Appendix 1. Field Management Plans

Environmental Value	Objective	Impact	Activity	Management/ Control Strategy	Monitoring Action	Monitoring Frequency	Reporting Action	Report Frequency	Responsibility
Flora/fauna	No permanent detrimental impact to biodiversity or ecological function	Loss of protected flora species, essential habitat and biodiversity	• All vegetation clearing • Removal of fertile topsoil	Ensure all necessary permits and approvals are in place and compliance obligations communicated to site personnel prior to commencing vegetation clearing	Visual	Weekly	Corrective action record as required	Induction training Prior to start of work	Person in charge
				Mark the boundary of the work program area with tape and/ or hi-viz fencing designated for 'No Go Zones' and monitor integrity	Visual	weekly	Corrective action record as required	Monthly (summary in monthly report)	Person in charge
				Ensure site specific fire management plans are in place	Audit	At start of new work and quarterly	Audit report	As required	Person in charge
		Weed invasion/ infestation and / increased occurrence or abundance of feral animals	• All vegetation clearing • Accessing site by vehicle	Upgrade existing tracks where practical to accommodate the heavy vehicle traffic (including widening).	Visual	Weekly	Corrective action record as required	Monthly	Weeds Officer
				Vehicle wash down prior to entering the area	Weed certificate	Prior to mobilization	Certificate	At commencement	Weeds Officer
				Vehicle wash down for the removal of weed seeds for all vehicles moving through known weed infestations	Weed certificate	As required	Self-assessment	As required	Weeds Officer
				No burning of cleared vegetation	Visual	Daily	Corrective action record as required	Monthly	Person in charge
				Implement Work Program staging and minimize total area of disturbance at any	Visual inspection and maintain marking boundary	Prior to commencement	Record active areas in daily log	Weekly	Person in charge

Environmental Value	Objective	Impact	Activity	Management/ Control Strategy	Monitoring Action	Monitoring Frequency	Reporting Action	Report Frequency	Responsibility
				one time	of work program stage				
		Loss of riparian vegetation	• Vegetation clearing in or near a drainage pathway • Accessing site by vehicle • Removal of fertile topsoil • Earthworks in or near drainage pathways	Mark and maintain a 'No Go Zone' from the outer boundary of riparian zones for all areas outside the proposed / approved clearing footprint	Visual	Daily	corrective action implemented as required	Weekly	Person in charge
				Where clearing of vegetation is unavoidable and approved, rootstock will be retained insitu where practical	Visual	Daily	Corrective action record as required	weekly	Person in charge
Air quality	No complaints relating to dust nuisance	Insufficient / ineffective dust, particulate and/ or odour control measures resulting in excessive dust generation and impact on sensitive receptors	• Accessing site (road /track maintenance) • All vegetation clearing • Earthworks for levelling work areas	Implement plant and vehicle speed restrictions (60km/hr on unsealed roads in close proximity (<200m) to sensitive receptors	Visual	Daily	Corrective action record as required	As required	Person in charge
				Locate linking access tracks as far as practicable from sensitive receptors	Visual inspection and marking for new access track placement	Daily during site access and establishment	Record locations where not possible in daily log	As required	Person in charge
				No burning of cleared vegetation	Visual	Daily	Corrective action record as required	Monthly	Person in charge
				Implement Work Program staging and minimize total area of disturbance at any	Visual inspection and maintain marking boundary	Daily	Record active areas in daily log	Weekly	Person in charge

Environmental Value	Objective	Impact	Activity	Management/ Control Strategy	Monitoring Action	Monitoring Frequency	Reporting Action	Report Frequency	Responsibility
				one time	of work program stage				
				Utilise meteorological information and weather forecast to confirm suitability of conditions for the proposed work program activities	Visual	Daily	Corrective action record as required	As required	Person in charge
				Vehicles and equipment will be switched off when not in use	Visual	Daily	Nil – corrective action implemented immediately in accordance with safe work statement, if non-compliance identified	As required	Person in charge
				Maintain vehicles and equipment in accordance with manufacturer's specifications	Visual	Weekly or as required	Nil – corrective action implemented immediately in accordance with safe work statement, if non-compliance identified	As required	Person in charge
	No increase in emissions resulting in permanent impact to the air shed	Increased greenhouse gas, hydrocarbon or ozone-depleting emissions	• Operation of vehicles, plant and equipment for all site activities • Waste generation, containment and removal	No burning of cleared vegetation	Visual	Daily	Corrective action record as required	Monthly	Person in charge
				Implement Work Program staging and minimize total area of disturbance at any one time	Visual inspection and maintain marking boundary of work program stage	Daily	Record active areas in daily log	Weekly	Person in charge
				Vehicles and equipment will be switched off when not in use	Visual	Daily	Nil – corrective action implemented immediately in accordance with safe work statement, if non-compliance identified	As required	Person in charge
				Maintain vehicles and equipment in accordance with manufacturer's	Visual	Daily	Nil – corrective action implemented immediately in accordance with safe	As required	Person in charge

Environmental Value	Objective	Impact	Activity	Management/ Control Strategy	Monitoring Action	Monitoring Frequency	Reporting Action	Report Frequency	Responsibility
				specifications			work statement, if non-compliance identified		
				Minimise haul / travel distances where practicable	Visual	Daily	Record changes to Work Program in daily log	Monthly	Person in charge
Noise and vibration	No complaints relating to noise and/or vibration nuisance	Insufficient / ineffective noise and/or vibration control measures resulting in excessive noise / vibration generation and impact on sensitive receptors	• Operation of vehicles, plant and equipment for all site activities • Seismic acquisition	Equipment operators will be made aware of the potential issues relevant to each work area and techniques to minimize noise and vibration emissions	Visual	Weekly	Training record	Monthly	Person in charge
				Vehicles and equipment will be switched off when not in use	Visual	Daily	Nil – corrective action implemented immediately in accordance with safe work statement, if non-compliance identified	As required	Person in charge
				Maintain vehicles and equipment in accordance with manufacturer's specifications	Visual	Daily	Nil – corrective action implemented immediately in accordance with safe work statement, if non-compliance identified	As required	Person in charge
				Locate and construct new (linking) access tracks, work areas, compounds and stockpiling areas as far as practicable from sensitive receptors	Visual inspection and marking for new access track, work area, compound and stockpiling area placement	Daily during site access and establishment	Record locations where not possible in daily log	As required	Person in charge
				Locate sites preferably behind sound barrier such as tree line or hill	Visual	During Site planning	Nil – corrective action at planning stage	As required	Person in charge
				Continue stakeholder engagement as per Section	Observation	As required	Communication record	As required	Person in charge

Environmental Value	Objective	Impact	Activity	Management/ Control Strategy	Monitoring Action	Monitoring Frequency	Reporting Action	Report Frequency	Responsibility
				8 of the EMP.					
	No interference with a public utility or facility resulting from noise and/or vibration generating activities	Disruption or damage to public utilities or facilities	• Operation of vehicles, plant and equipment for all site activities • Excavation and earthworks • Seismic acquisition	Equipment operators will be made aware of the potential noise and/or vibration issues relevant to each work area and techniques to minimize impacts	Visual	Daily	Report incidents – corrective action implemented immediately in accordance with safe work statement, if non-compliance identified	Monthly (Incident summary in monthly report)	Person in charge
Amenity	No complaints relating to impact on community and/ or public amenity	Temporary or permanent loss of access or amenity (including light overspill, economic and service impacts)	• Operation of vehicles, plant and equipment for all site activities • Lighting of work areas • Excavation and earthworks • Onsite storage / management of wastes generated	Equipment operators will be made aware of the potential amenity issues relevant to each work area and techniques to minimize impacts	Visual	Weekly	Training record	Monthly	Person in charge
				Locate sites preferably behind visual barrier such as tree line or hill	Visual	During Site planning	Nil – corrective action at planning stage	As required	Person in charge
	No interference with a public utility or facility			Vehicles and equipment will be switched off when not in use	Visual	Daily	Nil – corrective action implemented immediately in accordance with safe work statement, if non-compliance identified	As required	Person in charge
	No incidents resulting from interactions between the project and the community or public			Maintain vehicles and equipment in accordance with manufacturer's specifications	Visual	Daily	Nil – corrective action implemented immediately in accordance with safe work statement, if non-compliance identified	As required	Person in charge
				Locate and construct new	Visual inspection	Daily during site	Record locations where	As required	Person in charge

Environmental Value	Objective	Impact	Activity	Management/ Control Strategy	Monitoring Action	Monitoring Frequency	Reporting Action	Report Frequency	Responsibility
				(linking) access tracks, work areas, compounds and stockpiling areas as far as practicable from sensitive receptors	and marking for new access track, work area, compound and stockpiling area placement	access and establishment	not possible in daily log		
				Equipment operators will be made aware of the potential amenity issues relevant to each work area and techniques to minimize potential impacts	Visual	Weekly	Training record	Monthly	Person in charge
				Continue stakeholder engagement as per Section 8 of the EMP.	Observation	As required	Communication record	As required	Person in charge
				Fence storage areas (use stock proof fencing where appropriate)	Visual	Daily	Corrective action record as required	Monthly	Person in charge
				Record volumes and types of waste generated on site, the treatment / disposal method adopted for each waste stream and dates of off-site waste transport and disposal	Visual	Weekly	Corrective action record as required	Monthly	Person in charge
Water quality, abundance and availability	No permanent detrimental impacts to water resources (surface or groundwater) or waterways / wetlands	Reduced surface water quality, quantity and/ or ecological function of waterways or wetlands	• All site activities (including water supply sourcing and seismic acquisition)	Install sediment control devices down gradient of stockpiles and disturbed / active areas of the site (including roadsides and cleared areas)	Visual	Daily	Corrective action record as required	As required in Daily Operations Report	Person in charge
				Install runoff diversion devices up gradient of disturbed and active work areas of the site to divert 'clean' storm water runoff	Visual	at start of work	Corrective action record as required	As required in Daily Operations Report	Person in charge

Environmental Value	Objective	Impact	Activity	Management/ Control Strategy	Monitoring Action	Monitoring Frequency	Reporting Action	Report Frequency	Responsibility
				away from disturbed / potentially contaminated areas					
				Install runoff velocity reduction devices to dissipate / disrupt concentrated flow and runoff from sloped areas	Visual	Weekly	Corrective action record as required	Monthly	Person in charge
				No filling, draining or alteration of any waterway or groundwater aquifer on site will occur unless in compliance with permit / approval conditions	Visual	Daily	Corrective action record as required	As required	Person in charge
				No groundwater encountered during seismic operations will be recovered for use. All water for operations will be soured commercially	Visual	Daily	Record in Daily Operations Report (including recording volume recovered for use)	Daily	Person in charge
				Adopt seismic survey methods that will minimize the potential for impact to groundwater	Observation	Weekly	Statutory progress reporting for geological/ geophysical survey	Quarterly	Person in charge
				Locate seismic acquisition activities outside the 'zone of influence' of any natural springs	Identify 'zone of influence' boundaries for natural Springs	Planning	Statutory progress reporting for geological / geophysical survey	Quarterly	Person in charge
		Hydrocarbon contamination of waterways	Seismic vehicle refuelling or other oil spill	Develop and implement Oil Spill Contingency Plan	Observation	Daily	Statutory incident report	On occurrence	Person in charge
				Implement oil spill containment measures in the event of an oil spill incident	Observation	Daily	Statutory incident report	On occurrence	Person in charge
				Refuelling, fuel decanting and vehicle maintenance will occur in designated	Observation	As required	Statutory incident report	On occurrence	Person in charge

Environmental Value	Objective	Impact	Activity	Management/ Control Strategy	Monitoring Action	Monitoring Frequency	Reporting Action	Report Frequency	Responsibility
				areas only that have spill protection/containment measures in place					
		Accelerated erosion resulting from unsuitable or ineffective erosion mitigation measures	• All vegetation clearing • All earthworks	Inspection and monitoring of condition and effectiveness of erosion mitigation measures adopted across the site	Visual	Weekly	Corrective action record as required	Weekly	Person in charge
				Maintain erosion mitigation measures adopted for the site	Visual	Weekly	Corrective action record as required – corrective action implemented as required	Weekly	Person in charge
		Sediment movement resulting from unsuitable or ineffective sediment control measures	• All vegetation clearing • All earthworks • Stockpiling of topsoil and / or subsoil material	Inspection and monitoring of conditions and effectiveness of sediment controls	Visual	Daily	Corrective action record as required – corrective action implemented as required. Note in daily operations report.	Daily	Person in charge
				Maintain and repair sediment control devices	Visual	Daily	Corrective action record as required – corrective action implemented as required	Daily	Person in charge
				Stabilise stockpiles that will remain >7 days and monitor effectiveness of stabilisation	Visual	Weekly	Corrective action record as required – corrective action implemented as required	Weekly	Person in charge
		Increased erosion and environment damage by incomplete or incorrect rehabilitation measures	• Rehabilitation	Natural drainage patterns are to be retained where ever possible. Any disruption to natural drainage shall be removed as soon as practical or on completion of operations	Visual	Weekly	Corrective action record as required – corrective action implemented as required	As required	Person in charge
Fertile and productive topsoil	No net loss of fertile topsoil material	Loss of valuable topsoil material	• All vegetation clearing • All earthworks and	Strip and stockpile topsoil for reuse during site reinstatement	Visual	Daily	Record topsoil stripping, stockpiling and management (including	Daily - as needed with task	Person in charge

Environmental Value	Objective	Impact	Activity	Management/ Control Strategy	Monitoring Action	Monitoring Frequency	Reporting Action	Report Frequency	Responsibility
			stockpiling • Site reinstatement				volumes of topsoil being handled) activities in daily log		
		Contamination of soil	• Seismic acquisition operations • Site lay down and storage area establishment and operation (including stockpiling) • Waste containment and storage	Backfill excavations when not required for >7 days	Visual	Weekly	Corrective action record as required	Weekly	Person in charge
				Comply with spill management and emergency management procedures	Visual	As required	Report incident summary	Monthly	Person in charge
				Store and maintain spill containment measures	Visual	Weekly	Corrective action record as required	Weekly	Person in charge
				Refuelling, vehicle / equipment maintenance and repairs will occur in designated areas where adequate protection measures are in place	Visual	As required	Record in daily log volumes of fuel/oil/rego as required	Daily as required	Person in charge
				Refuelling and chemical fuel storage to be in bunded area only	Visual	Daily	Corrective action record as required	At site preparation	Person in charge
				Storage areas designated for hazardous materials will comply with relevant standards	Visual	As required	Record in daily log - Corrective action record as required	Daily as required	Person in charge
				Hazchem and fuel areas to be bunded to comply with relevant standards	Visual	Site preparation	Corrective action record as required	At site preparation	Person in charge
Stable soils and landforms	No permanent instability	Accelerated physical and	• Site establishment • Seismic acquisition	Stabilise batters of pits and voids, if any, and exposed	Visual	Weekly	Corrective action record as required	Weekly	Person in charge

Environmental Value	Objective	Impact	Activity	Management/ Control Strategy	Monitoring Action	Monitoring Frequency	Reporting Action	Report Frequency	Responsibility
	affecting soil or landforms	chemical erosion and landform instability	• Site reinstatement	slopes with a maximum slope gradient of 1V:2H					
				Inspect and monitor condition / effectiveness of stabilization of disturbed areas of the site	Visual	Monthly	Corrective action record as required – corrective action implemented as required	Monthly	Person in charge
				Pits and scrapes, if any, to be backfilled and compacted to prevent future formation of depressions	Visual	Quarterly	Corrective action record as required – corrective action implemented as required	Monthly	Person in charge
Heritage	No complaints resulting from temporary or permanent impacts to sites or items of heritage significance	Temporary or permanent loss of heritage values	• All work activities	Continue stakeholder engagement as per Section 8 of the EMP.	Observation	As required	Communication record	As required	Person in charge
				Comply with Native Title Agreement provisions and all other legal obligations	Observation	As required	Communication and/ or corrective action record	As required	Person in charge
				Inspect the active work areas and the integrity and clear marking of the 'No Go Zones' and extent of active works	Visual	Daily	Corrective action record as required and report on any archaeological finds / heritage incidents immediately	As required	Person in charge
	No damage to sites of Cultural Sensitivity or Sacred Sites	Temporary or permanent loss of heritage values	• All work activities	Ethnographic anthropologist survey of proposed work sites prior to work commencing	Visual by Traditional Owners	As required	Anthropologist finds immediately	Daily	Person in charge

Appendix 2. Assessment of likelihood of occurrence of TPWC/EPBC listed fauna species identified by the NT Fauna Atlas and/or EPBC PMST Report.

The following information is extracted from the report "Preliminary Ecological Assessment Report EP184 and EP187 – End of Dry Season 2015' O2 Ecology. Report no. R002499b 2016. This report was prepared for Imperial Oil& Gas Pty ltd. A copy of this report has been provided to the DPIR within three months of completion in 2015.

This report presents the findings of a desktop study supported by a field preliminary ecological assessment to identify key ecological characteristics within the Exploration Permit area EP187 in the Northern Territory.

Method

This section outlines the methods undertaken to describe the existing environmental values of the study area. A combination of desktop assessment and end of dry season field survey was conducted as part of this study. The desktop assessments included a review of relevant literature, mapping and database searches. The field survey obtained preliminary ecological information and opportunistic observations relevant to the study area in conjunction with the preliminary water quality sampling event. This section also outlines the terminology and nomenclature used in this report and describes the procedures and guidelines used for assessing the vegetation and flora values of the study area.

Background Assessment

Desktop assessments of available State and Commonwealth databases were undertaken prior to the commencement of the field survey to identify records or potential occurrences of conservation significant species and vegetation communities within the study area. The desktop assessment used the following databases and documents described briefly below:

- Commonwealth Department of Environment protected matters search tool
- The Atlas of Living Australia (ALA) database
- Australia's Virtual Herbarium (AVH)
- Online Zoological Collections of Australian Museums (OZCAM)
- BirdLife Australia's Birdata
- National Vegetation Information System (NVIS)
- Department of Land Resource Management (DLRM) species atlas
- Biodiversity Northern Territory Portal
- FrogWatch
- ReptileWatch
- MammalWatch
- BirdWatch
- National Vegetation Information System (NVIS) mapping data
- Australian Wetland Database
- Topographic and hydrological mapping
- Available geology and soils mapping
- Atlas of Australian Soils and Explanatory Data Sheet for area
- Any other previous environmental surveys, studies or EIS in the vicinity of the project area
- Available remotely sensed imagery such as Google Earth or orthorectified aerial photography

The Commonwealth Department of the Environment (DOE) Protected Matters search tool (PMST) was used to identify threatened species and vegetation communities listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) that may occur within the search area. The PMST is a predictive database that identifies EPBC Act listed flora and fauna species with a Moderate Potential to Occur in a given search area based on bioclimatic modelling. The search area was defined by the latitude/longitude coordinates -14.677, 136.168; -16.998, 136.168; -16.998, 134.48; -14.677, 134.48; and -14.677, 136.168.

The Atlas of Living Australia (ALA) database contains records of Australia's Virtual Herbarium (AVH) (Council of Heads of Australasian Herbaria 2014) and the Online Zoological Collections of Australian Museums (OZCAM) (Council of Heads of Australian Faunal Collections 2014) and provides information on all the known species in Australia aggregated from a wide range of data providers: museums, herbaria, community groups, government departments, individuals and universities. Database records for the area surrounding the site were used to provide locations of any threatened species records within the area. Records for the Roper Gulf Shire Council area were downloaded and clipped to records relevant to the tenement areas.

Bird Life Australia's Birdata was used to provide a list of all bird species observed within a one degree squares containing postcode 0854 (Borroloola) and latitude/longitude coordinates -14.72716, 134.73408 and -16.69114, 135.74868.

Records of species in the Northern Territory Department of Land Resource Management (DLRM) spatial species atlas dataset was clipped to 1km of the tenement boundaries. The Biodiversity Northern Territory Portal (including Frog Watch, Reptile Watch, Mammal Watch and Bird Watch) provides information about species found across northern Australia.

The National Vegetation Information System (NVIS) provides information on the extent and distribution of vegetation types in Australian landscapes. The NVIS framework enables the compilation of data collected by States and Territories into a nationally consistent vegetation dataset. It provides descriptions of structural and floristic patterns of groups of plants in the landscape. NVIS version 4.1 products were used.

Likelihood of Occurrence Assessment

An assessment was undertaken of the likelihood of occurrence for threatened flora species identified through the desktop review. The field survey further informed and verified this likelihood of occurrence assessment. The DOE and the Northern Territory Environment Protection Authority (NTEPA) do not have prescriptive likelihood of occurrence guidelines within their policies but rather clarify the scale of assessment required to determine the level of impact (e.g. level of assessment, previous record searches, and distribution maps). The below criteria have been developed with the aim of considering this scale of assessment in order to identify the likelihood of occurrence for threatened species:

- **Low potential to occur** – the species has not been recorded in the region (no records from desktop searches) and/or current known distribution does not encompass study area and/or suitable habitat is generally lacking from the study area.

- **Moderate potential to occur** – the species has been recorded in the region (desktop searches) however suitable habitat is generally lacking from the study area or species has not been recorded in the region (no records from desktop searches) however potentially suitable habitat occurs at the study area.
- **High potential to occur** – the species has been recorded in the region (desktop searches) and suitable habitat is present at the study area.
- **Known to occur** – the species has been recorded on-site in the recent past (i.e. last 5-10 years) and the site provides suitable habitat for it.

Field Assessment

The field component of this preliminary ecological assessment was carried out in conjunction with the first round of baseline water quality sampling on EP187 (16-17 December 2015) and EP184 (27-28 December 2015). Due to restrictions on site access in the area, all ecological assessments consisted of opportunistic assessments at each sampling location and from the vantage of the helicopter for a broader scale perspective of the study areas.

The assessments included broad descriptions of vegetation communities, identification of dominant flora species (including weeds) present and habitat assessments (including aquatic). Opportunistic fauna observations, identification of observed breeding places and targeted threatened species searches were also carried out to help inform subsequent surveys.

The ecological surveys aimed to document for end of dry season conditions:

- habitat and vegetation community descriptions;
- locations and photos of communities and species present;
- opportunistic fauna (terrestrial and aquatic) species list, including introduced species and any threatened species present;
- locations of fauna breeding places and other habitat features; and
- Likelihood of targeted threatened species to occur generally over the site.

Sampling and ecological assessment locations are shown in **Table 1**. Sampling locations were chosen through a desktop process and approved prior to field surveys being carried out. Where actual sampling sites differed from approved locations due to access, or cultural reasons, traditional owners were consulted and assisted in the re-location of the survey site. Traditional owners were present during field survey activities and approved the activities in the given location prior to any sampling at each site.

Table 1: Survey Sites

Name	Description	Zone	Zone	Easting	Northing
PP-1	Paradise Pool on Tooganginie Creek	53	K	538835	8137444
McR-1	McArthur River (approved location)	53	K	566932	8140603
EP-1	Eleanor Pool on Christmas Creek	53	K	527222	8171987
LC-1	Leila Creek	53	K	570928	8167018
LBR-1	Limmen Bight River	53	L	541471	8283938
LT-1	Little Towns River	53	L	462397	8313829
RR-1	Roper River	53	L	449786	8371639
HR-1	Hodgson River	53	L	455672	8361327
MC-1	Mountain Creek	53	L	474345	8354364
WC-1	Whirlpool Creek	53	L	492111	8349991
TR-1	Towns River	53	L	523603	8337954
MR-1	Magaranyi River	53	L	520218	8330690

Coordinate System and Map Datum

Positional data was collected with a handheld Garmin eTrex Global Positioning System (GPS) unit, with accuracy between 4 and 8 m. Locations were recorded using the UTM coordinate system with a WGS84 datum. All locations presented in this report use MGA94 Zone 53.

Study Limitations

Sites used in the preliminary ecological assessment are identified in table 16 above. The tenements encompass vast areas and although the sites are spread throughout the tenements they provide a broad understanding of the waterways and the associated communities.

Many of the sites had experienced hot fires in the recent past, causing plant death and removal. This is the preliminary assessment for the end of dry season. Further assessments will be carried out in the coming months to provide an understanding of seasonal changes. The absence of species observations does not indicate that the species is absent from the study area.

Biological Environment

IBRA7 Bioregion and Subregion

The Interim Biogeographic Regionalisation for Australia (IBRA) is endorsed by all levels of government and provides the national and regional planning framework for the systematic development of a comprehensive, adequate and representative National Reserve System. IBRA7 (the current version) classifies Australia's landscapes into 89 large geographically distinct bioregions based on common climate, geology, landform, native vegetation and species information. These are broken into 419 subregions based on more localised and homogenous geomorphological units in each bioregion. The study area falls within three IBRA Bioregions.

Gulf Fall and Uplands Bioregion

The majority of EP187 fall within the McArthur subregion (GFU01) of the Gulf Fall and Uplands (GFU) Bioregion.

The Gulf Falls and Uplands bioregions comprises 11,847,909 ha of undulating terrain with scattered low, steep hills on Proterozoic and Palaeozoic sedimentary rocks, often overlain by lateritised Tertiary material.

The soils are mostly skeletal or shallow sands. (Department of Land Resource Management 2016b). The bioregion is generally in good condition but impacts from increasing numbers of feral animals (especially pigs, buffalo, donkeys and cattle) and weeds, and broad-scale changes in fire regime are intensifying (Department of Land Resource Management 2016b).

Sturt Plateau Bioregion

The south eastern portion of EP187 falls within the Newcastle subregion (STU02) of the Sturt Plateau (STU) Bioregion. The Sturt Plateau bioregion mostly comprises 9,857,531 ha of gently undulating plain on lateritised Cretaceous sandstones. Soils are predominantly neutral sandy red and yellow earths. (Department of Land Resource Management 2016c).

Most of the bioregion is in moderate to good condition with minor impacts from weeds, feral animals, pastoralism and changed fire regimes (Department of Land Resource Management 2016c).

Conservation Significant Areas

Areas of conservation significance exist well downstream of the tenement EP187 and include national parks, conservation reserves, nationally and internationally significant wetland areas. Limmen Bight and associated coastal floodplains are located in the Gulf of Carpentaria. The area is associated with the coastal regions surrounding the Roper River, Towns River and Limmen Bight River mouths. The area is dominated by some of the most extensive coastal mudflats in the Northern Territory; and mangrove forests of the Roper River mouth and the Limmen Bight River coastal delta system. The coastal area is considered of international significance by providing breeding grounds and habitat for marine turtles, seabirds, waterbirds and shorebirds, and majority of this site is listed as a wetland of national significance in the Directory of Important Wetlands (see NT007 below). The extensive intertidal mudflats of Limmen Bight are among the most important areas for migratory shorebirds in the Northern Territory, supporting large aggregations of waders (Department of Natural Resources Environment the Arts and Sport 2013b). The area also supports large colonies of waterbirds and nesting seabirds and provides important nesting sites for Green and Flat back turtles (Department of Natural Resources Environment the Arts and Sport 2013b). This area is located more than 100km from the EP187 exploration area.

The Limmen Bight (Port Roper) Tidal Wetlands System (NT007) is a wetland of national importance that includes tidal wetland in the far south-west of the Gulf of Carpentaria that extends from near Warrakunta Point, southwest to Port Roper and southeast to the mouth of Rosie Creek (Department of the Environment 2016c). This mapped wetland system is well to the northeast of EP187 and outside of the tenement. The wetlands are the second-largest area of saline coastal flats in the Northern Territory and are a good example of a system of tidal wetlands typical of the Gulf of Carpentaria coast (Department of the Environment 2016c).

The Borroloola area [ca. 140km from the planned seismic area] is located in the transition zone between tropical and arid zones, immediately southwest of Borroloola. The Borroloola area is

located outside of EP187, approximately 50 km downstream of EP187 (whilst the township of Borroloola is approximately 84km away from the eastern boundary of EP187). The centre of the area is dominated by rugged rocky sandstone hills of the north Bukalara Range and there is near-permanent water at Caranbirini Waterhole (Department of Natural Resources Environment the Arts and Sport 2013a). The area includes a diverse range of habitats for fauna, including black soil plains and swamps, woodland, and sandstone ranges that provide habitat for some endemic, range restricted species and geographically disjunct populations (Department of Natural Resources Environment the Arts and Sport 2013a). The operational Glencore Xstrata McArthur River Mine (one of the world's largest zinc, lead and silver mines) is located within the Borroloola Area.

Caranbirini Conservation Reserve is encompassed within the Borroloola area described above and is located approximately 18km north and downstream of the existing and operational Glencore Xstrata McArthur River Mine. The reserve is located within the ecological transition zone between the tropical north and drier centre and protects the region's unique flora and fauna and a variety of habitats including a sandstone escarpment, a semi-permanent waterhole with surrounding riverine vegetation and open woodland (Parks and Wildlife Commission NT 2016).

Borroloola Bluebush Swamps (NT006) is a wetland of national importance located 3.5 km south-south-west of Borroloola. The wetland is notable for its combination of vegetation types and is a regionally significant breeding area for waterbirds (Department of the Environment 2016c). The Borroloola Bluebush Swamps.

The McArthur River coastal floodplain is located approximately 30 km northeast of Borroloola in the Gulf of Carpentaria, downstream of EP187. The area is of national significance. The McArthur River has a large delta system and the floodplain encompasses open saline flats that are amongst the most extensive around the coast of the Northern Territory and support low chenopod shrub lands (Department of Natural Resources Environment the Arts and Sport 2013c). The mud flats are dry for much of the year and extend beyond extensive mangrove systems for up to five kilometres in places (Department of Natural Resources Environment the Arts and Sport 2013c). The area is important to migratory shorebirds, breeding waterbirds and colonially-breeding seabirds (Department of Natural Resources Environment the Arts and Sport 2013c). This area is significantly downstream of EP187. There is currently a loading port facility in this area for bulk concentrate material from the Glencore Xstrata McArthur River Mine.

Vegetation communities

The National Vegetation Information System (NVIS) provides information on the extent and distribution of vegetation types in Australian landscapes. The NVIS framework enables the compilation of data collected by States and Territories into a nationally consistent vegetation dataset. It provides descriptions of structural and floristic patterns of groups of plants in the landscape. There are 41 NVIS Level 4 community descriptions mapped over the tenements (**Table 2**).

The vegetation communities mapped over the tenements include woodland, tussock grassland, sparse samphire shrub land and forest. Eucalyptus woodland dominates the area (57%), followed by Corymbia low open woodland (11%), Eucalyptus low woodland (7%) and Chrysopogon (mixed) tussock grassland (6%).

Table 2: Vegetation communities mapped over the region

The region mapped includes the catchment area of the Limmen and Towns River south of the Roper River and includes the McArthur River region of the southern gulf of the Northern Territory.

Vegetation ID	NVIS L2	NVIS L3	NVIS L4	Area (ha)
1053	Closed forest	*Avicennia* low closed forest	*Avicennia* low closed forest*Aegialitis* low open woodland*Avicennia* low open shrubland	53
1049	Closed forest	*Ceriops* low closed forest	*Ceriops* low closed forest*Ceriops* unknown tree*Ceriops* low sparse shrubland	296
1062	Mid closed forest	*Aglaia* (mixed) mid closed forest	*Aglaia* (mixed) mid closed forest	29
1061	Mid closed forest	*Canarium* (mixed) mid closed forest	*Canarium* (mixed) mid closed forest	775
1050	Mid closed forest	*Rhizophora* (mixed) mid closed forest	*Rhizophora* (mixed) mid closed forest*Bruguiera* low open forest*Aegialitis* (mixed) low open sparse	1,632
1051	Mid closed forest	*Rhizophora* mid closed forest	*Rhizophora* mid closed forest*Rhizophora* tall sparse shrubland*Rhizophora* (mixed) mid sparse	290
390	Open forest	*Acacia* low open forest	*Acacia* low open forest*Eriachne* low open tussock grassland	5,367
364	Open forest	*Acacia* open forest	*Acacia* mid open forest*Acacia* tall open shrubland*Chrysopogon* low open tussock grassland	10,208
1048	Open forest	*Avicennia* (mixed) low open forest	*Ceriops* (mixed) low open forest*Aegialitis* mid sparse shrubland*Halosarcia* low sparse chenopod	395
1047	Open forest	*Avicennia* low open forest	*Avicennia* low open forest*Ceriops* low open forest*Avicennia* low open shrubland	1,872
330	Open forest	*Melaleuca* open forest	*Melaleuca* mid open forest*Melaleuca* low open woodland*Eleocharis* low open sedgeland	1,546
315	Open forest	*Melaleuca* open forest	*Melaleuca* mid open forest*Melaleuca* low open woodland*Pseudoraphis* low open tussock grassland	91
360	Open forest	*Melaleuca* open forest	*Melaleuca* mid open forest*Pandanus* low sparse palmland*Germainia* mid open tussock grassland	1,143
343	Open woodland	*Corymbia* low open woodland	*Corymbia* low open woodland*Acacia* mid open shrubland*Triodia* mid open hummock grassland	39,662
342	Open woodland	*Corymbia* low open woodland	*Corymbia* low open woodland*Acacia* tall open shrubland*Triodia* mid open hummock grassland	146,215
1041	Open woodland	*Eucalyptus* low open woodland	*Eucalyptus* low open woodland*Acacia* mid sparse shrubland*Astrebla* low tussock grassland	18,017
346	Open woodland	*Eucalyptus* low open woodland	*Eucalyptus* low open woodland*Acacia* mid sparse shrubland*Triodia* low open hummock grassland	6,748
345	Open woodland	*Eucalyptus* low open woodland	*Eucalyptus* low open woodland*Carissa* mid sparse shrubland*Triodia* low open hummock grassland	59,175
355	Open woodland	*Lysiphyllum* low open woodland	*Lysiphyllum* low open woodland*Atalaya* mid sparse shrubland*Eulalia* low tussock grassland	12,210
413	Sparse samphire shrubland	*Halosarcia* low sparse samphire shrubland	*Halosarcia* low sparse samphire shrubland	27,314
336	Tussock grassland	*Chrysopogon* (mixed) low tussock grassland	*Eucalyptus* low open woodland*Carissa* mid sparse shrubland*Chrysopogon* low tussock grassland	2,076
1020	Tussock grassland	*Chrysopogon* (mixed) tussock grassland	*Eucalyptus* low woodland*Carissa* mid sparse shrubland*Chrysopogon* mid tussock grassland	97,901

Vegetation ID	NVIS L2	NVIS L3	NVIS L4	Area (ha)
317	Tussock grassland	*Xerochloa* tussock grassland	*Xerochloa* mid tussock grassland	130
395	Woodland	*Acacia* low woodland	*Acacia* low woodland*Eragrostis* low open tussock grassland	602
391	Woodland	*Acacia* low woodland	*Acacia* low woodland*Eriachne* low open tussock grassland	10,047
392	Woodland	*Acacia* woodland	*Acacia* mid woodland*Eriachne* mid open tussock grassland	7277
331	Woodland	*Corymbia* low woodland	*Corymbia* low woodland*Terminalia* mid sparse shrubland*Chrysopogon* low tussock grassland	59,762
365	Woodland	*Eucalyptus* low woodland	*Eucalyptus* low woodland*Acacia* mid sparse shrubland*Eriachne* low open tussock grassland	10,363
1020	Woodland	*Eucalyptus* low woodland	*Eucalyptus* low woodland*Carissa* mid sparse shrubland*Chrysopogon* mid tussock grassland	97,901
338	Woodland	*Eucalyptus* low woodland	*Eucalyptus* low woodland*Erythrophleum* mid sparse shrubland*Triodia* mid hummock grassland	3110
570	Woodland	*Eucalyptus* woodland	*Eucalyptus* mid woodland*Bossiaea* tall sparse shrubland*Eriachne* low sparse tussock grassland	380,533
382	Woodland	*Eucalyptus* woodland	*Eucalyptus* mid woodland*Eucalyptus* tall sparse shrubland*Heteropogon* mid open tussock grassland	5793
324	Woodland	*Eucalyptus* woodland	*Eucalyptus* mid woodland*Flueggea* mid sparse shrubland*Sehima* mid tussock grassland	520,884
394	Woodland	*Macropteranthes* (mixed) low woodland	*Macropteranthes* low woodland*Chrysopogon* mid open tussock grassland	233
323	Woodland	*Melaleuca* low woodland	*Melaleuca* low woodland*Calytrix* mid sparse shrubland*Chrysopogon* low open tussock grassland	6,853
358	Woodland	*Melaleuca* low woodland	*Melaleuca* low woodland*Flueggea* mid sparse shrubland*Chrysopogon* low open tussock grassland	26,606
325	Woodland	*Melaleuca* low woodland	*Melaleuca* low woodland*Melaleuca* mid sparse shrubland*Eulalia* low open tussock grassland	253
320	Woodland	*Melaleuca* low woodland	*Melaleuca* low woodland*Pandanus* low sparse palmland*Eleocharis* mid sedgeland	980
321	Woodland	*Melaleuca* woodland	*Melaleuca* mid woodland*Asteromyrtus* low open woodland*Triodia* low open hummock grassland	6,884
316	Woodland	*Melaleuca* woodland	*Melaleuca* mid woodland*Melaleuca* low open woodland*Chrysopogon* mid open tussock grassland	4,673
383	Woodland	*Melaleuca* woodland	*Melaleuca* mid woodland*Melaleuca* low open woodland*Fimbristylis* low open sedgeland	471
982	Unknown	Unknown	unknown	252

Conservation Significant Ecosystems

Ecological communities are naturally occurring biological assemblages that occur in a particular type of habitat. Threatened ecological communities (TECs) are ecological communities that have been assessed and assigned to a particular category related to the status of the threat to the community at a national scale, i.e. extinct, critically endangered, endangered, vulnerable, and conservation dependant. TECs are protected under the EPBC Act.

