Upper and Lower North East CRA regions. Species included within the scope of this project are those listed under the NSW Threatened Species Conservation Act (1995), or the Commonwealth Endangered Species Protection Act (1992), or which have been identified by expert working groups as warranting regional threatened status. Data collation of existing records of significant plant species was also undertaken, as was a process of data checking and validation. 252 populations of 48 target plant taxa and 848 incidentally recorded populations of 342 significant plant taxa were located and assessed in the course of this project**.**

Key Results and products

New populations were located, based on searches of areas considered potential habitat, for 34 of the target taxa. This indicates that targeted surveys utilising expert knowledge of the habitat requirements of rare plants are a very effective method of increasing the knowledge base for these species. A highlight of the field surveys was the outstanding number of populations of significant plant taxa which were recorded incidentally during this project. Populations of 26 species listed as Endangered under the NSW Threatened Species Conservation Act (TSC) and populations of 35 species listed as Vulnerable under the NSW TSC Act were incidentally recorded during this project. These results, in combination with the data validation process conducted as a part of this process, produced a very high quality data set with which species modelling, population viability analysis and conservation requirements studies could be undertaken for the Upper and Lower North East CRAs.

1. INTRODUCTION

1.1 APPROACH

The scope of this project, as approved by the Environment and Heritage Technical Committee, was to:

- verify or otherwise assess the reliability of existing data records by revisiting sites of those records.
- gather information which will improve the success of finding new locations of the species, and assist in assessing their viability and conservation priority. More specifically:
  - gather information about reproductive ecology (especially flowering times) which will aid the planning of future survey work on the species.
  - gather systematic information about the habitat in which the target species is found, to enable predictive searches of similar areas.
  - gather information about population characteristics, in order to determine potential long-term viability and conservation priority of key populations.

- expand the number of records for the species by strategically searching areas which provide similar habitat. Search areas will be chosen on the basis of any existing information and habitat information gathered from populations located in this study.

- collate all available data for priority species from herbarium records, literature and other botanical collections/records.

- conduct a rigorous, documented audit of the final significant plants database to provide a reliable dataset of distribution, population attributes and threatening processes for use in response to disturbance projects, species modelling and the development of conservation requirements for priority species.

identify geographic areas which are poorly sampled floristically and conduct surveys there. The NSW Scoping Agreement identifies a number of products or reports that require information on the distribution of various elements of the biodiversity of forest environments. These include a report on options for the establishment of a Comprehensive, Adequate and Representative (CAR) forest reserve system, and one or more reports detailing options for the protection of endangered species and other elements of biodiversity.

The JANIS Criteria (Commonwealth of Australia 1995) includes a criterion that *'the reserve system should seek to maximise the area of high quality habitat for all known elements of biodiversity wherever practicable'* but with particular reference to *'the special needs of rare, vulnerable or endangered species'*.

A major impediment to the production of the reports required by the Scoping Agreement and the implementation of the JANIS criteria is the uneven coverage of existing information on forest biota, and threatened flora in particular.

To achieve this end, targeted flora surveys were initiated to provide information on the distribution, population attributes, ecology and threatening processes pertaining to priority vascular plant species in the Upper and Lower North East CRA regions. Species included

within the scope of this project are those listed under the NSW Threatened Species Conservation Act (1995), or the Commonwealth Endangered Species Protection Act (1992), or which have been identified by expert working groups as warranting regional threatened status.

The project covered two stages. Stage 1 comprised ten weeks of field survey covering January, February and March 1997, and employed five botanists. Stage 2 comprised 18 weeks of field survey utilising seven botanists from September 1997 to January 1998, and encompassed all other project tasks such as collation of existing data, data entry and checking and data validation. The botanists who participated in Stage 1 surveys were utilised for the second phase of this project, both for targeted field survey as well as for data checking, validation of existing data sets and assessment of the conservation requirements of priority vascular plant taxa as a part of the ongoing CRA process. This maintained continuity of knowledge of the field methodology, and contributed significantly to standardisation of data recording and field-based assessment of physical, biotic, stochastic and deterministic attributes of study sites.

Survey was largely confined to public land, as no formal arrangement for gaining access to areas of freehold tenure had been implemented prior to surveys commencing. Where botanists were able to gain access to private land through invitation by the landholder, they did so. The RACAC protocol for surveying on private land was implemented two weeks before completion of the first (January to March 1997) round of surveys. Under this protocol National Parks and Wildlife Service employees were not permitted to solicit permission to survey on private land. They were, however, permitted to survey on private land if an invitation to do so was made by the owner.

1.2 STUDY AREA

The study area for the Upper and Lower North-East Comprehensive Regional Assessment is within a polygon between latitudes 28° 11' S and 33° 34' S and longitudes 150° 00' E and 153° 38' E. The region is bounded by the coastline in the east, the western boundaries of Tenterfield, Severn, Guyra, Uralla, Walcha, Nundle, Scone and Muswellbrook local government areas to the west, the Hawkesbury River to the south and the New South Wales-Queensland border in the north. The region covers approximately 9.7 million hectares and includes coastal, escarpment and tableland areas of natural vegetation dedicated largely to timber production and conservation, and extensive areas of cleared land used primarily for agriculture (NSW NPWS 1994; RACAC 1996a).

2. METHODS

2.1 DATA COLLATION

2.1.1 Importation of Existing Data

Refer to McCauley (1997) for details of the UNE and LNE CRA data audit process. Significant vascular plant localities were collated from the sources listed in Table 2.1. Only taxa of conservation significance in Upper and Lower North East NSW (De Vries 1997) were collated for the purposes of this project.

Table 2.1: Data sources for significant vascular plant localities

Survey ID	SURVEY NAME	Recorder/s
ALLFLOYD	A. FLOYD RAINFOREST LISTS FOR THE NEFBS AREA	A. G. FLOYD
ATLAS	ATLAS RECORDS	various
BAR	BARRINGTON TOPS N P SURVEYS IN CONJUNCTION WITH HUNTER DISTRICT	Stephanie Horton, John Hunter
BHGAP	BEN HALL'S GAP STATE FOREST SURVEY	John Benson, Debbie Andrew
BINNS	MASTERS THESIS BY DOUG BINNS	Doug Binns
BROAD	BROADWATER NATIONAL PARK VEG SURVEY	Steve Griffiths
BUNDJA	FLORISTICS DATABASE FOR BUNDJALUNG NP	various
CASINO	STATE FORESTS DATA ON CASINO AND MURWILLUMBAH FORESTS	Doug Binns, etc.
CGRAAUS	COMBINED GRAFTON AND CASINO MA FLORA SURVEY	SFNSW
CHAELUND	STATE FORESTS DATA FOR CHAELUNDI STATE FOREST	various
CHEATH	COASTAL HEATHLANDS RESEARCH PROJECT	Steve J. Griffith
CMRWKOO	MURWILLUMBAH MA EIS FLORA SURVEY	SFNSW, mainly R. Kooyman
COFFKOA	COFFS HARBOUR KOALA CANOPY PLOTS	NPWS
COFFS	COFFS HARBOUR COUNCIL KOALA HABITAT SURVEYS AND MAPPING	Mark Fisher
COFSHERB	COFFS HARBOUR HERBARIUM RECORDS	Alex Floyd
CRA	CRA VEGETATION SURVEY	various
CRASPLANT	CRA ADDITIONAL SIG PLANT RECORDS	NPWS
CRASPLANTS	CRA I.V. & T.V. UPPER & LOWER NE	NPWS
CSIRO	CSIRO GRADSECT CANOPY TREE SURVEY	various
CSIROHERB	CSIRO HERBARIUM RECORDS	various
CURUEIS	URUNGA MA FLORA SURVEY	Terry Tweedie and Roger Heyward
CVR	CLARENCE VALLEY RAINFOREST REMNANT SURVEY	Phil Gilmour, Carol Helman
CWLCSTY	WALCHA MA FLORA SURVEY	Bill Chapman

DEMON	DEMON NATURE RESERVE VEGETATION SURVEY	Mitchell McCotter
DORRIGO	VEGETATION SURVEY OF THE NATIONAL PARKS OF DORRIGO DISTRICT	Phil Gilmour, Darren Bailey and NPWS Dorrigo District
EASTLINK	EASTLINK/TRANSGRID SYSTEMATIC FLORA AND FAUNA RECORDS FOR THE TABLELANDS	Flora: Peter Clark UNE
EUCADUNN	EUCALYPTUS DUNNII SURVEY, NORTH EAST NSW.	John Benson, Tim Hager
FLOYDRF	FLOYD'S RAINFOREST SURVEY - "AUSTRALIAN RAINFORESTS IN NSW" VOLS 1&2	Alex Floyd
GRAN	JOHN T HUNTER GRANITE SURVEYS	John T Hunter
HORBRECS	HEAD OFFICE ROYAL BOTANIC GARDENS RECORDS	various
JBW	J. B. WILLIAMS RAINFOREST SURVEYS	John B. Williams
JOG	JOINT OLD GROWTH FORESTS PROJECT	NPWS & SFNSW
MISC	MISCELLANEOUS	various
MTNEVILL	MOUNT NEVILLE VEGETATION SURVEY	John Benson
MYALL	VEGETATION SURVEY OF MYALL LAKES NP	Simon Cropper and NPWS Hunter District
NE-NSW	NRAC SIG SITES	Paul Sheringham, John Westaway
NEFVEG	NORTH EAST FORESTS BIODIVERSITY STUDY FLORA SURVEY	Mike Dodkin, Andy Benwell, Jeff Thomas, Paul Sheringham, Phil Gilmour, Steve Griffiths, Chris Nadolny
NEHER	(NRAC SIGS)	various
NRAC	UPPER NORTH EAST AUDIT VEG SURVEYS	A. Benwell, S. Horton, Landmark Ecological Consultants, P. Kendall
NSWHER	NSW RBG HERBARIUM RECORDS (NRAC SIGS)	various
ORARA	VEGETATION SURVEY OF THE ORARA AND BUCCA VALLEYS	Alex Floyd
PEAKE	HUNTER VALLEY REMNANT SURVEYS	Travis Peake
QEA	QUINN ET AL	F. Quinn, J. Bruhl, C. Gross, J. Williams, etc
QHER	QUEENSLAND HERBARIUM RECORDS (NRAC)	various
QLDHERB	QUEENSLAND HERBARIUM RECORDS (CRA)	various
RAPID	INTERIM ASSESSMENT RAPID CANOPY SPECIES SURVEYNPWS	Bill Chapman, Darren Bailey, etc.
RBG	ROYAL BOTANIC GARDENS VEG DATA FOR GUYRA MAP SHEET	John Benson
RBG_HERB	NSW RBG HERBARIUM RECORDS (CRA)	various
ROT	NRAC SIGS (ROTAPS?)	various
SFDATA	STATE FOREST DATA	Doug Binns
SFHER	STATE FOREST HERBARIUM (NRAC)	various
SFMON	STATE FOREST MONITORING TEAM VEGETATION SURVEYS	Doug Binns, Peter Richards, Bill Chapman
SFXTRA	MISCELLANEOUS EXTRA SITES FROM SFNSW EIS FLORA SURVEYS	various
SGR	WOKO NATIONAL PARK RAINFOREST SURVEY	Steve Griffiths
SKR	SALLY KING RAINFOREST SITES	Sally King
STURT	STURT LAND SYSTEMS VEGETATION	Bob Pressey, Vicki Logan
TOMAR	TOMAREE VEGETATION SURVEY	Hunter District NPWS
TSRESERVE	TRAVELLING STOCK RESERVES OF THE GLEN INNES DISTRICT	Christopher Paul Strong
TWEED	TWEED COAST VEGETATION SURVEY	Steve Griffiths, Bob Pressey
WESTERN	CRA SURVEYS IN THE WESTERN REGION BETWEEN THE NEFBS BOUNDARY AND THE CRA BOUNDARY	Nick Cobcroft and John Nagle or Jonathan Smith
YUR	YURAYGIR NP	Steve Griffiths

Importation of data sets into a purpose-built CRA database of significant plant species followed the methodology described in the flora report of the North East Forests Biodiversity Study (NSW NPWS 1994) and Sheringham & Westaway (1997).
Records were received as either delimited text files or Access files, and, after modification to ensure conformity of field names and field properties, imported into a relational (Microsoft Access) database constructed for this project. Where necessary, locality coordinates were converted from latitude/longitude to Australian Magnetic Grid (AMG) coordinates using an automated program.

2.1.2 New Data

Data collected in the course of this project were entered manually into the database. Populations of target species that had been delineated on topographic maps by botanists were digitised. Where botanists had recorded their search transects onto topographic maps, these too were digitised.

2.2 DATA CHECKING

2.2.1 Data Checking: Existing Data

The majority of existing data has already undergone detailed and extensive checking during NEFBS and NRAC studies. A subset of the existing data, *viz.* most taxa assessed as Endangered or Vulnerable by expert review during the Interim Forest Assessment (IFA) has been assessed for spatial accuracy during the IFA process (Resource and Conservation Assessment Council. 1996b) (see Data Validation section 2.3 below).
Import runs of discrete data sets were manually scanned to check that field importation had proceeded correctly. Routine spot checks were made by checking known locality coordinates of some taxa with topographic maps or on GIS. This was performed by a field botanist with experience of the taxa and localities in question.
The CRA Access database contains reference libraries such as 'CAPS', the Census of Australian Plant Species (refer to Hnatiuk, 1990) and a NPWS mapping library containing details of 1:25000 and 1:100000 scale topographic map sheet names and their corner coordinates as well as spatially related information about public land tenure, reserves under the jurisdiction of various NSW government agencies, local government areas, and area names and their extent. Refer to NSW NPWS (1994) for further information. The CAPS library was used to check taxon names, and to update names in line with current taxonomic knowledge. The mapping library enabled an automated spatial check to be carried out on records at a map sheet scale. Anomalous records were quarantined from further use or, if possible, corrected.

2.2.2 Data Checking: New Data
All new data that were collected during this project and manually entered into the database were printed out and manually checked against the original pro-formas by two technical staff. Discrepancies were corrected immediately, or were sent to the relevant botanist to amend as appropriate.

2.3 DATA VALIDATION

The data validation process aimed to remove spurious or duplicate records and identify those plant records that were considered taxonomically correct and spatially accurate to within 100 metres of the stated locality. This was necessary to provide a set of records which could be used with confidence for species modelling and population viability analysis.