No listed TECs were identified by the EPBC PMST (EP187 Protected matters report) within the search area.

Conservation Significant Species

Conservation significant flora and fauna species are those species listed under the provisions of the Commonwealth EPBC Act and/or the *Territory Parks and Wildlife Conservation Act 2000* (TPWC Act) including threatened species as well as internationally protected wildlife and migratory species. Threatened species include those with conservation status listed as Endangered, Vulnerable or Near Threatened (EVNT) under the EPBC Act or Extinct in the Wild, Critically Endangered, Endangered or Vulnerable under the TPWC Act. Potentially occurring threatened species are listed in Table 3 with an account of their likelihood of presence within the study area based on known records, species biology and ecology and habitats available within the study area. Not all of the threatened species indicated through desktop information are expected to occur within the study area due to the absence of suitable habitat for some species.

No threatened flora species has been previously recorded within the search area.

Of the 169 conservation significant fauna species known or predicted to occur, 80 species have been previously recorded within the search area.

Table 3 lists the threatened fauna and flora species that are at least moderately likely to occur within the study area based on the likelihood of occurrence assessment.

Table 4 lists the migratory fauna species that are at least moderately likely to occur within the study area based on the likelihood of occurrence assessment. Note that many species are specialists of tidal areas and are likely to be concentrated in the estuarine area in the east of EP184. The following sections summarise findings from each of the databases.

EPBC Protected Matters

The EPBC PMST identified the search area as having potential habitat for no nationally threatened flora and 112 conservation significant fauna (30 threatened and 82 migratory or marine) species listed under the EPBC Act.

It should be noted that the EPBC Act online search gives details of species that are predicted to be present with the defined area based on bioclimatic modelling. The search area also includes some coastal and marine areas. As such, these species have not necessarily been observed within the study area and suitable habitat may not occur within the study area. For example, bioclimatic generated PMST results of potentially occurring species within the marine environment adjacent to

EP184 report sea turtle, whale and seahorse species; these species are excluded from our likelihood of occurrence assessments as they are unlikely to occur within the tenements.

Birdata

Bird Life Australia's Birdata shows records of 191 bird species observed within the search area. Of those, 40 species are conservation significant, including 2 threatened species listed under the EPBC Act and TPWC Act and 38 migratory or marine species protected under the EPBC Act.

Atlas of Living Australia

The ALA database returned records for 32 fauna species listed under the EPBC Act and/or TPWC Act within the search area. The records for one endangered flora species, *Cryptocarya hypospodia*, do not appear to be from a trusted source, are not referred to by other accounts of the species and have therefore been ignored.

Department of Land Resource Management Species Atlas

A query of the DLRM Species Atlas returned 1078 plant species that have been historically recorded within the study area. These included 1034 native species and 44 species that have been introduced to the Northern Territory. There are no historical records for threatened flora species within the search area.

The DLRM Species Atlas database returned 411 vertebrate species that have been historically recorded within 1 km of the tenement boundaries. These included 402 native species and nine exotic species. There were historical records for 79 conservation significant fauna species within the search area.

Table 3: Threatened species likely to occur within the region

Class	Species Name	Common Name	EPBC Act Status	TPWC Act Status	IUCN Status
Birds	*Calidris canutus*	Red knot, knot	M, Ma	V	LC
Birds	*Calidris ferruginea*	Curlew sandpiper	CE, M, Ma	V	LC
Birds	*Calidris tenuirostris*	Great knot	M, Ma	V	VU
Birds	*Charadrius leschenaultii*	Greater sand plover	M, Ma	V	LC
Birds	*Charadrius mongolus*	Lesser sand plover	M, Ma	V	LC
Birds	*Erythrotriorchis radiatus*	Red goshawk	V	V	NT
Birds	*Erythrura gouldiae*	Gouldian finch	E	V	NT
Birds	*Falcunculus frontatus whitei*	Northern shrike-tit	V	-	-
Birds	*Grantiella picta*	Painted honeyeater	V	V	VU
Birds	*Limosa lapponica*	Bar-tailed godwit	Ma, M	V	LC
Birds	*Numenius madagascariensis*	Eastern curlew	CE, M, Ma	V	VU
Birds	*Rostratula australis* (Syn. *Rostratula benghalensis*)	Australian painted snipe	E, Ma	V	EN
Birds	*Tyto novaehollandiae kimberli*	Masked owl (northern)	V	V	
Mammals	*Dasyurus hallucatus*	Northern quoll	E	CE	EN
Mammals	*Rattus tunneyi*	Pale field-rat	-	V	LC
Mammals	*Xeromys myoides*	Water mouse	V	-	VU
Reptiles	*Varanus mertensi*	Mertens' water monitor	-	V	-
Reptiles	*Varanus mitchelli*	Mitchell's water monitor	-	V	-
Reptiles	*Varanus panoptes*	Yellow-spotted monitor	-	V	-

EPBC Act (species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), Aust.): CE = Critically Endangered, E = Endangered, V = Vulnerable, M = Migratory, Ma = Marine
TPWC Act (species listed under the *Territory Parks and Wildlife Conservation Act 2000* (TPWC Act), NT): CE = Critically Endangered, E = Endangered, V = Vulnerable, NT=Near Threatened
IUCN (species listed under the International Union for Conservation of Nature (IUCN) Red List of Threatened Species): EX= Extinct, EW= Extinct in the Wild, CR= Critically Endangered, EN= Endangered, VU= Vulnerable, NT=Near Threatened, LC= Least Concern

Table 4: Migratory species likely to occur in the area

Class	Species Name	Common Name	EPBC Act Status	TPWC Act Status	IUCN Status
Birds	*Actitis hypoleucos*	Common sandpiper	Ma, M	-	LC
Birds	*Apus pacificus*	Fork-tailed swift	Ma, M	-	LC
Birds	*Ardea alba* (Syn. *A. modesta*)	Great egret, white egret	Ma, M	-	LC
Birds	*Ardea ibis* (Syn. *Bubulcus ibis*)	Cattle egret	Ma, M	-	LC
Birds	*Arenaria interpres*	Ruddy turnstone	M, Ma	NT	LC
Birds	*Calidris acuminata*	Sharp-tailed sandpiper	M, Ma	-	LC
Birds	*Calidris ruficollis*	Red-necked stint	M, Ma	-	LC
Birds	*Charadrius veredus*	Oriental plover, oriental dotterel	M, Ma	-	LC
Birds	*Gelochelidon nilotica* (Syn. *Sterna nilotica*)	Gull-billed tern	M, Ma	-	LC
Birds	*Glareola maldivarum*	Oriental pratincole	M, Ma	-	LC
Birds	*Hirundo rustica*	Barn swallow	M, Ma	-	LC
Birds	*Hydroprogne caspia*	Caspian tern	M	-	LC
Birds	*Limicola falcinellus*	Broad-billed sandpiper	M, Ma	-	-
Birds	*Limosa limosa*	Black-tailed godwit	M, Ma	NT	NT
Birds	*Merops ornatus*	Rainbow bee-eater	Ma, M	-	LC
Birds	*Numenius phaeopus*	Whimbrel	M, Ma	NT	LC
Birds	*Pandion haliaetus* (Syn. *P. cristatus*)	Eastern osprey	M	-	LC
Birds	*Plegadis falcinellus*	Glossy ibis	M, Ma	-	LC
Birds	*Pluvialis fulva*	Pacific golden plover	M, Ma	-	LC
Birds	*Pluvialis squatarola*	Grey plover	M, Ma	NT	LC
Birds	*Tringa glareola*	Wood sandpiper	M, Ma	-	LC
Birds	*Tringa nebularia*	Common greenshank	M, Ma	-	LC
Birds	*Tringa stagnatilis*	Marsh sandpiper	M, Ma	-	LC
Birds	*Xenus cinereus*	Terek sandpiper	M, Ma	-	LC
Reptiles	*Crocodylus porosus*	Salt-water crocodile, estuarine crocodile	M, Ma	-	LC/LR

EPBC Act (species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), Aust.): M = Migratory, Ma = Marine
TPWC Act (species listed under the *Territory Parks and Wildlife Conservation Act 2000* (TPWC Act), NT): NT=Near Threatened
IUCN (species listed under the International Union for Conservation of Nature (IUCN) Red List of Threatened Species): EX= Extinct, EW= Extinct in the Wild, CR= Critically Endangered, EN= Endangered, VU= Vulnerable, NT=Near Threatened, LC= Least Concern

Weeds and Pests

A weed is defined as any plant that requires some form of action to reduce its harmful effects on the economy, the environment, human health and amenity (Natural Resource Management Ministerial Council 2007). There are two types of invasion: introduction of exotic plants and movement by native species into new areas well outside their native range. Weeds have an adverse effect on an area's environmental values and ecological functioning for the following reasons:

- Competition with native species;

- Change in the structure of a plant community through addition or removal of strata;
- Repress recruitment of native species;
- Change the natural fire fuel characteristics, which can change the natural fire regime to the detriment of native species, often resulting in the loss of native species;
- Change the food sources and habitat values available to native fauna, reducing some and increasing others;
- May change geomorphological processes such as erosion; and
- May lead to changes in the hydrological cycle.
- Weed species considered to be of greatest threat to natural and economic values on a national basis have been ranked as Weeds of National Significance (WONS) (Thorp & Lynch 2000). Weed significance at a national level was assessed using four major criteria:
- Invasiveness;
- Impacts;
- Potential for spread; and
- Socio-economic and environmental impacts.

At the Territory level, a declared weed is a plant or species of plant which has been identified for control, eradication, or prevention of entry in all or part of the Territory under the Northern Territory *Weeds Management Act 2001* (WM Act). A weed may be declared as:

- **Class A** – necessary to eradicate
- **Class B** – necessary to prevent the growing and spreading
- **Class C** – necessary to prevent the introduction to the Territory

All Class A and Class B weeds are also considered to be Class C weeds.

One of the 44 introduced plant species, *Parthenium hysterophorus*, is listed as a WONS and nine are declared weeds in the Northern Territory (**Table 5**).

A feral animal species declared under section 47(1) of the *Territory Parks and Wildlife Conservation Act 2006* is one that is not indigenous to Australia or, if it is indigenous to Australia, its natural habitat is not in the Territory; has spread from the site of its introduction and established itself within Australia or the Territory since its introduction into Australia or the Territory; and whose population or presence in a particular area in the Territory is not able to be easily controlled.

The DLRM Species Atlas database returned nine exotic species, eight of which are feral in the Northern Territory (**Table 6**).

Table 5: Weeds with historical records within the search area

Species	Common Name	WONS	NT Class
Acanthospermum hispidum	Star burr, goat's head		B
Cenchrus echinatus	Mossman river grass		B
Dalbergia sissoo	Dalbergia		A
Hyptis suaveolens	Hyptis		B
Parthenium hysterophorus	Parthenium weed	Y	A
Senna alata	Candle bush		B
Senna occidentalis	Coffee senna		B
Sida acuta	Spinyhead sida		B
Sida cordifolia	Flannel weed		B

Table 6: Animals with historical records within the search area

Species	Common Name
Bos taurus	Cattle
Bubalus bubalis	Swamp Buffalo
Canis lupus	Wild dog
Columba livia	Rock Dove
Equus caballus	Horse
Felis catus	Cat
Rhinella marina	Cane Toad
Sus scrofa	Pig

Field Assessment Results

Flora

Threatened Species

No threatened flora species were observed.

Weeds

Three (3) WONS (also Northern Territory declared Class A and C plants), *Vachellia nilotica*(prickly acacia) (EP-1, McR-1), *Chryptostegia grandiflora* (rubber vine) (LBR-1) and *Andropogon gayanus* (Gamba grass) (LC-1), and three (3) other Northern Territory declared Class B and Class C plants, *Hyptis suaveolens* (mint weed)(EP-1, WC-1), *Leonotis nepetifolia* (lion's ear) (EP-1) and *Calotropis procera* (rubber bush)(RR-1), were observed.

Table 7: Weeds observed at sample sites

	Family	Species	Common Name	EP-1	LBR-1	LC-1	McR-1	RR-1	WC-1	Weed Class
*	Apocynaceae	*Cryptostegia grandiflora*	rubber vine		Y					WONS, A
*	Asclepiadaceae	*Calotropis procera*	rubber bush					Y		B
*	Lamiaceae	*Hyptis suaveolens*	hyptis	Y					Y	B
*	Lamiaceae	*Leonotis nepetifolia*	lion's ear	Y						B
*	Mimosaceae	*Vachellia nilotica*	prickly acacia	Y			Y			WONS, A
*	Poaceae	*Andropogon gayanus*	gamba grass			Y				WONS, A

Fauna

Opportunistic observations resulted in 100 fauna species including three amphibian, 11 mammal, 10 reptile, 72 bird and four fish species. Seven of the observed species were introduced and/or feral species.

Threatened Species

One threatened species, Mertens' Water Monitor (*Varanus mertensi*), listed as Vulnerable under the TPWC Act, was observed at LT-1 (Zone 53 E462397, N8313829).

Migratory and Marine Species

Fourteen species listed as migratory (three species) and/or marine (14 species) under the EPBC Act were observed (**Table 8**).

Table 8: Migratory and Marine Species

Species	Common Name	EPBC Act	Location
Crocodylus porosus	Salt water crocodile	M, Ma	RR-1
Merops ornatus	Rainbow bee-eater	M, Ma	EP-1, HR-1, LBR-1, LC-1, McR-1, PP-1, RR-1, TR-1
Plegadis falcinellus	Glossy ibis	M, Ma	MC-1, MR-1
Accipiter fasciatus	Brown goshawk	Ma	EP-1, MC-1, McR-1
Haliastur sphenurus	Whistling kite	Ma	EP-1, LBR-1, LC-1, LT-1, MC-1, McR-1, PP-1
Ardea alba	Great egret	Ma	EP-1
Nycticorax caledonicus	Nankeen night-heron	Ma	EP-1, HR-1, RR-1, TR-1
Coracina novaehollandiae	Black-faced cuckoo-shrike	Ma	LT-1, LBR-1
Coracina papuensis	White-bellied cuckoo-shrike	Ma	PP-1, WC-1
Eurystomus orientalis	Dollarbird	Ma	EP-1, LBR-1, LC-1, LT-1, MC-1, PP-1, RR-1
Todiramphus sanctus	Sacred kingfisher	Ma	LBR-1, McR-1, PP-1, WC-1
Grallina cyanoleuca	Magpie-lark	Ma	EP-1, PP-1
Pelecanus conspicillatus	Australian pelican	Ma	LT-1, PP-1
Threskiornis spinicollis	Straw-necked ibis	Ma	MR-1

Introduced and Feral Species

Seven introduced species were observed, all of which are feral species in the Northern Territory (**Table 9**).

Table 9: Observed feral species

	Species	Common Name	Location
*	*Rhinella marina*	Cane Toad	LBR-1, MC-1, McR-1
*	*Bos taurus*	Cow	HR-1, LC-1, LT-1, MC-1, PP-1, RR-1, WC-1
*	*Bubalus bubalis*	Water Buffalo	LBR-1, MC-1
*	*Canis lupus familiaris*	Wild Dog	McR-1
*	*Equus asinus*	Donkey	LBR-1, LT-1, MC-1, MR-1, PP-1, WC-1
*	*Equus caballus*	horse	EP-1, HR-1, LBR-1, MC-1, MR-1, RR-1
*	*Sus scrofa*	Wild Boar	EP-1, LT-1, McR-1, MR-1, PP-1

Conclusion

A desktop investigation and preliminary ecological assessment was carried out to identify key ecological characteristics and potential constraints to exploration and development within Exploration Permit areas EP187 in the Northern Territory. The field assessment was carried out at four sites within EP187. The preliminary ecological assessment was limited to the area immediately adjacent to sampling locations.

The study area falls within three IBRA Bioregions - Gulf Coastal, Gulf Falls and Uplands and Sturt Plateau. The vegetation communities mapped over the tenements include woodland, tussock grassland, sparse samphire shrub land and forest. Eucalyptus woodland dominates the area (57%), followed by Corymbia low open woodland (11%), Eucalyptus low woodland (7%) and Chrysopogon (mixed) tussock grassland (6%). No Threatened Ecological Communities (TECs) are mapped within EP187.

The region is generally in good ecological condition but widespread impacts from weeds, feral animals (especially pigs, buffalo, donkeys and cattle) changed fire regimes and grazing was observed.

Many of the sites had experienced hot fires in the recent past, causing plant death and removal. No threatened flora species were observed. Three (3) WONS (also Northern Territory declared Class A and C plants), *Vachellia nilotica*(prickly acacia) (EP-1, McR-1), *Chryptostegia grandiflora* (rubber vine) (LBR-1) and *Andropogon gayanus* (Gamba grass) (LC-1), and three (3) other Northern Territory declared Class B and Class C plants, *Hyptis suaveolens* (mint weed) (EP-1, WC-1), *Leonotis nepetifolia* (lion's ear) (EP-1) and *Calotropis procera* (rubber bush) (RR-1), were observed.

One threatened fauna species, Mertens' Water Monitor (*Varanus mertensi*), listed as Vulnerable under the TPWC Act, was observed at LT-1 (Zone 53 E462397, N8313829). Fourteen species listed as migratory (three species) and/or marine (14 species) under the EPBC Act were observed. A further 39 conservation significant species (18 threatened and 21 migratory/marine) are at least moderately

likely to occur within the tenements based on the likelihood of occurrence assessment. Note that many of the migratory species are specialists of tidal areas and are likely to be concentrated in the estuarine area well to the North and East of EP187.

Seven introduced species were observed, all of which are feral species in the Northern Territory.

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Likelihood of Occurrence

Species Name	EPBC Act Status	TPWC Act Status	IUCN Status	Habitat Preference	Likelihood of Occurrence
AVES					
Calidris canutus Red Knot, Knot	M, Ma	V	LC	Found in flocks on large, sheltered intertidal sand and mudflats during the austral summer. Feed on bivalves, crustaceans and other invertebrates at the receding tide. Rarely encountered inland. Northern Arnhem Land coast is important land during the non-breeding season (Garnett, S.T., Szabo, J.K., and Dutson 2011)	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present
Calidris ferruginea Curlew Sandpiper	CE, M, Ma	V	LC	Inhabits intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms. Can be found inland, though less often, including around ephemeral and permanent lakes, dams, waterholes and bore drains, usually with bare edges of mud or sand. They occur in both fresh and brackish waters and occasionally around floodwaters(Department of the Environment 2015e; Morcombe 2003).	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present
Calidris tenuirostris Great Knot	M, Ma	V	VU	Inhabit the same habitat as, and are often found in flocks with, the Red Knot (see above)(Garnett, S.T., Szabo, J.K., and Dutson 2011)	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present
Charadrius leschenaultii Greater Sand Plover	M, Ma	V	LC	Only seen in Australia from July-December, with an influx of individuals into the Top End of the NT during October. Inhabit littoral and estuarine habitats, mainly on sheltered beaches with large sand or mudflats, though observations have been made in estuary lagoons, inshore reefs, small rocky islands and sand cays on coral reefs. Occasionally sighted on near-coastal salt lakes and brackish swamps. Roosting generally takes place on sand-spits and banks on beaches or in tidal lagoons, higher up the beach than other waders (can be well above the high tide mark) (Department of the Environment 2016a)	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present
Charadrius mongolus	M, Ma	V	LC	Recorded along most of the coastline of the NT, in particular the	**High potential to occur**

Species Name	EPBC Act Status	TPWC Act Status	IUCN Status	Habitat Preference	Likelihood of Occurrence
Lesser Sand Plover				North Arnhem coast, Mud Blue Bay, coast between Anson Bay and Murgenella creek and the Port McArthur area (Chatto 2003). Inhabits mud and sandflats in sheltered bays, estuaries, harbours, and occasionally rocky outcrops, sandy beaches and coral reefs. Roosting occurs near foraging areas (Department of the Environment 2016b)	the species has been recorded in the region (desktop searches) and suitable habitat is present
Erythrotriorchis radiatus Red Goshawk	V	V	NT	Occurs in coastal and sub-coastal areas in riverine, wooded and forested lands of tropical and warm-temperate Australia. Known to prefer forest and woodland with a mosaic of vegetation types, large prey populations (birds), and permanent water. The vegetation types include eucalypt woodland, open forest, tall open forest, gallery rainforest, swamp sclerophyll forest, and rainforest margins. The Red Goshawk nests in large trees, frequently the tallest and most massive in a tall stand, and nest trees are invariably within one km of permanent water (Department of the Environment 2014b). This species has retracted over much of its previous range.	**Moderate potential to occur** species has not been recorded in the region (no records from desktop searches) however potentially suitable habitat occurs
Erythrura gouldiae Gouldian Finch	E	V	NT	Inhabits open woodlands that are dominated by Eucalyptus trees and support a ground cover of Sorghum and other grasses. Often found in vegetation along watercourses and mangrove edges. Critical components of suitable core habitat for the Gouldian Finch include the presence of favoured annual and perennial grasses (especially Sorghum), a nearby source of surface water and, in the breeding season, unburnt hollow-bearing Eucalyptus trees (especially E. tintinnans, E. brevifolia and E. leucophloia) Its breeding habitat is usually confined to ridges and rocky foothills, probably due to the presence of Sorghumgrasses(Department of the Environment 2015h; Morcombe 2003).	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present
Falcunculus frontatus whitei Crested Shrike-tit (northern), Northern Shrike-tit	V	-	-	Generally found in open Eucalypt woodlands dominated by Bloodwood, Darwin Box and Roughleaf Cabbage Gum. Species has been recorded in areas with grassy and shrubby understoreys. Seasonally waterlogged areas may attract the species. (Department of the Environment 2016d)	**Moderate potential to occur** species has not been recorded in the region (no records from desktop searches) however potentially suitable habitat occurs

Species Name	EPBC Act Status	TPWC Act Status	IUCN Status	Habitat Preference	Likelihood of Occurrence
Grantiella picta Painted Honeyeater	V	V	VU	Sparsely distributed from southern Victoria and south-eastern South Australia to far northern Queensland and eastern Northern Territory where it inhabits forests, woodlands and dry shrublands, often with abundant mistletoe (Birdlife; Morcombe, 2003)	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present
Limosa lapponica Bar-tailed Godwit	Ma, M	V	LC	Inhabits mainly in coastal areas such as large intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons and bays, around beds of seagrass, saltmarsh, coastal sewage farms and saltworks, saltlakes and brackish wetlands near coasts, sandy ocean beaches, rock platforms, and coral reef-flats. Rarely found on inland wetlands or in areas of short grass, such as farmland, paddocks and airstrips (Department of the Environment 2015k; Morcombe 2003).	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present
Numenius madagascariensis Eastern Curlew	CE, M, Ma	V	VU	Never far from the coast, usually in mangrove areas, intertidal flats and salt marshes. Seen in small flocks or solitary during Australian summer. Breeds in central-eastern Asia (Garnett, S.T., Szabo, J.K., and Dutson 2011)	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present
Rostratula australis Australian painted snipe (Syn. *Rostratula benghalensis*)	E, Ma	V	EN	Variety of habitats but generally requires presence of water. Inhabits shallow terrestrial freshwater wetlands, including temporary and permanent lakes, swamps and claypans. They also use inundated or waterlogged grassland or saltmarsh, dams, rice crops, sewage farms and bore drains (Department of the Environment 2014c).	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present
Tyto novaehollandiae kimberli Masked Owl (northern)	V	V		Inhabits tall, open Eucalypt forests (particularly those dominated by Eucalyptus miniata and E. tetrodonta). Forages in open vegetation and grasslands and typically roosts and nests in tree hollows, though there are recordings of roostings in monsoon rainforests. Home range is estimated to be 5-10 km^2. Very similar in appearance to the Barn Owl (Tyto alba), though the Masked Owl is larger, darker and has more feathering on the feet (Higgins 1999)	**Moderate potential to occur** species has not been recorded in the region (no records from desktop searches) however potentially suitable habitat occurs
MAMMALIA					
Conilurus penicillatus	V	E	NT	Found in QLD, WA and NT. In the NT *C.penicillatus* has been recorded	**Low potential to occur**

Species Name	EPBC Act Status	TPWC Act Status	IUCN Status	Habitat Preference	Likelihood of Occurrence
Brush-tailed Rabbit-rat, Brush-tailed Tree-rat, Pakooma				in east and south-east Arnhem Land, on Inglis Island, in Kakadu NP, on the Tiwi Islands, on the Cobourg Peninsula and between Central Island and the mouth of the Victoria River. Habitat is very specific - *C.penicillatus* occupies mixed Eucalypt woodland and open forest, or on dunes where *Casuarina* is present. Habitat with a sparse to moderate middle storey and an understorey predominantly consisting of perennial grasses that isn't burnt annually is preferred. Small home ranges of approximately 1 ha. Usually active around dusk (Department of Environment, 2016e). Currently known to persist in the NT only on Coburg Peninsula, Bathurst, Melville and Inglis Islands and Groote Eylandt (Department of Land and Resource Management 2012a)	current known distribution does not encompass study area
Dasyurus hallucatus Northern Quoll	E	CE	EN	The Northern Quoll occupies a diversity of habitats across its range which includes rocky areas, eucalypt forest and woodlands, rainforests, sandy lowlands and beaches, shrubland, grasslands and desert. Northern Quolls are also known to occupy non rocky lowland habitats such as beach scrub communities in central Queensland. Northern Quoll habitat generally encompasses some form of rocky area for denning purposes with surrounding vegetated habitats used for foraging and dispersal. Rocky habitats are usually of high relief, often rugged and dissected but can also include tor fields or caves in low lying areas such as in Western Australia. Eucalypt forest or woodland habitats usually have a high structural diversity containing large diameter trees, termite mounds or hollow logs for denning purposes. Dens are made in rock crevices, tree holes or occasionally termite mounds (Department of the Environment 2014a).	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present
Isoodon auratus Golden Bandicoot	V	E	VU	The Golden Bandicoot was only found on Marchinbar Island in the NT before populations were translocated to the mainland and other islands. Due to this habitat descriptions are sparse and incomplete. On Marchinbar Island the Golden Bandicoot occurs mainly in heathland or shrubland on sandstone and avoids vegetation with greater tree cover (Southgate *et al.* 1996). Mainland Bandicoots inhabit rainforest margins and viney thickets, Eucalypt woodland and	**Low potential to occur** current known distribution does not encompass study area

Species Name	EPBC Act Status	TPWC Act Status	IUCN Status	Habitat Preference	Likelihood of Occurrence
				Euc. Woodland over hummock grassland(Department of the Environment 2016e)	
Macrotis lagotis Greater Bilby	V	V	V	The greater bilby occupies primarily the flat to gently undulating clay areas, but also some stony plains, of the Channel Country amongst a diverse range of annual and perennial grasses and forbs (Curtis & Dennis 2012). The main Queensland population mostly occurs within the Astrebla Downs National Park. Extant population of the Greater Bilby occur in a variety of habitats, usually on landforms with level to low slope topography and light to medium soils. It occupies three major vegetation types; open tussock grassland on uplands and hills, mulga woodland/shrubland growing on ridges and rises, and hummock grassland in plains and alluvial areas. Laterite and rock feature substrates are an important part of Greater Bilby habitat. These habitat support shrub species, such as *Acacia kempeana, A. hilliana* and *A. rhodophylla*, which have root-dwelling larvae that provide a constant food source for the Greater Bilby. They also contain Spinifex hummocks which are quite uniform and discrete, providing runways between hummocks, enabling easier movement and foraging. Greater bilbies occurrence is strongly associated with higher rainfalls and temperatures, particularly as these conditions may not be favoured by foxes, which are one of their main threats. (Department of the Environment 2015m)	**Low potential to occur** current known distribution does not encompass study area
Mesembriomys macrurus Golden-backed Tree-rat	V	CE	LC	Inhabits a variety of habitat types. Woodlands over tussock or hummock grasses on volcanic country, black soil plains and rugged sandstone country are common, though the Golden-backed Tree-rat has also been associated with mangroves and grasslands on some islands (Department of the Environment 2016g)	**Low potential to occur** current known distribution does not encompass study area
Notomys aquilo NorthernHopping-mouse, Woorrentinta	V	V	EN	Restricted to monsoonal tropics of the NT. Occurs in central and north-eastern Arnhem Land and on Groote Eylandt in areas with sandy substrates. Usually seen on sand dunes and sand sheets with tussock grass or heath, but also inhabits shrubland, open Eucalypt forest and the margins of rainforest thickets (Department of the	**Low potential to occur** current known distribution does not encompass study area

Species Name	EPBC Act Status	TPWC Act Status	IUCN Status	Habitat Preference	Likelihood of Occurrence
				Environment 2016h)	
Pseudantechinus mimulus Carpentarian Antechinus	V	NT	EN	Inhabits rocky areas or woodlands close to rocky areas It is known from the Mt Isa area where it is found in woodland of *Eucalyptus leucophloia*, *Corymbia terminalis*, *Eucalyptus normantonensis*, *Atalaya hemiglauca* and *Acacia* spp. with *Trioda* spp. ground cover (Department of the Environment 2015r; Curtis & Dennis 2012).	**Low potential to occur** current known distribution does not encompass study area
Rattus tunneyi Pale Field-rat	-	V	LC	Nocturnal animal that shelters in shallow burrows during the day. Pale Field-rats form loose colonies and breeding occurs during the dry season. Generally found in cane fields, tall grassland and other modified habitats (Department of Land and Resource Management 2012b)	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present
Saccolaimus saccolaimus nudicluniatus Bare-rumped Sheathtail Bat	CE	-	-	Inhabits mostly lowland areas where woodland, forest and open areas are present. Foraging has been suggested to take place in habitat edges and clearings, though no information is available on changes in behaviour between wet and dry seasons. Roosting has been solely recorded to occur in tree hollows (Department of the Environment 2016k)	**Low potential to occur** current known distribution does not encompass study area
Xeromys myoides Water mouse	V	-	VU	Found in habitats including mangroves and the associated saltmarsh, sedgelands, clay pans, heathlands and freshwater wetlands (Department of the Environment 2015w).	**Moderate potential to occur** species has not been recorded in the region (no records from desktop searches) however potentially suitable habitat occurs
REPTILIA					
Acanthophis hawkei Plains Death Adder	V	V	-	Found in earth fissures during the dry season and shelters underground debris in the wet season. It is said to be confined to the Barklay Tablelands on the black soil Mitchell grass plains(Cogger 2014).	**Low potential to occur** current known distribution does not encompass study area
Varanus mertensi Mertens' Water Monitor	-	V	-	Aquatic lizard found on rocks and logs, or tree trunks and branches overhanging rivers, lagoons and swamps. Submerges itself when disturbed (Cogger 2014)	**Known to occur** the species was recorded during field assessments

Species Name	EPBC Act Status	TPWC Act Status	IUCN Status	Habitat Preference	Likelihood of Occurrence
Varanus mitchelli Mitchell's Water Monitor	-	V	-	Aquatic lizard seen on rocks or in trees in or surrounding rivers and lagoons. Dark body with numerous yellow flecks, neck bright yellow (Cogger 2014)	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present
Varanus panoptes Yellow-spotted Monitor	-	V	-	Ground dwelling lizard, feeds mainly on insects and small vertebrates. Can grow to 1.2 metres. Occupies a range of habitats such as coastal beaches, grasslands, floodplains and woodlands (Cogger 2014).	**Moderate potential to occur** species has not been recorded in the region (no records from desktop searches) however potentially suitable habitat occurs

EPBC Act (species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), Aust.): CE = Critically Endangered, E = Endangered, V = Vulnerable, M = Migratory, Ma = Marine
TPWC Act (species listed under the *Territory Parks and Wildlife Conservation Act 2000* (TPWC Act), NT): CE = Critically Endangered, E = Endangered, V = Vulnerable, NT=Near Threatened
IUCN (species listed under the International Union for Conservation of Nature (IUCN) Red List of Threatened Species): EX= Extinct, EW= Extinct in the Wild, CR= Critically Endangered, EN= Endangered, VU= Vulnerable, NT=Near Threatened, LC= Least Concern

Species Name	EPBC Act Status	TPWC Act Status	IUCN Status	Habitat Preference	Likelihood of Occurrence
Actitis hypoleucos Common Sandpiper	Ma, M	-	LC	Seen in the NT from approx. July-November. Found in coastal and inland wetlands, streams, lakes, billabongs, dams, estuaries, claypans and occasionally jetties (Department of the Environment 2015a)	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present
Apus pacificus Fork-tailed swift	Ma, M	-	LC	Summer migrant (October – April). Occurs in low to very high airspace over variety of habitats including rainforest and semi-arid areas. Known to be most active in front of summer storm fronts (Morcombe 2003).	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present
Ardea alba *(Syn. A. modesta)* Great Egret, White Egret	Ma, M	-	LC	Widespread in Australia. Recorded in a wide range of wetland habitats including flooded pastures, dams, estuarine mudflats, mangroves and reefs and usually frequents shallow water. (Morcombe 2003; Department of the Environment 2015b)	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present

Species Name	EPBC Act Status	TPWC Act Status	IUCN Status	Habitat Preference	Likelihood of Occurrence
Ardea ibis Cattle egret (Syn. *Bubulcus ibis)*	Ma, M	-	LC	Occurs in moist pastures with tall grass, shallow open wetlands and margins and also mudflats (Morcombe 2003).	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present
Arenaria interpres Ruddy Turnstone	M, Ma	NT	LC	Found on rocky shores or beaches where seaweed is present. In Australia from August to mid-March, migrating north for the breeding season (Department of the Environment 2015c).	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present
Calidris acuminata Sharp-tailed Sandpiper	M, Ma	-	LC	In Australia from mid-August to April. Foraging takes place in shallow water of wetlands and mudflats or on bare wet sand or mud. Roosting occurs in sparse vegetation such as saltmarsh or grass, on wet open mud and sand and occasionally in mangroves, sandy beaches and stony shores (Department of the Environment 2015d)	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present
Calidris ruficollis Red-necked Stint	M, Ma	-	LC	Inhabits a diverse range of environments including in sheltered inlets, bays, lagoons and estuaries with intertidal mudflats, often near spits, islets and banks and protected sandy or coralline shores. Have, occasionally, been recorded on exposed or ocean beaches, and sometimes on stony or rocky shores, reefs or shoals. Red-necked stinks also can occur in saltworks and sewage farms; saltmarsh; ephemeral or permanent shallow wetlands near the coast or inland and have occasionally been recorded on dry gibber plains, with little or no perennial vegetation(Department of the Environment 2015f; Morcombe 2003).	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present
Calonectris leucomelas Streaked Shearwater	M, Ma	-	LC	Unusual to see inshore, usually in pelagic seas, shelf waters and further out to sea. Summer-autumn visitor to Australian coasts (PDA Solutions 2012)	**Low potential to occur** suitable habitat is generally lacking from the study area
Cecropis daurica/Hirundo daurica Red-rumped Swallow	M, Ma	-	LC	Generally only migrates south to Borneo and New Guinea, but is occasionally seen in Northern Australia in open country and grasslands (PDA Solutions 2012)	**Low potential to occur** current known distribution does not encompass study area

Species Name	EPBC Act Status	TPWC Act Status	IUCN Status	Habitat Preference	Likelihood of Occurrence
Charadrius veredus Oriental Plover, Oriental Dotterel	M, Ma	-	LC	Arrives in Australia Sep-Nov and usually inhabits inland semi-arid regions on open grasslands Can be found in coastal habitats such as estuarine mudflats and sandbanks, on sandy or rocky ocean beaches or nearby reefs, or in near-coastal grasslands, before dispersing further inland where they usually inhabit flat, open, semi-arid or arid grasslands, or open areas that have been recently burnt(Department of the Environment 2015g; Morcombe 2003)	**Moderate potential to occur** species has not been recorded in the region (no records from desktop searches) however potentially suitable habitat occurs
Gelochelidon nilotica or *Sterna nilotica* Gull-billed Tern	M, Ma	-	LC	Uses inland fresh and salt water for nesting, and can be seen around mudflats, clay pans, salt marsh and open floodplains where extensive shallow flooding occurs. Often seen on salt marshes and lagoons near the coast during the non-breeding season (PDA Solutions 2012)	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present
Glareola maldivarum Oriental Pratincole	M, Ma	-	LC	Open plains, grasslands, floodplains, near terrestrial wetlands such as billabongs, creeks, lakes, reservoirs and sewage farms. Also seen occasionally around coastlines on beaches, mudflats and coastal lagoons. Present in Australia from late October to March (Department of the Environment 2015i)	**Moderate potential to occur** species has not been recorded in the region (no records from desktop searches) however potentially suitable habitat occurs
Hirundo rustica Barn Swallow	M, Ma	-	LC	Often sighted on overhead wires with other swallows. Found both in open county and in towns, often near water. (Morcombe 2003)	**Moderate potential to occur** species has not been recorded in the region (no records from desktop searches) however potentially suitable habitat occurs
Hydroprogne caspia Caspian tern	M	-	LC	Within Australia, the Caspian Tern has a widespread occurrence and is found in both coastal and inland habitat. Occurs mostly in sheltered coastal harbours, lagoons, inlets, bays, estuaries and river deltas. Areas with sandy or muddy margins are preferred. They can also be found on near-coastal or inland terrestrial wetlands that are either fresh or saline, especially lakes, waterholes, reservoirs, rivers and creeks. They also use artificial wetlands, including reservoirs, sewage ponds and salt works (Department of the Environment 2015j).	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present
Limicola falcinellus Broad-billed Sandpiper	M, Ma	-	-	In Australia August-May in sheltered coastlines, particularly estuarine mudflats. Also seen on shallow freshwater lagoons, saltmarshes, sewerage farms, creeks, lakes and swamps. Rarely recorded inland.	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is

Species Name	EPBC Act Status	TPWC Act Status	IUCN Status	Habitat Preference	Likelihood of Occurrence
				(Department of the Environment 2016f)	present
Limosa limosa Black-tailed Godwit	M, Ma	NT	NT	Usually inhabits coastal environment including sheltered bays, estuaries and lagoons with large intertidal mudflats or sandflats, spits and banks of mud, sand or shell-grit. Can also be found in shallow and sparsely vegetated, near-coastal, wetlands; such as saltmarsh, saltflats, river pools, swamps, lagoons and floodplains. Infrequently they are found inland around shallow, freshwater and saline lakes, swamps, dams and bore-overflows, sewage farms and saltworks(Department of the Environment 2015l; Morcombe 2003).	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present
Merops ornatus Rainbow bee-eater	Ma, M	-	LC	Summer migrant (September – April) although in northern Australia they remain and breed. Occurs in open woodlands, semi-arid scrub, grasslands, clearing in heavier forests, farmlands and coastal areas. Avoids heavy forests due to hindrance to feeding (i.e. Catching insects) (Morcombe 2003).	**Known to occur** the species was recorded during field assessments
Motacilla cinerea Grey Wagtail	M, Ma	-	-	Near fresh rocky or sandy streams, mown grass, ploughed land and sewage ponds (PDA Solutions 2012)	**Low potential to occur** current known distribution does not encompass study area
Motacilla flava Yellow Wagtail	M, Ma	-	LC	Summer migrant to Australia, preferring open habitats, often near water, including swamp margins, salt marshes, sewage ponds, lawns, pastures, playing fields and surrounds (Morcombe 2003).	**Low potential to occur** current known distribution does not encompass study area
Numenius phaeopus Whimbrel	M, Ma	NT	LC	Australia-wide distribution from August to February – In the NT N. phaeopus is generally seen along coastlines, but can follow rivers inland. Prefers mudflats on sheltered coasts, but has been recorded in harbours, estuaries, lagoons and river deltas. Less frequently observed on sandy and rocky beaches, intertidal reefs, and brackish or saline lakes near coastlines. Generally roost in mangrove branches, but have been noted to roost on the ground under mangroves or in tall trees (Department of the Environment 2015n)	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present
Pandion haliaetus *(Syn. P. cristatus)*	M	-	LC	Eastern ospreys occur in littoral and coastal habitats and terrestrial wetlands, and occasionally travel inland along major rivers. They require extensive areas of open fresh, brackish or saline water for	**High potential to occur** the species has been recorded in the region

Species Name	EPBC Act Status	TPWC Act Status	IUCN Status	Habitat Preference	Likelihood of Occurrence
Eastern osprey				foraging. (Department of the Environment 2015o)	(desktop searches) and suitable habitat is present
Plegadis falcinellus Glossy Ibis	M, Ma	-	LC	Found in the shallows of swamps and rivers, lagoons, flood-plains, wet meadows, reservoirs, sewage ponds, rice-fields and cultivated areas under irrigation. Occasionally found in estuaries, deltas, saltmarshes lagoons of coastal regions (Department of the Environment 2015p; Morcombe 2003).	**Known to occur** the species was recorded during field assessments
Pluvialis fulva Pacific Golden Plover	M, Ma	-	LC	Inhabits mainly coastal areas including beaches, mudflats and sandflats , harbours, estuaries and lagoons, and evaporation ponds in saltworks. Sometimes recorded on islands, sand and coral cays and exposed reefs and rock, less often recorded in terrestrial habitats, usually wetlands such as fresh, brackish or saline lakes, billabongs, pools, swamps and wet claypans, only very rarely far inland(Department of the Environment 2015q; Morcombe 2003).	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present
Pluvialis squatarola Grey Plover	M, Ma	NT	LC	In Australia from August-March in almost entirely coastal environments. Estuaries and lagoons with mud and sandflats, reef flats, as well as near-coastal lakes, swamps and salt flats (Department of the Environment 2016j)	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present
Sterna hirundo Common Tern	M, Ma	-	LC	Typically seen offshore in open ocean but have been sightings in coastal waters, estuaries, sheltered bays and ocean beaches (PDA Solutions 2012)	**Low potential to occur** current known distribution does not encompass study area
Sternula albifrons Little Tern	M	-	LC	Found in lagoons, estuaries, river mouths, lakes, bays, deltas, inlets and harbours (particularly with exposed sand banks). Common on islands off the NT (Department of the Environment 2016n)	**Low potential to occur** current known distribution does not encompass study area
Sterna anaethetus Bridled Tern	M, Ma	-	-	Tropical and subtropical seas. Breeding/nesting takes place on islands, rock stacks and vegetated coral cays, and roosting takes place at sea (Department of the Environment 2016i)	**Low potential to occur** current known distribution does not encompass study area
Sterna dougallii Roseate Tern	M, Ma	-	LC	Coastal and marine habitats such as rocky and sandy beaches, offshore islands, coral reefs and sand cays. Very rarely seen on the	**Low potential to occur** current known distribution does not

Species Name	EPBC Act Status	TPWC Act Status	IUCN Status	Habitat Preference	Likelihood of Occurrence
				mainland (Department of the Environment 2016l)	encompass study area
Sterna sumatrana Black-naped Tern	M, Ma	-	LC	Small offshore sand and coral cays, lagoons, coral reefs, sandy and rocky islands and surrounding seas. Have been recorded in harbours and bays in Australia (Department of the Environment 2016m)	**Low potential to occur** current known distribution does not encompass study area
Sula leucogaster Brown Booby	M, Ma	-	LC	Tropical waters, harbours, estuaries, and near offshore islands. Nests on beaches, rocky cliffs, coral rubble and sand bars (Department of the Environment 2016o)	**Low potential to occur** current known distribution does not encompass study area
Tringa glareola Wood Sandpiper	M, Ma	-	LC	Inhabits freshwater wetlands, such as swamps, billabongs, lakes, pools and waterholes, inundated grasslands, floodplains and irrigated crops. They can also be found in artificial wetlands, including open sewage ponds, reservoirs, large farm dams, and bore drains. Rarely found using brackish wetlands, or dry stunted saltmarsh(Department of the Environment 2015s; Morcombe 2003).	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present
Tringa nebularia Common Greenshank	M, Ma	-	LC	Widespread common migrant between Sept and April. Found in a variety of habitats including inland wetlands, sheltered coastal habitats, embayments, harbours, river estuaries, deltas and lagoons, tidal pools, rock-flats and rock platforms. Away from the coast they are found in both permanent and ephemeral terrestrial wetlands, including swamps, lakes, dams, rivers, creeks, billabongs, waterholes and inundated floodplains, claypans and saltflats as well as artificial wetlands, including sewage farms and saltworks dams, inundated rice crops and bores(Department of the Environment 2015t; Morcombe 2003).	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present
Tringa stagnatilis Marsh Sandpiper	M, Ma	-	LC	Inhabits permanent or ephemeral wetlands of varying salinity, including swamps, lagoons, billabongs, saltpans, saltmarshes, estuaries, pools on inundated floodplains, intertidal mudflats, sewage farms and saltworks(Department of the Environment 2015u; Morcombe 2003).	**High potential to occur** the species has been recorded in the region (desktop searches) and suitable habitat is present
Xenus cinereus Terek Sandpiper	M, Ma	-	LC	Inhabits coastal mudflats in sheltered estuaries, embayments, harbours or lagoons. Occasionally, on sandy beaches, on rock or coral reefs or platforms, and occasionally sighted around drying sewage	**High potential to occur** the species has been recorded in the region

Species Name	EPBC Act Status	TPWC Act Status	IUCN Status	Habitat Preference	Likelihood of Occurrence
				ponds and saltpans if surrounded by mudflats (Department of the Environment 2015v; Morcombe 2003).	(desktop searches) and suitable habitat is present
REPTILIA					
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile	M, Ma	-	LC/LR	Inhabits coastal rivers and swamps, though often seen at sea and inland (via rivers, billabongs and floodplains) (Cogger 2014)	**Known to occur** the species was recorded during field assessments

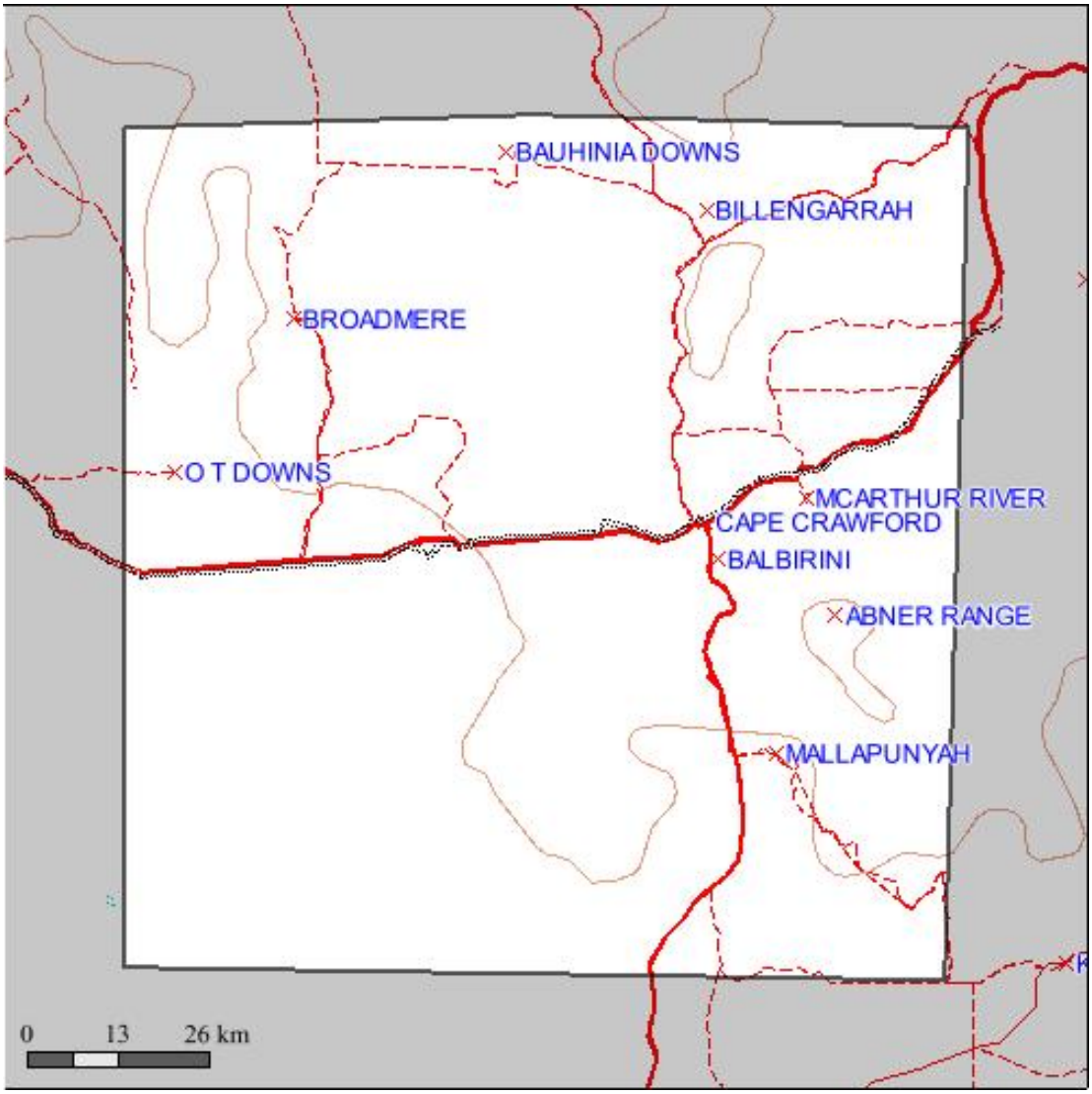
EPBC Act (species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), Aust.): M = Migratory, Ma = Marine
TPWC Act (species listed under the *Territory Parks and Wildlife Conservation Act 2000* (TPWC Act), NT): NT=Near Threatened
IUCN (species listed under the International Union for Conservation of Nature (IUCN) Red List of Threatened Species): EX= Extinct, EW= Extinct in the Wild, CR= Critically Endangered, EN= Endangered, VU= Vulnerable, NT=Near Threatened, LC= Least Concern

Appendix 3. EP187 Climate Report

EP187 Climate Report

EP187 Climate Report encompasses an area of 13447.1 sq. km extending from 16 deg. 9.0 min to 17 deg. 15.0 min S and 134 deg. 59.0 min to 136 deg. 3.0 min E.
EP187 Climate Report is located in the Gulf Fall and Uplands, Sturt Plateau, bioregion(s)

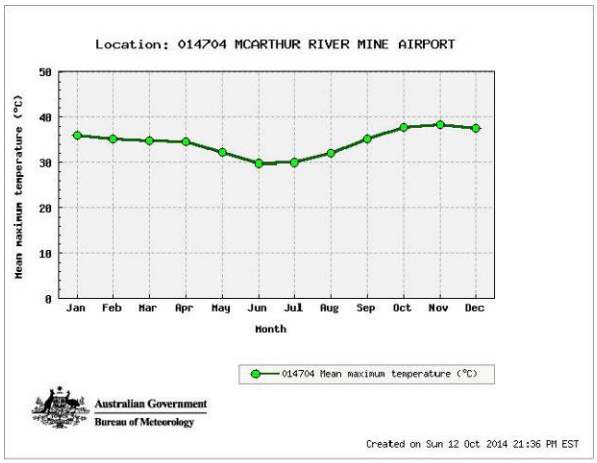
Figure 1: Location of Climate Report incorporating the area of EP187

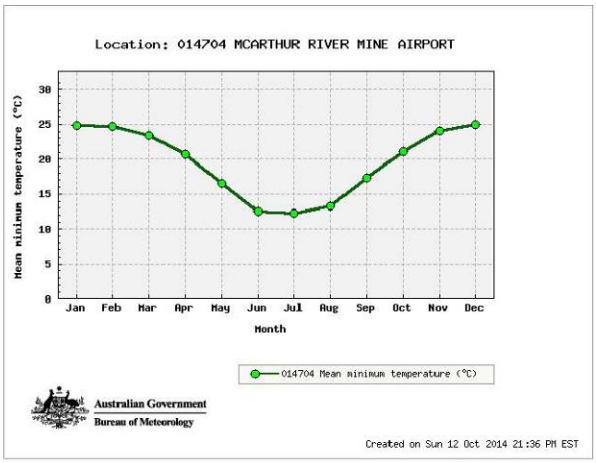


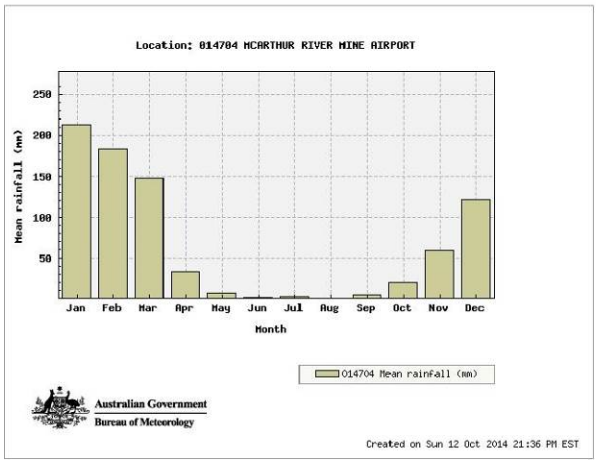
The closest long-term weather station is MCARTHUR RIVER MINE (16 deg. 26.0 min S, 136.076E) 66 km NE of the center of selected area

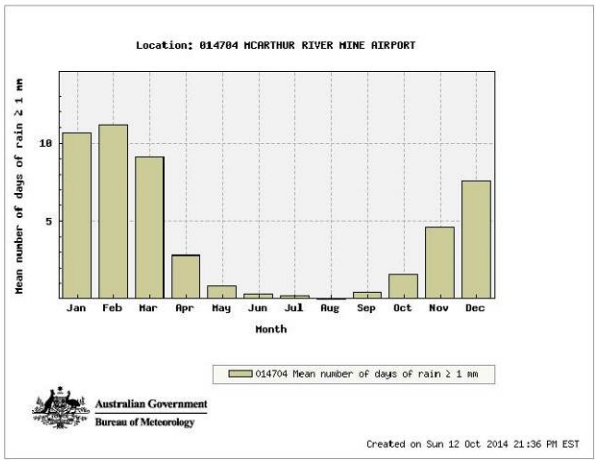
Statistics	Annual Values	Years of record
Mean max temp (deg. C)	34.5	36
Mean min temp (deg. C)	19.6	36
Average rainfall (mm)	798.7	43
Average days of rain	49.3	42

Climate summaries from Bureau of Meteorology (www.bom.gov.au)





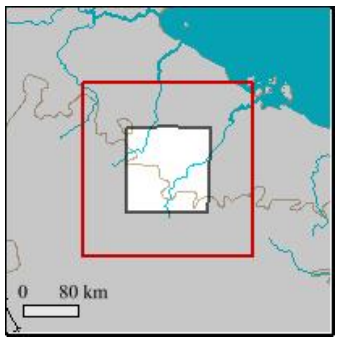




Information in this report is generated from the Bureau of Meteorology and from Infonet (http://www.infonet.org.au)

Appendix 4: EP187 Introduced Species - Weeds & Pest Animals Report

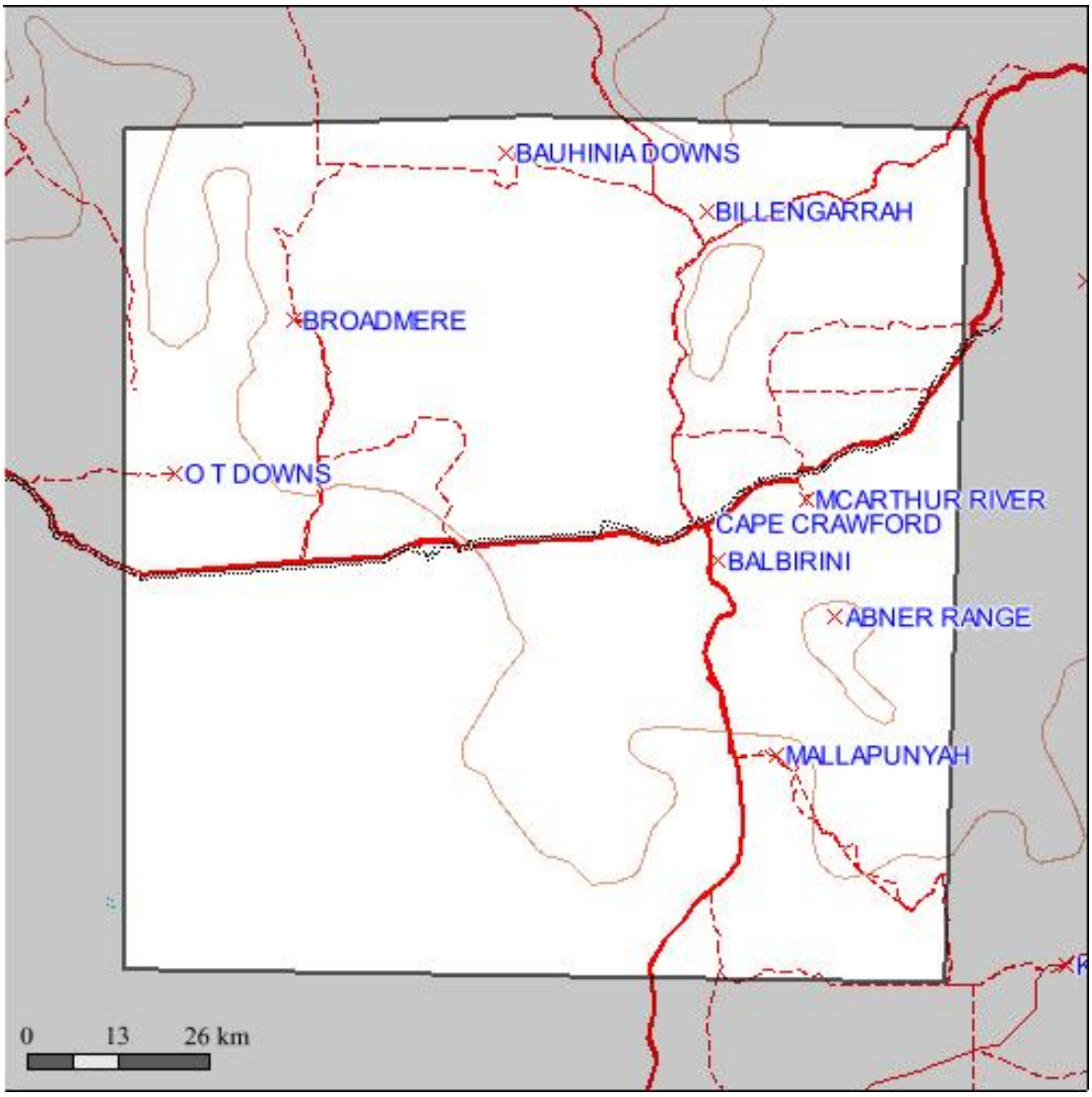
EP187 Introduced Species
Weeds & Pest Animals Report



EP187 Introduced Species Weeds Pest & Animals Report encompasses an area of 13,447.1 sq. km extending from 16 deg. 9.0 min to 17 deg. 15.0 min S and 134 deg. 59.0 min to 136 deg. 3.0 min E.

EP187 Introduced Species Weeds Pest Animals Report is located in the Gulf Fall and Uplands, Sturt Plateau, bioregion(s)

Figure 1: Location of area of review for introduced Species Weeds & Pest Animals incorporating EP187



Weeds and Potential Weeds

Introduced plants recorded in the grid cell(s) in which EP187 'Introduced Species Weeds Pest Animals Report' occurs and that have been identified as problem weeds in one or more locations in northern Australia. Occurrence based on Northern Territory Government databases.

Family Name	Scientific Name	Common Name	NT Status	National Status	Other Status	#Surveys	Latest Record
Asteraceae	*Acanthospermum hispidum*	Starburr	*B C*			7	2001
Amaranthaceae	*Alternanthera pungens*	Khaki Weed	*B C*		*DEU NSW SA*	3	2001
Aristolochiaceae	*Aristolochia elegans*	Dutchman`s Pipe			*Q3 C&E*	0	Unknown
Meliaceae	*Azadirachta indica*	Neem			*MP K1 C&E G&M CYP WeedsAus*	0	Unknown
Poaceae	*Bothriochloa pertusa*	Indian Bluegrass			*DEU*	0	Unknown
Poaceae	*Cenchrus biflorus*	Gallon`s Curse			*NSW*	0	Unknown
Poaceae	*Cenchrus ciliaris*	Buffel Grass			*MP Gr G&M DEU*	0	Unknown
Poaceae	*Cenchrus echinatus*	Mossman River Grass	*B C*		*NSW*	0	Unknown
Poaceae	*Cenchrus pedicellatus*	Mission Grass (annual)			*WeedsAus*	0	Unknown
Poaceae	*Cenchrus polystachios*	Mission Grass (perennial)	*B C*		*MP K2 C&E G&M*	0	Unknown
Poaceae	*Cenchrus setiger*	Birdwood Grass			*DEU*	0	Unknown
Poaceae	*Chloris barbata*	Purpletop Chloris			*DEU*	0	Unknown
Cucurbitaceae	*Citrullus lanatus*	Camel Melon			*G&M*	0	Unknown
Fabaceae	*Crotalaria goreensis*	Gambia Pea			*MP*	0	Unknown
Cucurbitaceae	*Cucumis melo*	Ulcardo Melon			*DEU*	42	2009
Cyperaceae	*Cyperus rotundus*	Nutgrass			*DEU SA*	0	Unknown
Fabaceae	*Delonix regia*	Poinciana			*C&E*	0	Unknown
Poaceae	*Echinochloa colona*	Awnless Barnyard Grass			*DEU*	13	2009
Amaranthaceae	*Gomphrena celosioides*	Gomphrena Weed			*DEU*	0	Unknown
Malvaceae	*Grewia asiatica*	Phassa Plaum			*C&E G&M CYP*	0	Unknown

Boraginaceae	*Heliotropium indicum*	Indian Heliotrope			*DEU*	3	2003
Lamiaceae	*Hyptis suaveolens*	Hyptis	*B C*		*G&M*	4	2003
Fabaceae	*Macroptilium atropurpureum*	Siratro			*C&E*	0	Unknown
Malvaceae	*Malvastrum americanum*	Spiked Malvastrum			*DEU*	8	2008
Poaceae	*Melinis repens*	Red Natal Grass			*DEU*	0	Unknown
Fabaceae	*Parkinsonia aculeata*	Parkinsonia	*B C*	*WONS*	*MP K2 WA1 WA4 Q2 G&M CYP DEU NSW SA*	7	2001
Verbenaceae	*Phyla nodiflora var. nodiflora*	Lippia			*G&M NSW*	0	Unknown
Fabaceae	*Prosopis pallida*	Mesquite	*A C*	*WONS*	*K2 WA1 WA2 WA4 Q2 G&M NSW SA*	1	1990
Acanthaceae	*Ruellia tuberosa*	Spearpod			*C&E*	0	Unknown
Plantaginaceae	*Scoparia dulcis*	Bitter Broom			*DEU*	1	2003
Fabaceae	*Senna occidentalis*	Coffee Senna	*B C*		*G&M DEU*	0	Unknown
Family Name	*Scientific Name*	Common Name	*NT*	National	*Other Status*	#Surveys	Latest Record
			Status	Status			
Fabaceae	*Senna tora*	Foetid Cassia			*WA1 WA2 Q2 G&M*	0	Unknown
					CYP		
Malvaceae	*Sida acuta*	Spiny-head Sida	*B C*		*WA1 G&M*	0	Unknown
Malvaceae	*Sida cordifolia*	Flannel Weed	*B C*		*WA1 G&M DEU*	2	1993
Malvaceae	*Sida rhombifolia*	Paddy`s Lucerne	*B C*		*MP G&M DEU*	4	1994
Malvaceae	*Sida spinosa*	Spiny Sida			*DEU*	22	2010
Poaceae	*Sporobolus fertilis*	Giant Parramatta Grass			*Q2 G&M NSW*	0	Unknown
Verbenaceae	*Stachytarpheta cayennensis*	Cayenne Snakeweed	*B C*		*NSW*	0	Unknown
Fabaceae	*Stylosanthes hamata*	Caribbean Stylo			*DEU*	4	2003
Fabaceae	*Stylosanthes humilis*	Townsville Lucerne			*DEU*	0	Unknown

Asteraceae	*Synedrella nodiflora*	Cinderella Weed			*C&E*	0	Unknown
Zygophyllaceae	*Tribulus terrestris*	Caltrop	*B C*		*CYP SA*	0	Unknown
Poaceae	*Urochloa mosambicensis*	Sabi Grass			*DEU*	0	Unknown
Fabaceae	*Vachellia farnesiana*	Sweet Acacia			*DEU*	13	2010
Fabaceae	*Vachellia nilotica*	Prickly Acacia	*A C*	WONS	*MP K2 Q2 G&M*	0	Unknown
					DEU NSW		
Asteraceae	*Xanthium strumarium*	Noogoora Burr	*B C*		*MP WA1 WA2 WA4*	16	2003
					DEU NSW SA		

Status Codes:
NATIONAL STATUS CODES
Alert, Alert List for Environmental Weeds
WONS, Weeds of National Significance

2. NT STATUS CODES
A. NT Class A Weed (to be eradicated)
B, NT Class B Weed (growth & spread to be controlled)
C, NT Class C Weed (not to be introduced)
(www.landmanager.com.au/view/index.aspx?id=449869)

3. OTHER STATUS CODES
C&E, Csurhes, S. & Edwards, R. (1998) Potential Environmental Weeds in Australia. Candidate Species for Preventative Control. Environment Australia, Canberra (www.landmanager.com.au/view/index.aspx?id=394504) CYP, Draft Cape York Peninsula Pest Management Plan 2006-2011.
(www.landmanager.com.au/view/index.aspx?id=37120).