An automated procedure was utilised to firstly locate all records in the database that, for each taxon, were spatially identical. All but one of each of these records were quarantined. This was a random assignation process that did not necessarily select the primary record for each locality. This did not remove all genuine duplicate records, as coordinate conversion programs, used to convert latitude/longitude to a grid reference, have variable rounding-off criteria, which produces slightly different grid references from similar lat/longs.
The data accuracy notes made for records of priority plant taxa during the Interim Forest Assessment process were incorporated into the database at this stage. Proposed corrections from the IFA were implemented, and spurious records quarantined.
Two panels of expert botanists, one of rainforest experts R.J. Hunter (NPWS) and R. Kooyman (SFNSW) and one generalist panel made up of those botanists contracted for this project as well as D. Binns (SFNSW) and P. Richards (NPWS) were convened over a seven day period in April 1998. Using ArcView GIS, digital environmental layers and the CRA significant plants database, all records for a subset of taxa in the database were assessed for accuracy. Those records considered of insufficient accuracy were either corrected if possible or were quarantined from further use. Three quarantine fields in the database were used to indicate acceptable and unacceptable records and to document the validation process.

2.4 SELECTING TARGET TAXA

The Northern Flora Technical Working Group, convened by the Department of Urban Affairs and Planning and representing all relevant government agencies and stakeholder groups, developed explicit criteria which were utilised to determine priority species in the context of expert knowledge and available literature. The criteria included conservation status on State and Federal Acts, Rare or Threatened Australian Plant (ROTAP) status (Briggs and Leigh 1996), status applied to taxa during Interim Forest Assessment flora workshops (Resource and Conservation Assessment Council 1996b), regional significance, existing information on distribution, population attributes and threatening processes, amount of previous survey effort, ecology, and practicality of targeted surveys. The key criteria are summarised by the significance categories developed by the Forest Biota Response to Disturbance (RTD) project (Table 2.2; DeVries 1997; Richards *et al.* 1998). The FBRTD project was based upon JANIS criteria, and expanded upon previous key regional studies in rare plant classification systems (Keith 1990; Keith & Ashby 1992; Sheringham & Westaway 1997).

Table 2.2: Significance Category codes derived for the Forest Biota Response to Disturbance Project

Code	Categories of Significance
1	Endangered taxa - a taxon in danger of extinction unless the circumstances and factors threatening its abundance, survival or evolutionary development cease to operate; priority is given to taxa which are endangered nationally as identified in the Commonwealth Endangered Species Protection Act 1992 and species listed under the NSW Threatened Species Conservation Act 1995.
2	Vulnerable taxa - a taxon likely to move into the *endangered* category within the next 25 years, unless the factors threatening its abundance, survival or evolutionary development cease to operate; priority is given to taxa which are listed as vulnerable nationally in the Commonwealth Endangered Species Protection Act 1992 and taxa listed under the NSW Threatened Species Conservation Act 1995.
3	Declining taxa - a taxon known to be adversely affected by prevailing land uses through either a significant decrease in abundance or a significant reduction in range at the regional level; the declining taxa category includes taxa not listed on either Commonwealth or State threatened plant lists but known or suspected to be declining at the national, state or regional level.
4	Rare taxa - taxon with small world populations that are not presently *endangered* or *vulnerable* but which may have a higher risk of extinction; such taxa may be identified with reference to the Briggs and Leigh (1996) or State rare plant lists or with reference to explicit criteria such as geographic range, habitat specificity, local population size, total number of populations, relative abundance or the frequency of records in collections.

5	Migratory and mobile taxa (nomads) – taxon in which populations, or components of populations, regularly or irregularly occupy different areas of the landscape because of changes in resource / habitat availability or due to the creation and maintenance of habitat (resource) patches.
6	Dependent on mature and over-mature forest - taxon dependent on forest in its mature and over-mature forest growth stages.
7	Taxa whose distributions do not correlate with any forest ecosystem.
8	Phylogenetically distinct taxa - taxon whose taxonomic position means that its potential loss will lead to a significant loss of biological diversity.
9	Taxa with complex spatial patterns of genetic variation.
10	Bioregional endemics - taxa in which 75% or more of the known range is contained in a single biogeographic region or which have a total range of 100,000 square kilometres or less.
11	Taxa with disjunct populations - taxon where populations have become physically separated over time due a break in a formerly continuous distribution or through long-distance dispersal over a barrier and as a consequence are morphologically or structurally distinct and have diverged genetically from parent stocks.
12	Taxa at the edge of their range.
13	Functionally important species - taxon whose disappearance from a system results, either directly or indirectly, in the loss of several other species, such as canopy species or species prominent in other layers.
14	Indicator taxa - taxon whose population response broadly reflects the response of a range of species populations to environmental changes resulting from particular land uses.
15	Economically or culturally important taxa - taxon of medicinal, agricultural or other economic value or species of scientific, social or cultural value.
16	Poorly known / recently described taxa - taxon yet to be described (undescribed taxa), species recently described (within the last 5 years) or recently segregated taxa (new species within an existing genus or new subspecies or varieties within an existing species).
17	Taxa presumed extinct - taxon presumed extinct at a State or National level.
18	Geographically Restricted - Taxa with an Australian geographic range of <100 km.

2.5 FIELD SURVEY

Species specific surveys initially targeted known locations and the immediate vicinity of the target species. Recent records and records with accurate location information were prioritised for field survey effort. All attempts were made to gather precise location information from a previous observer if possible.

Botanists first visited known localities to confirm the record and to collect population and habitat data, and also to enable them to construct a more or less 'intuitive' model of potential habitat for each species. This approach ensured that further searches of other areas was targeting appropriate habitat for each species, and is recognised as an effective method of identifying potential habitat for rare plant species, often at a resolution finer than most existing digital environmental coverages utilised in species modelling (Elith *et al.* 1998).

A field methodology based on that which was developed and successfully utilised during the NRAC Significant Plants Project (Sheringham & Westaway 1997) was used. It is generally equivalent to, but of necessity less detailed than, the approach taken by Keith (1997) for targeted surveys during the Tasmanian CRA. Minor additions to the methodology to increase efficiency with assessing larger populations and to collect more information on all areas searched were added in accordance with techniques described by Cropper (1993). Samples of pro-formas used to collect data for this project are presented in Appendix 1.

All known records for the target species were provided to botanists, who visited these locations and conducted a search of the area. Null searches and search transects were marked on 1:25000 maps. When a population of a target species was located the area of the population was delineated, and marked on a 1:25000 topographic map. A count of the population was conducted by carrying out parallel-line searches and temporarily marking plants to avoid double counting. All individuals of small populations were counted, but where a population was too large or spread over a large area several random quadrats were used to determine average density and calculate the number of individuals in the population on the basis of total population area, taking into account gaps in the population where no individuals were present. The total population was assigned to breeding classes (vegetative, buds, flowers, fresh fruit, old fruit) and

age structure classes (seedling, immature, mature, senescent). Populations were also assessed for their regeneration response to fire, and assigned one or more of eight response codes (Appendix 1). Botanists also recorded observable and potential threats based on land use and evidence of previous disturbance of the population.

Systematic data collected in a 20m x 50m plot placed within the population included environmental and structural data as well as full floristic information with cover abundances, if time allowed, or the three dominant species in each stratum. Where possible, voucher specimens of target species were collected, and are now lodged with the National Herbarium of New South Wales at the Royal Botanic Gardens, Sydney and the herbarium of the North Coast Regional Botanic Garden, Coffs Harbour.

In addition, opportunistic sightings of non-target regionally significant species were recorded. These records were generally made using a less detailed pro-forma (Appendix 2) but if the incidental record represented a population of a taxon listed on a schedule of the NSW Threatened Species Act (1995), then the same data were collected as for target taxa.

3. RESULTS AND DISCUSSION

3.1 DATA VALIDATION

10,464 records of 251 taxa were assessed for taxonomic and spatial accuracy. 4032 records were accepted by expert review, 3122 records were quarantined by expert review and 3310 were automatically quarantined as duplicate records. 542 records collected during the current project were included in data validation and accepted for use. Of the existing imported data, about 3500 records or only about one third of all records available, were considered useable. This is understandable, given the specific nature of this project and the fact that the majority of records have been obtained for reasons other than species modelling and assessment of response to disturbance characteristics of plant populations.

3.2 SELECTING TARGET TAXA

The final list of taxa for targeted survey in the Upper and Lower North East CRA regions is presented in Table 3.1.

Table 3.1:List of Targeted Species for UNE and LNE CRA Study Areas

Note: species in bold type were not subject to targeted surveys due to time and resource constraints, and partly due to confusion over study area boundary changes during the UNE/LNE CRA.
Region: LNE = Lower North East; UNE = Upper North East.
TSC: Listing on a schedule of the NSW Threatened Species Conservation Act: E = Endangered; V = Vulnerable; X = Extinct.
ESP: Listing on a schedule of the Commonwealth Endangered Species Protection Act: E = Endangered; V = Vulnerable; X = Extinct.
FBRTD: Listing on the Forest Biota Response to Disturbance inventory of Vascular Flora of Conservation Significance of North-Eastern NSW: Codes are explained in Table 2.2 above.
ROTAP; IFA: Conservation status as coded in Briggs and Leigh (1996); Conservation status as assessed during Interim Forest Assessment workshops (V = Vulnerable; E = Endangered) and percentage of populations required to be conserved.

Species	Region	TSC	ESP	FBRTD	ROTAP; IFA
Acacia chrysotricha	LNE	-	-	4, 10	2R; -
Acacia courtii	LNE	V	V	2, 10	2V; V(60)
Alexfloydia repens	UNE	-	-	1, 10, 16	2K; E(85)
Asperula asthenes	LNE	V	V	2, 10	3VC-; V(60)
Asplenium aethiopicum	LNE/UNE	-	-	4	-
Belvisia mucronata	UNE	-	-	4, 12	-
Boronia umbellata	UNE	V		2, 10, 12	2VC-; V (60)
Bothriochloa biloba	LNE/UNE	V	V	2	3V; V(60)

Callitris baileyi	UNE	E	-	1, 12	3RC-; E(100)
Chiloglottis anaticeps	LNE/UNE	-	-	2, 10, 16	2KC-; V(60)
Chiloglottis palachila	LNE	-	-	4	3RC-; -
Chiloglottis sphyrnoides	LNE/UNE	-	-	16	3KC-; -
Cryptostylis hunteriana	LNE/UNE	V	V	1	3VC-; E(85)
Cynanchum elegans	LNE/UNE	E	E	1, 12	3ECi; E(85/85)
Diuris disposita	LNE	E	-	1, 10, 16	2K; E(85)
Diuris flavescens	LNE	E	-	1, 10, 16	2K; E(85)
Diurus pedunculata	LNE/UNE	E	-	1	2E; E(85)
Diuris venosa	LNE	V	V	1	2VC-; E(100/60)
Eucalyptus ancophila	LNE	-	-	1, 10, 16	2K; V(60)
Eucalyptus elliptica	LNE/UNE	-	-	2, 12, 16	3KC-; -
Eucalyptus fergusonii ssp dorsiventralis	**LNE**	**-**	**-**	-	**2RC-; -**
Eucalyptus fergusonii ssp fergusonii	LNE	-	-	2, 12, 16	3KC-; V(60/60)
Eucalyptus glaucina	LNE/UNE	V	V	1, 11, 12	3VCa; E(60/85)
Eucalyptus largeana	LNE	-	-	1, 12	3R; E(30/85)
Eucalyptus magnificata	LNE/UNE	-	-	2, 12, 16	3K; V(60)
Eucalyptus nicholii	LNE/UNE	V	V	2	3V;-
Eucalyptus ophitica	UNE	-	-	1, 10, 16	2K; E(85)
Eucalyptus parramattensis ssp decadens	**LNE**	**V**	**V**	**1**	**2V; E(85)**
Eucalyptus scoparia	UNE	-	V	2, 12	2VCi; -
Euphrasia arguta	LNE	X	X	12, 17	3X; -
Euphrasia bella	UNE	V	V	2, 11, 12	2VCit; -
Euphrasia collina ssp. muelleri	LNE/UNE	E	E	1, 12	2EC-; -
Grevillea banyabba	UNE	V	-	2, 10	2VC-; V(60)
Grevillea granulifera	LNE	-	-	2, 10, 16	3KCa; -
Grevillea guthrieana	LNE	E	-	1	3V; -
Grevillea masonii	UNE	E	-	1, 10	2E; E(85)
Grevillea quadricauda	UNE	V	-	2, 10	3VC-; V(60)
Hakea fraseri	LNE	V	-	2, 11, 12	2VC-; V(60)
Hakea trineura	LNE	V	V	2, 11, 12	2VCi; -
Haloragis exalata subsp. velutina	LNE	V	-	2	3VC-; V(60)
Hedyotis galioides	UNE	E	-	1	-; -
Hibbertia hexandra	LNE/UNE	E	-	4, 11, 12	3RC-; V(60/30)
Hibbertia marginata	UNE	V	-	-	
Leptopteris fraseri	LNE	-	-	4	-;-
Lindsaea incisa	UNE	E	-	1, 11, 12	-; E(85)
Macrozamia pauli-guilielmi ssp. flexuosa	**LNE**	**-**	**-**	**2, 12, 16**	**2K; V(60)**
Marsdenia longiloba	UNE	E	E	1, 12	3RC-; E(85)
Melaleuca tamariscina. spp irbyana	UNE	-	-	3, 4, 11, 12	-; E (85)
Melichrus sp. A (= *M. 'hirsutus'*)	UNE	E	-	1, 10	2E; -
Oberonia complanata	UNE	-	-	2, 12	-; -
Parsonsia dorrigoensis	LNE/UNE	V	E	2, 11, 12	2VCi; -
Paspalidium grandispiculatum	UNE	-	V	2, 12	3VC-;V(60)
Plectranthus alloplectus	UNE	E	-	4, 12	2RC-;-
Plectranthus nitidus	UNE	E	-	1, 12, 16	2KCi;-
Pomaderris brunnea	LNE	V	V	-	2VC-;-
***Prostanthera* sp 6** (= *P. askania*)	**LNE**	**V**	**-**	**1**	**2V; E(85)**
Pterostylis chaetophora	LNE	-	-	1, 12	-; E(85)
Pterostylis cucullata (= *P.* sp. D)	LNE	V	V	2, 10, 11, 12	3VCa; V(60)
Quassia sp B (= *Q.* sp. Moonee Creek)	UNE	E	E	1	2E; E(85)
Rapanea sp. A.	UNE	E	X	1, 10	2X; E(85)
Sarcochilus fitzgeraldii	LNE/UNE	V	V	1	3VC-; E(85)
Sarcochilus hartmanii	**UNE**	**V**	**V**	**1**	**3VC-; E(85)**
Senna acclinis	LNE/UNE	E	-	1	3RC-; E(85)
Sophora fraseri	UNE	V	V	2, 12	3VC-; V(60)
Tetratheca glandulosa	**LNE**	**V**	**V**	**2**	**2VC-; -**
Tetratheca juncea	**LNE**	**V**	**V**	**2, 12**	**3VCa; V(60)**
Tinospora smilacina	UNE	E	-	1, 4, 12	-; -
Triplarina imbricata	UNE	E	-	1	2E; -
Tylophora woolsii	UNE	E	E	1, 11	2E; E(85)
Zieria floydii	**UNE**	**E**	**-**	**1**	**2RC-t; E(85)**
Zieria sp. N(= *Z. 'lasiocaulis'*)	LNE	E	-	1	2V; E(85)

3.3 FIELD SURVEY

252 populations of 48 target plant taxa (Appendix 3) and 848 incidentally recorded populations of 342 significant plant taxa were located and assessed in the course of this project. New populations were located, based on searches of areas considered potential habitat, for 34 of the target taxa (Table 3.2). This indicates that targeted surveys utilising expert knowledge of the habitat requirements of rare plants are a very effective method of increasing the knowledge base for these species. Significant results included the discovery of four plants, through targeted survey, of *Rapanea* sp. A, listed as extinct in NSW, and the incidental discovery of several populations of the sedge *Eleocharis tetraquetra*, also listed as extinct in NSW.