DEU, Plants listed as environmental weeds by the Desert Uplands Strategic Land Resource Assessment (www.landmanager.com.au/view/index.aspx?id=3321233. G&M, Grice AC, Martin TG. 2005. The Management of Weeds and Their Impact on Biodiversity in the Rangelands. Cooperative Research Centre (CRC) for Australian Weed Management and CSIRO Sustainable Ecosystems. Commonwealth Australia (www.landmanager.com.au/view/index.aspx?id=163572)

Gr, Groves et al. 2003. Weed categories for natural and agricultural ecosystem management. Bureau of Rural Sciences
(www.landmanager.com.au/view/index.aspx?id=388018)

Ko, High Priority Weeds not yet established in the Katherine region
K1, High Priority Weeds posing environmental threats in the Katherine region
K2, High Priority Weeds posing existing threats in the Katherine region, as described in the Katherine

Regional Weed Management Strategy 2005-2010
(www.landmanager.com.au/view/index.aspx?id=130286) MP, Northern Territory Parks & Conservation Masterplan (www.landmanager.com.au/view/index.aspx?id=144141)

NAQS, North Australian Quarantine Strategy Target List
(www.landmanager.com.au/view/index.aspx?id=449416)
NSW, Declared Noxious Weed in NSW (www.landmanager.com.au/view/index.aspx?id=449983)

Q1, QLD Class 1 Weed (not to be introduced, kept or supplied-
Q2, Class 2 Weed (eradicate where possible, not to be introduced, kept or supplied)
Q3, Qld Class 3 Weed (to be controlled near environmentally sensitive areas- not to be supplied/sold without a permit) (www.landmanager.com.au/view/index.aspx?id=190714) SA, Declared Plant in

South Australia (www.landmanager.com.au/view/index.aspx?id=449996)
WeedsAus, Listed as a significant weed by Weeds Australia
(www.landmanager.com.au/view/index.aspx?id=14576)
WA1, WA Weed Class P1 (movement prohibited)
WA2, WA Weed Class P2 (aim to eradicate) WA3, WA Weed Class P3 (control infestations) WA4, WA Weed Class P4 (prevent spread)
WA5, WA Weed Class P3 (control infestations on public land)
(www.landmanager.com.au/view/index.aspx?id=449884).

Survey = this category refers to data collected using systematic survey methodology
Specimen = this category refers to museum or other records where a specimen has been collected and lodged
Observation = this category refers to all other incidental recordings where systematic methodology may not have been used consistently

More species info: Go to www.landmanager.org.au/view/index.aspx?id
Information in this report is generated from the Infonet (http://www.infonet.org.au)

Introduced Plants

Introduced plants in 'EP187 Introduced Species Weeds Pest Animals Report' (ordered alphabetically) that have been identified as introduced species in one or more locations in northern Australia.

Family Name	Scientific Name	Common Name	NT Status	National Status	Other Status	ID	#Surveys (Latest)	Latest Record	
Euphorbiaceae	*Euphorbia hirta*	Asthma Plant				289244	0	Unknown	
Cucurbitaceae	*Momordica balsamina*	Balsam Apple				291344	0	Unknown	
Fabaceae	*Alysicarpus ovalifolius*	Buffalo Clover				288374	0	Unknown	
Fabaceae	*Clitoria ternatea*	Butterfly Pea				289514	0	Unknown	
Rubiaceae	*Spermacoce articularis*	Buttonweed				292864	0	Unknown	
Poaceae	*Dactyloctenium aegyptium*	Coastal Button Grass				289864	0	Unknown	
Cucurbitaceae	*Citrullus colocynthis*	Colocynth Melon				289434	0	Unknown	
Fabaceae	*Desmodium triflorum*	Creeping Tick-trefoil				289934	0	Unknown	
Poaceae	*Eleusine indica*	Crowsfoot Grass				290244	0	Unknown	
Poaceae	*Eragrostis amabilis*	Delicate Lovegrass				372299	0	Unknown	
Euphorbiaceae	*Euphorbia cyathophora*	Dwarf Poinsettia				290334	0	Unknown	
Convolvulaceae	*Evolvulus nummularis*	Evolvulus				290354	0	Unknown	
Fabaceae	*Desmodium tortuosum*	Florida Beggarweed				289934	0	Unknown	

Aizoaceae	*Trianthema portulacastrum*	Giant Pigweed	2931 64	0	Unknown
Lamiaceae	*Gmelina arborea*	Gmelina	2904 74	0	Unknown
Amaranthaceae	*Amaranthus viridis*	Green Amaranth	3720 33	0	Unknown
Poaceae	*Digitaria bicornis*	Hairy Finger Grass	3611 65	0	Unknown
Fabaceae	*Indigofera hirsute*	Hairy Indigo	2907 54	0	Unknown
Convolvulaceae	*Merremia aegyptia*	Hairy Merremia	2912 44	0	Unknown
Portulacaceae	*Portulaca pilosa*	Hairy Pigface	2921 04	0	Unknown
Amaranthaceae	*Alternanthera brasiliana*	Joyweed	3609 45	0	Unknown
Poaceae	*Eragrostis amabilis var. Amabilis*	Lovegrass	.	0	Unknown
Portulacaceae	*Portulaca oleracea*	Munyeroo	2921 04	0	Unknown
Portulacaceae	*Portulaca oleracea var. Weedy*	Munyeroo	2921 04	0	Unknown
Phyllanthaceae	*Phyllanthus debilis*	Niruri	2919 74	0	Unknown
Rubiaceae	*Oldenlandia corymbosa var. Corymbosa*	Oldenlandia	.	0	Unknown
Euphorbiaceae	*Euphorbia heterophylla*	Painted Spurge	2903 44	1	1998
Asteraceae	*Bidens pilosa*	Pitch-forks	2887 74	1	1998
Malvaceae	*Melochia pyramidata*	Pyramid Flower	2912	3	1998

			34		
Euphorbiaceae	*Euphorbia prostrata*	Red Caustic Weed	2892 74	0	Unknown
Malvaceae	*Hibiscus sabdariffa*	Rosella	2906 14	0	Unknown
Poaceae	*Dichanthium annulatum*	Sheda Grass	2899 44	0	Unknown
Phyllanthaceae	*Phyllanthus amarus*	Six O`clock	2919 74	2	1998
Fabaceae	*Stylosanthes viscosa*	Sticky Stylo	2930 04	0	Unknown
Passifloraceae	*Passiflora foetida*	Stinking Passion Flower	2917 74	4	1998
Poaceae	*Digitaria ciliaris*	Summer Grass	2899 74	0	Unknown
Cyperaceae	*Cyperus compressus*	Summer Sedge	2898 44	0	Unknown
Fabaceae	*Crotalaria juncea*	Sunhemp	2896 84	0	Unknown
Fabaceae	*Tamarindus indica*	Tamarind	2930 64	0	Unknown
Asteraceae	*Tridax procumbens*	Tridax Daisy	2931 84	0	Unknown
Rubiaceae	*Mitracarpus hirtus*	Tropical Girdlepod	2913 14	0	Unknown
Fabaceae	*Aeschynomene villosa*	Villose Jointvetch	2882 54	0	Unknown
Convolvulaceae	*Merremia dissecta var. Dissecta*	White Convolvulus Creeper	2912 54	0	Unknown
Rubiaceae	*Spermacoce remota*	Woodland False Buttonweed	2928 64	0	Unknown

Survey = this category refers to data collected using systematic survey methodology

Specimen = this category refers to museum or other records where a specimen has been collected and lodged
Observation = this category refers to all other incidental recordings where systematic methodology may not have been used consistently.

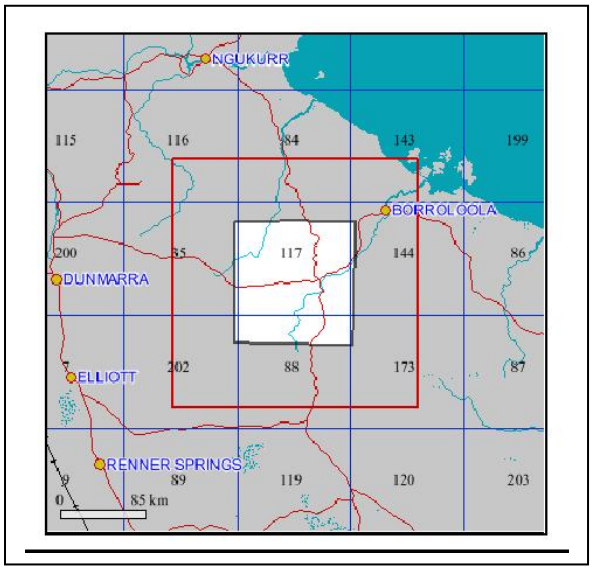
Animals with Pest Potential

Animals with pest potential recorded in the grid cell(s) in which 'EP187 Introduced Species Weeds Pest Animals Report' occurs. Occurrence based on Northern Territory Government databases.

Common Name	Scientific Name	NT Status	National Status	ID	#Observations (Latest)	#Specimens (Latest)	#Surveys	(Latest)
Cane Toad	*Rhinella marina*	P	.	183252	17(2006)	15 (2006)	16	(2008)
Asian House Gecko	*Hemidactylus frenatus*	P	.	188964	2(2003)	3 (2006)		0 (Unknown)
Rock Dove	*Columba livia*	P	.	183336	4(2000)	0 (Unknown)		0 (Unknown)
Red-tailed Black-cockatoo	*Calyptorhynchus banksii*	N	.	223765	125(2008)	11 (1976)	5	(2001)
Sulphur-Crested Cockatoo	*Macrorhynchus Cacatua galerita*	N	.	223772	88(2003)	3 (1913)	5	(2008)
House Sparrow	*Passer domesticus*	P	.	183322	1(1978)	0 (Unknown)		0 (Unknown)
Agile Wallaby	*Macropus agilis*	N	.	223786	9(2003)	4 (1996)	2	(1996)
House Mouse	*Mus musculus*	P	.	187720	1(2007)	0 (Unknown)		0 (Unknown)
Dingo / Wild dog	*Canis lupus*	N	.	183280	10(2003)	16 (1969)	5	(1996)
Cat	*Felis catus*	P	.	183259	6(2003)	1 (1978)	3	(2008)
Donkey	*Equus asinus*	P	.	183287	3(2003)	0 (Unknown)	3	(1996)
Horse	*Equus caballus*	P	.	183315	13(1999)	0 (Unknown)		0 (Unknown)
Pig	*Sus scrofa*	P	.	183329	1(2002)	0 (Unknown)		0 (Unknown)

Banteng	*Bos javanicus*	P	.	183221	0 (Unknown)	0 (Unknown)	1	(2008)
Cattle	*Bos Taurus*	P	.	183266	6(2003)	0 (Unknown)	8	(1996)

NT STATUS CODES:
Int, Introduced species (all non-prohibited vertebrates, and all other exotic species (www.landmanager.com.au/view/index.aspx?id=280771)
N, Native species with pest potential.
P, Prohibited species (all exotic vertebrates except those listed as non-prohibited (www.landmanager.com.au/view/index.aspx?id=450509)
Survey = this category refers to data collected using systematic survey methodology
Specimen = this category refers to museum or other records where a specimen has been collected and lodged
Observation = this category refers to all other incidental recordings where systematic methodology may not have been used consistently.
More species info: Go to www.landmanager.org.au/view/index.aspx?id
Potential pest animals listed in the table above were recorded from all the grid cells shown below (red/blue line) that overlap EP187 Introduced Species Weeds Pest Animals Report.



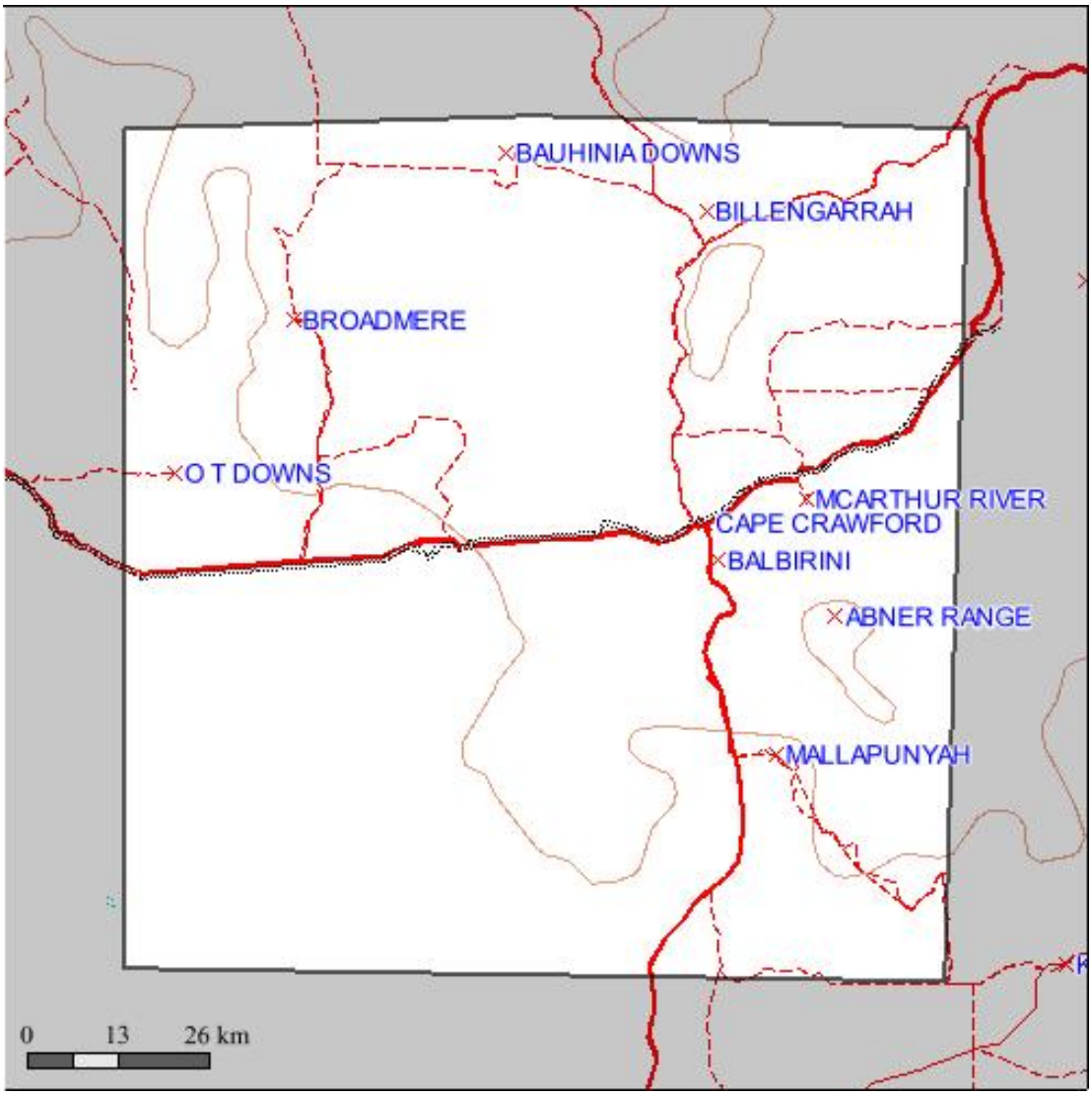
Appendix 5. EP187 Soil and Vegetation Report

EP187 Soil and Vegetation

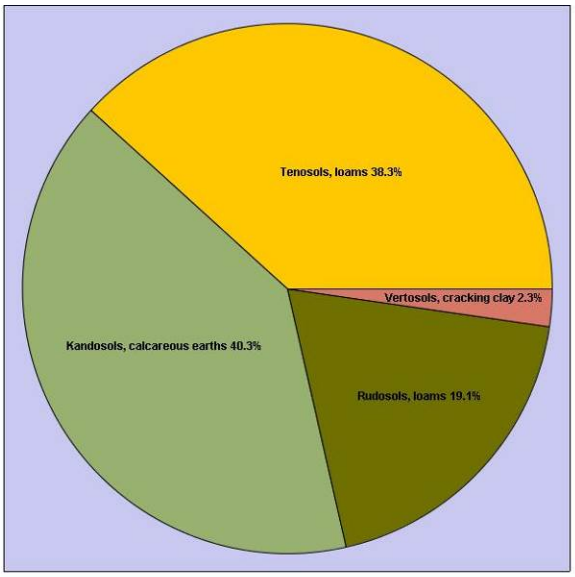
EP187 Soil and Vegetation Report encompasses an area of 13447.1 sq. km extending from 16 deg. 9.0 min to 17 deg. 15.0 min S and 134 deg. 59.0 min to 136 deg. 3.0 min E.

'EP187 Soil and Vegetation Report' is located in the Gulf Fall and Uplands, Sturt Plateau, bioregion(s).

Figure 1: Location of area over which the Soil and Vegetation report covers including the area of EP187



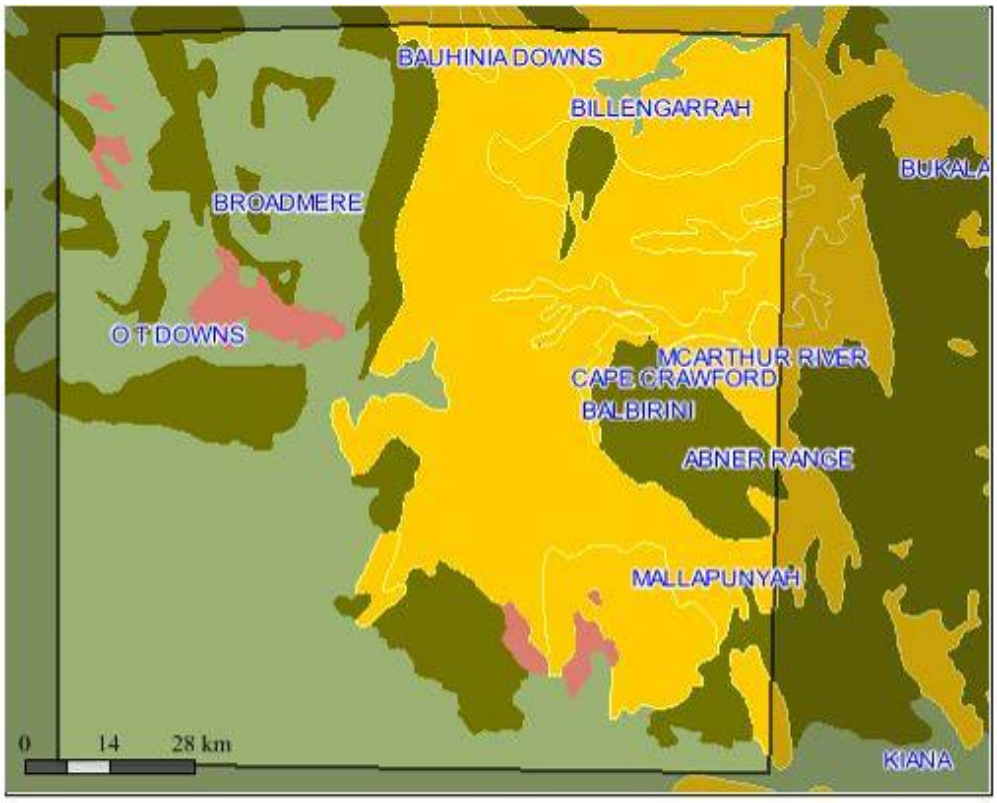
Soil Types



Area of soil types (Northcote Factual Key)

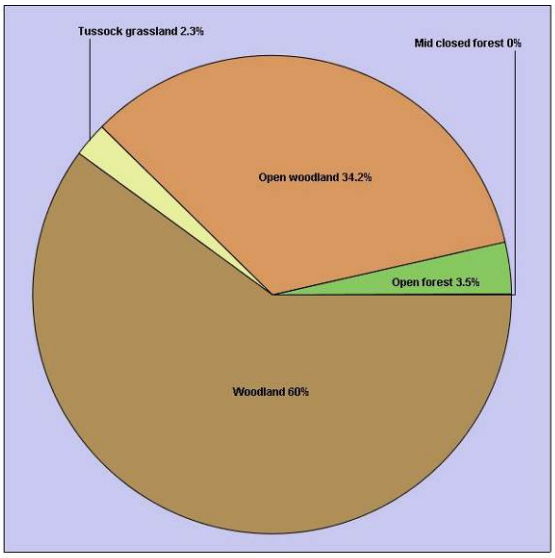
Category	Area sq. km	Area %
Kandosols, calcareous earths	5418.38	40.29
Tenosols, loams	5145.97	38.27
Rudosols, loams	2571.21	19.12
Vertosols, cracking clay	311.54	2.32

Soil Types



Soils 1:2M Layer is a copy of the NT portion (1:2,000,000 scale dataset) of the CSIRO Atlas of Australian Soils - K.H. Northcote et al. Data scale: 1:2,000,000 More details: Go to www.lrm.nt.gov.au/nrmapsnt/ and enter the ANZLIC identifier in the Spatial Data Search

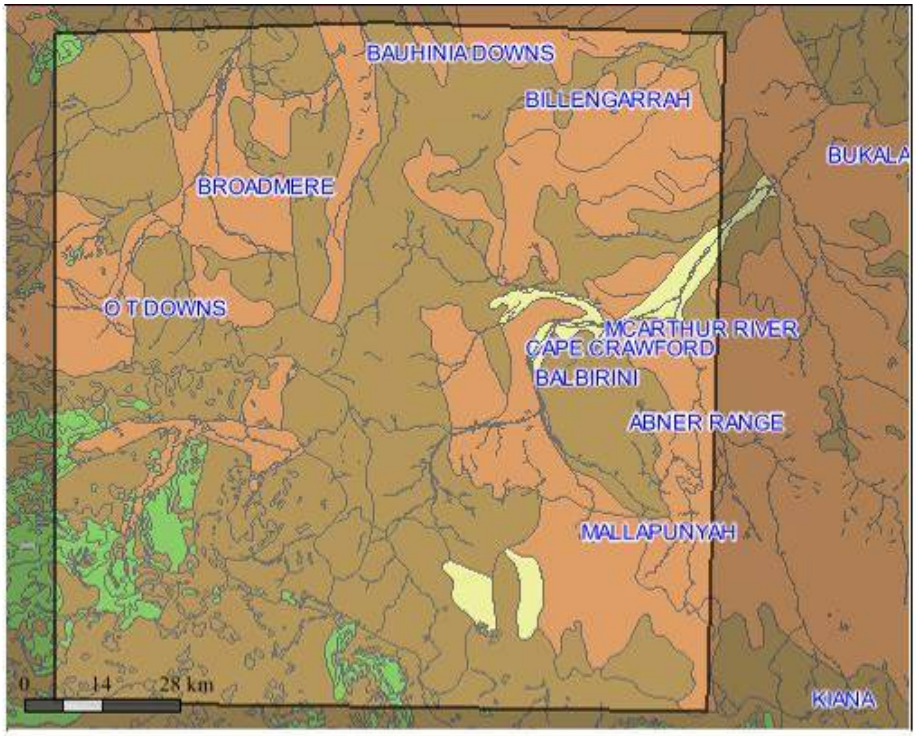
Vegetation Communities



Area of vegetation communities

Category	Area sq. km	Area %
Woodland	8071.03	60.02
Open woodland	4593.01	34.16
Open forest	469.04	3.49
Tussock grassland	313.27	2.33
Mid closed forest	.75	.01

Vegetation Communities



The NVIS 2005 Layer is compiled from a number of vegetation and land unit survey maps that were recoded and re-attributed for the National Vegetation Information System (NVIS) Data scale variable depending on location. More details: Go to www.lrm.nt.gov.au/nrmapsnt/.

Soils and vegetation graphs and tables refer to area of soils and vegetation only. Fire graphs and tables refer to entire selected area including sea if present. Calculations are derived from map images or vector data and should be taken as a guide only. Accuracy cannot be guaranteed. For small areas, figures should be rounded to the nearest whole number.

Appendix 6. EP187 Threatened Species Booklet

EP187 Threatened Species Booklet
Best Practice Management for Threatened Species

Introduction

The plant and animal species found in an area can show whether the country is healthy for wildlife and being managed sustainably. We place particular value on some of these species because they are rare or threatened in the Northern Territory, Australia or worldwide, or are only found in a small area. Some are important because their presence shows that the special needs they share with a wide range of other species are being met.

Most land in the Northern Territory is already managed in a way that supports native wildlife, by avoiding clearing and loss of ground cover, and with few weeds or pest animals. However, a few native species can only flourish under active management, and these deserve special attention. Species that have become threatened usually depend on one or more elements of the environment that are sensitive to change. Restoring these elements will benefit a wide range of wildlife, and if the threatened species is present, their number should also recover. A diverse range of habitats is needed to support the diversity of wildlife. So a range of different management actions will be required to preserve all species.

Many of the management actions recommended can also improve the sustainability of pastoral production. Most adjustments needed are also considered best practice for pasture management, such as using moderate stocking rates and periodically spelling country, managing weeds and controlling feral animals. These practices help ensure healthy and productive native pastures. In very few cases, pastoral production is incompatible with the preservation of a particular threatened species. Management for these species necessitates removing stock and other grazing animals from key areas of habitat. Some species persist only under the lightest grazing pressure. This booklet explains how to manage grazing pressure across the property to make sure there is habitat for these species even on a production property.

Wetland and marine species face particular challenges associated with overfishing and pollution.

Using this booklet

This booklet provides information to help land and sea managers protect threatened species and their habitats in the Northern Territory. Using the recommended management actions will also benefit a wider range of native plants and animals.

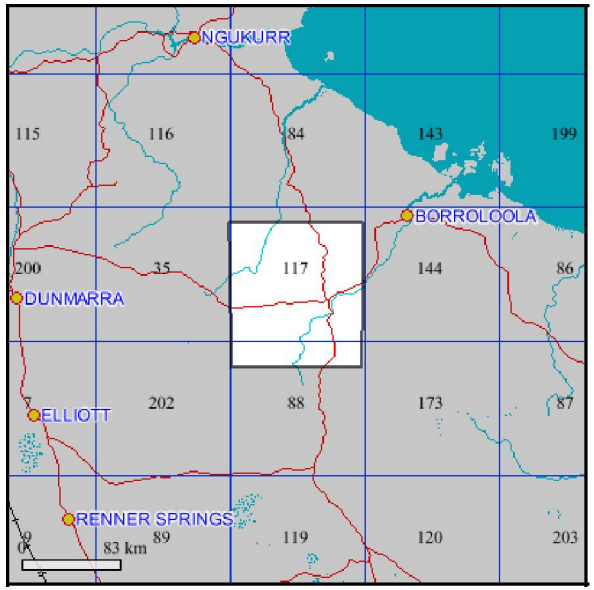
Databases kept by the Northern Territory Department of Land Resource Management (DLRM) were used to identify all threatened plants, frogs, reptiles, birds and mammals recorded in the selected area, or within grid cells that overlap the area. This list reflects the range of threatened species likely to be found in the selected area, and the range of habitats and management challenges faced. However, future booklets for this area may include additional species as databases are updated several times a year.

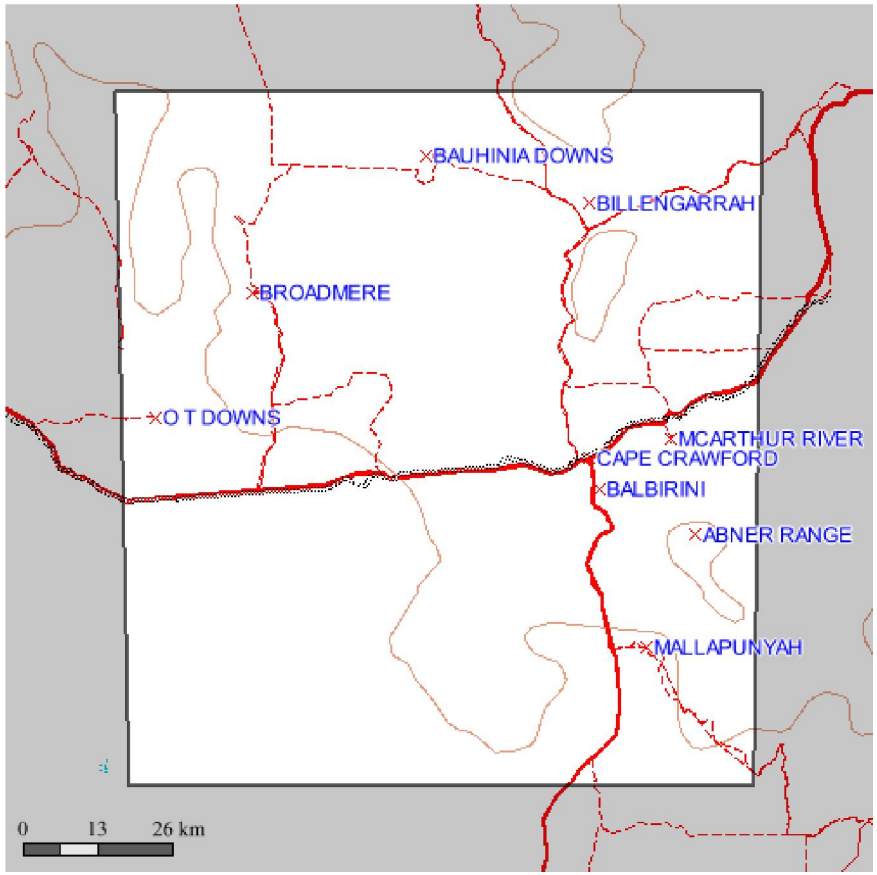
A more detailed explanation of the recommended management actions, listed at the bottom of each species page, can be found in the management guidelines for weeds, pest animals and practices for wildlife conservation booklets.

The information in this booklet is an extracted from Crowley, G.M. (ed.) (2008) Management guidelines for the threatened species of the Northern Territory. Version 1. Tropical Savannas CRC, Darwin.

Additional threatened species booklets and information on natural resource values for this and other areas in the Northern Territory can be found on the Infonet (www.infonet.org.au), North Australian Land Manager (www.landmanager.org.au) and DLRM (http://www.lrm.nt.gov.au/biodiversity-conservation/animals/home) web pages.

Figure 1: location of area 'EP187 Threatened Species Booklet' report. Species listed in the following tables were recorded from all the grid cells that overlap the marked area.





Threatened species recorded from the area

Group	Common Name	Scientific Name	NT Status	National Status	ID	Info
Reptiles	Mertens` Water Monitor	*Varanus mertensi*	VU	.	347295	Info
Reptiles	Mitchell`s Water Monitor	*Varanus mitchelli*	VU	.	.	
Reptiles	Yellow-spotted Monitor	*Varanus panoptes*	VU	.	347307	Info
Reptiles	Plains Death Adder	*Acanthophis hawkei*	VU	VU	.	
Birds	Partridge Pigeon	*Geophaps smithii*	VU	VU	176384	Info
Birds	Masked Owl (northern mainland)	*Tyto novaehollandiae kimberli*	VU	VU	594609	Info
Birds	Carpentarian Grasswren	*Amytornis dorotheae*	EN	.	176933	Info
Birds	Painted Honeyeater	*Grantiella picta*	VU	.	.	
Birds	Gouldian Finch	*Erythrura gouldiae*	VU	EN	176370	Info
Mammals	Carpentarian Antechinus	*Pseudantechinus mimulus*	.	VU	176925	Info
Mammals	Common Brushtail Possum (southern)	*Trichosurus vulpecula vulpecula*	EN	.	177146	Info
Mammals	Golden-backed Tree-rat	*Mesembriomys macrurus*	CR (PE)	VU	176951	Info

CR = critically endangered EN = Endangered VU= Vulnerable

Best Practice Management Strategies for threatened species

Mertens' Water Monitor - Northern Territory Status: Vulnerable
Varanus mertensi
Best practice management for Mertens' Water Monitor in the Northern Territory

- **Control pest animals**
- **Protect wetland habitat**

What it looks like: Mertens' Water Monitor is a medium to large goanna that can grow up to 1 metre long. It has a dark brown to black back and numerous small dark-edged cream or yellow spots. Its sideways flattened tail is well-adapted for swimming.

Where it lives: Mertens' Water Monitor has a broad geographic range, occupying coastal and inland waters across the far north of Australia from the Kimberley to the west side of Cape York Peninsula. In the Northern Territory it has been recorded across most of the Top End and the Gulf Region. This semi-aquatic monitor is seldom seen far from water.

Importance as an indicator: This species is found where it has access to abundant food - fish, frogs, carrion, insects and small terrestrial vertebrates - and can lay its eggs in a burrow in the ground, away from predators. It appears to have declined with the spread of cane toads, being particularly sensitive to the toad's toxin. Recovery of Mertens' Water Monitor populations from areas where it has declined indicates local adaptation to this exotic pest.

Look after Mertens' Water Monitor by controlling introduced pests. When travelling, check your load to make sure you do not transport toads to islands or beyond their current range. Prevent degradation of riparian areas to maintain habitat for prey.
Text compiled by Gabriel Crowley & Mark Ziembicki

based on Woinarski J.C.Z., Pavey C., Kerrigan R., Cowie I. & Ward S. 2007. *Lost from our Landscape - Threatened Species of the Northern Territory*. Northern Territory Department of Natural Resources, Environment and the Arts, Darwin

Yellow-spotted Monitor *Varanus panoptes*
Northern Territory Status: Vulnerable
Best practice management for Yellow-spotted Monitor in the Northern Territory

- **Control pest animals**
- **Protect wetland habitat**

What it looks like: The Yellow-spotted, or Floodplain, Monitor is a large goanna that can grow nearly one and a half metres long. It is dark brown with alternating bands of large black spots and smaller dark-edged yellow spots. It is paler underneath, often with lines of spots. Its tail is flattened sideways, narrow bands at the end making it appear lighter.