Table 3.2: Target taxa for which new populations were located during CRA targeted surveys

Acacia courtii	*Haloragis exalata ssp velutina*
Alexfloydia repens	*Hibbertia marginata*
Boronia umbellata	*Lindsaea incisa*
Chiloglottis palachila	*Marsdenia longiloba*
Chiloglottis sphyrnoides	*Melaleuca tamariscina ssp irbyana*
Cryptostylis hunteriana	*Melichrus sp A*
Cynanchum elegans	*Parsonsia dorrigoensis*
Diuris venosa	*Paspalidium grandispiculatum*
Eucalyptus ancophila	*Plectranthus nitidus*
Eucalyptus fergusonii ssp fergusonii	*Pterostylis chaetophora*
Eucalyptus glaucina	*Rapanea sp.* A
Eucalyptus ophitica	*Senna acclinis*
Grevillea guthrieana	*Sophora fraseri*
Grevillea masonii	*Tinospora smilacina*
Grevillea quadricauda	*Triplarina imbricata*
Hakea aff trineura	*Tylophora woollsii*
Hakea fraseri	*Zieria lasiocaulis*

Conversely, 10 taxa were unable to be located at all during targeted surveys (Table 3.3). These taxa are characterised by morphological or life-history attributes that would tend to make targeted survey for them difficult. For instance *Chiloglottis anaticeps*, *Diuris disposita* and *Diuris pedunculata* are small terrestrial orchids which may not flower if climatic conditions have been unfavourable. Known localities for both species of *Diuris* were searched without success during this project, possibly due to the exceedingly dry conditions prior to and during early 1997 which prevented flowering. *Diuris disposita* has since been recorded from the abovementioned locality (Bill Chapman, pers. comm.).

Table 3.3: Target taxa not located during CRA targeted surveys

Asperula asthenes	*Diurus pedunculata*
Asplenium aethiopicum	*Euphrasia arguta*
Belvisia mucronata	Euphrasia bella
Chiloglottis anaticeps	*Euphrasia collina ssp. muelleri*
Diuris disposita	*Oberonia complanata*

An outstanding number of populations of significant plant taxa were recorded incidentally during this project. Refer to Appendix 4 for a listing of all incidentally recorded taxa.
Populations of 26 species listed as Endangered under the NSW Threatened Species Conservation Act (TSC) were recorded, including new populations of *Acalypha eremorum, Corchorus cunninghamii, Calophanoides hygrophiloides, Dendrocnide moroides, Elaeocarpus williamsianus* and *Pomaderris queenslandica.* All of these taxa are known in NSW from few localities, and occur in low numbers.
Populations of 35 species listed as Vulnerable under the NSW TSC Act were incidentally recorded during this project including new populations of *Bertya* sp. A, *Endiandra hayesii, Fontainea australis, Syzygium hodgkinsoniae,* and *Syzygium moorei.*

Several plants, considered by specialist experts to represent undescribed taxa, were recorded during this project including *Eucalyptus sp. aff. cypellocarpa* (Hillgrove), *Leucopogon sp. aff. fraseri, Olearia sp. aff. erubescens, Plectranthus sp.* 3 'Long Gully', and *Pterostylis aff. cycnocephala.*

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APPENDIX 1

Pro-forma used to record target species populations

NPWS UPPER NORTH EAST CRA
Project title _____

THREATENED PLANTS PROFORMA

Northern Zone
24 Moonee St
PO Box 914,
Coffs Harbour, 2450
Tel: (066) 51 5946
Fax: (066) 51 6187

RECORDER ..... **SURVEY ID** [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] **DATE** [ ][ ][ ][ ][ ][ ]

SPECIES ..... **CODE** [ ][ ][ ][ ]

SIGNIFICANCE RATINGS: NSW TSC Act ..... CESP Act ..... ROTAP ..... Other .....

LOCALITY ..... **GROWTH FORM** [ ]
(see back sheet for codes)
.....

		Zone	*Easting*	*Northing*
AMG:	1:25000 map	[ ][ ]	[ ][ ][ ][ ][ ][ ]	[ ][ ][ ][ ][ ][ ][ ]
(centre of plot)	GPS	[ ][ ]	[ ][ ][ ][ ][ ][ ]	[ ][ ][ ][ ][ ][ ][ ]

1:25 000 MAP CODE ..... **1:25 000 MAP NAME** .....

SITE BIOLOGICAL DETAILS

POPULATION AREA [ ][ ][ ][ ] **(ha)** Population Area: Measure the area occupied by the population of the target species. Traverse area to establish population coverage.

POPULATION SIZE [ ][ ][ ][ ][ ] Population Size: Count total number of individuals/clumps/stems in the population using a parallel line search. If population is too large to count, count indiviiduals in two 20x 50m plots and extrapolate to get total estimate using the total area of the population as a multiplier.

PRECISION [ ] Precision: Precision for population size. **C** = Count, **S** = sound sampling, **E** = estimate

BREEDING: Vegetative [ ][ ] % Bud [ ][ ] % Flowers [ ][ ] % Fresh Fruit [ ][ ] % Old Fruit [ ][ ] **%**

Breeding: Count (&calculate %) individuals in plot that are in vegetative state only, in bud, anthesis, fresh (new) fruit or old fruit.

AGE STRUCTURE: Seedlings [ ][ ] % Immature [ ][ ] % Mature [ ][ ] % Senescent [ ][ ] %

Age Structure: Count (& calculate %) individuals in plot that are seedlings, immature, reproductive, mature or senescent.

FIRE REGENERATION RESPONSE [ ][ ]
(see back sheet for codes)

LAND CONSERVATION STATUS [ ]
(see back sheet for codes)

THREATS (see back for codes) [ ] [ ] [ ] [ ]

NOTES: _____

Appendix 1 (cont.): Pro-forma used to record target species populations

THREATENED PLANTS FORM

Record Plot Identifer, Date and Recorder/s

Species: Current botanical binomial; to subspecies/variety if known

Code: 4 digit CAPS number from Census of Australian Vascular Plants codes list

Significance Ratings: Statement of significance according to i) NSW Threatened Species Conservation Act (ie 1-E), ii) Commonwealth Endangered Species Protection Act, iii) ROTAP (ie E, V, R etc) or iv) other - note if the species is uncommon throughout its distribution, rare in NSW, regionally uncommon, depleted habitat/sparse, endemic, disjunct, occurring at distributional limit, or occurring in atypical habitat.

Locality Description: Enter description details to assist relocation (eg distance along roads/tracks, walking distance, direction, etc...)

Growth Form: Enter the growth habit of the population of the threatened species using the legend below

AMG 1:25 000 map: *Zone* - number of global grid zone

Easting - enter x-axis co-ordinate (6 digits)

Northing - enter y-axis co-ordinate (7 digits)

Map code: Enter 1:25 000 map sheet number

Map Name: Enter 1:25 000 map sheet name

Site Biological Details

Enter the population area, population size, precision and breeding and age structure of the population of the threatened species.

Fire regeneration response: Enter single digit corresponding to appropriate fire regeneration response from legend below. If more than one response, record both.

Land Conservation Status: Enter appropriate code from the legend below.

Threats: Enter the appropriate abbreviation from the legend below to indicate the current (and potential) threats acting on the threatened species at this site.

Notes: Note whether the threat is current (ie observed) or potential and provide some evidence for the threat assessment. Include notes on any other aspect of the the species/population which may be relevant (ie growing only underneath a particular species etc).

Growth Form

T tree
Y mallee shrub (<8m)
M mallee tree (>8m)
S shrub (<2m)
Z heath shrub (<2m) ericoid leaves
C chenopod shrub - halophyte
D sod grass (compact tuswsocks in close contact
G tussock grass (discrete open tussocks; agric. grasses)
A herb/grass complex
E fern
L vine
V sedge (*Cyperaceae, Restionaceae)*
R rush
F forb (herbaceous, slightly wood; not a grass)

Fire Regeneration Response

1. viable canopy stored seed
2. soil stored seed
3. no progulates remain on site
4. suckers & rhizomes
5. basal stem buds i.e. lignotubers
6. epicormic shoots
7. regrowth from unharmed terminal aerial buds
8. Dead

Land Conservation Status

NP National Park
NR Nature Reserve
FR Flora Reserve
SEPP 14 - Wetland
SEPP 26 - Rainforest
7(a) - environmental zoning
CA Conservation agreement
CLT Crown Land Trust
NC Not Conserved

Threats

BURN Detrimental Burning Regimes
COLL Indiscriminate Collecting
CROP Cropping Including Clearing
DRAIN Drainage/Reclaimation
FOR Forestry Activities
GRAZ Grazing Including Clearing
HYBR Hybridisation
IRRI Irrigation
LOW Low Numbers
MINE Mining/Quarrying
PATH Pathogens
POLL Habitat Pollution
RECR Recreation
ROAD Road/Fence Construction
URBIND Urban/Industrial Expansion
VECT Loss of Pollination Vector
WEED Competition from Weeds
Ws Water Storage

APPENDIX 2

Pro-formas used to record incidental populations

NPWS UPPER NORTH EAST CRA
Project title _____

SIGNIFICANT PLANTS OPPORTUNISTIC RECORD PROFORMA

Northern Zone
24 Moonee St
PO Box 914,
Coffs Harbour, 2450
Tel: (066) 51 5946
Fax: (066) 51 6187

RECORDER ..... **SURVEY ID** **DATE**

SPECIES ..... **CODE**

LOCALITY .....

AMG: (centre of plot) *Zone* *Easting* *Northing*

1:25000 TOPO MAP NAME:.....

	NO. OF INDIVIDUALS	POPULATION AREA (HA)	PRECISION	BREEDING (Y/N) V	Bu	Fl	Fr	oF	AGE STRUCTURE (Y/N) S	Im	M	Se
POPULATION INFORMATION												

	FIRE REGENERATION CONSERVATION RESPONSE	HABITAT	THREATS	LAND STATUS
SITE AND OTHER INFORMATION				

Strata	Code	Species 1	Code	Species 2	Code	Species 3

NOTES .....

.....

RECORDER ..... **SURVEY ID** **DATE**

SPECIES ..... **CODE**

LOCALITY .....

AMG: (centre of plot) *Zone* *Easting* *Northing*

1:25000 TOPO MAP NAME:.....

	NO. OF INDIVIDUALS	POPULATION AREA (HA)	PRECISION	BREEDING (Y/N) V	Bu	Fl	Fr	oF	AGE STRUCTURE (Y/N) S	Im	M	Se
POPULATION INFORMATION												

	FIRE REGENERATION CONSERVATION RESPONSE	HABITAT	THREATS	LAND STATUS
SITE AND OTHER INFORMATION				

Strata	Code	Species 1	Code	Species 2	Code	Species 3

NOTES .....

.....

Appendix 2(cont.):
Pro-forma used to record incidental populations

SIGNIFICANT PLANTS OPPORTUNISTIC RECORDS PROFORMA

This sheet is designed for use by vegetation survey workers to record brief locality/ and population details for significant plant species encountered both in plots and opportunistically. A list of priority significant species will be supplied to vegetation survey teams.

Recorder:Enter the full name of recorder/s.

Plot ID No.: Enter Unique Plot Identification number if species was encountered within vegetation plot.
Date: Enter date of record 0D/0M/0Y
Species: Current botanical binomial; to subspecies/variety if known
Code: 4 digit CAPS number
Locality: **Enter detailed locality description.**
Easting: 6 digit AMG easting ie. X - axis coordinate.
Northing 7 digit AMG northing ie. Y - axis coordinate
S: Y/N for whether or not specimen was collected
No. of individuals No. of individuals of the significant species observed
Population Area = Areal (in hectares) extent of population.
P = Precision C - count if < 50
S - sound sampling
E - estimate
Breeding: Enter Y/N for each of the following : V= Vegetative state only, Bu= flower buds present, Fl= flowering, Fr= fresh fruit, oF= old fruit
Age Structure: Enter Y/N for each category : S= Seedlings present, Im= Immature individuals (e.g. saplings), M= Reproductively mature, Se= Senescent individuals present
Fire Regeneration Response: See codes below
Habitat: See codes below
Threats: See codes below
Land Conservation Status: See codes below

FIRE REGENERATION RESPONSE: Enter single digit corresponding to appropriate fire regeneration response from legend below. If more than one response, record both.

1	Viable canopy stored seed	**5**	Basal stem buds ie. lignotubers
2	Soil stored seed	**6**	Epicormic shoots
3	No proagules remain on site after fire	**7**	Regrowth from unharmed terminal aerial buds
4	Suckers & rhizomes	**8**	Death

HABITAT: Enter the code from abbreviated legend below.

CODE	HABITAT	CODE	HABITAT
AMH	Acacia & myrtaceous shrublands & related communities of the Highlands	EWM	Estuarine wetlands: mangroves
BW	Box woodlands	EWS	Estuarine wetlands: saltmarsh
CC	Casuarina cunninghamiana (River oak) forests along waterways	HS	Swamps & bogs of the tablelands excluding Kosciusko
CFW	Coastal freshwater wetlands & sedgelands	IFW	Ironbark forests & woodlands
CHS	Halophytic shrubland (dominated by Chenopodiaceae	NGT	Natural grasslands of the tablelands
CLH	Heaths, banksia & myrtaceous shrublands & related communities of the coastal lowlands: coastal sands or clays	SAW	Sub-alpine woodland usually dominated by Eucalyptus pauciflora
CNG	Coastal natural grasslands	STRF	Sub-tropical rainforest including littoral rainforest
CTRF	Cool temperate rainforest	UPS	Upland swamps
DRF	Dry rainforest	WG	Aquatic or periodically flooded grasslands
ECCH	Eucalyptus forests of the cooler climates of the highlands on various soil types generally above 700m	WTRF	Warm temperate rainforest
ECLCTLNS	Eucalyptus forests mainly of the coastal lowlands & central tablelands on low nutrient soils: sandstones, sands. Mainly open forest and woodlands	OTHER	
ECLHNS	Eucalyptus forests mainly of the coastal lowlands on medium to high nutrient soils. Mainly tall open forests	UNK	Unknown

THREATS: Enter the appropriate abbreviation from the legend below to indicate the current (and future) threats acting on the significant species at this site.