Where it lives: Yellow-spotted Monitors are found across the far north of Australia from the Kimberley to Cape York Peninsula, and southward through most of Queensland. In the Northern Territory, they have been recorded across most of the Top End and in the Gulf Region.

Importance as an indicator: This species is a generalist, occupying a variety of habitats, including coastal beaches, floodplains, grasslands and woodlands. It is found where there is an abundance of food, particularly small terrestrial vertebrates and insects, and it can lay its eggs in a burrow away from predators. It appears to have declined with the spread of cane toads, being particularly sensitive to the toad's toxin. Recovery of Yellow- spotted Monitor populations in some areas where it has declined indicates local adaptation to this exotic pest.

Look after Yellow-spotted Monitor by controlling introduced pests. When travelling, check your load to make sure you do not transport toads to islands or beyond their current range

Partridge Pigeon Geophaps smithii
Northern Territory Status: Vulnerable
Australian Status: Vulnerable
Best practice management for Partridge Pigeon in the Northern Territory

- **Do not clear habitat**
- **Maintain ground layer**
- **Control pest animals**
- **Control weeds**
- **Graze moderately & wet season spell**
- **Exclude stock from at least part of pastoral properties**
- **Manage fire**

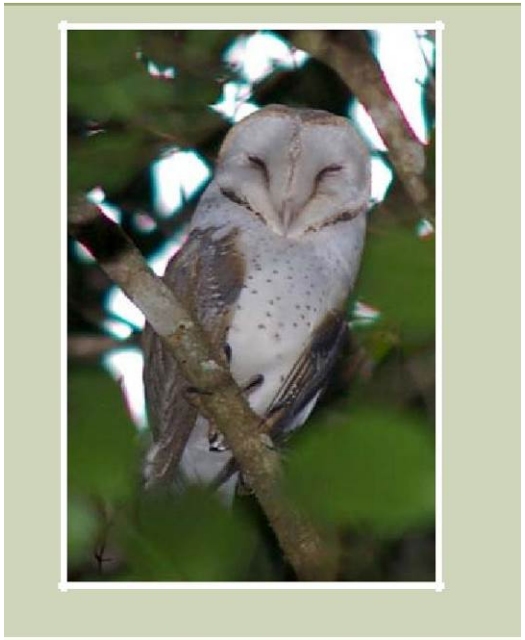
What it looks like: The Partridge Pigeon is a ground- dwelling bird, more likely to scurry away than fly when disturbed, but will sometimes eject from the grass in alarm. Mostly greyish-brown, they sport distinctive red eye rings and white cheeks, and their wings have both an iridescent green speculum and a white shoulder.

Where it lives: Partridge Pigeons live in lowland eucalypt open forests and woodlands that have grassy understoreys, where they nest on the ground, and feed on fallen seeds between grass tussocks. Partridge Pigeons are found across the Top End of the Northern Territory and in Western Australia's Kimberley region. Unfortunately, they have declined or disappeared from much of the lower rainfall parts of this range over the last century, and are rarely seen in eastern and central Arnhem Land.

Importance as an indicator: These ground-dwelling birds are highly susceptible to predation by feral cats. Reliant on ground cover for protection and food production, they are also affected by overgrazing or fires that reduce ground cover or seed availability. These largely sedentary birds therefore only persist where fire, grazing and feral animals are well managed.

Look after Partridge Pigeon by developing a patchy fire mosaic that prevents too large an area being burnt in any one year. Control introduced grasses, such as Gamba Grass and Mission Grass, which overcrowd the species' feeding habitat and increase the risk of extensive, high intensity fires. Control feral animals, particularly cats. On grazing lands, make sure some areas are free from stock at all times, and allow significant areas of grasses to seed in the early wet.

Masked Owl (northern mainland) Tyto novaehollandiae kimberli



Northern Territory Status: Vulnerable
Australian Status: Vulnerable
Best practice management for Masked Owl (northern mainland) in the Northern Territory

▪ **Do not clear habitat** ▪ **Maintain tree cover** ▪ **Maintain tree hollows** ▪ **Control pest animals** ▪ **Control weeds** ▪ **Manage fire**

What it looks like: The Masked Owl is a large, speckled bird with big, dark eyes and a narrow pointed bill set in a pale, flat, heart-shaped face. Its chest and belly are white or chestnut, and its back and wings are dark grey to brown. It has strong-clawed, well-feathered legs. It calls with a combination of loud shrieks and whistles.

Where it lives: Masked Owls are forest birds. They roost by day in large trees or tree hollows, and emerge on dusk to feed on small mammals and birds. They prefer to feed on the edges of open areas. The northern mainland subspecies of Masked Owl is found at scattered, sub-coastal locations between Broome and Townsville. Reporting rates of this subspecies have declined over the last decade or more.

Importance as an indicator: Persistence of the northern mainland subspecies of Masked Owl indicates a diverse environment, with both intact forests and nearby open areas, as well as an abundance of suitable prey. The owl is less common than its apparently suitable habitat, suggesting prey abundance and or competition with other large owls may be a limiting factor.

Look after Masked Owl (northern mainland) by not clearing the forests in which it is found. Good fire management is also required to maintain both the open habitat in which owls prefer to hunt, and healthy populations of small animals on which it feeds. Establish a network of recently burnt and long unburnt areas to reduce the incidence of extensive late dry season fires. Light fires early in the dry season when moist fuels minimise the risk of fires spreading beyond target areas. Fires lit after the first wet season storms can be used to maintain a grassy understorey. Control weeds (such as Mission Grass), which both increase fire hazard and obstruct feeding. Control cats which are likely to compete with the Masked Owl for prey.

Carpentarian Grasswren ***Amytornis dorotheae***
Northern Territory Status: Endangered

Best practice management for Carpentarian Grasswren in the Northern Territory

- **Maintain ground layer**
- **Manage fire**

What it looks like: The Carpentarian Grasswren is a small, perky bird that struts around, prominently displaying its white throat. Its rich rusty-brown plumage is streaked with white feathers. Despite a bold demeanour, it may choose not to reveal itself, even in its regular haunts.

Where it lives: Carpentarian Grasswrens are found only in association with sandstone outcrops south and west of the Gulf of Carpentaria. There, they rely on mature stands of spinifex, in which to nest and forage for seeds and insects. In the Northern Territory, they have been recorded between Nathan River Station and the Queensland border, but are becoming increasingly scarce. They appear more secure on the other side of the border.

Importance as an indicator: Persistence of Carpentarian Grasswrens indicates a well-managed landscape, where fires are patchy and infrequent. Extensive fires may lead to local extinctions.

Look after Carpentarian Grasswren and the spinifex country in which it lives by managing fire. Introduce a fire regime that ensures a mosaic of habitats burnt at different times, with most areas being burnt no more frequently than every three to five years. To do this, small areas may need to be burnt most years in order to create breaks in the fuel load. Fires should only be lit under mild weather conditions, when extent of burn can be controlled

Gouldian Finch *Erythrura gouldiae*
Northern Territory Status: Vulnerable
Australian Status: Endangered

Best practice management for Gouldian Finch in the Northern Territory
Maintain tree cover and tree Hollows, Maintain ground layer, control pest animals Graze moderately, manage fire, Do not collect from the wild, manage disease, and control weeds.

What it looks like: Male Gouldian Finches are small multi-coloured birds with black or red heads, violet breasts and yellow bellies. Females and young birds are mostly green. Gouldian Finches are found in small or large flocks, often with other finch species, and can most easily be seen at waterholes.

Where it lives: Gouldian Finches nest in hollows in white gum trees, and feed on grass seeds, relying on perennial grasses through the early wet season and annual grasses the rest of the year. Though once more common throughout northern Australia, they are now known to nest at a small number of isolated locations, mostly within the Northern Territory and the Kimberley. The largest known population is in the Yinberrie Hills.

Importance as an indicator: Presence of nesting Gouldian Finches indicates a healthy environment with an abundance of seeding perennial grasses that have not been overgrazed by cattle or feral pigs, and where fire has been well-managed. Airsac mite has been identified as a threat to this species in the past, but its current incidence is unknown. Trapping is also a threat that was more significant before the species was well established in captivity.

Look after Gouldian Finch by patch-burning in the early dry season to break up the fuel load and prevent extensive late dry season fires. Storm-burn small patches of perennial grasses to extend the availability of high quality seeds in the wet season. Control weeds, such as Gamba Grass, that modify feeding habitat and increase fire hazard. Control pigs, which dig up and destroy clumps of Cockatoo Grass, and spell areas of perennial grasses periodically in the wet season to allow them to recover vigour and produce seed.

Carpentarian Antechinus *Pseudantechinus mimulus*
Australian Status: Vulnerable

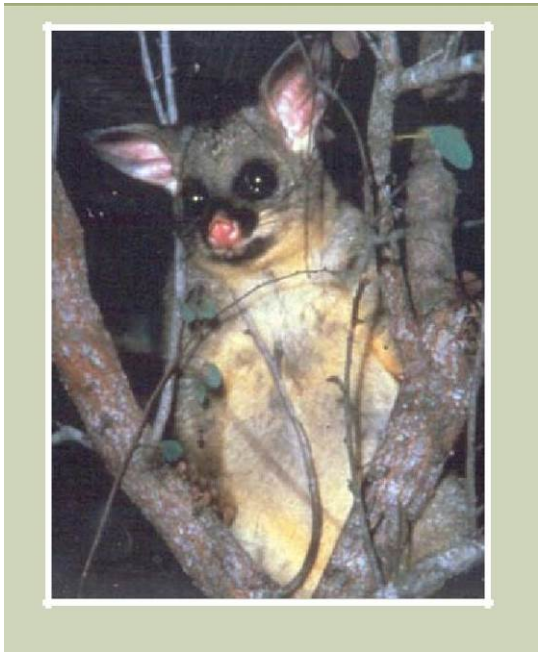
Best practice management for Carpentarian Antechinus in the Northern Territory
Control pest animals ▪ Manage fire

What it looks like: The Carpentarian Antechinus is a grey, mouse-sized marsupial, with reddish-brown fur behind its large ears. Healthy animals have swollen, carrot-shaped tails that are reddish brown in colour.

Where it lives: The earliest record of this species came from the relatively featureless Mitchell Grass Downs bioregion. All recent records have come from the islands in the south-west of the Gulf of Carpentaria, in the Northern Territory, or the Mount Isa region of Queensland. Currently, animals are found only amongst rocks and boulders, but do not appear to be particular about vegetation types. They eat insects and other small animals.

Importance as an indicator: The early decline of this species, along with its subsequent contraction to rocky refuges, is mirrored in the decline of a number of northern marsupials, notably the Northern Quoll. Although the cause for this contraction is unclear, rocky areas appear to offer some refuge from intense fires, cane toads and predation by cats.

Look after Carpentarian Antechinus by reducing the frequency and extent of late dry season fires. Introduce a fire regime that ensures a mosaic of habitats burnt at different times, with most areas being burnt no more frequently than every three to five years. To do this, small areas may need to be burnt most years in order to create breaks in the fuel load. Fires should only be lit under mild weather conditions, when the extent of burn can be controlled. Control cats, which are a significant threat to native mammals across the continent. When travelling, check your load to make sure you do not transport toads to islands or beyond their current range.



Common Brushtail Possum (southern) *Trichosurus vulpecula vulpecula*
Northern Territory Status: Endangered

Best practice management for Common Brushtail Possum (southern) in the Northern Territory
Maintain tree cover ▪ Maintain tree hollows ▪ Maintain shrub layer ▪ Control pest animals ▪ Graze moderately & periodically spell country from grazing ▪ Manage fire

What it looks like: The Common Brushtail possum is a medium-sized mammal with fur that is grey or brown, and usually paler on the breast and belly. It has large, prominent ears that have a narrowly round tip and are longer than they are broad. Its bushy tail is slightly shorter than its combined head and body length.

Where it lives: This subspecies is the rarer of the two subspecies of Common Brushtail Possum occurring in the Northern Territory, and is found only in isolated populations in the south. It shelters in caves, rock holes, tree hollows, and the tops of dense trees, and sometimes even in house roofs, and feeds on flowers, fruits and leaves of a wide range of non-eucalypt species.

Importance as an indicator: The decline of Common Brushtail Possum in central Australia indicates a deterioration of environmental conditions for this species. It has been attributed severe drought being exacerbated by a suite of potential threatening processes such as grazing by cattle and rabbits, hunting, altered fire regimes, and predation.

Look after Common Brushtail Possum (southern) by implementing sustainable grazing practices on pastoral leases. Manage for high habitat diversity by establishing a patchwork of recently burnt and long unburnt areas, leaving patches of fruiting and flowering shrubs. Limit fire intensity to protect tree hollows and prevent canopy scorch, which diminishes flower and fruit production. Control rabbits and other grazing animals that compete for food, and cats and foxes, which have had a significant impact on native arid land mammals. Make sure any possum harvesting is undertaken according to a sustainable management plan

Golden-backed Tree-rat ***Mesembriomys macrurus***

Northern Territory Status: Critically Endangered
Australian Status: Vulnerable

Best practice management for Golden-backed Tree-rat in the Northern Territory
Maintain tree cover ▪ Maintain tree hollows ▪ Control pest animals ▪ Control weeds
Exclude stock from at least part of pastoral properties, Manage fire, Investigate/manage disease

What it looks like: Golden-backed Tree-rat is a large rodent with white feet and a long, slightly brush-tipped tail that is white for more than half its length. Its grey fur is highlighted along the back in a broad chestnut-gold sweep.

Where it lives: Golden-backed Tree-rats spend most of their lives in trees, roosting in hollows or the tops of Screw Palms (Pandanus) by day, and emerge to feed on seeds, fruits, leaves and insects by night. In the Northern Territory, there are only three widely-spaced collections from across the Top End. These records were all from riverine vegetation, and there have been no official reports since 1969. Aboriginal knowledge of the species also indicates that it occupied most of the Arnhem Land plateau. Golden-backed Tree-rats are also found in the Kimberley region of western Australia, where they are more common.

Importance as an indicator: The apparent disappearance of the Golden-backed Tree-rat is a sign of poor habitat conditions. Predation by cats may be the most significant threat. However, loss of hollows, extensive wildfires (in part fuelled by introduced grasses), grazing of food plants by livestock and feral animals, and disease may have all contributed to the species' demise.

Look after Golden-backed Tree-rat by controlling cats using effective methods, such as shooting or baiting. Reinstate a patchy fire regime that provides areas of recently burnt and long unburnt vegetation in close proximity. Minimise fire intensity to avoid damaging tree hollows. Control weeds, particularly those that increase fire intensity. Excluding grazing animals, both domestic and feral, from even small parts of pastoral properties will create habitat for a range of native species, and allow recolonization by Golden-backed Tree-rats if these are still present in the area. This species is so rarely recorded that any sightings should be reported to the Department of Natural Resources, Environment, the Arts and Sport in Darwin.

Appendix 7. Guidelines for the Management of Weeds

EP187 Weeds Booklet
This booklet is an extract from Crowley, G.M. and Hill, B. M. (eds.) (2011) Management Practices for Wildlife Conservation in the Northern Territory. Version 1. Charles Darwin University, Darwin. Generated from www.infonet.org.au.

Introduction

The plant and animal species found in an area can show whether the country is healthy for wildlife and being managed sustainably. We place particular value on some of these species because they are rare or threatened in the Northern Territory, Australia or worldwide, or are only found in a small area. Some are important because their presence shows that the special needs they share with a wide range of other species are being met.

Most land in the Northern Territory is already managed in a way that supports native wildlife, by avoiding clearing and loss of ground cover, and with few weeds or pest animals. However, a few native species can only flourish under active management, and these deserve special attention. Species that have become threatened usually depend on one or more elements of the environment that are sensitive to change. Restoring these elements will benefit a wide range of wildlife, and if the threatened species is present, their number should also recover. A diverse range of habitats is needed to support the diversity of wildlife. So a range of different management actions will be required to preserve all species.

Many of the management actions recommended can also improve the sustainability of pastoral production. Most adjustments needed are also considered best practice for pasture management, such as using moderate stocking rates and periodically spelling country, managing weeds and controlling feral animals. These practices help ensure healthy and productive native pastures. In very few cases, pastoral production is incompatible with the preservation of a particular threatened species. Management for these species necessitates removing stock and other grazing animals from key areas of habitat. Some species persist only under the lightest grazing pressure. This booklet explains how to manage grazing pressure across the property to make sure there is habitat for these species even on a production property.

Wetland and marine species face particular challenges associated with overfishing and pollution.

Using this booklet

This booklet provides information to help land managers control weeds in the Northern Territory. Profiles of individual species outlining impacts on wildlife and production; and recommended methods of control have been produced for the weed species considered a higher priority for control across the whole Territory. Over time more profiles will be developed as priority species for control change and localised weed profiles are developed.
Databases kept by the Northern Territory Department of Land Resource Management (DLRM) were used to identify the weed species recorded in the selected area, or within grid cells that overlap the area. This list reflects the range of weeds likely to be found in the selected area. However, future booklets for this area may include additional species as databases are updated several times a year.

Additional threatened species booklets and information on natural resource values for this and other areas in the Northern Territory can be found on the Infonet (www.infonet.org.au), North Australian Land Manager (www.landmanager.org.au) and DLRM (http://www.lrm.nt.gov.au/weeds) web pages.

Figure 1: Weeds identified in the tables within this booklet were recorded from the grid cells identified in the grid cells shown in the Location Map that overlap EP187.

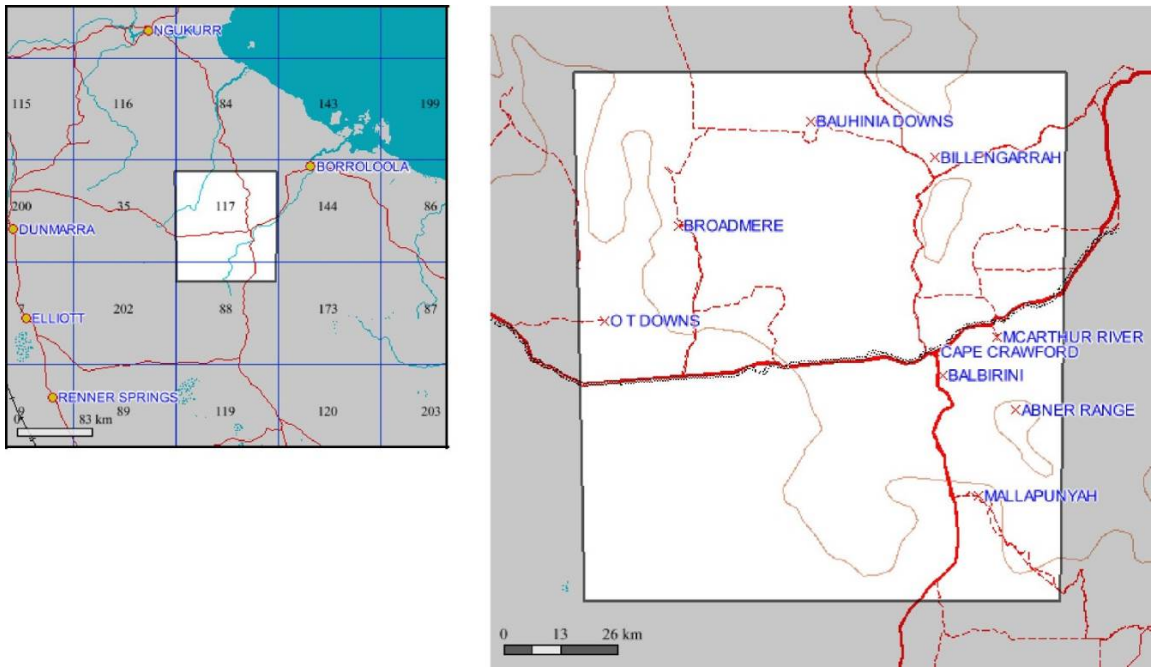


Table 1: Weeds of the Northern Territory that may be present within EP187

Common Name	Scientific Name	NT Status	National Status	Other Status	ID	Info
Starburr	*Acanthospermum hispidum*	B C	.	.	288214	
Khaki Weed	*Alternanthera pungens*	B C	.	*DEU NSW SA*	288354	
Buffel Grass	*Cenchrus ciliaris*	.	.	*MP Gr G&M DEU*	643089	Info
Mossman River Grass	*Cenchrus echinatus*	B C	.	*NSW*	289124	
Mission Grass (annual)	*Cenchrus pedicellatus*	.	.	*WeedsAus*	291864	Info
Camel Melon	*Citrullus lanatus*	.	.	*G&M*	289444	
Ulcardo Melon	*Cucumis melo*	.	.	*DEU*	289734	
Awnless Barnyard Grass	*Echinochloa colona*	.	.	*DEU*	290114	
Gomphrena Weed	*Gomphrena celosioides*	.	.	*DEU*	290514	
Indian Heliotrope	*Heliotropium indicum*	.	.	*DEU*	290584	

Common Name	Scientific Name	NT	National	Other Status	ID	Info
Hyptis	*Hyptis suaveolens*	B C	.	*G&M*	290734	
Siratro	*Macroptilium atropurpureum*	.	.	*C&E*	291024	
Spiked Malvastrum	*Malvastrum americanum*	.	.	*DEU*	291084	
Parkinsonia	*Parkinsonia aculeata*	B C	WONS	*MP K2 WA1 WA4 Q2 G&M CYP DEU NSW SA*	114160	
Mesquite	*Prosopis pallida*	A C	WONS	*K2 WA1 WA2 WA4 Q2 G&M NSW SA*	114045	Info
Bitter Broom	*Scoparia dulcis*	.	.	*DEU*	292424	
Spiny-head Sida	*Sida acuta*	B C	.	*WA1 G&M*	292584	
Flannel Weed	*Sida cordifolia*	B C	.	*WA1 G&M DEU*	292594	
Paddy`s Lucerne	*Sida rhombifolia*	B C	.	*MP G&M DEU*	292604	
Spiny Sida	*Sida spinosa*	.	.	*DEU*	292614	
Giant Parramatta Grass	*Sporobolus fertilis*	.	.	*Q2 G&M NSW*	292904	
Caribbean Stylo	*Stylosanthes hamata*	.	.	*DEU*	292974	
Townsville Lucerne	*Stylosanthes humilis*	.	.	*DEU*	292984	
Caltrop	*Tribulus terrestris*	B C	.	*CYP SA*	361555	
Sabi Grass	*Urochloa mosambicensis*	.	.	*DEU*	293294	
Sweet Acacia	*Vachellia farnesiana*	.	.	*DEU*	288164	
Prickly Acacia	*Vachellia nilotica*	A C	WONS	*MP K2 Q2 G&M DEU NSW*	288184	Info
Noogoora Burr	*Xanthium strumarium*	B C	.	*MP WA1 WA2 WA4 DEU NSW SA*	183498	Info

Where the "Info" column is blank no management guidelines have been created; usually because the species is not a significant threat to wildlife. For further information on species without management guidelines go to www.landmanager.org.au/view/index.aspx?id=#### where #### is the ID number from the table above for the species of interest.

Status:

A = to be eradicated

B = Growth and spread to be controlled

C=not to be introduced

WONS – Weed of National Significance

C&E = Csurhes S. & Edwards R. (1998) Potential Environmental weeds in Australia

CYP = draft Cape York Peninsula Pest Management Plan 2006-2011

DEU = Plants listed as environmental weeds by the Desert Uplands Strategic Land Resource Assessment

G&M = Crice AC, Martin TD. (2005). The management of Weeds and their impact on Biodiversity in the Rangelands

Gr = Groves et all. 2003. Weed Categories for natural and agricultural ecosystem management

K2 = High priority weeds posing threat in the Katherine NT region

MP = Northern Territory Parks & Conservation Materpolan

NSW – Declared Noxious weeds in NSW

Q2 = Class 2 weeds (eradicate

SA = Declared plant in south

WeedsAus = Listed as a

where possible, not to be introduced, kept or supplied) WA1 = WA Weed class P1 (movement prohibited)	Australia WA2= WA weed class P2 (aim to eradicate)	significant weed by Weeds Australia WA4 = WA weed class P4 (prevent spread)

Overview – Managing weeds for wildlife conservation

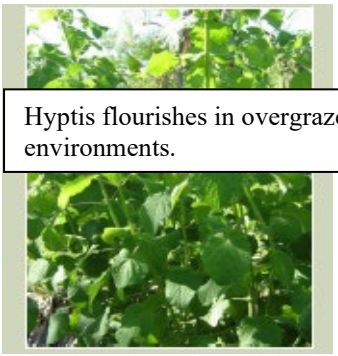
Introduction

Weeds are introduced plants that reproduce or even proliferate unaided. Most weeds are exotic, however native plants can also be considered weeds if introduced outside of their natural range. In many cases it is not for many years, or even decades after a plant's introduction that it is such only when they have already spread.

Environmental weeds are plants that represent a threat to the conservation values of natural ecosystems. Weeds can out-compete native plants for essential resources such as space, light, water and nutrients. As they invade native plant communities they cause a reduction in plant diversity with the loss of threatened species. This alteration of plant communities affects animals when plants they depend on for food and shelter are replaced. Species that are already threatened are particularly vulnerable to weed invasion. Weeds can change the structure of a habitat, making it unsuitable for threatened animals and native wildlife in general and dense thickets of weeds impede movement of wildlife.

Weeds can alter landscapes by choking rivers and smothering grasslands. They can also alter fire regimes, in most cases increasing the frequency and intensity of fires. This can lead to the death of plants and animals and destroy essential habitat features.

Weeds are encouraged by disturbance of the natural environment, increased nutrient levels and the absence of predators. In tropical savannas, disturbance of the natural environment includes floods, alteration of the natural fire regime, over-grazing, extensive tree-clearing and changes in water availability.



Hyptis flourishes in overgrazed environments.

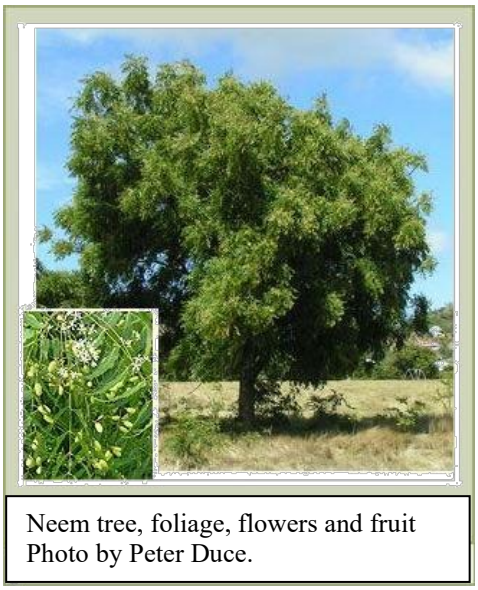
Weeds in the Northern Territory

The Northern Territory features some of the most extensive, unmodified natural landscapes in Australia. Of the rich flora of the northern savannas less than 10% is introduced (compared for example to 16 and 24% for New South Wales and Victoria respectively). Despite the comparatively good condition of northern savannas there are some significant weed issues. These include highly invasive introduced pasture grasses, aquatic weeds, prickle bushes and weeds of disturbed land. Environmental weeds in the Northern Territory are discussed briefly below by life form.

Trees

The Northern Territory has relatively few tree weeds, and none are currently deemed a direct problem for any threatened species. However, Athel Pine is a significant transformer weed, meaning it has the capacity to completely change the landscape. Athel Pine has spread through waterways in central Australia, where it interferes with stream flow and replaces River Red Gums. Neem is also a transformer weed which is rapidly dominating riparian zones in the Queensland Gulf and the East Kimberley regions. It is presently found only at scattered locations in the Northern Territory, but is a common environmental weed around Darwin. Neem has been cultivated for centuries for its medicinal and insecticidal properties. Its fruit are readily spread by birds. Both Athel Pine and Neem support a narrower range of wildlife than do the native trees they replace.

The enthusiasm for converting northern Australia into a carbon bank is likely to see increased pressure for more exotic tree plantations. It is probable that at least some of the trees introduced for this purpose will do well enough outside plantations to pose a threat to biodiversity. One of the favoured species for biofuel production, Physic Nut, is already a declared weed in Western Australia and the Northern Territory.



Neem tree, foliage, flowers and fruit
Photo by Peter Duce.

Exotic grasses

A handful of the hundreds of grasses that been introduced into Australia have become a serious problem for biodiversity. Most were chosen for being productive and nutritious for livestock and introduced with the intention of replacing native species. Few people would argue against the usefulness of exotic grasses within the confines of a grazed paddock. If introduced grasses were highly palatable at all stages of their life cycle, then they would be eaten down by livestock and not present a problem. However not all exotic grasses are palatable, or their palatability may fluctuate through their life cycle. So there are times when these grasses can grow out of control. Some problem grasses are not palatable at all - most of these came into the country accidentally or for use in gardens or erosion control.

Problematic introduced grasses also tend to be good breeders: Mission Grass produces prolific seeds; Gamba Grass has robust basal clumps that resprout after rain; Para Grass sends out long tillers that set down new roots in the mud; Buffel Grass has both a perennial root stock and abundant, wind- and animal-dispersed seed. All of these grasses are highly invasive. Due to their capacity to fuel extensive high-intensity fires that weaken and kill trees, these exotic, perennial grasses now constitute one of the most serious environmental issues facing Australia's tropical savannas.

Grader Grass is an introduced, unpalatable annual grass that has invaded savanna woodlands and croplands in high rainfall areas, especially in Queensland but also on properties in the Katherine and Darwin regions. It has the ability to smother native plants and should be controlled and not spread further.

Because of their reproductive properties, exotic grasses often escape into the wider environment where they threaten biodiversity values. These grasses also reduce the ability of pastoral properties to conserve wildlife.

Tall Gamba Grass forming dense stand to the exclusion of native ground flora.
Photo by John Westaway.

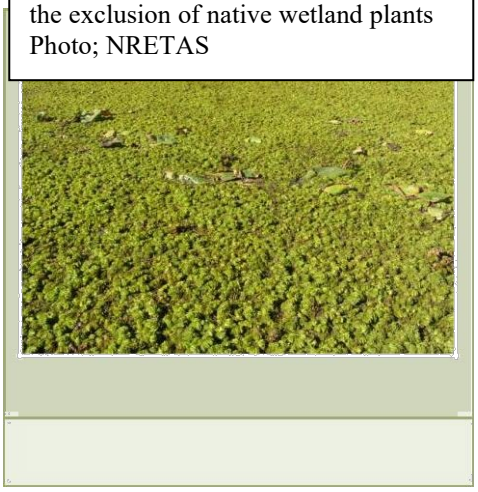
Prickle bushes

Another group of significant weeds in the Northern Territory is the thicket-forming prickle bushes. These include Mimosa and Prickly Acacia which are well established in threatened species habitat in the Top End. A number of other prickle bushes, including Mesquite and Parkinsonia, are also widespread and problematic but have not yet encroached on threatened species habitat. These bushes form dense thickets which out-compete native vegetation, use up valuable soil water and shade out native grass species. This results in a loss of ground cover and increased soil erosion.

Aquatic weeds

A number of aquatic plants have been introduced into Australian waterways, some of which have become invasive weeds. These weeds replace native aquatic plants and choke wetlands and waterways. This in turn prevents birds and other wildlife from using the habitat and reduces fish stocks by depleting oxygen levels in the water.

Examples include Alligator Weed, Water Hyacinth, Cabomba, Salvinia and the grasses Para Grass and Olive Hymenachne. They are aggressive invaders of waterv… regarded as Weeds of National Significance.



Salvinia forming dense aquatic mat to the exclusion of native wetland plants Photo; NRETAS

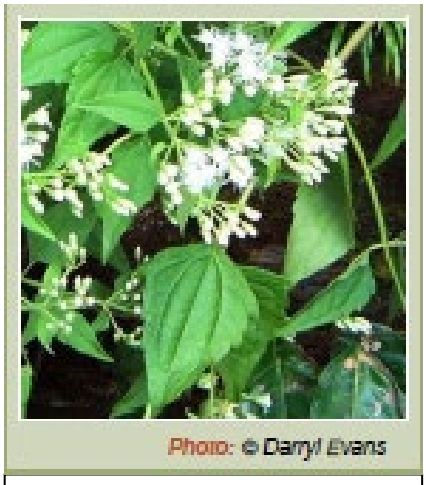
Shrubs and herbs

There are also a number of herbaceous shrubs and sub-shrubs that can transform large areas of habitat. Primary among these is Noogoora Burr which occurs along parts of the Victoria River. Others to watch out for are Sicklepod, Malachra and Lion'sTail, all of which have markedly expanded their distributions in northern Australia in recent decades.

This group includes a number of weeds, such as Hyptis, Rubber Bush, Snakeweed and Sida, which tend to be more of a problem in overgrazed or heavily disturbed areas. These weeds may be more an indicator than a cause of environmental degradation.

Also within this group are species on the Alert List for Environmental Weeds, a list of 28 non-native plants that threaten biodiversity and cause other environmental damage. These include Barleria, also known as Porcupine Flower, and Siam Weed.

Barleria is an erect, prickly shrub that can form dense thickets in open woodlands due to its persistent and invasive nature. It has been found around townships in the Northern Territory including Darwin, Berry Springs, Katherine, and Mataranka and in the Victoria River district. Siam Weed is another highly invasive plant. It is recognised as one of the world's worst and is currently present in a few small infestations in far north Queensland. Although only in the early stages of establishment, these weeds have the potential to seriously degrade Austral species will protect savannas and riverine habitat of northern Australia.



Siam weed is regarded as one of the world's worst weeds and is on the Alert List for Environmental Weeds.

Impacts on wildlife conservation

Wetlands and floodplains are particularly prone to weed invasion because of the regular disturbance caused by floodwaters, combined with the nutrients washed in from across the catchment. Weeds taking advantage of these conditions include a number of exotic grasses, prickly bushes, herbs, shrubs and

trees. Couch Grass, Buffel Grass, Para Grass, Prickly Mimosa, Prickly Acacia and Noogoora Burr are identified problems for one or more of the Northern Territory's threatened species found in these environments.

Buffel Grass outcompetes other understorey plants and increases fire hazard.

There are also a number of threatened species for which weeds are a potential threat (particularly in association with pest animal disturbance), but for which no single weed menace has been identified. Native ferns found along moist sheltered streams in the Top End are particularly at risk of such weed invasions, either through direct replacement or by resulting changes to fire regimes.

General weediness can also cause the deterioration of animal habitat and reduce the abundance of many small animals, including insects. Even where this decline is not significant enough to class the affected animals as threatened, both reduced prey abundance and reduced visibility of prey could have a flow-on effect to threatened predators. These predators include the Arnhem Leaf-nosed Bat, Bare-rumped Sheath-tailed Bat, Red Goshawk and Masked Owl. For this reason, it is important to control any significant weed infestation, whether or not it has a known impact on a threatened species.

Control

Much effort can be invested in weed control but there are few demonstrated cases of a problem weed being entirely eliminated. So it is extremely important that a strategic approach is adopted to maximise the effectiveness of control efforts.

The first thing to do is to work with your neighbours and the wider community so that weeds removed from your country are not simply replaced through seeds washed or blown in from nearby infestations. Working collaboratively may provide access to financial support or weed management teams. So find out if there is a local Landcare or ranger group.

Concentrate your efforts on priority weeds, based on severity of impact and ease of control. To benefit threatened species, focus your control on the weeds listed in this document. Remove weeds at the edge of any infestation, especially any outliers. Don't wait until the problem is too big to handle. Control of new weeds before they become a problem is particularly important.

There is no point in clearing up a patch of weeds once or twice, only to let it regrow. So get to know your weeds, where they grow, when they produce seed, and when they are most susceptible to pesticides. Plan a follow-up control program, regularly returning to check areas that you may think are now weed free.

Constantly assess what you have achieved. Map weeds or record their locations so that you know if they are expanding or contracting. Even recording areas that are currently weed-free can be useful down the track. Record the control measures that you have used, so that you can assess which is the most effective. If one approach is not working, try another.

The best control is prevention. So when choosing plants for your garden or for pasture forage, check whether they have weedy characteristics. They may already be on a list of prohibited or undesirable species. But there are signs to watch out for once you plant them. Check whether they spread uncontrollably from seeds or suckers. Do the birds feed on and spread the seeds? If it is hard to control in your own garden, especially if you are not pampering them with ample water or fertilizers, it is even more likely to become a weed in the bush.

Look out for plants coming up outside your property, focus on areas that are downstream and

downwind. Even if they aren't in your area yet, familiarize yourself with Rubber Vine and Pond Apple which have had serious impacts on native riparian vegetation in Queensland. Look out for strange plants that could become a menace, and send them to the Northern Territory Herbarium for identification. Avoid use of hay from weed-infested areas.

Don't bring in trouble accidentally. Practising good weed hygiene is essential to avoid the spread of weeds, for example aquatic weeds such as Salvinia, Cabomba and Olive Hymenachne that are potentially devastating to wetlands. So when retrieving boats and trailers from waterways, take care that weed plants and seeds are not transported to other catchments. Wash-down your vehicle if you think you have been driving through areas where it might have collected weed seeds. When controlling weeds, ensure pesticides do not enter the waterway and avoid disturbing the river banks.

Rubber Vine - a weed for Northern Territorians to watch out for.
Photo: *© Gabriel Crowlev*

For further information: Read

Anon 2008. *Do you have a Garden Thug in your Garden or Aquarium?* Greening Australia, Northern Territory Government, Nursery and Garden Industry of the Northern Territory and Weedbusters Australia.
http://lrm.nt.gov.au/__data/assets/pdf_file/0019/13195/TopEndGardenThug.pdf

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Dixon, I., Douglas, M., Dowe, J. & Burrows, D. 2006. Tropical Rapid Appraisal of Riparian Condition: Version 1 (for use in tropical savannas). River Management Technical Guideline No. 7. Canberra, Land & Water Australia.http://lwa.gov.au/files/products/river-landscapes/pr061169/pr061169.pdf

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Grice AC, Martin TG. 2006. *Weed Management: Managing for biodiversity in the rangelands - Summary Report*. Department of Environment and Heritage, Commonwealth of Australia, Canberra, Australia.
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www.weeds.org.au/nt2.htm

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http://www.nynrm.sa.gov.au/Portals/7/pdf/LandAndSoil/49.pdf
Weeds Branch, Northern Territory Department of Land Resource Management 2007. *Guidelines for weed data collection in the Northern Territory*. Northern Territory Government, Australia. http://lrm.nt.gov.au/__data/assets/pdf_file/0003/13485/weed_data_collection_guidelines_jan2011.pdf
Woinarski J.C.Z., Mackey, B, Nix, H. & Traill, B. 2007. *The Nature of Northern Australia: Natural values, ecological processes and future prospects*. ANU E-Press, Canberra. epress.anu.edu.au/nature_na/pdf_instructions.html

Visit

Weeds Australia: National Portal www.weeds.org.au
Northern Territory Department of Land Resource Management http://www.lrm.nt.gov.au/home
Weeds of National Significance Web Site http://www.weeds.org.au/WoNS/

Contact

Weeds Branch, Department of Land Resource Management
Contacts - Weeds Branch - Land Resource Management

Buffel Grass

Introduction

Buffel Grass was originally brought to Australia from the Middle East as padding for camel saddles. It was later found to be a highly desirable pasture grass on sandy soils, enabling an increased stocking rate in arid and semi-arid environments. Once its pastoral values were recognised, new varieties were actively introduced. Its value to the pastoral industry is only slightly tempered by high oxalate levels that can cause problems for poorly nourished sheep and horses, and reduced pasture productivity in the face of continual and heavy grazing. Buffel Grass is also highly prized for its soil stabilization value, helping to reduce dust problems in and around central Australian communities. Buffel Grass spreads by seed and establishes well in areas disturbed by fire, flood or heavy grazing. It is currently distributed over much of northern Australia.

Impacts

Buffel Grass highlights conflicting interests between wildlife conservation and pastoral production. It not only dominates extensive areas of grazed rangeland, but dominates the understorey in many rivers. It also grows in swamps and on the edge of claypans. Its rate of spread into high conservation value reserves is increasing.

Once established, Buffel Grass causes major changes to the fire regime through increased fuel biomass, connectivity and flame height. Badly infested sites experience hotter and more frequent fires and this in turn leads to complete kill or stem kill of woody canopy dominants. *Acacia* dominated habitat (e.g. mulga

Buffel Grass (*Cenchrus ciliaris*) forms dense stands to the exclusion of all other grasses. Not listed as a weed in the NT, Qld or WA. Profile written by Gabriel Crowley and Catherine Nano and edited by Zoe Disher. Photo by Gabriel Crowley.

and witchetty bush) and river flood plain woodland habitats are becoming increasingly impacted by this grass-fire-feedback. Heightened fire occurrence is also of particular concern to various threatened species such Tjilpi Wattle and *Olearia macdonnellensis*, which are killed by fire and must re-establish from seed banks. Even species that can resprout after fire, including the Cabbage Palm, MacDonnell Range Cycad, Undoolya Wattle and Minnie Daisy can be strongly disadvantaged by fire that is too hot or poorly timed.

Buffel Grass also negatively affects native plant species through resource competition. This is likely to be especially intense at early life stages. This may prevent recruitment of native plants if germination and establishment requirements can no longer be met. For example, shading by Buffel Grass may prevent the germination of plants that have a light requirement. *Olearia macdonnellensis* may be particularly at risk because its seeds probably require light for germination. Competition for space, light or resources may be the reason for lack of recruitment in some Central Australian Cabbage Palm populations that are badly infested with Buffel Grass.

Replacement of such a wide range of plant forms and species considerably reduces habitat diversity, and has been shown to reduce diversity of invertebrate species. Loss of invertebrates leads to a decline in invertebrate-consumers while the change in ground layer vegetation leads to a reduction in animals dependent on those plants. Slater's Egernia feed in patches of bare ground between sparse grasses or shrubs. They can no longer do so if these spaces are filled by dense clumps of Buffel Grass.

Classification

Despite its impact and its identification as a significant environmental weed in the Northern Territory Parks and Conservation Masterplan, Buffel Grass is not formally classed as a weed at the State/Territory or National Level. Advice provided by the Northern Territory Government on the establishment of Buffel Grass pasture includes preventing its spread to roadsides or adjacent properties.

Control

Buffel Grass seeds are readily spread in vehicles and other machinery. It is important to wash down such vehicles before moving to uninfested areas. Grazing is considered by some as the most effective means of fuel reduction over large areas; some discrete sites of high conservation value are being restored and maintained through spraying and mechanical removal techniques. Control can be achieved using the herbicide glyphosate when Buffel Grass is actively growing. Where this species grows across extensive areas, herbicide use is unlikely to be an option, but it may be appropriate for controlling small outbreaks, or on the edges of advancement. Care is required for pesticide use in or near wetland environments. Spread into new areas is most likely to occur after summer rainfall, so vigilance at this time is needed.

For further information: Read

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http://www.desertknowledgecrc.com.au/resource/DKCRC-Report-17-Buffel-Grass.pdf
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www.environment.gov.au/biodiversity/threatened/publications/r-gloria-medii.html
+ Nano, C., Nano, T., Gibson, J. & Pavey, C. 2008. Recovery action implementation for threatened arid acacias: distribution, monitoring and Indigenous ecological knowledge of *A. peuce*, *A. undoolyana*, *A. pickardii* and *A. latzii*. Department of Natural Resources, Environment, the Arts and Sport, Alice Springs.

NT Government Weed Resources: http://lrm.nt.gov.au/weeds/find/buffel_grass
NSW Government Weed Management Guide: Buffel Grass:
http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0005/347153/awmg_buffel-grass.pdf
South Australian Arid Lands NRM Board, Pest Management Factsheet: Buffel Grass
http://www.saalnrm.sa.gov.au/Portals/8/Publications_Resources/Factsheets_Brochures/SAAL-Buffel_Grass-FS-122009.pdf
Weed Management Guide: Buffel Grass *Cenchrus ciliaris*
http://www.southwestnrm.org.au/sites/default/files/uploads/ihub/weeds-crc-2008-buffel-grass-cenchrus-ciliaris.pdf

Annual Mission Grass

Introduction

Annual Mission Grass was introduced to Australia in the 1940s from Africa. It was introduced as a pasture plant however after its release, it was found to have little value as cattle forage. Annual Mission Grass is now well-established across northern Australia, notably as a weed of sorghum crops. It also colonises areas of bare ground from which other weed species have been eliminated.

Annual Mission Grass is a very vigorous annual grass that can grow to 3 m tall although it is commonly much smaller. It produces a large number of light fluffy seeds, which are readily dispersed by both wind and water. Plants germinate with the first wet season rains , produce seed in the early dry season and most plants die by the middle of the year.

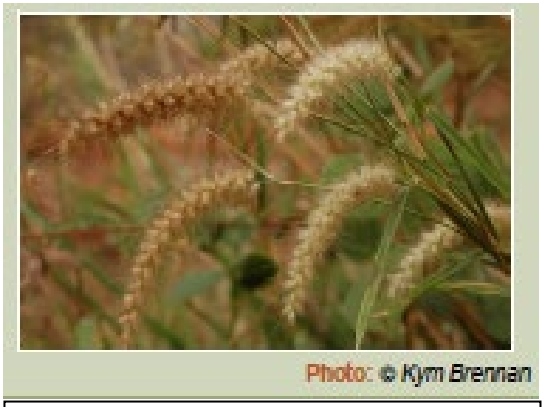
Impacts

Annual Mission Grass colonises disturbed sites, frequently establishing in areas from which Perennial Mission Grass has been controlled. High-biomass, introduced grasses such as Mission Grasses can out-compete native grasses and herbs thus reducing local plant biodiversity.

The main impact of Annual Mission Grass is through high fuel loads, which are substantially greater than those of most native grasses. The increased fuel loads promote intense, late, dry season fires which have a detrimental effect on trees and other native flora and fauna. The ability of Annual Mission Grass to dominate the understorey and promote more intense fires means that it has the potential to gradually transform eucalypt woodlands into grasslands. It is therefore considered a threat to a range of species and environments across the Top End.

Classification

Annual Mission Grass is listed as a high impact weed in the Field Guide to Assessing and a Key Threatening Australia's Process to biodiversity in Northern Australia. It is not a declared weed at the State/Territory or National level.



Annual Mission Grass (*Pennisetum pedicellatum*) seeds. Not listed as a weed nationally or in the NT, Qld or WA.
Profile written by Gabriel Crowley

Control

The seed-bank of Annual Mission Grass is concentrated on the soil surface and germinates each wet season, so control can be achieved by preventing plants from seeding. Ploughing and other soil disturbance should be avoided however, as the seed becomes buried in the soil and may remain viable for several years.

Annual Mission Grass can be effectively controlled in small patches by removing by hand and

spraying with herbicide. While no herbicide is specifically recommended for use on Annual Mission Grass, glyphosate is effective at controlling most grasses. Burning plants before they seed may also eliminate the plant from an area. However, burning or spraying after the plants have set seed is not recommended as seed germination can be prolific in the bare areas created by weed control.

Control efforts should concentrate on containing existing large areas and eradicating small outlying infestations. Adopt good hygiene practices to prevent weeds spreading beyond infested areas, such as keeping machinery free of weed seeds and not using seeding grasses in hay.

For further information: Read

Dixon, I., Douglas, M., Dowe, J. & Burrows, D. 2006. Tropical Rapid Appraisal of Riparian Condition: Version 1 (for use in tropical savannas). River Management Technical Guideline No. 7. Canberra, Land & Water Australia. http://lwa.gov.au/files/products/river-landscapes/pr061169/pr061169.pdf

Weeds Australia Weed Identification Guide: Annual Mission Grass *Cenchrus polystgachios* http://www.weeds.org.au/cgi-bin/weedident.cgi?tpl=plant.tpl&state=&s=&ibra=all&card=G07

Northern Territory Government Weed Information: Annual Mission Grass

http://lrm.nt.gov.au/__data/assets/pdf_file/0018/19143/mission_grass_annual_id_sept11.pdf

Key Threatening Process Information: Invasion of northern Australia by Gamba Grass and other introduced grasses http://www.environment.gov.au/biodiversity/threatened/ktp/pubs/northern-australia-introduced-grasses.pdf

JCU North Queensland Weed Identification Guide: *Cenchrus pedicellatus* http://www-public.jcu.edu.au/discovernature/weeds/JCUDEV_015517

Mott J.J. 1980. Germination and establishment of the weeds *Sida acuta* and *Pennisetum pedicellatum* in the Northern Territory. *Australian Journal of Experimental Agriculture and Animal Husbandry* 20, 463-469.

Setterfield S.A., Douglas M., Barratt J. and Brooks K. 2006. Reproductive phenology of *Pennisetum pedicellatum.* Pp 272-274 in *Fifteenth Australian Weeds Conference: Managing weeds in a changing climate, Adelaide, 24-28 September 2006* edited by C. Preston, J.H. Watts and N.D. Crossman. Weed Management Society of South Australia Inc., Adelaide. http://www.caws.org.au/awc/2006/awc200612721.pdf

Mesquite

Introduction

Mesquite is native to North and South America. It was introduced into Australia as an ornamental,

shade and shelter plant with stock feed potential. Mesquite was originally introduced into the Northern Territory and Queensland in the 19th century.

Four different Mesquite (*Prosopis*) species are now weeds in Australia – with Mesquite (*Prosopis pallida*) the most significant invader. They are well adapted to hot climates and can grow in many different soil and moisture environments. In northern Australia, Mesquite prefers semi-arid to arid rangeland areas. The worst infestations in the Northern Territory occur on the Barkly Tablelands. Mesquite seeds are spread chiefly by cattle but also by feral pigs, both of which consume the seed pods. Seed can also be spread by vehicles and by rivers or floodwaters.

Mesquite has sharp prickles along its stems and can be confused with other prickle bushes in the Northern Territory such as Mimosa Bush, Parkinsonia, Prickly Acacia and Mimosa. All of these plants are seed pod forming, woody weeds of northern Australia.

Mesquite (*Prosopis pallida*). Weed of National Significance. NT Class A Weed (to be eradicated) and NT Class C Weed (not to be introduced) WA Weed Class P1 (movement prohibited), P2 (to be eradicated), & P4 (spread of plant to be prevented) Qld Class 2 Weed (eradicate where possible, not to be introduced, kept or supplied). Photos by NRETAS.

Impacts

Mesquite is a highly invasive species. Under favourable conditions, it forms dense thickets which displace native vegetation leading to increased erosion, loss of productivity and, ultimately, desertification.

Environmental impacts of Mesquite include land degradation and loss of grassland habitat, resulting in a decline in biodiversity. Extensive woody weed thickening (including Mesquite) has the potential to substantially alter the structure and ecological function of native grassland communities. Plants and animals of the Barkly Tablelands may be particularly susceptible given the expanding extent of Mesquite in this region. This may impact on iconic grassland species such as Australian Bustard, which prefers open areas for its mating display leeks, and Flock Bronzewing Pigeon, which feeds on native grass seed in open areas.

Mesquite infestations also provide safe refuges for feral animals such as pigs and cats. These in turn exert substantial detrimental impacts on biodiversity such as the uprooting of native vegetation and the predation of native wildlife. If the extent and density of Mesquite on the Barkly Tablelands increases considerably, wildlife of conservation significance may suffer from higher rates of predation by cats. Species at risk include ground nesting birds such as Australian Bustard and Flock Bronzewing Pigeon. Also at risk are reptile species which are specialists of the cracking-clay grassland plains such as Speckled Brown Snake, Ingram's Brown Snake and the large Spencer's Goanna.

Australian Bustard may suffer reduced reproductive success in areas where Mesquite provides a haven for predators

Classification

Mesquite is listed as a Weed of National Significance. It is a declared weed in the Northern Territory and comes under an approved statutory Weed Management Plan, Weed Management Plans establish the management requirements that MUST be undertaken by land managers with respect to declared weeds. It is regarded as one of the worst weeds in Australia because of its invasiveness, potential for spread, and economic and environmental impacts.

Control

The current approach to managing Mesquite involves integrating control methods with grazing management systems. Manual control of Mesquite can be achieved through hand grubbing light infestations and small, dense areas. Blade ploughing or other mechanical control is also used with the aim of removing as much of the root system as possible.

Mesquite is one of several prickle bushes that can degrade savanna condition

Fire is a highly effective technique for controlling Mesquite, with the best results from burning late in the dry season when the plants are stressed. At this time fires are intense and mature trees, seedlings and surface seeds all susceptible. Fire can help control scattered Mesquite if grazing allows adequate grass fuel to build up. Management of grazing after fire is also important as a good grass cover helps to suppress seedling regrowth.

Follow up burning or chemical or mechanical treatment may be required. Burning every three to five years may be necessary for control of Mesquite Triclopyr and picloram are both registered chemicals for the treatment of Mesquite in the Northern Territory. The recommended period for chemical use in the Northern Territory is from March to May. Foliar spray is recommended for seedlings and basal bark or cut stump application for mature plants and infestations.

For further information: Read

Northern Territory Government Weed Profile: Mesquite
http://www.lrm.nt.gov.au/weeds/find/mesquite

Field Guide to Assessing Australia's Tropical Riparian Zones

http://savanna.cdu.edu.au/environorth/teach/downloads/Field-Guide-Assess-Tropical-Riparian-Zones-07_low-res.pdf

Management Guide for Mesquite *Prosopis glandulosa*.
http://www.environment.gov.au/biodiversity/invasive/weeds/publications/guidelines/wons/pubs/prosopis.pdf

Weeds of National Significance (WoNS): www.weeds.org.au/natsig.htm

CSIRO Research Page: Controlling Mesquite in Northern Australia
http://www.csiro.au/en/Outcomes/Safeguarding-Australia/Mesquite-Control.aspx

Prickly Acacia (*Acacia nilotica*) replaces wildlife habitat and reduces pasture productivity

Australian Weeds Strategy, A national strategy for weed management in Australia.
www.weeds.org.au/docs/Australian_Weeds_Strategy.pdf

Prickly Acacia

Introduction

Prickly Acacia is one of several prickle bushes established as weeds in northern Australia. It was

introduced to Australia for its forage, shade and ornamental value around the start of the 20th century. Originating from the Indo-African region, its native habitat is grasslands along drainage lines. A major weed in Queensland, Prickly Acacia is found at scattered locations across the Northern Territory and is well-established in the Barkly region. Prickly Acacia seeds are spread in cattle dung and by floodwaters. It has the potential to invade grassland habitat throughout all but the far south and far north of the Territory.

Qld Class 1 Weed (not to be introduced) & Class 2 Weed (eradicate where possible, not to be introduced, kept or supplied).

Impacts

Because of its present scattered distribution, Prickly Acacia does not actively threaten any species in the Northern Territory. However it is a fast growing species and if left unchecked, it could destroy the habitat of many grassland species. Species living along drainage lines are particularly at risk. These include the Gulf Snapping-Turtle in the north and the Greater Bilby in the south.

Prickly Acacia is having a detrimental impact on biodiversity in currently affected areas. Studies conducted in the Mitchell Grass Downs found notable changes in the presence and abundance of bird and reptile species in areas invaded by Prickly Acacia. Vegetation structure was significantly altered in areas of infestation, characterised by the loss of grass cover and the development of a dense Prickly Acacia shrub layer and increased areas of bare ground. Several lizard species found in nearby undisturbed habitat that rely on ground cover were absent from areas infested with Prickly Acacia, including *Ctenotus agrestis.* This species is only found in the Mitchell Grass Downs. Several birds were also lost from areas of infestation, including Australian Bustard.

Prickly Acacia also affects pastoral values as it forms thickets that restrict movement of stock. Despite being palatable and sought out by grazing camels, Prickly Acacia can halve carrying capacity of pastures.

Classification

Prickly Acacia is listed as a Weed of National Significance. It is a declared weed in the Northern Territory and comes under an approved statutory Weed Management Plan. Weed Management Plans establish the management requirements that MUST be undertaken by land managers with respect to declared weeds. It is also a declared weed in Western Australia and Queensland.

Control

Recommended control actions include chaining large infestations and chain-sawing individual trees; applying herbicide to basal bark or cut stumps; burning where there is sufficient fuel; and initially excluding stock to prevent the spread of seed, then grazing carpets of seedlings. A range of herbicides has been found to be useful in its control, including fluroxypyr and triclopyr as a basal bark spray or cut stump application and hexazinone as a soil application.

Biological control has been attempted, with six insect species having been released so far. The impacts of these insects have not been significant and research is continuing to identify further biological control agents.

For further information: Read

Northern Territory Government Weed Profile: Prickly Acacia

http://www.lrm.nt.gov.au/weeds/find/prickly_acacia

Queensland Government Pest Plan Profile: Prickly Acacia

http://www.daff.qld.gov.au/4790_7342.htm

Western Australian Government Declared Plant Information: Prickly Acacia

http://www.agric.wa.gov.au/dps/version02/01_plantview.asp?page=1&contentID=79&

Weeds of National Significance Weed Management Guide: Prickly Acacia *Acacia nilotica*

http://www.environment.gov.au/biodiversity/invasive/weeds/publicatios/guidelines/wons/a-nilotica.html

Weeds Australia Prickly Acacia Best Practice Manual

http://www.weeds.org.au/WoNS/pricklyacacia/index.html

Noogoora Burr

Introduction

Noogoora Burr is an herbaceous daisy bush from Central America. It was accidentally introduced to Australia in the late 19th century, probably as contamination in cotton seed. It is found in all eastern mainland states, in the Kimberley region of Western Australia, in the Victoria River District and around Alice Springs. Although its potential distribution has not been determined, its current wide extent suggests that it could colonise most waterways in the Northern Territory.

The bristly fruits of Noogoora Burr are dispersed on animal fur and on clothing. Seed may remain dormant but viable for over a decade. Their ability to spread in floodwater has enabled the weed to establish along stream channels. Noogoora Burr also colonises disturbed ground.

Noogoora Burr needs full sunlight and an adequate moisture supply. It flourishes on rich soils, including black soil and alluvium, but can persist almost anywhere its sunlight and moisture requirements are met. It is toxic to livestock.

Noogoora Burr (*Xanthium occidentale*) takes over the vegetation along streams.
NT Class B Weed (growth & spread to be controlled) & NT Class C Weed (not to be introduced)
WA Weed Class P1 (movement prohibited), WA Weed Class P2 (aim to eradicate) & WA Weed Class P4 (prevent spread.
Profile written by Gabriel Crowley and edited by Zoe Disher

Impacts

Noogoora Burr forms dense thickets which exclude the majority of understorey plants. Due to the spread along water courses, wetland plant biodiversity is threatened by Noogoora Burr infestation. Noogoora Burr replaces the Cane Grass in which Purple-crowned Fairy-wrens nest. Fairy-wrens will feed in Noogoora Burr while its lush greenery provides shelter, but they avoid it once it shrivels and turns brown. If Noogoora Burr continues to spread, this weed could also affect a wider range of threatened species.

Noogoora Burr also has an impact on pastoral productivity. Due to its rapid growth rate and extensive root system, it competes with edible pasture species. If its seedlings are eaten, they are poisonous to most stock, and its fruits contaminate wool in sheep growing areas, increasing processing costs. Dense stands can also restrict stock access to watering points.

Classification

Noogoora Burr is a declared weed in the Northern Territory and Western Australia. It is recognised

as a significant environmental weed in the Northern Territory Parks and Conservation Masterplan and is listed as a high impact weed in the Field Guide to Assessing Australia's Tropical Riparian Zones.

Control

Control practices recommended for Noogoora Burr include hand-hoeing to remove isolated plants; grazing of plants that are between seedling stage and flowering; and spraying young, actively growing plants. A number of chemicals are registered for control in the Northern Territory including 2,4-D, MCPA, metsulfuron-methyl, fluroxypyr, glyphosate, picloram and triclopyr. The recommended application of these chemicals is as a foliar spray.

In Western Australia, Noogoora Burr is one of the few weeds where quarantine restrictions have been used in an attempt to limit its spread. In the Kimberly, all pastoral leases from Fitzroy Crossing to the river mouth are quarantined in an attempt to prevent the spread of the weed.

Biological control has had mixed results. Until recently, insects released have had little effect on the species. A Puccinia rust reduced populations in eastern Australia, but has had little impact in the Northern Territory or Western Australia. However, Noogoora Burr is now reappearing in some of the northern Queensland rivers from which it has previously been largely eliminated by the rust. Investigations are underway into new strains of this rust that are adapted to northern climatic conditions.

For further information: Read

Northern Territory Government Weed Identification Guide: Noogoora Burr
http://www.lrm.nt.gov.au/weeds/find/noogoora
Queensland Government Pest Plant Guide: Noogoora Burr
http://www.daff.qld.gov.au/4790_7329.htm
Western Australian Government Declared Plants Guide: Noogoora Burr
http://www.daff.qld.gov.au/4790_7329.htm
Duguid A., Barnetson J., Clifford B., Pavey C., Albrecht D., Risler J. and McNellie M. 2002. Wetlands in the arid Northern Territory. A report to Environment Australia on the inventory and significance of wetlands in the arid NT. Parks and Wildlife Commission of the Northern Territory. Alice Springs.
http://lrm.nt.gov.au/herbarium/nature/aridwetlands
Weeds in Australia web page: Noogoora Burr *Xanthium strumarium*
http://www.environment.gov.au/cgi-bin/biodiversity/invasive/weeds/weeddetails.pl?taxon_id=6119
CSIRO Research Project: Management of Noogoora burr
http://www.csiro.au/en/Outcomes/Safeguarding-Australia/Noogoora-burr.aspx

Appendix 8. EP187 Guidelines for the Management of Pest Animals

Managing Pest Animals for Wildlife Conservation

Introduction

The plant and animal species found in an area can show whether the country is healthy for wildlife and being managed sustainably. We place particular value on some of these species because they are rare or threatened in the Northern Territory, Australia or worldwide, or are only found in a small area. Some are important because their presence shows that the special needs they share with a wide range of other species are being met.

Most land in the Northern Territory is already managed in a way that supports native wildlife, by avoiding clearing and loss of ground cover, and with few weeds or pest animals. However, a few native species can only flourish under active management, and these deserve special attention. Species that have become threatened usually depend on one or more elements of the environment that are sensitive to change. Restoring these elements will benefit a wide range of wildlife, and if the threatened species is present, their number should also recover. A diverse range of habitats is needed to support the diversity of wildlife. So a range of different management actions will be required to preserve all species.

Many of the management actions recommended can also improve the sustainability of pastoral production. Most adjustments needed are also considered best practice for pasture management, such as using moderate stocking rates and periodically spelling country, managing weeds and controlling feral animals. These practices help ensure healthy and productive native pastures. In very few cases, pastoral production is incompatible with the preservation of a particular threatened species. Management for these species necessitates removing stock and other grazing animals from key areas of habitat. Some species persist only under the lightest grazing pressure. This booklet explains how to manage grazing pressure across the property to make sure there is habitat for these species even on a production property.

Wetland and marine species face particular challenges associated with overfishing and pollution.

Using this booklet

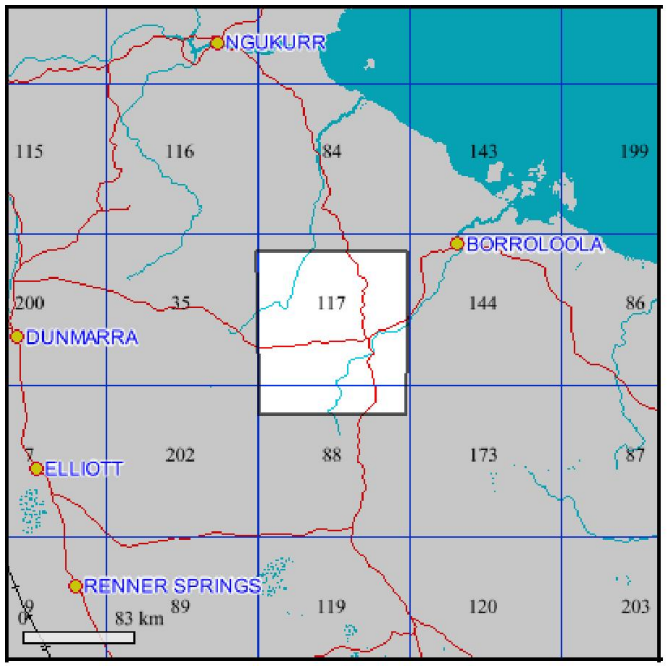
This booklet provides information to help land managers control pest animals in the Northern Territory. Profiles of introduced species outlining their impacts on wildlife and production; and recommended methods of control are presented. Native animals that are considered pests in some situations are included in the pest list as species with pest potential. Profiles have not been developed for these species as a permit is required for their control and need to be considered on a case by case basis. Introduced animals in the list with small and highly localised distributions have also not had profiles developed.

Databases kept by the Northern Territory Department of Land Resource Management (DLRM) were used to identify the pest animal species recorded within the bioregions that overlap the selected area. This list reflects the range of pest animals likely to be found in the selected area. If a species seems unusual for your selected area check the bioregional boundary from which the list was created as it may cover a larger area than you selected and include different habitats. Future booklets for this area may include additional species as databases are updated several times a year and new species may be recorded.

Additional threatened species booklets and information on natural resource values for this and other areas in the Northern Territory can be found on the Infonet (www.infonet.org.au), North Australian Land Manager (www.landmanager.org.au) and DLRM (http://www.lrm.nt.gov.au/biodiversity-conservation/animals/feral) web pages.

This booklet is an extract from Crowley, G.M. and Hill, B. M. (eds.) (2011) Management Practices for Wildlife Conservation in the Northern Territory. Version 1. Charles Darwin University, Darwin. Generated from www.infonet.org.au

Figure 1: Location of area of report is shown. Species listed in the following tables were recorded from all the grid cells that overlap the marked area.



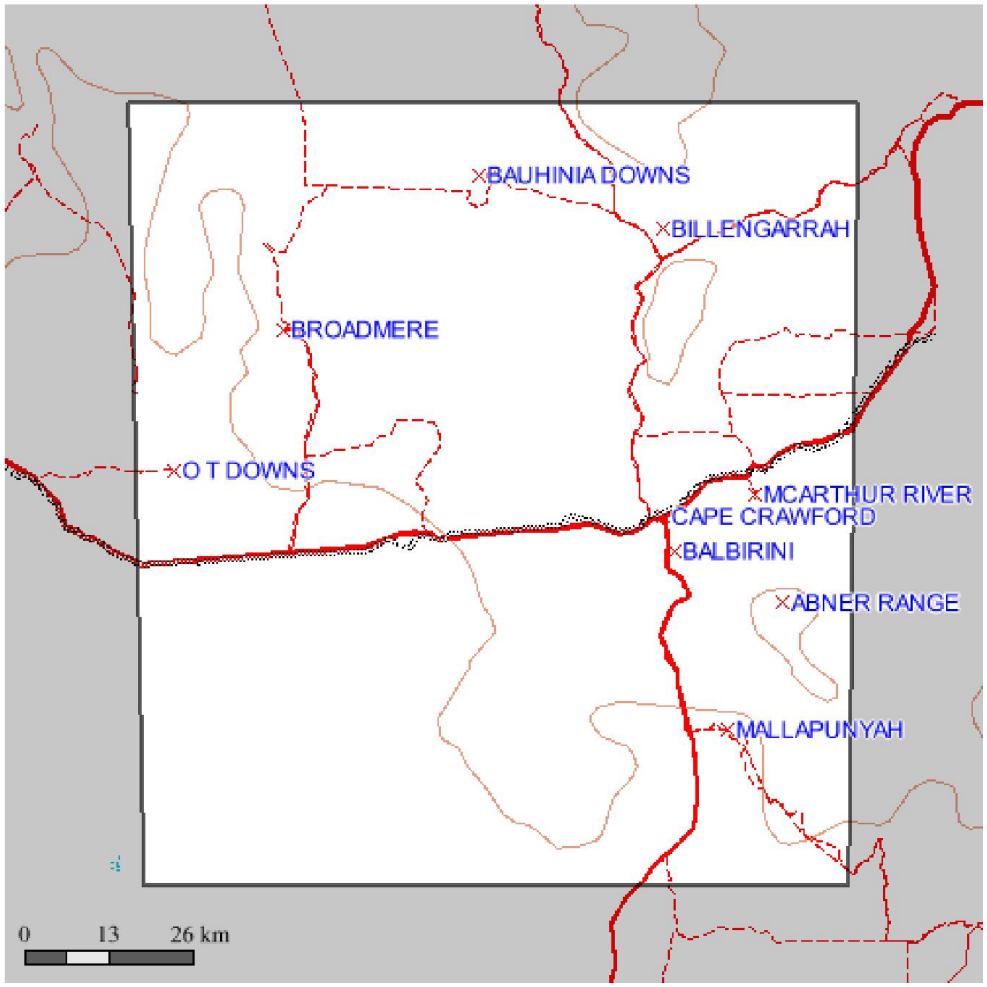


Table 1: Pest animals of the EP187 Pest Booklet in the Northern Territory

Group	Common Name	Scientific Name	NT Status	National Status	ID	Info
Frogs	Cane Toad	*Rhinella marina*	P	.	183252	Info
Reptiles	Asian House Gecko	*Hemidactylus frenatus*	P	.	188964	
Birds	Rock Dove	*Columba livia*	P	.	183336	
Birds	Red-tailed Black-cockatoo	*Calyptorhynchus banksii Macrorhynchus*	N	.	223765	
Birds	Sulphur-Crested Cockatoo	*Cacatua galerita*	N	.	223772	
Birds	House Sparrow	*Passer domesticus*	P	.	183322	
Mammals	Agile Wallaby	*Macropus agilis*	N	.	223786	
Mammals	Dingo / Wild dog	*Canis lupus*	N	.	183280	Info
Mammals	Cat	*Felis catus*	P	.	183259	Info
Mammals	Donkey	*Equus asinus*	P	.	183287	Info
Mammals	Horse	*Equus caballus*	P	.	183315	Info
Mammals	Cattle	*Bos Taurus*	P	.	183266	Info

Where the “Info” column is blank no management guidelines have been created.
*

P = Prohibited species
N = Native species with pest potential

For further information on species without management guidelines go to www.landmanager.org.au/view/index.aspx?id=#### where #### is the ID number from the table above for the species of interest.