BURN	Detrimental Burning Regimes	COLL	Indiscriminate Collecting	CROP	Cropping Including Clearing	DRAIN	Drainage/Reclamation
FOR	Forestry Activities	GRAZ	Grazing Including Clearing	HYBR	Hybridisation	IRRI	Irrigation
LOW	Low Numbers	MINE	Mining/Quarrying	PATH	Pathogens	POLL	Habitat Pollution
RECR	Recreation	ROAD	Road/Fence Construction	URBIND	Urban/Industrial Expansion	VECT	Loss of Pollination Vector
WEED	Competition from Weeds	WS	Water Storage				

LAND CONSERVATION STATUS of the site: Enter appropriate code from legend below.

NP	National Park	**SEPP14**	Wetland	**7(a)**	Environmental zoning
NR	Nature Reserve	**SEPP26**	Rainforest	**CA**	Conservation agreement
FR	Flora Reserve	**CLT**	Crown Land Trust	**NC**	Not conserved

STRUCTURAL INFORMATION:

Community Structure:
Strata: Record vegetation layers present in plot using Walker & Hopkins (1990) 3 strata approach
T - tallest and upper stratum.
M - mid-stratum containing all layers between T and L.
L - all ground vegetation up to 1m tall.
Code: CAPS list number for data entry. Codes will not be available for recently created taxa - place XXXX in columns to indicate that this has been checked.
Species1,2, & 3: Names of the 3 dominant species in each stratum

APPENDIX 3

Targeted taxa populations: Breeding status, Population structure, Fire response, Threats (see Appendix 1 for codes)

Full Display Name	Record Number	Number	Area	Breeding vegetative	Breeding bud	Breeding flowers	Breeding fresh fruit	Breeding old fruit	Age Structure seedlings	Age Structure immature	Age Structure mature	Age Stru sen nt
Acacia chrysotricha	tvlne03201a1_1	200	2	95	0	5	0	0	5	20	70	5
Acacia chrysotricha	tvlne03201a1_1	200	2	95	0	5	0	0	5	20	70	5
Acacia chrysotricha	tvlne03224a1_1	50	2	10	0	0	90	0	0	0	80	20
Acacia chrysotricha	tvlne03224a1_1	50	2	10	0	0	90	0	0	0	80	20
Acacia chrysotricha	tvlne03226a2_1	1000	10	50	0	0	50	0	10	40	45	5
Acacia chrysotricha	tvlne03226a2_1	1000	10	50	0	0	50	0	10	40	45	5
Acacia courtii	tvlne11200a1_1	2500	35	94	0	2	2	2	0	10	80	10
Acacia courtii	tvlne11200a1_1	2500	35	94	0	2	2	2	0	10	80	10
Acacia courtii	tvlne11202a1_1	200	3	90	10	0	0	0	0	40	40	20
Acacia courtii	tvlne11202a1_1	200	3	90	10	0	0	0	0	40	40	20
Acacia courtii	tvlne11202a1_1	200	3	90	10	0	0	0	0	40	40	20
Acacia courtii	tvlne11215a1_1	10	.01	99	0	0	0	0	0	80	20	0
Acacia courtii	tvlne11215a1_1	10	.01	99	0	0	0	0	0	80	20	0
Acacia courtii	tvlne11216a1_1	600	4	99	0	0	0	0	0	50	40	10
Acacia courtii	tvlne11216a1_1	600	4	99	0	0	0	0	0	50	40	10
Acacia courtii	tvlne11217a1_1	3500	80	40	60	0	0	0	0	20	70	10
Acacia courtii	tvlne11217a1_1	3500	80	40	60	0	0	0	0	20	70	10
Acacia courtii	tvlne11217a1_1	3500	80	40	60	0	0	0	0	20	70	10
Acacia courtii	tvlne11218a1_1	2000	25	10	90	0	70	0	0	5	90	5
Alexfloydia repens	tvune08229a1_1	N/A	0.05	50	0	0	50	0	10	50	50	0
Alexfloydia repens	tvune08229a1_1	N/A	0.05	50	0	0	50	0	10	50	50	0
Alexfloydia repens	tvune08229a1_1	N/A	0.05	50	0	0	50	0	10	50	50	0
Alexfloydia repens	tvune08229a1_1	N/A	0.05	50	0	0	50	0	10	50	50	0
Alexfloydia repens	tvune08229a1_1	N/A	0.05	50	0	0	50	0	10	50	50	0
Alexfloydia repens	tvune08230a1_2	N/A	1	80	0	0	20	0	30	50	50	0
Alexfloydia repens	tvune08230a1_2	N/A	1	80	0	0	20	0	30	50	50	0
Alexfloydia repens	tvune08231a1_1	N/A	0.5	80	0	0	20	0	30	80	20	0
Alexfloydia repens	tvune08231b1_1	N/A	0.3	50	0	0	50	0	10	90	10	0
Alexfloydia repens	tvune11219a1_1	N/A	15	40	0	60	0	0	0	0	99	0
Alexfloydia repens	tvune11220a1_1	N/A	8	60	0	40	0	0	0	0	99	0
Alexfloydia repens	tvune11220a1_1	N/A	8	60	0	40	0	0	0	0	99	0
Alexfloydia repens	tvune11220a1_1	N/A	8	60	0	40	0	0	0	0	99	0
Boronia umbellata	tvune03006a1_1	300	2	98	0	2	0	0	5	25	70	0
Boronia umbellata	tvune03006a1_1	300	2	98	0	2	0	0	5	25	70	0

Full Display Name	Record Number	Number	Area	Breeding vegetative	Breeding bud	Breeding flowers	Breeding fresh fruit	Breeding old fruit	Age Structure seedlings	Age Structure immature
Boronia umbellata	tvune03007a1_1	200	1	80	15	5	0	0	0	30
Boronia umbellata	tvune03007a1_1	200	1	80	15	5	0	0	0	30
Boronia umbellata	tvune03008a1_1	400	1	95	0	5	0	0	5	35
Boronia umbellata	tvune03010a1_1	2000	5	95	0	5	0	0	10	50
Boronia umbellata	tvune03010a1_1	2000	5	95	0	5	0	0	10	50
Boronia umbellata	tvune03011a1_1	30	<1	95	0	5	0	0	5	15
Boronia umbellata	tvune03248b1_1	2000	5	25	20	40	30	0	5	25
Boronia umbellata	tvune03248b1_1	2000	5	25	20	40	30	0	5	25
Boronia umbellata	tvune03253b3_1	200	1	40	30	50	20	0	5	15
Boronia umbellata	tvune03253b3_1	200	1	40	30	50	20	0	5	15
Boronia umbellata	tvune07002a1_1	29	.10	25	0	75	0	0	0	25
Boronia umbellata	tvune07002a1_1	29	.10	25	0	75	0	0	0	25
Callitris baileyi	tvune03003a1_1	8	2	100	0	0	0	0	0	100
Callitris baileyi	tvune03003a1_1	8	2	100	0	0	0	0	0	100
Callitris baileyi	tvune03003a1_1	8	2	100	0	0	0	0	0	100
Callitris baileyi	tvune03003a1_1	8	2	100	0	0	0	0	0	100
Chiloglottis sphyrnoides	TV05001A152712									
Chiloglottis sphyrnoides	TV05002A152742									
Chiloglottis sphyrnoides	TV05003A152763									
Chiloglottis sphyrnoides	TV05004A152798									
Chiloglottis sphyrnoides	TV05005A152805									
Chiloglottis sphyrnoides	TV05006A152820									
Chiloglottis sphyrnoides	TV05007A152842									
Chiloglottis sphyrnoides	TV05010A152914									
Chiloglottis sphyrnoides	TV05012A152954									
Chiloglottis sphyrnoides	tvune02002a1_1	10	N/R	80	10	10	0	0	0	0
Chiloglottis sphyrnoides	tvune02003a1_1	100	N/R							
Chiloglottis sphyrnoides	tvune02004a1_1	100	N/R							
Chiloglottis sphyrnoides	tvunE02005a1_1	100	0.25	92	2	1	0	0	0	0
Chiloglottis sphyrnoides	tvune02006a1_1	100	0.25	89	2	5	4			
Chiloglottis sphyrnoides	tvune02007a1_1	55	0.1	90	0	10	0	0	0	0
Chiloglottis sphyrnoides	tvune02008a1_2	N/R	N/R							
Chiloglottis sphyrnoides	tvune02009a1_1	N/A	0.1							
Chiloglottis sphyrnoides	tvune05001a1_1	1000	>1	90	5	5	0	0	0	0

Chiloglottis sphyrnoides	tvune05001a1_1	1000	>1	90	5	5	0	0	0	0	0	0
Chiloglottis sphyrnoides	tvune05001a1_1	1000	>1	90	5	5	0	0	0	0	0	0
Full Display Name	Record Number	Number	Area	Breeding vegetative	Breeding bud	Breeding flowers	Breeding fresh fruit	Breeding old fruit	Age Structure seedlings	Age Structure immature	Age Structure mature	Age Stru sen nt
Chiloglottis sphyrnoides	tvune05002a1_1	1000	>1	90	5	5	0	0				
Chiloglottis sphyrnoides	tvune05003a1_1	100	0.0003	75	5	10	10	0				
Chiloglottis sphyrnoides	tvune05004a1_1	1000	>1	90	0	5	5	0				
Chiloglottis sphyrnoides	tvune05005a1_1	100	>1	96	0	2	2	0				
Chiloglottis sphyrnoides	tvune05006a1_1	100	>1	96	0	2	2	0				
Chiloglottis sphyrnoides	tvune05007a1_1	200	<.5	90	0	5	5	0				
Chiloglottis sphyrnoides	tvune05008a1_1	60	<.5	90	0	5	5	0				
Chiloglottis sphyrnoides	tvune05009a1_1	100	>1	98	0	2	0	0	0	0	0	0
Chiloglottis sphyrnoides	tvune05010a1_1	100	>1	96	0	2	2	0				
Chiloglottis sphyrnoides	tvune05011a1_1	100	>1	97	1	1	1	0				
Chiloglottis sphyrnoides	tvune05012a1_1	100	>1	96	0	2	2	0				
Cryptostylis hunteriana	tvlne02217a_1	19	0.1	0	37	63	10	0	0	0	19	0
Cryptostylis hunteriana	tvlne02217b_2	1	1	0	0	100	100	0	0	0	100	0
Cryptostylis hunteriana	tvune02001a1_1	10	0.1	0	10	70	20	0	0	0	0	0
Cynanchum elegans	tvlne08212c1	8	20	0	100	0	0	0	0	0	100	0
Cynanchum elegans	tvlne08212c1	8	20	0	100	0	0	0	0	0	100	0
Cynanchum elegans	tvlne08213b1_1	3	3	100	0	0	0	0	0	0	100	0
Cynanchum elegans	tvlne08213b1_1	3	3	100	0	0	0	0	0	0	100	0
Cynanchum elegans	tvlne08227a1_1	40	10	50	50	0	0	0	50	50	50	10
Cynanchum elegans	tvlne08228a1_1	200	8	90	10	0	0	0	30	50	50	10
Cynanchum elegans	tvlne08228b1_1	20	2	75	25	0	0	0	50	60	40	0
Cynanchum elegans	tvlne08228b1_1	20	2	75	25	0	0	0	50	60	40	0
Cynanchum elegans	tvlne08228b1_1	20	2	75	25	0	0	0	50	60	40	0
Cynanchum elegans	tvlne08233a1_1	1	1	100	0	0	0	0	0	0	100	0
Cynanchum elegans	tvlne08233a1_1	1	1	100	0	0	0	0	0	0	100	0
Cynanchum elegans	tvlne08234a1_1	2	3	100	0	0	0	0	0	0	100	0
Cynanchum elegans	tvlne08234a1_1	2	3	100	0	0	0	0	0	0	100	0
Cynanchum elegans	tvlne08234a1_1	2	3	100	0	0	0	0	0	0	100	0
Cynanchum elegans	tvune07216a_1	4	.01	100	0	0	0	0	0	0	100	0
Cynanchum elegans	tvune07216a_1	4	.01	100	0	0	0	0	0	0	100	0
Cynanchum elegans	tvune07216a_1	4	.01	100	0	0	0	0	0	0	100	0
Cynanchum elegans	tvune07216a_1	4	.01	100	0	0	0	0	0	0	100	0
Cynanchum elegans	tvune07216b_1	3	.01	100	0	0	0	0	0	0	100	0
Cynanchum elegans	tvune07216b_1	3	.01	100	0	0	0	0	0	0	100	0
Cynanchum elegans	tvune07216b_1	3	.01	100	0	0	0	0	0	0	100	0
Cynanchum elegans	tvune07216b_1	3	.01	100	0	0	0	0	0	0	100	0
Full Display Name	Record Number	Number	Area	Breeding vegetative	Breeding bud	Breeding flowers	Breeding fresh fruit	Breeding old fruit	Age Structure seedlings	Age Structure immature	Age Structure mature	Age Stru sen nt
Cynanchum elegans	tvune08200a1_1	8	7	75	12	13	0	0	25	25	75	0
Cynanchum elegans	tvune08200a1_1	8	7	75	12	13	0	0	25	25	75	0
Cynanchum elegans	tvune08200a1_	8	7	75	12	13	0	0	25	25	75	0