Introduction

Another class of pest that threaten native wildlife are predators, the most problematic of these being cats and foxes. They are certainly implicated in the extinction of several small and medium-sized mammals. Wild Dogs may be a problem in some situations, such as on islands. However, Dingoes have been shown to regulate the populations of smaller predators and goats, and so can be a benefit to threatened species. Cane Toads pose a different kind of threat, by poisoning the animals that eat them.

Feral animals often congregate in the most sensitive habitats, such as rainforests and wetlands, seeking the same resources, such as shade and water, as the threatened species they displace.
www.landmanager.org.au/view/index2.aspx>id=646630.
Photo Crawley G. 2011

Impacts

Pest animals pose a major threat to wildlife and habitats throughout the Northern Territory. Different pests are a concern in different regions, and not all directly impact on threatened species. Cats, rats, mice, horses and wild dogs are found throughout the Northern Territory; foxes and rabbits in the southern half; and water buffalo in the north. Camels are most common in the south, but occasional animals make their way into the Victoria River District. Pigs are most abundant in the north, but outlier populations occur in the centre. The Cane Toad is still spreading, but in the Northern Territory, is unlikely to establish populations outside the Top End. Mosquitofish are spreading through the waterways of the arid centre. Domestic grazing animals can also be a problem for threatened species when they become feral or occur in unsustainable numbers.

Pests that occur in localised areas or low numbers can also be a threat to some species by altering habitat or competing for food and resources. These include banteng, barbary dove, feral pigeon, house sparrow, sambar deer and spotted turtle dove. These species are not currently considered as problematic as the species discussed above. The European honeybee is also a pest species which competes with native pollinators for nectar and with native animals for tree hollows. They may also promote the growth of weeds as they tend to favour the nectar of weed species over native species. To date, there has been no research on the impact of the European honeybee in the Northern Territory, but the species has the potential to adversely affect native wildlife and threatened species which depend on nectar and hollows.

There are several ways in which pests can be a problem for threatened species. Many introduced animals graze, browse, dig up, trample or push over plants. In doing so, they may also expose, disturb or compact soil, cause erosion and foul wetlands and waterways. Feral grazing animals also impose pressure on pastures over and above that of commercial livestock. Controlling them improves both production values and conservation values. Native grazing animals (such as wallabies and kangaroos) can also reach population sizes where they degrade the ground layer. Restricting their access to water points is the most effective means of controlling numbers of wallabies and kangaroos. Native herbivores have not been identified as posing a risk to threatened species.

Invasive ants also threaten biodiversity, and their impact has been highlighted on Christmas Island. There are several exotic ants in the Northern Territory that could cause serious environmental damage. However, ants have not been identified as a current threat to any threatened species in the

Northern Territory. Many aquatic species are threatened by invasive fish, and Australia has been identified as one of the top hotspot areas for invasive fish species, but only the mosquitofish has so far been identified as a problem for threatened species in the Northern Territory.

Pest animals can harbour diseases that affect threatened species. Diseases carried by Cats and Rats may be one factor contributing to the collapse of native mammal populations across northern Australia in recent years.

Introduced herbivores are also major contributors to the spread of weeds due to their transportation of weed seeds in dung and fur and the soil disturbance they create that facilitates germination of those seeds.

Control

When controlling feral animals, there are a few principles worth consideration: The aim of a control program should be to produce a significant reduction in the impact of the species, as a result of the control method. With most pest animals, it is necessary to reduce populations by at least 95% in a single year otherwise the population rapidly recovers to pre-existing numbers. Monitoring the signs of impact is just as important as monitoring the actual number of feral animals in the population. A program controlling Water Buffalo in freshwater springs in Arnhem Land combined Indigenous and Scientific knowledge to develop signs of Buffalo impact for monitoring. The results showed how culling can improve the condition of the springs, and provided evidence to show other land managers about how Buffalo were affecting their country.

Hunting animals as a recreational or commercial exercise rarely results in control, but may be a useful addition to a more strategic control program.

The most effective approaches combine control methods, such as poison baits and warren ripping for Rabbits, or target control to when animals are under environmental stress, such as when dry conditions reduce Pig populations and concentrate them around a few watering places. Control needs to be ongoing to be effective.

Some methods for controlling pest animals can be used against several species, and removal of a single pest may simply allow other pests to take its place. Cat predation is known to increase if foxes are controlled in isolation. Pigs may get into paddocks from which Cattle and Water Buffalo are excluded and do just as much damage. If undertaking control for a single species, consider the outcome you are seeking and whether it might be worth expanding your target species. Aerial shooting can target a range of large herbivores. Different baits may be required for different species, but the effort used to distribute them may make targeting two species economically viable. Fencing is an approach where it is worth considering all problem species, and weighing the costs and long term benefits of different styles of fencing.

Animal welfare should be considered at all times. It may be necessary to kill animals for conservation, but there is no reason to make them suffer in the process. There are both rules and codes of practices that should be followed.

Finally, make sure that any control program does not adversely affect non-target species. This can be as simple as ensuring farm-dogs are chained up when 1080 baits are laid, or making sure that poisons are delivered in baits that are attractive only to the target species.

For further information: Read

+ Australian Pest Animal Strategy. www.environment.gov.au/biodiversity/invasive/publications/pubs/pest-animal-strategy-brochure.pdf
+ Ens E.-J., Cooke P., Nadjamerrek R., Namundja S., Garlngarr V. and Yibarbuk D. 2010. Combining Aboriginal and Non-Aboriginal Knowledge to Assess and Manage Feral Water Buffalo Impacts on Perennial Freshwater Springs of the Aboriginal-Owned Arnhem Plateau, Australia. *Environmental Management* 45, 751-758.
+ Fisher A., Hunt L., James C., Landsberg J., Phelps D. Smyth A. and Watson I. 2004. Management of total grazing pressure. Managing for biodiversity conservation in the rangelands. Desert Knowledge CRC, Tropical Savannas CRC. Department of the Environment and Heritage. www.environment.gov.au/land/publications/rangelands-grazing.html
+ Northern Territory Feral Animal Profiles www.nt.gov.au/nreta/wildlife/animals/feral
+ Woinarski J.C.Z., Mackey, B, Nix, H. & Traill, B. 2007. The Nature of Northern Australia: Natural values, ecological processes and future prospects. ANU E-Press, Canberra. epress.anu.edu.au/nature_na/pdf_instructions.html

Visit

+ Department of Natural Resources, Environment, The Arts and Sport - Exotic Animals Page www.nt.gov.au/nreta/wildlife/animals/exotic/index.html Invasive Animals CRC www.invasiveanimals.com
+ Pest Animal Control CRC www.feral.org.au
+ Australian Government Invasive Species Publications www.environment.gov.au/biodiversity/publications/index.html#invasive

Managing pest animals for wildlife conservation

Cane Toads

Introduction

Cane Toads were introduced to Queensland in the 1930s as a biological control agent for Cane Beetles. They had little impact on this pest and spread extensively through northern Australia, reaching the Queensland/Northern Territory border in 1982 and the Northern Territory/Western Australian border in 2009. Sensitive to both desiccation and overheating, Cane Toads thrive in the northern savanna regions, but do not occur in Central Australia.

Impacts

Cane Toads are recognised as a Key Threatening Process to biodiversity in Australia. They have poison glands on the sides of their necks, and are lethal to most animals that eat them. When Cane Toads first arrive in an area, predators of other cold-blooded animals also recognise Cane Toads as food. Many are poisoned when they try to eat the toads, so their populations decline. Declines following the arrival of toads have been recorded in Northern Quolls and several snakes and lizards, including the Yellow-spotted Monitor and Mertens' Water Monitor. Although some Freshwater Crocodiles die if they eat Cane Toads, surveys undertaken both before and after the arrival of the toads showed their populations were unaffected. There is no evidence that Cane Toads displace native species of frogs by competing with them for food.

Through eastern Australia, distributions of most affected species have recovered a decade or more after the toads first arrived. This is because they have adapted to the presence of toads by learning not to eat them, turning them over before feeding from their bellies to avoid the poison glands, or even evolving a different body shape to prevent the ingestion of toads big enough to provide a lethal dose. Yellow-Spotted Monitors appear to be the species most sensitive to toads, with few individuals recorded once toads have established. Northern Quolls have persisted only in low numbers in some areas where toads now occur.

Control

There is little that can be done to control toads once they are established. Prevention of spread is the best approach, and most feasible for islands. Use strict quarantine procedures to ensure that Cane Toads (and other pests, such as rats and cats) are not inadvertently transported beyond their current range by boat, car or truck.

For further information read:

Australian Government Profile: Cane Toads *Bufo marinus.*
http://environment.gov.au/biodiversity/invasive/publications/cane-toad/pubs/cane-toad-fs.pdf
Threat Abatement Plan for the biological effects, including lethal toxic ingestion, caused by Cane Toads http://www.environment.gov.au/biodiversity/threatened/publications/tap/cane-toads.html
Australian Government Policy on Cane Toads
http://www.environment.gov.au/biodiversity/invasive/ferals/cane-toads.html
Northern Territory Government Feral Animal Profile: Cane Toad
http://www.lrm.nt.gov.au/biodiversity-conservation/animals/feral/canetoad
Queensland Government Pest Animal Risk Assessment: Cane Toad
http://www.daff.qld.gov.au/documents/Biosecurity_EnvironmentalPests/IPA-Cane-Toad-Risk-Assessment.pdf
Western Australian Government: Cane Toad Information
http://www.agric.wa.gov.au/PC_91730.html
Frogwatch www.frogwatch.org.au

Wild Dogs and Dingoes

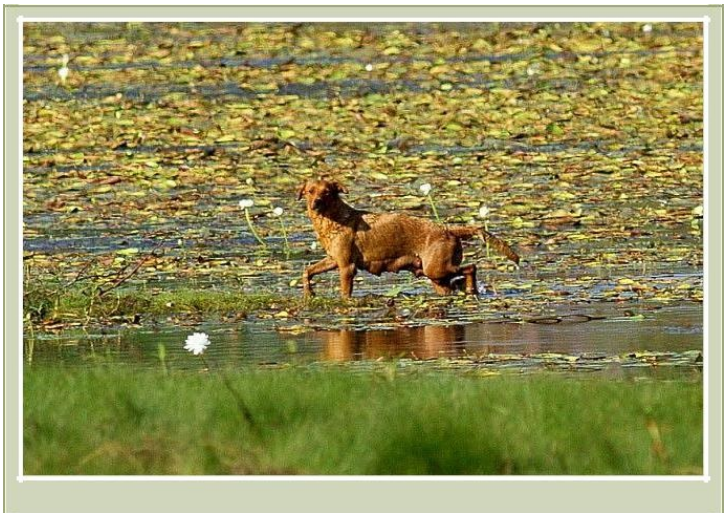
Introduction

There is perhaps no animal in Australia that arouses such mixed emotions as does the Dingo. A relatively recent arrival to the country, Dingoes, along with Wild Dogs, can inflict much damage on livestock. Dingoes mainly feed on native mammals, and are likely to have driven some native species to extinction soon after they were brought to northern Australia from eastern Asia around 5,000 years ago. Native wildlife that remains in Australia today has either

adapted to the Dingo's hunting pressure, or escaped their attention - being too small or too difficult to make worthwhile prey. Dingoes commonly occur through most of the Northern Territory, but only sparsely through the western and south-eastern deserts. Wild Domestic Dogs and Wild Dog/Dingo crosses are most abundant near human settlements, but are also found anywhere Domestic Dogs have been lost or abandoned.

Impacts

While Dingoes hunt wallabies and kangaroos, they also provide a protective effect to many native species. By controlling numbers of exotic predators (foxes, cats and pigs), they reduce predation pressure on many small native mammals. Dusky Hopping-Mouse is one threatened species that has healthy populations Dingoes offer a protective effect to threatened wildlife where Dingoes are abundant and fox and cat numbers are low. Dingoes also help control numbers of exotic herbivores, especially rabbits and goats. Keeping these feral grazing animals at low numbers, helps reduce the degradation of the habitat of several threatened species.



Wild dogs are common close to urban centres, but are also found anywhere Domestic Dogs have been lost or abandoned.

Not all impacts are beneficial. Wild Dogs or Dingoes are known to raid the nests of marine turtles, to the extent that their control has been necessary on some nesting beaches. Wild Dogs also had to be eliminated from Marchinbar Island, where their diet included animals from the Northern Territory's only remaining population of Golden Bandicoot.

Not all impacts of Dingoes on pastoral enterprises are negative either. Research shows that the diet of Dingoes on pastoral properties is dominated by kangaroos and rabbits. Dingoes thus help to regulate the populations of these species; where Dingoes are controlled, kangaroos and rabbits can proliferate. Pasture condition is often demonstrably better where Dingoes are allowed to persist.

Cross-breeding with Wild Dogs reduces the genetic integrity of the Dingo. Wild Dogs and Dingo are potential reservoirs and vectors of disease, including hydatids, heartworm and parvovirus.

Control

Where Wild Dogs or Dingoes are a significant problem to a threatened species, targeted control should be undertaken. As Dingoes are protected in the Northern Territory, any control must be undertaken with a permit. Consider whether it is sufficient to eliminate an individual animal or whether population reduction is necessary. Fencing of key habitat of threatened species can be an effective measure against Wild Dog predation.

NB: Profile written by Gabriel Crowley.

For further information Read / Visit

+ de Blas, A. 2009. The dingo's role revitalised. *ECOS* 147, 12-13 www.ecosmagazine.com/?paper=EC147p12
+ Northern Territory Feral Animal Profile: Wild Dog http://lrm.nt.gov.au/biodiversity-conservation/animals/feral/dingo
+ Queensland Government Pest Animal Profile: Dingo http://www.daff.qld.gov.au/documents/Biosecurity_EnvironmentalPests/IPA-dingoes-Qld-PA9.pdf
+ Western Australian Government Pest Animal
+ Profile: Wild Dog Dingoes and Foxes http://www.agric.wa.gov.au/PC_93060.html
+ NT Government 2006. A Management Program for the Dingo (*Canis lupus dingo*) in the Northern Territory 2006-2011.
+ http://lrm.nt.gov.au/__data/assets/pdf_file/0019/10765/dingo_management.pdf
+ Pest Smart Factsheets: Dingoes and Wild dogs http://www.feral.org.au/pestsmart/wild-dogs

Feral Cat

Introduction

Cats arrived in Australia with European settlers, and quickly became established through the continent. They are common and widespread throughout the Northern Territory, with the only exceptions being a few off- shore Islands. Cats obtain the majority of their moisture requirements from their prey; this reduces the need to drink water, thus they even survive in deserts, where they prefer dense cover.

Impacts

Predation by Cats is recognised as a Key Threatening Process to biodiversity in Australia. Cats are one of the most effective and widespread predators on the continent. They are believed to have contributed to the extinction of a range of arid zone mammals, and are implicated in the decline of several other mammals, including the Golden Bandicoot, Greater Bilby, Mala, Kowari and Golden-backed Tree-rat. Predation by Cats could also be a significant threat to Northern Brush-tailed Phascogale, Brush- tailed Rabbit- rat, Plains and Water Mice, several species of Dunnart and Rock-Rat, and the Canfield Rat. Cats killed a high proportion of tagged Northern Quolls in Kakadu National Park, and may have contributed to the decline of this species. Cats are known predators of the Malleefowl. Other birds that nest on or near the ground, such as the Partridge Pigeon, Australian Bustard, Night Parrot, Plains -wanderer, Purple-crowned Fairy-wrens and a range of Grasswrens, are also particularly vulnerable to predation by Cats. Despite the Cat's impact on mammals and birds, a Cat's diet is largely composed of small lizards. This makes Cats a likely threat to VRD Black-Soil Ctenotus, Great Desert Skink, Arnhem Land Egernia, Slater's Egernia and Yellow -snouted Gecko. The impact of cats on the abundance of prey may also be a threat to the Oenpelli Python. Ongoing exclusion of cats from islands occupied by Arafura Snake -eyed Skink may be essential for this species' survival. Cats also carry diseases, especially Toxoplasmosis, that may affect both native mammals and humans.

Control

Cat control is a great challenge, and until recently there has been no really effective method. Trials using a combination of cat calls, ERADICAT® and Pongo are showing promising results. Baits should be laid in the densest vegetation at about 30 baits per km^2. Eradication from some islands has been

achieved, but prevention of invasion is simpler and more effective. A combination of control methods, including trapping, shooting and baiting is recommended. Cat exclusion fencing is possible, but extremely expensive, so only suitable for intensive management in a conservation area.

For further information: Read / Visit

+ Abbott I. 2002 Origin and spread of the cat, Felis catus, on mainland Australia, with a discussion of the magnitude of its early impact on native fauna. Wildlife Research 29, 51-74. http://dx.doi.org/10.1071/WR01011
+ Australian Government Profile: Feral Cat *Felis catus* http://www.environment.gov.au/biodiversity/invasive/publications/pubs/cat.pdf
+ Australian Government Threat Abatement Plan http://www.environment.gov.au/biodiversity/threatened/publications/tap/cats08.html
+ Moseby K.E., Stott J. and Crisp H. 2009. Movement patterns of feral predators in an arid environment - implications for control through poison baiting. Wildlife Research 36, 422-435. http://dx.doi.org/10.1071/WR08098
+ Northern Territory Feral Animal Profile: Feral Cat – NT Government Internet Site http://lrm.nt.gov.au/biodiversity-conservation/animals/feral/cat
+ Sir Edward Pellew Islands Feral Cat Project – NT Government http://lrm.nt.gov.au/biodiversity-conservation/programs/feral_cats
+ Queensland Government Feral Animal Fact Sheet: Feral cat ecology and control http://www.daff.qld.gov.au/documents/Biosecurity_EnvironmentalPests/IPA-Feral-Cat-Ecology-PA26.pdf
+ Richards J. and Algar D. (2008) Controlling feral animals in the rangelands. *Landscope* 28, 53-58.
+ Woinarski J.C.Z. and Ward S. 2009. Under the radar? The occurrence, impact and management of feral cats and black rats in Kakadu www.landmanager.org.au/all/downloads/RATCAT_2.pdf

Donkey

Introduction

Donkeys were introduced into Australia as pack animals, and have been feral in northern Australia since the early 20th century. Surveys estimate there to be around 165,000 Donkeys in the Northern Territory. Donkeys are widespread through the Victoria River District and Gulf region, and have scattered populations through central Australia. donkeys have spiritual significance in some indigenous communities because of their association with the birth of Christ.

Impacts

Donkeys graze grass and browse woody vegetation, so can significantly reduce regeneration of native trees and shrubs, including that of threatened species. Their trampling and removal of vegetation cover can cause massive habitat degradation and soil erosion, particularly in hilly country. Their impact is most evident around waterholes, where they cause sedimentation erosion and fouling of the waterhole, but they can also cause damage a long way from permanent water. Donkeys are considered a threat to Central Australian Cabbage Palm and Waddy-wood. Donkeys also compete with native herbivores and domestic stock for forage and water, and contribute to the spread of weeds.

Control

Control of Donkeys is equally important for conservation and pastoral production. Shooting of Donkeys from the air is the most effective control method, and can be undertaken as a specific project or in combination with the control other feral animals. However trapping and mustering are also useful in some situations

For further information: Read

+ Australian Government Profile: Feral Horse *Equus caballus* and Feral Donkey *Equus asinus* http://www.environment.gov.au/biodiversity/invasive/publications/feral-horse.html
+ Fisher A., Hunt L., James C., Landsberg J., Phelps D. Smyth A. and Watson I. 2004. *Management of total grazing pressure.*
+ *Managing for biodiversity conservation in the rangelands*. Desert Knowledge CRC, Tropical Savannas CRC. Department of the
+ Environment and Heritage. www.environment.gov.au/land/publications/rangelands-grazing.html
+ Savanna Explorer: Donkeys, Horses and Cattle http://www.savanna.org.au/all/donkeys.html
+ Northern Territory Feral Animal Profile: Feral Donkey http://www.lrm.nt.gov.au/biodiversity-conservation/animals/feral/donkey#.UOTwVeSE3gV

Feral horse

Introduction

Wild Horses are found through most of the Northern Territory, but are particularly abundant in the Gulf region, parts of western Arnhem Land, the Victoria River District, and the West MacDonnell Ranges.

Impacts

Horses both graze grass and browse shrubs. They can cause more damage than cattle do because they close crop grasses, exposing the roots and soil. Horses also spread weeds in their hair and dung, compact the soil, and foul and deplete waterbodies. They congregate in shady areas, which tend to get grazed bare and invaded by weeds, such as Hyptis.

Horses in the West MacDonnell Ranges have been identified as a threat to the Central Rock-Rat. They not only graze the plants fed on by the Rock-Rats, but also degrade their habitat through erosion, soil compaction, and damage vegetation in which the Rock-Rats shelter. The West MacDonnell Ranges also support the only known populations of Long-tailed Dunnarts, a species that may also be affected by habitat degradation caused by horses.

On the Tiwi Islands, trampling and grazing by horses is considered a direct threat to vulnerable plants of the ground layer, including two Typhonium species, and to the Cognate Land Snail. Their disturbance may have been a contributing factor to the degradation of Hooded Robin habitat. Horses grazing and trampling also degrade wetlands, reducing their habitat values for a number of species including the Australian Painted Snipe. Horses in the Darwin rural area may also be the last straw in the decline of Glenluckie Helicteres, after much of its habitat is cleared and subdivided for rural residential blocks.

As well as competing with native herbivores and domestic stock for forage and water, feral horses may also be potential reservoirs and vectors for disease and parasites.

Control

To protect many of the species threatened by horses, it may be possible to fence out sensitive areas that contain threatened plants or isolated wetlands. Needing water, horses can be attracted to trap yards and removed from the property, but aerial shooting is the most cost-effective method to reduce numbers over large areas.

For further information: Read

+ Australian Government Profile: Feral Horse *Equus caballus* and Feral Donkey *Equus asinus* www.environment.gov.au/biodiversity/invasive/publications/pubs/feral-horse.pdf
+ Dobbie, W.R., Berman D.M. and Braysher, M.L. 1993. Managing Vertebrate Pests: Feral Horses. Bureau of Rural Sciences www.publish.csiro.au/nid/18/pi-d/430.htm
+ Fisher A., Hunt L., James C., Landsberg J., Phelps D. Smyth A. and Watson I. 2004.
+ *Management of total grazing pressure. Managing for biodiversity conservation in the rangelands*. Desert Knowledge CRC, Tropical Savannas CRC. Department of the Environment and Heritage www.environment.gov.au/land/publications/rangelands-grazing.html
+ Ferals Website Information Page: Horse http://www.feral.org.au/pest-species/horse/
+ Queensland Government Pest Animal Factsheet: Feral Horse
+ http://www.daff.qld.gov.au/4790_16026.htm
+ Northern Territory Government Feral Animal Profile: Feral Horse
+ http://www.lrm.nt.gov.au/biodiversity

Feral Cattle

Introduction

Cattle were introduced into the Northern Territory early in the 19th century in order to establish a pastoral industry. Most pastoral properties were largely unfenced, and many animals went wild. Despite the Brucellosis and Tuberculosis eradication program aimed at eliminating feral Cattle and Water Buffalo in the 1980s and 90s, about 100,000 Feral Cattle remained in the Northern Territory in 1990, and there are still around 10,000 between the Kimberley and the Gulf. Feral Cattle hinder the productive management of pastoral properties, increasing grazing pressure and bringing in unwanted genetic stock and possibly diseases. Rarely a problem on more intensively managed properties, they are more likely to occur on minimally fenced pastoral properties or non-pastoral lands.

Impacts

When uncontrolled, Feral Cattle pose a significant a threat to wildlife. They compact the soil; eat, trample and push over plants; and remove ground cover, exposing the soil to erosion. Trampling by Feral Cattle, combined with the removal of vegetation cover and leaf litter, has degraded the habitat used by Bronzeback Snake-lizards in Central Australia. On the Tiwi Islands, trampling may also threaten the Cognate Land Snail. Cattle's trampling also destroys soil structure in black soil plains, where soil cracks are used as sheltering sites by VRD Blacksoil Ctenotus.

Ground layer plants, such as Tobermorey Melon, and seedlings of plants such as the threatened Darwin Palm and Waddy-wood, are vulnerable to grazing and/or trampling, while larger plants may be damaged when Cattle rub up against them. Cattle remove vegetation cover needed for nesting

and sheltering habitat by many animals, including the threatened Purple-crowned Fairy-wren and Yellow Chat.
Cattle trampling and grazing in wetlands can render them unsuitable as habitat for a range of wetland species, notably the Australian Painted Snipe. Across the broader landscape, removal of food resources and/or habitat degradation is likely to have an adverse affect on several animals, including the threatened Central Rock-Rat, Black-footed Rock Wallaby, Brush-tailed Rabbit-rat, Gouldian Finch, Tiwi Islands robin, Crest-tailed Mulgara and Common Brushtail possum. Feral Cattle pose additional indirect threats to wildlife through the spread of weeds and competition with native herbivores for forage and water. Feral Cattle also compete for resources with domestic stock, and are potential reservoirs and vectors for disease and parasites.

Control

It may be possible to fence Feral Cattle out from key areas of sensitive habitat. Maintaining boundary fences in good condition is also necessary to prevent the spread of Cattle outside pastoral properties. Mustering combined with bull-catching offers an economic return to the control of Feral Cattle, but may need to be followed up by aerial shooting away from pastoral properties. In more remote areas with rugged terrain, aerial shooting may be the only solution.

For further information: Read

+ Fisher A., Hunt L., James C., Landsberg J., Phelps D. Smyth A. and Watson I. 2004. *Management of total grazing pressure. Managing for biodiversity conservation in the rangelands*. Desert Knowledge CRC, Tropical Savannas CRC. Department of the Environment and Heritage. www.environment.gov.au/land/publications/rangelands-grazing.html
+ Northern Territory Feral Animal Profile: Feral Cattle http://www.lrm.nt.gov.au/biodiversity-conservation/animals/feral/cattle
+ Invasive Animals CRC, 2007. Managing Feral Animals and Their Impacts: Managing Biodiversity in the Rangelands http://www.environment.gov.au/land/publications/pubs/rangelands-feral-book-hires.pdf

Appendix 9. EP187 Guidelines for the Management of Wildlife

EP187 Guidelines for the Management of wildlife Booklet

EP187 'Guidelines for the Management of wildlife Booklet' encompasses an area of 5073.67 sq. km extending from 16 deg. 26.0 min to 17 deg. 8.0 min S and 135 deg. 6.0 min to 135 deg. 50.0 min E. EP187 is located in the Gulf Fall and Uplands, Sturt Plateau, bioregion(s)

Figure 1: Tables within this report cover the location of EP187 and the associated area described in the figure.

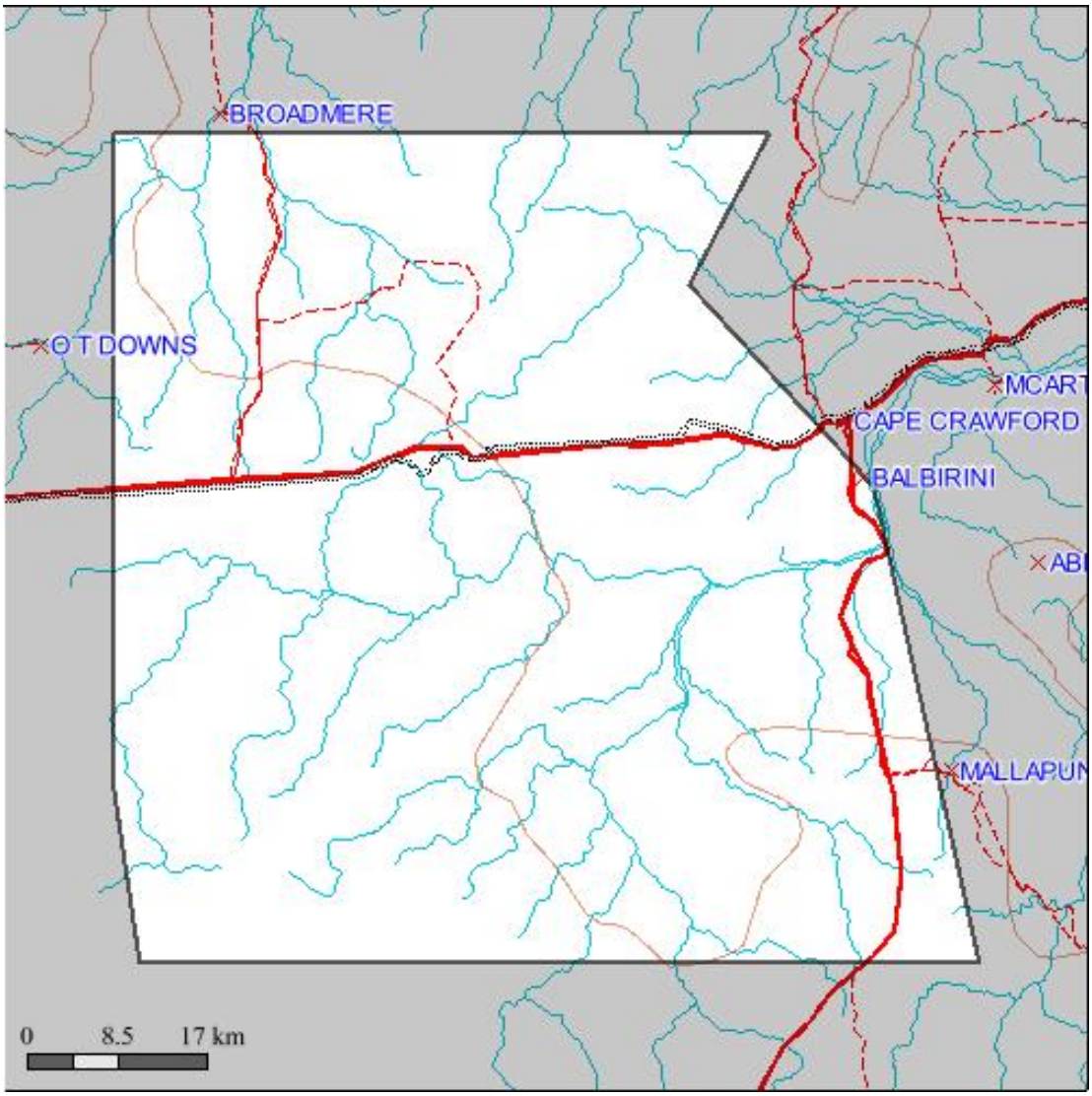


Table 1: Native species that have been recorded in the grid cell(s) in which EP187 Guidelines for the Management of wildlife Booklet occurs

Group	Family Name	Scientific Name	Common Name	NT Status	National Status	#Observations	#Latest Observation Date	#Specimens	#Latest Speciman Date	#Surveys	#Latest Survey Record
Fern Allies	Lycopodiaceae	*Lycopodiella cernua*	Staghorn Club Moss			0	Unknown	2	1989	0	Unknown
Fern Allies	Isoetaceae	*Isoetes coromandelina*	Quillwort			0	Unknown	0	Unknown	0	Unknown
		subsp. macrotuberculata									
Fern Allies	Isoetaceae	*Isoetes muelleri*	Quillwort			0	Unknown	2	2010	0	Unknown
Fern Allies	Selaginellaceae	*Selaginella ciliaris*	Spike Moss			0	Unknown	2	1984	0	Unknown
Ferns	Gleicheniaceae	*Dicranopteris linearis var.*	Hay Rake Fern			0	Unknown	4	1989	0	Unknown
		linearis									
Ferns	Lygodiaceae	*Lygodium flexuosum*	Dragon Fern			0	Unknown	2	1989	0	Unknown
Ferns	Lygodiaceae	*Lygodium microphyllum*	Climbing Maidenhair Fern			0	Unknown	20	1997	0	Unknown
Ferns	Marsileaceae	*Marsilea hirsuta*	Short-fruit Nardoo			0	Unknown	1	1984	0	Unknown
Ferns	Marsileaceae	*Marsilea mutica*	Smooth Nardoo			0	Unknown	0	Unknown	0	Unknown
Ferns	Lindsaeaceae	*Lindsaea ensifolia*	Common Wedgefern			0	Unknown	16	1997	0	Unknown
Ferns	Pteridaceae	*Acrostichum speciosum*	Mangrove Fern			0	Unknown	2	1985	0	Unknown
Ferns	Pteridaceae	*Adiantum hispidulum var.*	Rough Maidenhair			0	Unknown	3	1998	0	Unknown
		hispidulum									
Ferns	Pteridaceae	*Ceratopteris thalictroides*	Water Fern			0	Unknown	2	1981	0	Unknown
Ferns	Pteridaceae	*Cheilanthes brownii*	Northern Rock-fern			0	Unknown	6	2010	0	Unknown
Ferns	Pteridaceae	*Cheilanthes contigua*	Fern			0	Unknown	6	2010	0	Unknown
Ferns	Pteridaceae	*Cheilanthes nitida*	Fern			0	Unknown	0	Unknown	0	Unknow