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Diuris flavescens	tvlne02205a1_1	214	0.1	31	24	45	0	0	0	31
Diuris flavescens	tvlne02205a1_1	214	0.1	31	24	45	0	0	0	31
Diuris venosa	tvlne02220a_1	328	1	3	5	52	40	0	0	0
Diuris venosa	tvlne02220a_1	328	1	3	5	52	40	0	0	0
Diuris venosa	tvlne02221d_1	100	1	0	0	80	20	0	0	0
Diuris venosa	tvlne02221d_1	100	1	0	0	80	20	0	0	0
Diuris venosa	tvlne02221d_1	100	1	0	0	80	20	0	0	0
Diuris venosa	tvlne02221e_1	50	0.2	0	0	80	20	0	0	0
Diuris venosa	tvlne02221e_1	50	0.2	0	0	80	20	0	0	0
Diuris venosa	tvlne02221f_1	500	10	0	0	60	40	0	0	0
Diuris venosa	tvlne02221f_1	500	10	0	0	60	40	0	0	0
Diuris venosa	tvlne02221g_1	1	1	0	0	100	0	0	0	0
Diuris venosa	tvlne02221g_1	1	1	0	0	100	0	0	0	0
Eucalyptus ancophila	TV03008A153695									
Eucalyptus ancophila	tvlne03200a1_1	100	5	20	10	0	0	70	0	10
Eucalyptus ancophila	tvlne03201a2_1	100	4	20	0	0	30	50	0	20
Eucalyptus ancophila	tvlne03225a1_1	50	5	5	30	5	50	50	0	5
Eucalyptus ancophila	tvlne03225a1_1	50	5	5	30	5	50	50	0	5
Eucalyptus ancophila	tvlne03225a1_1	50	5	5	30	5	50	50	0	5
Eucalyptus ancophila	tvlne03226a3_1	20	4	0	50	20	80	0	0	5
Eucalyptus ancophila	tvlne03226a3_1	20	4	0	50	20	80	0	0	5
Eucalyptus ancophila	tvlne03250a1_1	200	20	30	5	5	30	60	0	30
Eucalyptus ancophila	tvlne03250a1_1	200	20	30	5	5	30	60	0	30
Eucalyptus ancophila	tvlne03250a1_1	200	20	30	5	5	30	60	0	30
Eucalyptus ancophila	tvune03251a1_1	100	10	30	0	20	70	0	0	30
Eucalyptus ancophila	tvune03251a1_1	100	10	30	0	20	70	0	0	30
Eucalyptus ancophila	tvune03252a1_1	200	10	40	20	10	60	0	0	30
Eucalyptus elliptica	tvlne03232a1_1	200	10	20	70	0	0	40	0	5
Eucalyptus elliptica	tvlne07202_1	200	0.5	20	80	0	0	0	0	20
Eucalyptus elliptica	tvlne07203_1	1	.01	0	100	0	0	0	0	0
Eucalyptus elliptica	tvlne07204a_1	13	.01	30	70	0	0	0	0	0
Eucalyptus elliptica	tvlne07204a_1	13	.01	30	70	0	0	0	0	0
Eucalyptus elliptica	tvlne07204b_1	1	.01	0	100	0	0	0	0	0
Full Display Name	Record Number	Number	Area	Breeding vegetative	Breeding bud	Breeding flowers	Breeding fresh fruit	Breeding old fruit	Age Structure seedlings	Age Structure immature
Eucalyptus elliptica	tvlne07204b_1	1	.01	0	100	0	0	0	0	0
Eucalyptus elliptica	tvlne07206_1	39	0.3	10	90	0	0	0	0	10
Eucalyptus elliptica	tvlne07206_1	39	0.3	10	90	0	0	0	0	10
Eucalyptus elliptica	tvlne07206_1	39	0.3	10	90	0	0	0	0	10
Eucalyptus elliptica	tvlne07206_1	39	0.3	10	90	0	0	0	0	10
Eucalyptus elliptica	tvlne07209_1	17	.4	0	0	0	100	0	0	0
Eucalyptus elliptica	tvlne07209_1	17	.4	0	0	0	100	0	0	0
Eucalyptus elliptica	tvlne07209b_1	19	.05	25	75	0	0	0	0	25
Eucalyptus elliptica	tvlne07209b_1	19	.05	25	75	0	0	0	0	25
Eucalyptus elliptica	tvlne07209b_1	19	.05	25	75	0	0	0	0	25
Eucalyptus elliptica	tvlne07209b_1	19	.05	25	75	0	0	0	0	25
Eucalyptus elliptica	tvlne07209d_1	2	.01	100	0	0	0	0	0	0
Eucalyptus elliptica	tvlne07209d_1	2	.01	100	0	0	0	0	0	0
Eucalyptus elliptica	tvlne07209d_1	2	.01	100	0	0	0	0	0	0
Eucalyptus elliptica	tvlne07209d_1	2	.01	100	0	0	0	0	0	0
Eucalyptus elliptica	tvlne07212_1	9	.01	0	100	0	0	0	0	0
Eucalyptus elliptica	tvlne07212_1	9	.01	0	100	0	0	0	0	0
Eucalyptus elliptica	tvlne07212_1	9	.01	0	100	0	0	0	0	0
Eucalyptus elliptica	tvlne07219a_1	13	.04	0	100	0	0	0	0	0
Eucalyptus elliptica	tvlne07219a_1	13	.04	0	100	0	0	0	0	0

Eucalyptus elliptica	tvlne07219a_1	13	.04	0	100	0	0	0	0	0	100	0
Eucalyptus elliptica	tvlne07219a_1	13	.04	0	100	0	0	0	0	0	100	0
Eucalyptus elliptica	tvune07208_1	20	.05	0	0	0	100	0	0	0	100	0
Eucalyptus elliptica	tvune07208_1	20	.05	0	0	0	100	0	0	0	100	0
Eucalyptus fergusonii ssp fergusonii	tvlne11205a1_1	50	4	80	0	0	0	20	20	60	20	0
Eucalyptus fergusonii ssp fergusonii	tvlne11205b1_1	700	15	40	0	0	0	0	10	20	60	10
Eucalyptus glaucina	tvlne08215a1_1	200	60	20	0	0	80	80	10	20	80	0
Eucalyptus glaucina	tvlne08215a1_1	200	60	20	0	0	80	80	10	20	80	0
Eucalyptus glaucina	tvlne08216a1_1	1000	200	50	0	0	50	50	30	50	50	0
Eucalyptus glaucina	tvlne08216a1_1	1000	200	50	0	0	50	50	30	50	50	0
Eucalyptus glaucina	tvlne08216a1_1	1000	200	50	0	0	50	50	30	50	50	0
Eucalyptus glaucina	tvlne08217a1_1	4000	1200	70	0	0	30	30	30	70	30	0
Eucalyptus glaucina	tvlne08217a1_1	4000	1200	70	0	0	30	30	30	70	30	0
Eucalyptus glaucina	tvlne08218a1_1	250	80	50	0	0	50	50	20	50	50	0
Eucalyptus glaucina	tvlne08218a1_1	250	80	50	0	0	50	50	20	50	50	0
Eucalyptus glaucina	tvlne08219a1_1	400	100	40	0	0	60	60	20	40	60	0

Full Display Name	Record Number	Number	Area	Breeding vegetative	Breeding bud	Breeding flowers	Breeding fresh fruit	Breeding old fruit	Age Structure seedlings	Age Structure immature	Age Structure mature	Age Structure senent
Eucalyptus glaucina	tvlne08219a1_1	400	100	40	0	0	60	60	20	40	60	0
Eucalyptus glaucina	tvlne08220a1_1	250	40	60	5	0	40	40	30	60	40	0
Eucalyptus glaucina	tvlne08220a1_1	250	40	60	5	0	40	40	30	60	40	0
Eucalyptus glaucina	tvlne08220a1_1	250	40	60	5	0	40	40	30	60	40	0
Eucalyptus glaucina	tvlne08220a1_1	250	40	60	5	0	40	40	30	60	40	0
Eucalyptus glaucina	tvlne08220b1_1	300	90	50	0	0	50	30	20	50	50	0
Eucalyptus glaucina	tvlne08220b1_1	300	90	50	0	0	50	30	20	50	50	0
Eucalyptus glaucina	tvlne08220b1_1	300	90	50	0	0	50	30	20	50	50	0
Eucalyptus glaucina	tvlne08221a1_1	300	80	50	0	0	50	50	30	50	50	0
Eucalyptus glaucina	tvlne08221a1_1	300	80	50	0	0	50	50	30	50	50	0
Eucalyptus glaucina	tvune08201a1_1	1000	160	90	0	0	0	10	20	90	10	0
Eucalyptus glaucina	tvune08201a1_1	1000	160	90	0	0	0	10	20	90	10	0
Eucalyptus glaucina	tvune08202a1_1	10	3	100	0	0	0	0	50	100	0	0
Eucalyptus glaucina	tvune08202a1_1	10	3	100	0	0	0	0	50	100	0	0
Eucalyptus glaucina	tvune08202a1_1	10	3	100	0	0	0	0	50	100	0	0
Eucalyptus glaucina	tvune08204a1_1	4000	600	90	0	0	10	10	30	60	10	0
Eucalyptus glaucina	tvune08204a1_1	4000	600	90	0	0	10	10	30	60	10	0
Eucalyptus glaucina	tvune08205a1_1	8	1	25	0	0	0	75	0	25	75	0
Eucalyptus glaucina	tvune08205a1_1	8	1	25	0	0	0	75	0	25	75	0
Eucalyptus glaucina	tvune08205a1_1	8	1	25	0	0	0	75	0	25	75	0
Eucalyptus glaucina	tvune08205a1_1	8	1	25	0	0	0	75	0	25	75	0
Eucalyptus glaucina	tvune08210a1_1	4	1	50	0	0	0	50	0	50	50	0
Eucalyptus glaucina	tvune08210a1_1	4	1	50	0	0	0	50	0	50	50	0
Eucalyptus glaucina	tvune08211a1_1	400	35	75	0	0	0	25	25	75	25	0
Eucalyptus glaucina	tvune08211a1_1	400	35	75	0	0	0	25	25	75	25	0
Eucalyptus largeana	tvlne03234a1_1	50	3	50	30	0	50	5	0	40	55	5
Eucalyptus largeana	tvlne03234a1_1	50	3	50	30	0	50	5	0	40	55	5
Eucalyptus largeana	tvlne03234a1_1	50	3	50	30	0	50	5	0	40	55	5

Eucalyptus magnificata	tvlne03243c1_1	150	1	99	1	1	0	1	0	80
Eucalyptus magnificata	tvlne03243c1_1	150	1	99	1	1	0	1	0	80
Eucalyptus magnificata	tvlne03243c1_1	150	1	99	1	1	0	1	0	80
Eucalyptus magnificata	tvlne07207a_1	102	0.5	20	5	35	40	0	20	0
Eucalyptus magnificata	tvlne07207a_1	102	0.5	20	5	35	40	0	20	0
Eucalyptus magnificata	tvlne07207a_1	102	0.5	20	5	35	40	0	20	0
Eucalyptus magnificata	tvlne07207a_1	102	0.5	20	5	35	40	0	20	0
Eucalyptus magnificata	tvune07205_1	100	1	60	0	0	0	40	0	60
Full Display Name	Record Number	Number	Area	Breeding vegetative	Breeding bud	Breeding flowers	Breeding fresh fruit	Breeding old fruit	Age Structure seedlings	Age Structure immature
Eucalyptus magnificata	tvune07205_1	100	1	60	0	0	0	40	0	60
Eucalyptus magnificata	tvune07205_1	100	1	60	0	0	0	40	0	60
Eucalyptus nicholii	tvlne07254a_1	2	.01	0	0	100	100	0	0	0
Eucalyptus nicholii	tvlne07254a_1	2	.01	0	0	100	100	0	0	0
Eucalyptus nicholii	tvune01236a1	60	15	40	60	0	50	50	0	30
Eucalyptus nicholii	tvune01237a1	2	1	0	99	0	50	99	0	0
Eucalyptus nicholii	tvune01237a1	2	1	0	99	0	50	99	0	0
Eucalyptus ophitica	tvune12200a1_1	82	5	10	85	0	0	5	0	20
Eucalyptus ophitica	tvune12200a1_1	82	5	10	85	0	0	5	0	20
Eucalyptus ophitica	tvune12201a1_1	15000	50	5	80	0	10	30	0	5
Eucalyptus ophitica	tvune12201a1_1	15000	50	5	80	0	10	30	0	5
Eucalyptus ophitica	tvune12201a1_1	15000	50	5	80	0	10	30	0	5
Eucalyptus ophitica	tvune12202a1_1	27	5	5	90	0	0	95	0	2
Eucalyptus ophitica	tvune12202a1_1	27	5	5	90	0	0	95	0	2
Grevillea banyabba	tvune01203a1_1	150	2	0	20	80	10	0	0	1
Grevillea banyabba	tvune01203b1_1	200	2	20	20	60	0	0	0	10
Grevillea banyabba	tvune01203b1_1	200	2	20	20	60	0	0	0	10
Grevillea banyabba	tvune01205a1_1	150	8	5	15	70	10	0	0	10
Grevillea banyabba	tvune01206a1_1	70	6	20	20	60	0	0	0	20
Grevillea banyabba	tvune01208a1_1	80	1	40	10	50	0	0	0	40
Grevillea banyabba	tvune01209a1_1	40	2	0	10	90	0	0	0	10
Grevillea banyabba	tvune01210a1_1	150	3	30	10	60	0	0	0	30
Grevillea granulifera	tvlne03207b1_1	100	1	30	10	60	0	0	0	10
Grevillea granulifera	tvlne03207c1_1	50	0.5	90	5	5	0	0	0	50
Grevillea granulifera	tvlne03207c1_1	50	0.5	90	5	5	0	0	0	50
Grevillea granulifera	tvlne03216a1_1	200	1	30	30	70	0	0	5	20
Grevillea granulifera	tvlne03216a1_1	200	1	30	30	70	0	0	5	20
Grevillea granulifera	tvlne03216a1_1	200	1	30	30	70	0	0	5	20
Grevillea granulifera	tvlne03230a1_1	5000	150	40	60	50	5	0	0	5
Grevillea granulifera	tvlne03230a1_1	5000	150	40	60	50	5	0	0	5
Grevillea granulifera	tvlne03231a1_1	1000	70	40	20	50	0	0	0	20
Grevillea granulifera	tvlne03233a1_1	2000	2	30	50	60	0	0	5	5
Grevillea guthrieana	tvlne03202a1_1	500	5	40	20	40	0	0	3	30
Grevillea guthrieana	tvlne03203a1_1	300	4	50	40	10	0	0	0	50
Grevillea guthrieana	tvlne03204a1_1	200	2	40	30	30	0	0	0	40
Grevillea guthrieana	tvlne03204a1_1	200	2	40	30	30	0	0	0	40

Full Display Name	Record Number	Number	Area	Breeding vegetative	Breeding bud	Breeding flowers	Breeding fresh fruit	Breeding old fruit	Age Structure seedlings	Age Structure immature	Age Structure mature	Age Structure senescent
Grevillea guthrieana	tvlne03205b1_1	200	1	70	25	5	0	1	0	50	50	0
Grevillea guthrieana	tvlne03217a1_1	75	5	30	30	50	30	0	5	25	70	0
Grevillea guthrieana	tvlne03217a1_1	75	5	30	30	50	30	0	5	25	70	0
Grevillea guthrieana	tvlne03217a1_1	75	5	30	30	50	30	0	5	25	70	0
Grevillea guthrieana	tvlne03235a1_1	200	2	50	40	50	10	10	0	50	50	0
Grevillea masonii	tvune01218a1_1	80	2	60	40	30	0	0	0	5	95	0
Grevillea masonii	tvune01218a1_1	80	2	60	40	30	0	0	0	5	95	0
Grevillea masonii	tvune01218a1_1	80	2	60	40	30	0	0	0	5	95	0
Grevillea quadricauda	tvlne03200a2_1	1000	3	70	0	15	0	15	5	25	70	0
Grevillea quadricauda	tvlne03200a2_1	1000	3	70	0	15	0	15	5	25	70	0
Grevillea quadricauda	tvlne03200a2_1	1000	3	70	0	15	0	15	5	25	70	0
Grevillea quadricauda	tvlne03200a2_1	1000	3	70	0	15	0	15	5	25	70	0
Grevillea quadricauda	tvune01202a1_1	120	1	10	10	80	0	0	0	0	99	0
Grevillea quadricauda	tvune01202a1_1	120	1	10	10	80	0	0	0	0	99	0
Grevillea quadricauda	tvune01202b1_1	200	1	0	10	90	0	0	0	0	90	10
Grevillea quadricauda	tvune01202c1_1	100	2	10	10	80	0	0	0	0	99	0
Grevillea quadricauda	tvune01202c1_1	100	2	10	10	80	0	0	0	0	99	0
Grevillea quadricauda	tvune01211b1_1	300	3	30	20	50	0	0	0	15	90	5
Grevillea quadricauda	tvune01211c1_1	350	2	10	0	80	10	0	0	0	95	5
Grevillea quadricauda	tvune01213a2_1	30	1	40	0	60	0	0	10	40	50	0
Grevillea quadricauda	tvune01225a1_1	30	1	50	0	50	0	0	0	0	99	0
Grevillea quadricauda	tvune01225b1_1	80	1	80	0	20	0	0	0	80	20	0
Grevillea quadricauda	tvune03200a2_1	1000	3	70	0	15	0	15	5	25	70	0
Grevillea quadricauda	tvune03200a2_1	1000	3	70	0	15	0	15	5	25	70	0
Grevillea quadricauda	tvune03200a2_1	1000	3	70	0	15	0	15	5	25	70	0
Grevillea quadricauda	tvune03200a2_1	1000	3	70	0	15	0	15	5	25	70	0
Hakea aff trineura	tvlne03220a1_1	200	2	60	20	30	0	5	0	10	90	0
Hakea aff trineura	tvlne03221a1_1	50	2	80	10	20	5	0	5	5	90	0
Hakea aff trineura	tvlne03240a1_1	2000	5	40	0	1	30	60	1	9	85	5
Hakea aff trineura	tvlne03240a1_1	2000	5	40	0	1	30	60	1	9	85	5
Hakea aff trineura	tvlne03241a1_1	2000	10	40	5	5	20	50	1	50	40	9
Hakea aff trineura	tvlne03241a1_1	2000	10	40	5	5	20	50	1	50	40	9
Hakea aff trineura	tvlne03245a1_1	1000	5	70	0	0	5	30	0	5	90	5
Hakea aff trineura	tvlne03246a1_1	1000	5	60	0	0	5	40	1	25	70	4
Hakea fraseri	tvlne03207a1_1	50	1	80	0	20	0	0	0	5	95	0
Hakea fraseri	tvlne03207a1_1	50	1	80	0	20	0	0	0	5	95	0
Full Display Name	Record Number	Number	Area	Breeding vegetative	Breeding bud	Breeding flowers	Breeding fresh fruit	Breeding old fruit	Age Structure seedlings	Age Structure immature	Age Structure mature	Age Structure senescent
Hakea fraseri	tvlne03213a1_1	25	5	50	50	0	0	15	0	0	90	10
Hakea fraseri	tvlne03213a1_1	25	5	50	50	0	0	15	0	0	90	10
Hakea fraseri	tvlne03214a1_1	10	1	0	0	0	0	0	0	0	0	0
Hakea fraseri	tvlne03228a1_1	100	1	90	0	10	0	10	0	10	90	0
Hakea fraseri	tvlne03228a1_1	100	1	90	0	10	0	10	0	10	90	0

Hakea fraseri	tvlne03243a1_1	20	1	40	10	40	0	40	0	20
Hakea fraseri	tvlne03243a1_1	20	1	40	10	40	0	40	0	20
Haloragis exalata ssp velutina	tvlne03239a1_1	250	0.1	99	0	0	0	0	20	30
Haloragis exalata ssp velutina	tvlne03239a1_1	250	0.1	99	0	0	0	0	20	30
Haloragis exalata ssp velutina	tvlne03239a1_1	250	0.1	99	0	0	0	0	20	30
Haloragis exalata ssp velutina	tvlne03243b1_1	50	1	99	0	0	0	0	40	20
Haloragis exalata ssp velutina	tvlne03243b1_1	50	1	99	0	0	0	0	40	20
Hibbertia hexandra	tvlne03220a2_1	2000	10	30	50	50	0	0	5	25
Hibbertia hexandra	tvlne03221a2_1	2000	10	30	40	50	10	0	5	15
Hibbertia hexandra	tvlne03221b1_1	2000	10	70	20	10	0	0	0	5
Hibbertia hexandra	tvlne03222a1_1	2000	4	20	40	80	0	0	5	15
Hibbertia hexandra	tvlne03246a2_1	500	1	80	5	15	5	0	1	15
Hibbertia hexandra	tvune01267a1_1	100	1	95	0	5	0	0	0	0
Hibbertia hexandra	tvune01268a1_1	20	1	80	0	20	0	0	0	0
Hibbertia hexandra	tvune01271a1_1	7000	50	90	0	10	0	0	0	0
Hibbertia hexandra	tvune01271a1_1	7000	50	90	0	10	0	0	0	0
Hibbertia marginata	TV01008A152538									
Hibbertia marginata	tvune01201a1_1	20	2	10	90	0	0	0	0	0
Hibbertia marginata	tvune01201a1_1	20	2	10	90	0	0	0	0	0
Hibbertia marginata	tvune01201b1_1	100	2	30	60	10	0	0	0	10
Hibbertia marginata	tvune01202d1_1	150	2	20	70	10	0	0	0	10
Hibbertia marginata	tvune01207a1_1	60	.5	10	80	10	0	0	0	10
Hibbertia marginata	tvune01207b1_1	5000	100	20	60	20	0	0	0	10
Hibbertia marginata	tvune01211a1_1	60	2	40	50	10	0	0	0	10
Hibbertia marginata	tvune01213a1_1	20	1	50	40	10	0	0	0	30
Hibbertia marginata	tvune01222a1_1	150	1	0	5	90	0	0	0	0
Hibbertia marginata	tvune01223a1_1	150	1	10	0	90	0	0	0	0
Hibbertia marginata	tvune01223b1_1	50	1	20	80	80	0	0	0	10
Hibbertia marginata	tvune01229a1_1	300	4	60	30	10	0	0	0	0
Leptopteris fraseri	tvlne03236a1_1	300	1	50	0	0	50	0	0	5
Leptopteris fraseri	tvlne03236b1_1	30	0.1	50	0	0	50	0	0	50
Full Display Name	Record Number	Number	Area	Breeding vegetative	Breeding bud	Breeding flowers	Breeding fresh fruit	Breeding old fruit	Age Structure seedlings	Age Structure immature
Lindsaea incisa	tvune01219a1_1	20	.0025	99	0	0	0	0	0	30
Lindsaea incisa	tvune08235a1_1	4	1	100	0	0	0	0	0	0
Lindsaea incisa	tvune08235a1_1	4	1	100	0	0	0	0	0	0
Lindsaea incisa	tvune08235a1_1	4	1	100	0	0	0	0	0	0
Lindsaea incisa	tvune08235a1_1	4	1	100	0	0	0	0	0	0
Marsdenia longiloba	tvune04001a1_1	1		100	0	0	0	0	0	0
Marsdenia longiloba	tvune06001a1_1	6		100	0	0	0	0	84	0
Marsdenia longiloba	tvune06001a1_1	6		100	0	0	0	0	84	0
Marsdenia longiloba	tvune06001a1_	6		100	0	0	0	0	84	0

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Marsdenia longiloba	tvune06001a1_1	6		100	0	0	0	0	84	0	16	0
Marsdenia longiloba	tvune07006a1_1	1	.001	100	0	0	0	0	0	0	100	0
Marsdenia longiloba	tvune07006a1_1	1	.001	100	0	0	0	0	0	0	100	0
Marsdenia longiloba	tvune07012a1_1	1	.001	100	0	0	0	0	0	0	100	0
Marsdenia longiloba	tvune07012a1_1	1	.001	100	0	0	0	0	0	0	100	0
Melaleuca tamariscina ssp irbyana	tvune01014a1_1	3	0.1	y			y			y	y	
Melaleuca tamariscina ssp irbyana	tvune01014a1_1	3	0.1	y			y			y	y	
Melaleuca tamariscina ssp irbyana	tvune01015a1_1	9	1	y			y			y	y	
Melaleuca tamariscina ssp irbyana	tvune01015a1_1	9	1	y			y			y	y	
Melaleuca tamariscina ssp irbyana	tvune01016a1_1	500	20	y			y			y	y	y
Melaleuca tamariscina ssp irbyana	tvune01016a1_1	500	20	y			y			y	y	y
Melaleuca tamariscina ssp irbyana	tvune01018a1_1	1500	3	y						y	y	
Melaleuca tamariscina ssp irbyana	tvune01018a1_1	1500	3	y						y	y	
Melichrus sp A	tvune01221a1_1	30	8	75	0	20	20	0	0	60	40	0
Melichrus sp A	tvune01221a1_1	30	8	75	0	20	20	0	0	60	40	0
Melichrus sp A	tvune03210a1_1	40	2	40	0	20	60	0	0	10	90	0
Melichrus sp A	tvune03210a1_1	40	2	40	0	20	60	0	0	10	90	0
Melichrus sp A	tvune03210a1_1	40	2	40	0	20	60	0	0	10	90	0
Parsonsia dorrigoensis	tvlne03201a3_1	5	1	99	0	0	0	0	0	50	50	0
Parsonsia dorrigoensis	tvlne03201a3_1	5	1	99	0	0	0	0	0	50	50	0
Parsonsia dorrigoensis	tvlne03201a3_1	5	1	99	0	0	0	0	0	50	50	0
Parsonsia dorrigoensis	tvlne03226a1_1	200	2	60	40	30	0	0	5	45	50	0
Parsonsia dorrigoensis	tvlne03242a1_1	200	5	70	20	20	0	0	0	5	80	15
Parsonsia dorrigoensis	tvlne03242b1_1	100	5	85	10	10	0	0	5	5	85	5
Parsonsia dorrigoensis	tvlne03244b1_1	100	1	90	10	10	0	0	5	10	80	5
Parsonsia dorrigoensis	tvlne03244b1_1	100	1	90	10	10	0	0	5	10	80	5
Parsonsia dorrigoensis	tvlne03250b1_1	600	5	60	30	30	1	0	60	10	30	0
Full Display Name	Record Number	Number	Area	Breeding vegetative	Breeding bud	Breeding flowers	Breeding fresh fruit	Breeding old fruit	Age Structure seedlings	Age Structure immature	Age Structure mature	Age Stru sen nt
Parsonsia dorrigoensis	tvlne03257a_1	100	1	95	0	0	5	0	30	50	20	0
Parsonsia dorrigoensis	tvlne03258a1_1	20	1	99	0	0	0	0	20	40	40	0
Parsonsia dorrigoensis	tvune03253a1_1	150	1	95	5	5	0	0	70	20	10	0
Parsonsia dorrigoensis	tvune03253a1_1	150	1	95	5	5	0	0	70	20	10	0
Parsonsia dorrigoensis	tvune03253b2_1	200	1	95	5	0	0	0	0	90	10	0
Parsonsia dorrigoensis	tvune03253b2_1	200	1	95	5	0	0	0	0	90	10	0
Paspalidium grandispiculatum	tvune01001a1_1	90000	200	20	0	40	20	20	0	0	99	0
Paspalidium grandispiculatum	tvune01003a1_1	5000	80	0	0	60	20	20	0	0	90	0
Paspalidium grandispiculatum	tvune01004a1_1	12000	90	10	20	40	60	20	0	0	0	0
Paspalidium grandispiculatum	tvune01006a1_1	11	.0025	20	20	20	60	40	0	0	0	0
Paspalidium grandispiculatum	tvune01007a1_2	15	.0040	20	20	100	60	20	0	0	0	0

Paspalidium grandispiculatum	tvune01007a1_2	15	.0040	20	20	100	60	20	0	0
Paspalidium grandispiculatum	tvune01008a1_1	6500	50	0	50	60	50	20	0	0
Paspalidium grandispiculatum	tvune01008a1_1	6500	50	0	50	60	50	20	0	0
Paspalidium grandispiculatum	tvune01011a1_1	800	4	20	20	60	20	20	0	0
Paspalidium grandispiculatum	tvune01012a1_1	1000	5	20	20	60	20	10	0	0
Plectranthus alloplectus	tvune03002a1_1	1000	10	50	10	30	10	0	10	40
Plectranthus nitidus	TV01019A153560									
Plectranthus nitidus	tvune01009a1_1	143	.33	20	20	50	40	30	0	40
Plectranthus nitidus	tvune01009a1_1	143	.33	20	20	50	40	30	0	40
Plectranthus nitidus	tvune01009a1_1	143	.33	20	20	50	40	30	0	40
Plectranthus nitidus	tvune01010a1_1	285	.5	20	20	40	40	40	0	40
Plectranthus nitidus	tvune01010a1_1	285	.5	20	20	40	40	40	0	40
Plectranthus nitidus	tvune01010a1_1	285	.5	20	20	40	40	40	0	40
Plectranthus nitidus	tvune01013a1_1	82	1	20	10	60	10	0	10	10
Plectranthus nitidus	tvune01013a1_1	82	1	20	10	60	10	0	10	10
Pterostylis chaetophora	tvlne02208a1_1	69	0.1	27	59	13	0	0	0	27
Pterostylis chaetophora	tvlne02209a1_2	25	0.1	40	56	4	0	0	0	40
Pterostylis cucullata	tvlne02221b_1	56	0.1	75	0	18	7	0	0	75
Quassia sp. Mooney Creek	tvune03200a1_1	500	1	99	0	0	0	0	5	60
Quassia sp. Mooney Creek	tvune03200a1_1	500	1	99	0	0	0	0	5	60
Quassia sp. Mooney Creek	tvune03200a1_1	500	1	99	0	0	0	0	5	60
Quassia sp. Mooney Creek	tvune03200a1_1	500	1	99	0	0	0	0	5	60
Quassia sp. Mooney Creek	tvune03248a1_1	50	0.5	95	5	0	0	0	0	40
Quassia sp. Mooney Creek	tvune03248a1_1	50	0.5	95	5	0	0	0	0	40
Quassia sp. Mooney Creek	tvune03253b1_2	600	2	99	0	0	0	0	0	10
Full Display Name	Record Number	Number	Area	Breeding vegetative	Breeding bud	Breeding flowers	Breeding fresh fruit	Breeding old fruit	Age Structure seedlings	Age Structure immature
Quassia sp. Mooney Creek	tvune03253b1_2	600	2	99	0	0	0	0	0	10
Rapanea sp. A	tvune07001a1_1	2	.01	100	0	0	0	0	50	50
Rapanea sp. A	tvune07001a1_1	2	.01	100	0	0	0	0	50	50
Rapanea sp. A	tvune07001a1_1	2	.01	100	0	0	0	0	50	50
Rapanea sp. A	tvune07001a1_1	2	.01	100	0	0	0	0	50	50
Rapanea sp. A	tvune07009a1_1	2	.01	100	0	0	0	0	0	100
Rapanea sp. A	tvune07009a1_1	2	.01	100	0	0	0	0	0	100
Rapanea sp. A	tvune07009a1_1	2	.01	100	0	0	0	0	0	100
Rapanea sp. A	tvune07009a1_1	2	.01	100	0	0	0	0	0	100
Sarcochilus fitzgeraldii	tvlne03244a1_1	600	2	75	5	20	5	0	10	40
Sarcochilus fitzgeraldii	tvune01246a1_	18	1	30	0	70	0	0	0	0

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Sarcochilus fitzgeraldii	tvune01246a1_1	18	1	30	0	70	0	0	0	0	99	0
Sarcochilus fitzgeraldii	tvune01246a1_1	18	1	30	0	70	0	0	0	0	99	0
Sarcochilus fitzgeraldii	tvune03249a1_1	15	0.005	99	0	0	0	0	0	40	60	0
Sarcochilus fitzgeraldii	tvune03249a1_1	15	0.005	99	0	0	0	0	0	40	60	0
Senna acclinis	tvlne07251a_1	1	.01	0	100	100	100	100	0	0	100	0
Senna acclinis	tvlne07251a_1	1	.01	0	100	100	100	100	0	0	100	0
Senna acclinis	tvlne08212a1_1	2	2	0	33	33	33	66	0	0	100	33
Senna acclinis	tvlne08212a1_1	2	2	0	33	33	33	66	0	0	100	33
Senna acclinis	tvlne08212b1_1	70	5	70	30	30	10	30	60	70	30	10
Senna acclinis	tvlne08212b1_1	70	5	70	30	30	10	30	60	70	30	10
Senna acclinis	tvlne08212b1_1	70	5	70	30	30	10	30	60	70	30	10
Senna acclinis	tvlne08213a1_1	30	4	80	20	20	20	20	80	80	20	0
Senna acclinis	tvlne08213a1_1	30	4	80	20	20	20	20	80	80	20	0
Senna acclinis	tvune11208a1_3	1	.001	0	100	0	0	100	0	0	100	0
Senna acclinis	tvune11208a1_3	1	.001	0	100	0	0	100	0	0	100	0
Senna acclinis	tvune11208a1_3	1	.001	0	100	0	0	100	0	0	100	0
Sophora fraseri	tvune01270a1_1	15	1	30	0	0	70	0	0	0	99	0
Sophora fraseri	tvune01270a1_1	15	1	30	0	0	70	0	0	0	99	0
Sophora fraseri	tvune01270a1_1	15	1	30	0	0	70	0	0	0	99	0
Tinospora smilacina	tvune03001a1_1	2	0.1	100	0	0	0	0	0	0	100	0
Tinospora smilacina	tvune07003a1_1	1	.01	100	0	0	0	0	0	0	100	0
Tinospora smilacina	tvune07003a1_1	1	.01	100	0	0	0	0	0	0	100	0
Tinospora smilacina	tvune07004a1_1	1	.02	100	0	0	0	0	0	0	100	0
Tinospora smilacina	tvune07004a1_1	1	.02	100	0	0	0	0	0	0	100	0
Tinospora smilacina	tvune07004a1_1	1	.02	100	0	0	0	0	0	0	100	0
Full Display Name	Record Number	Number	Area	Breeding vegetative	Breeding bud	Breeding flowers	Breeding fresh fruit	Breeding old fruit	Age Structure seedlings	Age Structure immature	Age Structure mature	Age Stru sen nt
Tinospora smilacina	tvune07005a1_1	1	.01	100	0	0	0	0	0	0	100	0
Tinospora smilacina	tvune07005a1_1	1	.01	100	0	0	0	0	0	0	100	0
Tinospora smilacina	tvune07005a1_1	1	.01	100	0	0	0	0	0	0	100	0
Tinospora smilacina	tvune07007a1_1	1	.01	100	0	0	0	0	0	0	100	0
Tinospora smilacina	tvune07007a1_1	1	.01	100	0	0	0	0	0	0	100	0
Tinospora smilacina	tvune07008a1_1	1	.001	100	0	0	0	0	0	0	100	0
Triplarina imbricata	tvune07210_1	2000	1.5	20	0	30	50	0	10	10	80	0
Triplarina imbricata	tvune07210_1	2000	1.5	20	0	30	50	0	10	10	80	0
Triplarina imbricata	tvune07211a_1	200	.01	0	100	0	0	0	0	0	100	0
Triplarina imbricata	tvune07211a_1	200	.01	0	100	0	0	0	0	0	100	0
Triplarina imbricata	tvune07211b_1	9	.01	10	90	0	0	0	0	0	100	0
Triplarina imbricata	tvune07211b_1	9	.01	10	90	0	0	0	0	0	100	0
Triplarina imbricata	tvune07211c_1	100	.01	100	0	0	0	0	0	10	90	0
Triplarina imbricata	tvune07211c_1	100	.01	100	0	0	0	0	0	10	90	0
Triplarina imbricata	tvune07211c_1	100	.01	100	0	0	0	0	0	10	90	0
Triplarina imbricata	tvune07252a_1	1	0.01	0	0	0	0	100	0	0	100	0

Triplarina imbricata	tvune07252a_1	1	0.01	0	0	0	0	100	0	0
Triplarina imbricata	tvune07252a_1	1	0.01	0	0	0	0	100	0	0
Triplarina imbricata	tvune07252a_1	1	0.01	0	0	0	0	100	0	0
Triplarina imbricata	tvune11211a1_1	300	1	100	0	0	0	0	0	0
Triplarina imbricata	tvune11212a1_1	20	.4	90	0	0	0	10	0	20
Triplarina imbricata	tvune11212a1_1	20	.4	90	0	0	0	10	0	20
Triplarina imbricata	tvune11212a1_1	20	.4	90	0	0	0	10	0	20
Tylophora woollsii	tvune03004a1_1	100	0.1	95	0	5	0	0	85	10
Tylophora woollsii	tvune03004a1_1	100	0.1	95	0	5	0	0	85	10
Tylophora woollsii	tvune03004a1_1	100	0.1	95	0	5	0	0	85	10
Tylophora woollsii	tvune03004a1_1	100	0.1	95	0	5	0	0	85	10
Tylophora woollsii	tvune03005a1_1	85	0.1	95	5	0	0	0	90	5
Tylophora woollsii	tvune03005a1_1	85	0.1	95	5	0	0	0	90	5
Tylophora woollsii	tvune03005a1_1	85	0.1	95	5	0	0	0	90	5
Tylophora woollsii	tvune03009a1_1	8	0.1	100	0	0	0	0	50	50
Tylophora woollsii	tvune03009a1_1	8	0.1	100	0	0	0	0	50	50
Tylophora woollsii	tvune03009a1_1	8	0.1	100	0	0	0	0	50	50
Tylophora woollsii	tvune07010a1_1	1	.01	0	0	100	0	0	0	0
Tylophora woollsii	tvune07010a1_1	1	.01	0	0	100	0	0	0	0
Tylophora woollsii	tvune07010a1_1	1	.01	0	0	100	0	0	0	0

Full Display Name	Record Number	Number	Area	Breeding vegetative	Breeding bud	Breeding flowers	Breeding fresh fruit	Breeding old fruit	Age Structure seedlings	Age Structure immate
Tylophora woollsii	tvune07010a1_1	1	.01	0	0	100	0	0	0	0
Tylophora woollsii	tvune07011a1_1	2	.01	100	0	0	0	0	0	100
Tylophora woollsii	tvune07011a1_1	2	.01	100	0	0	0	0	0	100
Tylophora woollsii	tvune07011a1_1	2	.01	100	0	0	0	0	0	100
Tylophora woollsii	tvune07011a1_1	2	.01	100	0	0	0	0	0	100
Zieria lasiocaulis	tvlne03223a1_1	50	1	20	40	80	0	0	0	5
Zieria lasiocaulis	tvlne03223a1_1	50	1	20	40	80	0	0	0	5
Zieria lasiocaulis	tvlne03235b1_1	20	0.1	0	99	99	0	0	0	0
Zieria lasiocaulis	tvlne03255a1_1	300	2	80	20	0	0	0	2	8
Zieria lasiocaulis	tvlne03255a1_1	300	2	80	20	0	0	0	2	8
Zieria lasiocaulis	tvlne03255b1_1	100	1	90	10	0	0	0	0	10
Zieria lasiocaulis	tvlne03255b1_1	100	1	90	10	0	0	0	0	10

APPENDIX 4

List of all incidentally recorded taxa and their status on JANIS criteria lists

Full Display Name	IFA status	TSC Act	ESP Act Code	ANZECC Code	ROTAP CATEGORY	FBRTD Code
Acacia baeuerlenii						12
Acacia bakeri					3VC-	2, 12
Acacia barringtonensis					3RCa	4, 11, 12
Acacia brunioides ssp brunioides	V (30/60)				3RC-	4, 11, 12
Acacia brunioides ssp granitica	V (30/60)				3RC	4, 11, 12
Acacia diphylla						12
Acacia granitica						11, 12
Acacia hispidula						11
Acacia ingramii					2RCa	4, 12
Acacia juncifolia ssp serpentinicola						4, 10
Acacia latisepala					3RC-	4
Acacia macnuttiana	IFA - E (85)	TSC - E			2VCi	1
Acacia mitchellii						11, 12
Acacia orites					2RC-	4, 12
Acacia podalyriifolia						4, 12
Acacia pubifolia		TSC - E	ESP - V		2VC-	2
Acacia ruppii	IFA - E (85)	TSC - E	ESP - V	ANZECC - V	2E	1, 10
Acacia tessellata					2RC-	4, 10
Acacia viscidula						11
Acalypha capillipes						12
Acalypha eremorum	IFA - E (85)	TSC - E				1, 12
Acianthus amplexicaulis					3RC-	4, 11
Acianthus exiguus					3RC-	4, 11
Acmella grandiflora var brachyglossa						4, 12
Acmena ingens						12
Acomis acoma	IFA - V (60)				3RC-	2
Acronychia littoralis		TSC - E	ESP - E	ANZECC - E	3ECi	1, 12
Acrotriche serrulata						12
Actinotus gibbonsii						4
Adenochilus nortonii					3RC-	4?, 12
Ailanthus triphysa						12
Allocasuarina defungens		TSC - E	ESP - E	ANZECC - E	2E	1, 10
Allocasuarina ophiolitica					2K	16
Allocasuarina rupicola					2RC-	4, 12
Alloxylon pinnatum					3RCa	4, 11, 12*
Almaleea cambagei		TSC - E			2V	2
Alphitonia petriei						12
Alstonia constricta						12
Amorphospermum whitei		TSC - V	ESP - V	ANZECC - V	3RCa	2
Amyema conspicuum						4, 12
Angiopteris evecta		TSC - E				4, 12
Angophora costata						12
Angophora paludosa						12
Angophora robur		TSC - V	ESP - V	ANZECC - V	2RC-	2, 10
Archidendron muellerianum					3RCa	4, 12

Argophyllum nullumense					3RCa	4, 12
Arthrochilus prolixus						4
Arundinella nepalensis						4
Astrotricha cordata						4, 11, 12
Atherosperma moschatum						12
Full Display Name	IFA status	TSC Act	ESP Act Code	ANZECC Code	ROTAP CATEGORY	FBRTD Code
Austrobuxus swainii					3RCa	4
Austromyrtus fragrantissima	IFA - E (85)	TSC - E	ESP - E	ANZECC - E	3EC-	1, 12
Babingtonia collina						4, 12
Babingtonia prominens						4, 12
Babingtonia silvestris						4, 12
Baeckea species C						11
Baeckea utilis						12
Bertya brownii					2RC-	4, 11?, 12
Bertya ingramii		TSC - E	ESP - V	ANZECC - V	2VCit	1, 10
Bertya sp. A Cobar-Coolabah		TSC - V			2V	2
Boerhavia dominii						4
Boronia algida						12
Boronia anemonifolia var anemonifolia						12
Boronia chartacea					3R	4, 11
Boronia granitica		TSC - E	ESP - E	ANZECC - E	3VC-	1
Boronia rosmarinifolia						12
Boronia rubiginosa	IFA - V (60)				2RCa	2, 11, 12
Bosistoa floydii					2RCi	4, 11*, 12
Bosistoa pentacocca						12
Bossiaea rupicola						4, 12
Botrychium australe						4
Brachyloma saxicola					2RC-	4
Bulbophyllum bracteatum						4, 12
Bulbostylis pyriformis						4
Caladenia picta						4, 12
Callistemon acuminatus					3RC-	4, 11, 12
Callistemon comboynensis						4?, 12
Callistemon pungens					3R	4
Callitris monticola					3RC-	4, 11, 12
Callitris oblonga	IFA - V (60 / 60 / 60)	TSC - V	ESP - V	ANZECC - V	3VCa	2, 12
Calocephalus citreus						4
Calophanoides hygrophiloides	IFA - E (85)	TSC - E				1, 12
Calotis lappulacea						4
Carex lophocarpa						4, 12
Cassia brewsteri var marksiana	IFA - V (60)				2RCi	2, 12
Cassinia sp.C						4, 10
Cassinia trinerva						12
Chiloglottis aff. pluricallata						16
Chiloglottis diphylla						4, 12
Chiloglottis platyptera	IFA - E (85)				2KC-	1, 12, 16
Chiloglottis trilabra						12
Chionochloa pallida						12
Citriobatus lancifolius						12
Clematis fawcettii		TSC - V	ESP - V	ANZECC - V	3VC-	2, 12
Coelospermum paniculatum						12
Conospermum burgessiorum					3RCa	4, 11, 12

Coprosma nitida	IFA - V (60)					2, 12
Corchorus cunninghamii	IFA - E (85)	TSC - E	ESP - E	ANZECC - E	3E	1, 12
Cordyline congesta					2RC-	4, 11
Cordyline rubra						12
Corokia whiteana	IFA - V (60 / 60)	TSC - V	ESP - V	ANZECC - V	2VCi	2, 10, 11*
Crotalaria mitchellii ssp laevis						4?, 11
Full Display Name	IFA status	TSC Act	ESP Act Code	ANZECC Code	ROTAP CATEGORY	FBRTD Code
Croton acronychioides						12
Cryptandra lanosiflora					3RCa	4
Cryptandra propinqua						4?
Cryptocarya bidwillii						12
Cryptocarya dorrigoensis					2RCa	4
Cryptocarya foetida	IFA - E (85)	TSC - V	ESP - V	ANZECC - V	3VCi	1, 12
Cryptocarya nova-anglica					3RCa	4, 11
Cupaniopsis newmanii					2RC-	4, 12
Danthonia monticola						4, 12
Daviesia elliptica					3RC-	4, 12
Daviesia wyattiana						11
Dendrocnide moroides	IFA - E (85)	TSC - E				1, 12
Denhamia moorei					2RC-	4, 12
Desmodium acanthocladum	IFA - V (60)	TSC - V	ESP - V	ANZECC - V	2VC-	2, 10
Dicksonia youngiae						12
Dillwynia sieberi						4?
Dillwynia species A					2RC-t	4
Discaria pubescens					3RCa	4
Diuris abbreviata						4, 12*
Diuris aff. ochroma (New England)						1
Dodonaea boroniifolia						4?
Dodonaea hirsuta					3RC-	4, 11, 12
Dodonaea rhombifolia					3RCa	4, 12
Dodonaea serratifolia					2RC-	4
Doryanthes excelsa						11, 12
Dracophyllum secundum						4, 11, 12
Drynaria rigidula	IFA - V (60)	TSC - X				2, 12, 17
Echinochloa colona						4?
Elaeocarpus eumundi						4?, 12*
Elaeocarpus holopetalus						12
Elaeocarpus williamsianus	IFA - E (85)	TSC - E	ESP - E	ANZECC - E	2ECi	1, 10
Elattostachys xylocarpa						12
Eleocharis tetraquetra		TSC - X				17
Endiandra floydii	IFA - E (85)	TSC - E	ESP - E	ANZECC - E	2E	1, 12
Endiandra globosa					2RC-	4, 12
Endiandra hayesii	IFA - V (60)	TSC - V	ESP - V	ANZECC - V	3VC-	2, 12
Endiandra introrsa					3RCa	4, 11
Endiandra muelleri ssp bracteata	IFA - E (85)	TSC - E				1, 12
Enteropogon unispiceus						12
Epacris calvertiana var calvertiana						4?, 12
Epacris microphylla var rhombifolia						4
Eriostemon difformis ssp smithianus						4?, 12
Eriostemon myoporoides ssp epilosus					3RC-	4
Eriostemon myoporoides ssp myoporoides						11
Erythrina vespertilio						12

Eucalyptus bancroftii						12
Eucalyptus caleyi						11
Eucalyptus caleyi ssp ovendenii		TSC - V			2V	2
Eucalyptus camphora ssp relicta	IFA - E (85)	TSC - E			3VC-	1, 11, 12
Eucalyptus codonocarpa						4, 12
Eucalyptus dealbata						11
Eucalyptus dives						12
Eucalyptus dorrigoensis					3KC-	16
Full Display Name	IFA status	TSC Act	ESP Act Code	ANZECC Code	ROTAP CATEGORY	FBRTD Code
Eucalyptus dunnii					3RCa	4, 12
Eucalyptus fusiformis					2RC-	4
Eucalyptus mckieana	IFA - V (60)	TSC - V	ESP - V	ANZECC - V	2V	2, 12
Eucalyptus melanophloia						11
Eucalyptus michaeliana					3RCa	4, 11
Eucalyptus olida					2RCa	4, 10
Eucalyptus oreades						
Eucalyptus oresbia ms						1
Eucalyptus planchoniana						12
Eucalyptus prava						11
Eucalyptus psammitica					3K	10, 16
Eucalyptus pyrocarpa						10*, 12
Eucalyptus rummeryi					3RC-	4, 12
Eucalyptus serpentinicola					2R	2, 10
Eucalyptus sp. aff.cypellocarpa (Hillgrove)						1
Eucalyptus tetrapleura	IFA - V (60)	TSC - V	ESP - V	ANZECC - V	2VCa	2, 10
Eucalyptus youmanii	IFA - V (60)				2R	2
Euphrasia ciliolata	IFA - V (60)				2KC-	2, 12, 16
Euphrasia collina ssp paludosa					3RC-	4?, 11
Euphrasia orthocheila ssp orthocheila						4
Euphrasia ramulosa					3RC-	4, 12
Evolvulus alsinoides						4
Exocarpos latifolius						12
Exocarya scleroides						12
Fontainea australis	IFA - V (60)	TSC - V	ESP - V	ANZECC - V	3VCi	2, 12
Gahnia insignis					3RCa	4, 11, 12*
Gaultheria appressa						11, 12
Gaultheria viridicarpa ssp viridicarpa	IFA - E (85)	TSC - V			2VCit	1
Geijera paniculata	IFA - E (85)	TSC - E				1, 12
Genoplesium sigmoideum						2
Gompholobium species.B						4, 11, 12
Goodenia fordiana					2RC-	4, 12
Grammitis stenophylla	IFA - E (85)	TSC - E				1
Grevillea acanthifolia ssp stenomera					3RC-	4, 11, 12
Grevillea acerata					2RC-t	4, 10
Grevillea beadleana	IFA - E (85 / 85)	TSC - E	ESP - E	ANZECC - E	3ECi	1, 11
Grevillea juniperina						11
Grevillea rhizomatosa	IFA - V (60)	TSC - V			2VC-t	2, 10
Grevillea scortechinii ssp sarmentosa	IFA - V (60 / 60)	TSC - V	ESP - V	ANZECC - V	2VC-	2
Hakea macrorrhyncha					3RC-	4
Hakea ochroptera						4, 11, 12
Halfordia kendack						12
Helichrysum sp.2					2RC-	4

Helmholtzia glaberrima					2RCa	4, 12
Hibbertia acuminata	IFA - V (60)					2, 10
Hibbertia hermanniifolia					3RCa	4
Hibbertia species B						4
Hibbertia villosa					3KC-	16
Hicksbeachia pinnatifolia	IFA - V (60 / 60)	TSC - V	ESP - V	ANZECC - V	3RC-	2, 11
Homoranthus biflorus					2RCat	4
Homoranthus floydii					2RC-t	4, 10
Full Display Name	IFA status	TSC Act	ESP Act Code	ANZECC Code	ROTAP CATEGORY	FBRTD Code
Hovea longipes						4?, 12
Howittia trilocularis						4, 12
Hybanthus vernonii ssp scaber						12
Hybanthus vernonii ssp vernonii						11*, 12
Hygrophila angustifolia						4, 12
Isopogon mnoraifolius						10
Jasminum dallachii						12
Keraudrenia corollata var denticulata					3RC-	4, 11?*
Keraudrenia hillii						4
Kunzea bracteolata					3RC-	4, 12
Kunzea opposita						4
Kunzea sp A						4, 10
Lasiopetalum ferrugineum var ferrugineum						4?
Lepidosperma latens						4, 11, 12
Leptorhynchos squamatus ssp a						4?, 12
Leptospermum argenteum					2RC-	4, 10
Leucopogon cicatricatus					3RC-	4, 11
Leucopogon hookeri						4, 12
Leucopogon sp. aff. fraseri						1, 10
Lindsaea dimorpha						4, 11?
Lomatia fraseri						12
Macadamia tetraphylla	IFA - V (60)	TSC - V	ESP - V	ANZECC - V	2VC-	2, 12
Macrozamia concinna						2
Macrozamia fawcettii						10
Macrozamia johnsonii					2RC-	4, 10
Marsdenia hemiptera					Formerly 3RC-	4
Marsdenia liisae					3RC-	4, 12
Melaleuca groveana		TSC - V	ESP - V	ANZECC - V	3RC-	2, 12
Melichrus sp. Gibberagee		TSC - E				1, 10
Melodinus acutiflorus						12
Millettia australis					3RC-+	4
Mirbelia confertiflora						12
Mirbelia speciosa ssp ringrosei						4, 12
Mischocarpus lachnocarpus						12
Neoastelia spectabilis	IFA - V (60)	TSC - V			2VCit	2, 10
Notelaea linearis						12
Notothixos incanus						3
Oberonia titania	IFA - V (60)					2
Olearia argophylla						4, 11, 12
Olearia flocktoniae		TSC - E	ESP - E	ANZECC - E	2ECi	1, 10*
Olearia gravis					3KC-	16
Olearia sp. aff. erubescens						1, 10
Olearia sp.2					2KC-	16

Olearia stilwelliae					3RCa	4, 10
Ozothamnus adnatus					3KC-	16
Ozothamnus whitei					3RC-	4, 11
Persoonia acuminata						4, 11, 12
Persoonia daphnoides					3RC-	4, 12
Persoonia procumbens					2RC-	4, 12
Persoonia rufa					2RCa	4, 10
Phebalium ambiens					3RC-	4, 11, 12
Phebalium dentatum						11, 12
Phebalium glandulosum ssp eglandulosum		TSC - E			2VCi	1
Full Display Name	IFA status	TSC Act	ESP Act Code	ANZECC Code	ROTAP CATEGORY	FBRTD Code
Phebalium nottii						4, 11
Phebalium rotundifolium					3RC-	4
Phebalium squamulosum ssp verrucosum					2RC-	4, 10*, 12
Phebalium woombye						12
Phyllanthus hebecarpus						11
Planchonella laurifolia						12
Plectranthus argentatus						11, 12*
Plectranthus cremnus					3K	10 , 16
Plectranthus sp. 2						10
Plectranthus sp. 3 Long Gully						10
Plectranthus suaveolens					3KC-	16
Podolobium aestivum					3RC-	4, 10, 11
Pomaderris aspera						11, 12
Pomaderris ferruginea						4?, 12
Pomaderris queenslandica		TSC - E				4, 12
Pomaderris subcapitata						4, 11, 12
Pomaderris vellea						4, 11?
Prostanthera cineolifera		TSC - V	ESP - V	ANZECC - V	3V	2
Prostanthera densa		TSC - V	ESP - V	ANZECC - V	3VC-	2, 12
Prostanthera rhombea						4?, 11?
Prostanthera scutellarioides						11*, 12
Prostanthera species B						4
Prostanthera spinosa						4, 11, 12
Prostanthera staurophylla		TSC - V	ESP - V	ANZECC - V	2R	2
Pseudanthus divaricatissimus					3RCa	4
Pterocaulon redolens						4?, 12
Pterostylis aff. atrans						10
Pterostylis aff. cycnocephala						10
Pterostylis furcata						4
Pterostylis longifolia						16
Pterostylis metcalfei						2, 10
Pterostylis russellii						4, 12
Pterostylis torquata						2, 10
Pterostylis woollsii	IFA - V (60)				3RC-	2, 11
Ptilotus macrocephalus						11
Pultenaea aff.flexilis						10
Pultenaea campbellii		TSC - V	ESP - V	ANZECC - V	3K	2, 10*, 16
Pultenaea petiolaris						11
Pultenaea pycnocephala					3RCa	4, 12
Pultenaea species B						10
Pultenaea species J						4, 12

Pultenaea stuartiana		TSC - V	ESP - V	ANZECC - V	3VC-	2
Rhodamnia maideniana					2RC-	4, 12
Rhynchosia acuminatissima	IFA - V (60)					2, 12
Ricinocarpos speciosus					3RCi	4, 12
Rostellularia obtusa						4, 12
Rulingia salviifolia					2RC-	4, 12
Rutidosis heterogama		TSC - V	ESP - V	ANZECC - V	2VCa	2, 11
Sarcostemma brunonianum						4, 11
Schistostylus purpuratus					3RCi	4, 10*, 12
Senecio macranthus					3RC-	4, 12
Sterculia quadrifida						12
Styphelia perileuca		TSC - V			2VC-	2, 10
Full Display Name	IFA status	TSC Act	ESP Act Code	ANZECC Code	ROTAP CATEGORY	FBRTD Code
Symplocos baeuerlenii		TSC - V	ESP - V	ANZECC - V	2VC-	2, 12
Syzygium hodgkinsoniae		TSC - V	ESP - V	ANZECC - V	3VC-	2, 12
Syzygium moorei	IFA - V (60)	TSC - V	ESP - V	ANZECC - V	2VCi	2, 12
Syzygium paniculatum	IFA - E (0 / 85)	TSC - V	ESP - V	ANZECC - V	3VCi	1, 12
Tapeinosperma pseudojambosa						12
Tasmannia glaucifolia	IFA - V (60 / 60)	TSC - V	ESP - V	ANZECC - V	3VCi	2, 10, 11, 12
Tasmannia purpurascens	IFA - V (60 / 60 / 60)	TSC - V	ESP - V	ANZECC - V	2VC-t	2, 10, 11, 12
Telopea aspera						10
Tephrosia rufula						4, 12
Tetratheca juncea	IFA - V (60)	TSC - V	ESP - V	ANZECC - V	3VCa	2, 12
Thelionema grande					3RC-	4
Thelymitra cyanea						4, 12
Thelymitra fragrans						4, 11
Thesium australe	IFA - V (60 / 60)	TSC - V	ESP - V		3VCi+	2, 11?
Toechima tenax						12
Tragia novae-hollandiae						12
Tricoryne anceps ssp pterocaulon						4, 12
Triodia scariosa ssp scariosa						11
Typhonium brownii						4?
Uromyrtus australis	IFA - E (85)	TSC - E	ESP - E	ANZECC - E	2ECi	1, 10
Vetiveria filipes						4?, 11
Vigna vexillata						4?
Vittadinia hispidula var hispidula						4
Vittadinia muelleri						4
Wahlenbergia sp.4					2RC-t	4
Westringia amabilis					Formally 3RC-	4
Westringia eremicola						11
Westringia glabra					2RC-	4
Westringia longifolia						4, 12
Zieria fraseri ssp A						4, 12
Zieria furfuracea						4?
Zieria hindii						4, 12
Zieria pilosa						4, 12
Zieria species K						11