Group	Family Name	Scientific Name	Common Name	NT	National	#Observations	#Latest	#Specimens	#Latest	#Surveys	#Latest
				Status	Status		Observation		Speciman		Survey
							Date		Date		Record
											n
Ferns	Pteridaceae	*Cheilanthes sieberi subsp.*	Mulga Fern			0	Unknown	1	1989	0	Unknow
		pseudovellea									n
Ferns	Pteridaceae	*Cheilanthes tenuifolia*	Rock Fern			0	Unknown	2	1985	0	Unknow n
Ferns	Pteridaceae	*Platyzoma microphyllum*	Braid Fern			0	Unknown	2	1998	0	Unknow n
Ferns	Thelypteridaceae	*Christella dentata*	Binung			0	Unknown	2	1989	0	Unknow n
Ferns	Thelypteridaceae	*Cyclosorus interruptus*	Creeping Swamp Fern			0	Unknown	12	1989	0	Unknow n
Ferns	Blechnaceae	*Blechnum orientale*	Northern Swamp Fern			0	Unknown	4	1989	0	Unknow n
Ferns	Blechnaceae	*Stenochlaena palustris*	Climbing Swamp Fern			0	Unknown	16	1990	1	1998
Ferns	Lomariopsidaceae	*Nephrolepis hirsutula*	Fishbone Fern	DD		0	Unknown	14	1997	0	Unknow n
Confiers	Cupressaceae	*Callitris intratropica*	Northern Cypress Pine			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Nymphaeaceae	*Nymphaea violacea*	Blue Waterlily			0	Unknown	6	2004	0	Unknow n
Flowering Plants	Hydatellaceae	*Trithuria lanterna*	Trithuria			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Lauraceae	*Cassytha capillaris*	Snotty Gobble			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Lauraceae	*Cassytha filiformis*	Hairy Dodder-laurel			0	Unknown	6	1988	0	Unknow n
Flowering Plants	Hernandiaceae	*Gyrocarpus americanus*	Stinkwood			0	Unknown	2	1989	0	Unknow n
Flowering Plants	Araceae	*Colocasia esculenta*	Taro			0	Unknown	2	1989	0	Unknow n
Flowering Plants	Alismataceae	*Caldesia oligococca var.*	Caldesia			0	Unknown	4	2010	0	Unknow n
		oligococca									
Flowering Plants	Hydrocharitaceae	*Najas malesiana*	Water Nymph			0	Unknown	2	1985	0	Unknow n

Group	Family Name	Scientific Name	Common Name	NT Status	National Status	#Observations	#Latest Observation Date	#Specimens	#Latest Specimen Date	#Surveys	#Latest Survey Record
Flowering Plants	Juncaginaceae	*Cycnogeton dubium*	Small Water Ribbons			0	Unknown	2	1985	0	Unknown
Flowering Plants	Taccaceae	*Tacca leontopetaloides*	Native Arrowroot			0	Unknown	6	1989	0	Unknown
Flowering Plants	Burmanniaceae	*Burmannia coelestis*	Burmannia			0	Unknown	2	1984	0	Unknown
Flowering Plants	Dioscoreaceae	*Dioscorea bulbifera*	Water Yam			0	Unknown	2	1981	0	Unknown
Flowering Plants	Pandanaceae	*Pandanus aquaticus*	River Pandanus			0	Unknown	0	Unknown	2	1998
Flowering Plants	Pandanaceae	*Pandanus spiralis*	Screw Palm			0	Unknown	2	1984	0	Unknown
Flowering Plants	Smilacaceae	*Smilax australis*	Austral Smilax			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Orchidaceae	*Cymbidium canaliculatum*	Black Orchid			0	Unknown	2	1969	0	Unknown
Flowering Plants	Amaryllidaceae	*Crinum angustifolium*	Crinium Lily			0	Unknown	2	1984	0	Unknown
Flowering Plants	Asparagaceae	*Thysanotus chinensis*	Fringe-Lily			0	Unknown	6	2010	0	Unknown
Flowering Plants	Arecaceae	*Carpentaria acuminata*	Carpentaria Palm			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Arecaceae	*Livistona inermis*	Fine-leaved Fan Palm			0	Unknown	2	1986	0	Unknown
Flowering Plants	Typhaceae	*Typha domingensis*	Cumbungi			0	Unknown	2	2010	0	Unknown
Flowering Plants	Xyridaceae	*Xyris complanata*	Hatpins			0	Unknown	3	1995	1	1998
Flowering Plants	Xyridaceae	*Xyris oligantha*	Yellow-eye			0	Unknown	2	1993	0	Unknown
Flowering Plants	Eriocaulaceae	*Eriocaulon carpentariae*	Hatpins	DD		0	Unknown	2	2004	0	Unknown
Flowering Plants	Eriocaulaceae	*Eriocaulon cinereum*	Hatpins			0	Unknown	7	2010	0	Unknown
Flowering Plants	Eriocaulaceae	*Eriocaulon depressum*	Hatpins			0	Unknown	2	1997	0	Unknown

Flowering Plants	Eriocaulaceae	*Eriocaulon fistulosum*	Hatpins			0	Unknown	6	2010	0	Unknown
Flowering Plants	Eriocaulaceae	*Eriocaulon pygmaeum*	Hatpins			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Eriocaulaceae	*Eriocaulon setaceum*	Anemone Rush			0	Unknown	2	2004	0	Unknown
Flowering Plants	Eriocaulaceae	*Eriocaulon tortuosum*	Hatpins			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Cyperaceae	*Bulbostylis barbata*	Short-leaved Rush			0	Unknown	4	1959	2	1998
Flowering Plants	Cyperaceae	*Cyperus aquatilis*	Flat-head Rush			0	Unknown	4	1990	0	Unknown
Flowering Plants	Cyperaceae	*Cyperus astartodes*	Sedge			0	Unknown	4	1987	0	Unknown
Flowering Plants	Cyperaceae	*Cyperus betchei*	Sedge			0	Unknown	2	1959	0	Unknown
Flowering Plants	Cyperaceae	*Cyperus bifax*	Downs Nutgrass			0	Unknown	11	1983	0	Unknown
Flowering Plants	Cyperaceae	*Cyperus carinatus*	Sedge			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Cyperaceae	*Cyperus crispulus*	Sedge			0	Unknown	4	1991	0	Unknown
Flowering Plants	Cyperaceae	*Cyperus cristulatus*	Sedge			0	Unknown	2	1977	0	Unknown
Flowering Plants	Cyperaceae	*Cyperus cunninghamii*	Sedge			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Cyperaceae	*Cyperus cunninghamii*	Sedge			0	Unknown	2	1979	0	Unknown
		subsp. cunninghamii									
Flowering Plants	Cyperaceae	*Cyperus difformis*	Dirty Dora			0	Unknown	4	1983	0	Unknown
Flowering Plants	Cyperaceae	*Cyperus exaltatus*	Giant Sedge			0	Unknown	2	1983	0	Unknown
Flowering Plants	Cyperaceae	*Cyperus haspan*	Small Umbrella Rush			0	Unknown	6	1981	0	Unknown
Flowering Plants	Cyperaceae	*Cyperus haspan subsp.*	Small Umbrella Rush			0	Unknown	2	2010	1	1998
		juncoides									
Flowering Plants	Cyperaceae	*Cyperus holoschoenus*	Umbrella Rush			0	Unknown	2	1983	0	Unknown

Flowering Plants	Cyperaceae	*Cyperus iria*	Rice Flat Sedge			0	Unknown	4	1983	0	Unknown
Flowering Plants	Cyperaceae	*Cyperus ixiocarpus*	Ankar-ankar			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Cyperaceae	*Cyperus javanicus*	Saw Rush			0	Unknown	4	1989	0	Unknown
Flowering Plants	Cyperaceae	*Cyperus latzii*	Sedge			0	Unknown	2	2010	0	Unknown
Flowering Plants	Cyperaceae	*Cyperus macrostachyos*	Tick Grass			0	Unknown	4	2010	0	Unknown
Flowering Plants	Cyperaceae	*Cyperus microcephalus*	Sedge			0	Unknown	1	1976	0	Unknown
Flowering Plants	Cyperaceae	*Cyperus microcephalus*	Sedge			0	Unknown	4	2010	0	Unknown
		subsp. chersophilus									
Flowering Plants	Cyperaceae	*Cyperus microcephalus*	Sedge			0	Unknown	1	2010	0	Unknown
		subsp. microcephalus									
Flowering Plants	Cyperaceae	*Cyperus microcephalus*	Sedge			0	Unknown	8	1989	0	Unknown
		subsp. saxicola									
Flowering Plants	Cyperaceae	*Cyperus nervulosus*	Sedge			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Cyperaceae	*Cyperus oxycarpus*	Sedge	DD		0	Unknown	6	1998	0	Unknown
Flowering Plants	Cyperaceae	*Cyperus pulchellus*	White Button Sedge			0	Unknown	1	2010	0	Unknown
Flowering Plants	Cyperaceae	*Cyperus pygmaeus*	Dwarf Sedge			0	Unknown	6	1993	0	Unknown
Flowering Plants	Cyperaceae	*Cyperus sexflorus*	Sedge			0	Unknown	4	2010	0	Unknown
Flowering Plants	Cyperaceae	*Cyperus tenuispica*	Pink-root Sedge			0	Unknown	1	1983	0	Unknown
Flowering Plants	Cyperaceae	*Cyperus zollingeri*	Sedge			0	Unknown	2	1989	0	Unknown
Flowering Plants	Cyperaceae	*Eleocharis atropurpurea*	Spike-Rush			0	Unknown	2	1981	0	Unknown
Flowering Plants	Cyperaceae	*Eleocharis geniculata*	Spike-Rush			0	Unknown	5	2010	0	Unknown
Flowering	Cyperaceae	*Eleocharis jacobsiana*	Spike-Rush			0	Unknown	2	2010	0	Unknown

Plants											
Flowering Plants	Cyperaceae	*Eleocharis pallens*	Pale Spike-Rush			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Cyperaceae	*Eleocharis rivalis*	Spike-Rush			0	Unknown	2	2004	0	Unknown
Flowering Plants	Cyperaceae	*Fimbristylis acicularis*	Fringe-Rush			0	Unknown	2	1977	0	Unknown
Flowering Plants	Cyperaceae	*Fimbristylis acuminata*	Fringe-Rush			0	Unknown	1	2010	0	Unknown
Flowering Plants	Cyperaceae	*Fimbristylis ammobia*	Fringe-Rush			0	Unknown	2	2010	0	Unknown
Flowering Plants	Cyperaceae	*Fimbristylis cephalophora*	Fringe-Rush			0	Unknown	6	2010	0	Unknown
Flowering Plants	Cyperaceae	*Fimbristylis cinnamometorum*	Fairy Fringe-Rush			0	Unknown	4	1985	0	Unknown
Flowering Plants	Cyperaceae	*Fimbristylis compacta*	Fringe-Rush			0	Unknown	2	2010	0	Unknown
Flowering Plants	Cyperaceae	*Fimbristylis densa*	Angle Head			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Cyperaceae	*Fimbristylis depauperata*	Fringe-Rush			0	Unknown	6	2010	0	Unknown
Flowering Plants	Cyperaceae	*Fimbristylis dichotoma*	Eight Day Grass			0	Unknown	6	1989	0	Unknown
Flowering Plants	Cyperaceae	*Fimbristylis furva*	Fringe-Rush			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Cyperaceae	*Fimbristylis leucocolea*	Fringe-Rush			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Cyperaceae	*Fimbristylis littoralis*	Fringe-Rush			0	Unknown	4	1998	0	Unknown
Flowering Plants	Cyperaceae	*Fimbristylis littoralis var. littoralis*	Fringe-Rush			0	Unknown	3	2010	1	1998
Flowering Plants	Cyperaceae	*Fimbristylis macrantha*	Fringe-Rush			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Cyperaceae	*Fimbristylis microcarya*	Fringe-Rush			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Cyperaceae	*Fimbristylis nuda*	Fringe-Rush			0	Unknown	0	Unknown	0	Unknown
Flowering	Cyperaceae	*Fimbristylis nutans*	Long-head Fringe-Rush			0	Unknown	6	2010	1	1998

Plants											
Flowering Plants	Cyperaceae	*Fimbristylis oxystachya*	Iukarrara			0	Unknown	2	2002	0	Unknown
Flowering Plants	Cyperaceae	*Fimbristylis pachyptera*	Fringe-Rush			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Cyperaceae	*Fimbristylis pauciflora*	Fringe-Rush			0	Unknown	6	1997	1	1998
Flowering Plants	Cyperaceae	*Fimbristylis polytrichoides*	Fringe-Rush			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Cyperaceae	*Fimbristylis pterygosperma*	Fringe-Rush			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Cyperaceae	*Fimbristylis rara*	Salt Fringe-rush			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Cyperaceae	*Fimbristylis rupestris*	Fringe-Rush			0	Unknown	2	1998	0	Unknown
Flowering Plants	Cyperaceae	*Fimbristylis schultzii*	Fringe-Rush			0	Unknown	2	2010	0	Unknown
Flowering Plants	Cyperaceae	*Fimbristylis signata*	Fringe-Rush			0	Unknown	2	2010	0	Unknown
Flowering Plants	Cyperaceae	*Fimbristylis simplex*	Fringe-Rush			0	Unknown	2	1976	0	Unknown
Flowering Plants	Cyperaceae	*Fimbristylis simulans*	Fringe-Rush			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Cyperaceae	*Fimbristylis tetragona*	Fringe-Rush			0	Unknown	6	2010	0	Unknown
Flowering Plants	Cyperaceae	*Fimbristylis trigastrocarya*	Fringe-Rush			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Cyperaceae	*Fimbristylis tristachya*	Fringe-Rush			0	Unknown	4	2004	0	Unknown
Flowering Plants	Cyperaceae	*Fuirena arenosa*	Umbrella-Sedge	DD		0	Unknown	4	2010	0	Unknown
Flowering Plants	Cyperaceae	*Fuirena ciliaris*	Small Club Rush			0	Unknown	9	1990	1	1998
Flowering Plants	Cyperaceae	*Fuirena nudiflora*	Umbrella-Sedge	DD		0	Unknown	2	2010	0	Unknown
Flowering Plants	Cyperaceae	*Fuirena umbellata*	Five-sided Rush			0	Unknown	4	1979	0	Unknown
Flowering Plants	Cyperaceae	*Lipocarpha microcephala*	Button Rush			0	Unknown	2	2010	0	Unknown
Flowering	Cyperaceae	*Rhynchospora*	Star Sedge			0	Unknown	2	2010	0	Unknown

Plants		*heterochaeta*									
Flowering Plants	Cyperaceae	*Rhynchospora longisetis*	Tick Grass			0	Unknown	4	1979	0	Unknown
Flowering Plants	Cyperaceae	*Rhynchospora pterochaeta*	Star Sedge			0	Unknown	6	2010	0	Unknown
Flowering Plants	Cyperaceae	*Rhynchospora subtenuifolia*	Star Sedge			0	Unknown	2	2010	0	Unknown
Flowering Plants	Cyperaceae	*Rhynchospora wightiana*	Star Sedge			0	Unknown	2	1979	0	Unknown
Flowering Plants	Cyperaceae	*Schoenoplectus laevis*	Club-Rush			0	Unknown	2	1983	0	Unknown
Flowering Plants	Cyperaceae	*Schoenoplectus lateriflorus*	Club-Rush			0	Unknown	2	2010	0	Unknown
Flowering Plants	Cyperaceae	*Schoenoplectus subulatus*	River Club-Rush			0	Unknown	4	1995	0	Unknown
Flowering Plants	Cyperaceae	*Schoenus falcatus*	Bog-Rush			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Cyperaceae	*Scleria annularis*	Sedge			0	Unknown	4	1989	0	Unknown
Flowering Plants	Cyperaceae	*Scleria brownii*	Sedge			0	Unknown	10	2010	0	Unknown
Flowering Plants	Cyperaceae	*Scleria laxa*	Sedge			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Cyperaceae	*Scleria novae-hollandiae*	Sedge			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Cyperaceae	*Scleria pygmaea*	Sedge			0	Unknown	2	2010	0	Unknown
Flowering Plants	Cyperaceae	*Scleria rugosa*	Mildrop Sedge			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Restionaceae	*Dapsilanthus spathaceus*	Rush			0	Unknown	0	Unknown	1	1998
Flowering Plants	Centrolepidaceae	*Centrolepis banksii*	Centrolepis			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Centrolepidaceae	*Centrolepis exserta*	Centrolepis			0	Unknown	2	1976	0	Unknown
Flowering Plants	Poaceae	*Acrachne racemosa*	Goose Grass	DD		0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Alloteropsis semialata*	Cockatoo Grass			0	Unknown	0	Unknown	0	Unknown
Flowering	Poaceae	*Aristida calycina var.*	Dark Wiregrass			0	Unknown	2	1984	0	Unknown

Plants											
		calycina									
Flowering Plants	Poaceae	*Aristida contorta*	Bunched Kerosene Grass			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Aristida exserta*	Wire Grass			0	Unknown	8	2010	0	Unknown
Flowering Plants	Poaceae	*Aristida holathera*	Erect Kerosene Grass			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Aristida holathera var.*	Erect Kerosene Grass			0	Unknown	6	1991	0	Unknown
		holathera									
Flowering Plants	Poaceae	*Aristida hygrometrica*	Northern Kerosene Grass			0	Unknown	0	Unknown	1	1998
Flowering Plants	Poaceae	*Aristida inaequiglumis*	Unequal Threeawn			0	Unknown	8	1984	0	Unknown
Flowering Plants	Poaceae	*Aristida ingrata*	Wire Grass			0	Unknown	2	2010	0	Unknown
Flowering Plants	Poaceae	*Aristida latifolia*	Feathertop Wiregrass			0	Unknown	8	1988	0	Unknown
Flowering Plants	Poaceae	*Aristida polyclados*	Wire Grass	DD		0	Unknown	2	1947	0	Unknown
Flowering Plants	Poaceae	*Aristida pruinosa*	Gulf Feathertop Wiregrass			0	Unknown	10	2010	0	Unknown
Flowering Plants	Poaceae	*Aristida queenslandica var.*	Wire Grass			0	Unknown	4	1991	0	Unknown
		queenslandica									
Flowering Plants	Poaceae	*Arundinella nepalensis*	Reed Grass			0	Unknown	2	1985	0	Unknown
Flowering Plants	Poaceae	*Astrebla elymoides*	Hoop Mitchell Grass			0	Unknown	4	1976	0	Unknown
Flowering Plants	Poaceae	*Astrebla lappacea*	Curly Mitchell Grass	DD		0	Unknown	4	1948	0	Unknown
Flowering Plants	Poaceae	*Astrebla pectinata*	Barley Mitchell Grass			0	Unknown	2	1988	0	Unknown
Flowering Plants	Poaceae	*Astrebla squarrosa*	Bull Mitchell Grass			0	Unknown	2	1979	0	Unknown
Flowering Plants	Poaceae	*Bothriochloa bladhii*	Forest Bluegrass			0	Unknown	4	1984	0	Unknown
Flowering Plants	Poaceae	*Bothriochloa bladhii subsp.*	Forest Bluegrass			0	Unknown	2	2010	0	Unknown

		bladhii									
Flowering Plants	Poaceae	*Bothriochloa decipiens*	Pitted Bluegrass	DD		0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Bothriochloa ewartiana*	Desert Bluegrass			0	Unknown	4	1991	0	Unknown
Flowering Plants	Poaceae	*Brachyachne ambigua*	Native Couch			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Brachyachne convergens*	Spider Grass			0	Unknown	1	1979	0	Unknown
Flowering Plants	Poaceae	*Brachyachne tenella*	Slender Native Couch			0	Unknown	2	2010	0	Unknown
Flowering Plants	Poaceae	*Cenchrus elymoides*	Burr-grass			0	Unknown	6	2010	0	Unknown
Flowering Plants	Poaceae	*Chionachne cyathopoda*	River Grass			0	Unknown	2	1984	0	Unknown
Flowering Plants	Poaceae	*Chionachne hubbardiana*	Hairy Ribbon Grass			0	Unknown	4	1995	0	Unknown
Flowering Plants	Poaceae	*Chloris pectinata*	Comb Chloris			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Chrysopogon elongatus*	Tall Tamil Grass			0	Unknown	2	1984	0	Unknown
Flowering Plants	Poaceae	*Chrysopogon fallax*	Golden-beard Grass			0	Unknown	4	1971	0	Unknown
Flowering Plants	Poaceae	*Chrysopogon latifolius*	Broadleaf Ribbon Grass			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Chrysopogon oliganthus*	Chrysopogon			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Chrysopogon setifolius*	Yellow Grass			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Cymbopogon ambiguus*	Lemon-scented Grass			0	Unknown	2	1984	0	Unknown
Flowering Plants	Poaceae	*Cymbopogon bombycinus*	Silky Oilgrass			0	Unknown	16	2010	0	Unknown
Flowering Plants	Poaceae	*Cymbopogon procerus*	Scentgrass			0	Unknown	0	Unknown	1	1998
Flowering Plants	Poaceae	*Cymbopogon refractus*	Barbed-Wire Grass			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Dactyloctenium radulans*	Button Grass			0	Unknown	0	Unknown	0	Unknown
Flowering	Poaceae	*Dichanthium fecundum*	Curly Bluegrass			0	Unknown	5	2010	0	Unknown

Plants											
Flowering Plants	Poaceae	*Dichanthium sericeum*	Queensland Bluegrass			0	Unknown	2	1986	0	Unknown
Flowering Plants	Poaceae	*Dichanthium sericeum*	Tassel Bluegrass			0	Unknown	1	1948	0	Unknown
		subsp. polystachyum									
Flowering Plants	Poaceae	*Dichanthium sericeum*	Silky Bluegrass			0	Unknown	2	1979	0	Unknown
		subsp. sericeum									
Flowering Plants	Poaceae	*Digitaria breviglumis*	Finger Grass			0	Unknown	2	1991	0	Unknown
Flowering Plants	Poaceae	*Digitaria brownii*	Cotton Panic Grass			0	Unknown	10	2010	0	Unknown
Flowering Plants	Poaceae	*Digitaria ctenantha*	Comb Finger Grass			0	Unknown	2	2010	0	Unknown
Flowering Plants	Poaceae	*Digitaria gibbosa*	Finger Grass			0	Unknown	2	2010	0	Unknown
Flowering Plants	Poaceae	*Digitaria nematostachya*	Finger Grass			0	Unknown	2	1971	0	Unknown
Flowering Plants	Poaceae	*Digitaria papposa*	Finger Grass			0	Unknown	4	2010	1	1998
Flowering Plants	Poaceae	*Dimeria ornithopoda*	Dimeria			0	Unknown	2	1985	0	Unknown
Flowering Plants	Poaceae	*Echinochloa turneriana*	Northern Channel Millet			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Ectrosia danesii*	Haresfoot Grass			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Ectrosia leporina*	Haresfoot Grass			0	Unknown	10	1998	1	1998
Flowering Plants	Poaceae	*Ectrosia schultzii var. annua*	Haresfoot Grass			0	Unknown	4	2010	0	Unknown
Flowering Plants	Poaceae	*Ectrosia schultzii var.*	Haresfoot Grass			0	Unknown	2	1993	0	Unknown
		schultzii									
Flowering Plants	Poaceae	*Elytrophorus spicatus*	Spike-grass			0	Unknown	4	2010	0	Unknown
Flowering Plants	Poaceae	*Enneapogon avenaceus*	Common Bottle-washers			0	Unknown	2	1971	0	Unknown
Flowering Plants	Poaceae	*Enneapogon clelandii*	Cleland`s Nine-awn			0	Unknown	2	1971	0	Unknown

Flowering Plants	Poaceae	*Enneapogon decipiens*	Nine-awn Grass			0	Unknown	3	2010	0	Unknown
Flowering Plants	Poaceae	*Enneapogon lindleyanus*	Wiry Nine-awn			0	Unknown	5	2010	0	Unknown
Flowering Plants	Poaceae	*Enneapogon oblongus*	Rock Nine-awn			0	Unknown	2	1984	0	Unknown
Flowering Plants	Poaceae	*Enneapogon pallidus*	Conetop Nine-awn			0	Unknown	4	2010	0	Unknown
Flowering Plants	Poaceae	*Enneapogon polyphyllus*	Leafy Nine-awn			0	Unknown	13	2010	0	Unknown
Flowering Plants	Poaceae	*Enneapogon purpurascens*	Purple Nineawn			0	Unknown	10	2010	0	Unknown
Flowering Plants	Poaceae	*Enteropogon minutus*	Windmill Grass	DD		0	Unknown	4	1994	0	Unknown
Flowering Plants	Poaceae	*Eragrostis confertiflora*	Spike Lovegrass			0	Unknown	5	1991	0	Unknown
Flowering Plants	Poaceae	*Eragrostis cumingii*	Cuming`s Lovegrass			0	Unknown	2	1947	1	1998
Flowering Plants	Poaceae	*Eragrostis exigua*	Lovegrass			0	Unknown	4	1985	0	Unknown
Flowering Plants	Poaceae	*Eragrostis fallax*	Lovegrass			0	Unknown	6	2010	0	Unknown
Flowering Plants	Poaceae	*Eragrostis schultzii*	Lovegrass			0	Unknown	2	1976	0	Unknown
Flowering Plants	Poaceae	*Eragrostis setifolia*	Neverfail Grass			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Eragrostis spartinoides*	Lovegrass			0	Unknown	2	1948	0	Unknown
Flowering Plants	Poaceae	*Eragrostis speciosa*	Handsome Lovegrass			0	Unknown	2	1948	0	Unknown
Flowering Plants	Poaceae	*Eragrostis tenellula*	Delicate Lovegrass			0	Unknown	14	2010	0	Unknown
Flowering Plants	Poaceae	*Eriachne armitii*	Long-awn Wanderrie			0	Unknown	2	1984	0	Unknown
Flowering Plants	Poaceae	*Eriachne basalis*	Wanderrie Grass	DD		0	Unknown	2	1995	0	Unknown
Flowering Plants	Poaceae	*Eriachne basedowii*	Wanderrie Grass			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Eriachne burkittii*	Wanderrie Grass			0	Unknown	0	Unknown	1	1998

Flowering Plants	Poaceae	*Eriachne ciliata*	Slender Wanderrie			0	Unknown	4	1984	1	1998
Flowering Plants	Poaceae	*Eriachne major*	Wanderrie Grass			0	Unknown	4	1985	0	Unknown
Flowering Plants	Poaceae	*Eriachne melicacea*	Fire Grass			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Eriachne mucronata*	Mountain Wanderrie			0	Unknown	2	1998	0	Unknown
Flowering Plants	Poaceae	*Eriachne nervosa*	Plains Wanderrie			0	Unknown	2	1948	0	Unknown
Flowering Plants	Poaceae	*Eriachne obtusa*	Northern Wanderrie			0	Unknown	4	1988	0	Unknown
Flowering Plants	Poaceae	*Eriachne schultziana*	Salt-and-Pepper Grass			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Eriachne squarrosa*	Short Salt-and-Pepper Grass			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Eriachne triseta*	Wanderrie Grass			0	Unknown	4	1976	0	Unknown
Flowering Plants	Poaceae	*Eriachne vesiculosa*	Wanderrie Grass	DD		0	Unknown	1	1990	0	Unknown
Flowering Plants	Poaceae	*Eulalia annua*	Eulalia			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Eulalia aurea*	Silky Browntop			0	Unknown	13	2010	0	Unknown
Flowering Plants	Poaceae	*Germainia truncatiglumis*	Germainia			0	Unknown	2	1985	0	Unknown
Flowering Plants	Poaceae	*Heterachne gulliveri var. gulliveri*	Heterachne			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Heteropogon contortus*	Black Speargrass			0	Unknown	8	1988	0	Unknown
Flowering Plants	Poaceae	*Heteropogon triticeus*	Giant Speargrass			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Ischaemum australe*	Ischaemum			0	Unknown	0	Unknown	2	1998
Flowering Plants	Poaceae	*Iseilema calvum*	Flinders Grass	DD		0	Unknown	2	1947	0	Unknown
Flowering Plants	Poaceae	*Iseilema convexum*	Flinders Grass	DD		0	Unknown	2	1947	0	Unknown

Flowering Plants	Poaceae	*Iseilema fragile*	Flinders Grass			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Iseilema macratherum*	Bull Flinders Grass			0	Unknown	4	2010	0	Unknown
Flowering Plants	Poaceae	*Iseilema membranaceum*	Small Flinders Grass			0	Unknown	8	1984	0	Unknown
Flowering Plants	Poaceae	*Iseilema vaginiflorum*	Red Flinders Grass			0	Unknown	9	1988	0	Unknown
Flowering Plants	Poaceae	*Iseilema windersii*	Scented Flinders Grass			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Mnesithea formosa*	Red Grass			0	Unknown	4	1998	0	Unknown
Flowering Plants	Poaceae	*Mnesithea granularis*	Mnesithea			0	Unknown	2	2010	0	Unknown
Flowering Plants	Poaceae	*Mnesithea rottboellioides*	Northern Canegrass			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Ophiuros exaltatus*	Canegrass			0	Unknown	2	1984	0	Unknown
Flowering Plants	Poaceae	*Oryza australiensis*	Australian Wild Rice			0	Unknown	6	2004	0	Unknown
Flowering Plants	Poaceae	*Panicum decompositum*	Australian Millet			0	Unknown	6	1991	0	Unknown
Flowering Plants	Poaceae	*Panicum decompositum var.*	Australian Millet			0	Unknown	0	Unknown	0	Unknown
		decompositum									
Flowering Plants	Poaceae	*Panicum decompositum var.*	Australian Millet			0	Unknown	0	Unknown	0	Unknown
		tenuius									
Flowering Plants	Poaceae	*Panicum effusum*	Hairy Panic			0	Unknown	2	2008	0	Unknown
Flowering Plants	Poaceae	*Panicum laevinode*	Pepper Grass			0	Unknown	6	1971	0	Unknown
Flowering Plants	Poaceae	*Panicum mindanaense*	Native Panic			0	Unknown	8	1991	0	Unknown
Flowering Plants	Poaceae	*Panicum seminudum var.*	Panic			0	Unknown	0	Unknown	0	Unknown
		cairnsianum									
Flowering Plants	Poaceae	*Panicum trachyrhachis*	Whistle Grass			0	Unknown	0	Unknown	0	Unknown
Flowering	Poaceae	*Panicum trichoides*	Jungle Grass			0	Unknown	2	1989	0	Unknown

Plants											
Flowering Plants	Poaceae	*Paspalidium basicladum*	Summer Grass			0	Unknown	0	Unknown	1	1998
Flowering Plants	Poaceae	*Paspalidium constrictum*	Knotty-butt Paspalidium			0	Unknown	2	1991	0	Unknown
Flowering Plants	Poaceae	*Paspalidium distans*	Shot Grass			0	Unknown	4	1991	0	Unknown
Flowering Plants	Poaceae	*Paspalidium gracile*	Slender Panic	DD		0	Unknown	2	1991	0	Unknown
Flowering Plants	Poaceae	*Paspalidium jubiflorum*	Warrego Summar-Grass			0	Unknown	2	1948	0	Unknown
Flowering Plants	Poaceae	*Paspalidium rarum*	Bunch Paspalidium			0	Unknown	7	2010	0	Unknown
Flowering Plants	Poaceae	*Paspalidium retiglume*	Paspalidium			0	Unknown	4	1972	0	Unknown
Flowering Plants	Poaceae	*Paspalum scrobiculatum*	Scrobic			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Perotis rara*	Comet Grass			0	Unknown	3	1984	1	1998
Flowering Plants	Poaceae	*Pseudopogonatherum contortum*	Black Top			0	Unknown	4	1984	0	Unknown
Flowering Plants	Poaceae	*Pseudoraphis spinescens*	Spiny Mudgrass			0	Unknown	4	2010	0	Unknown
Flowering Plants	Poaceae	*Sacciolepis indica*	Indian Cupscale Grass			0	Unknown	6	2010	0	Unknown
Flowering Plants	Poaceae	*Sacciolepis myosuroides*	Cupscale Grass			0	Unknown	2	1976	0	Unknown
Flowering Plants	Poaceae	*Schizachyrium crinizonatum*	Schizachyrium			0	Unknown	2	2010	0	Unknown
Flowering Plants	Poaceae	*Schizachyrium fragile*	Fire Grass			0	Unknown	4	2010	0	Unknown
Flowering Plants	Poaceae	*Schizachyrium pachyarthron*	Fire Grass			0	Unknown	4	2010	0	Unknown
Flowering Plants	Poaceae	*Schizachyrium perplexum*	Schizachyrium			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Schizachyrium pseudeulalia*	Short-leaved Silk Grass			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Sehima nervosum*	White Grass			0	Unknown	6	1991	0	Unknown

Flowering Plants	Poaceae	*Setaria apiculata*	Pigeon Grass			0	Unknown	0	Unknown	1	1998
Flowering Plants	Poaceae	*Setaria surgens*	Brown`s Pigeon Grass			0	Unknown	12	2010	0	Unknown
Flowering Plants	Poaceae	*Sorghum laxiflorum*	Sorghum			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Sorghum plumosum*	Plume Sorghum			0	Unknown	2	1991	0	Unknown
Flowering Plants	Poaceae	*Sorghum plumosum var. plumosum*	Plume Sorghum			0	Unknown	4	2010	0	Unknown
Flowering Plants	Poaceae	*Sorghum stipoideum*	Annual Native Sorghum			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Sorghum timorense*	Downs Sorghum			0	Unknown	16	1991	0	Unknown
Flowering Plants	Poaceae	*Sporobolus australasicus*	Australian Dropseed			0	Unknown	8	2010	0	Unknown
Flowering Plants	Poaceae	*Sporobolus lenticularis*	Sporobolus			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Sporobolus mitchellii*	Rat`s Tail Couch			0	Unknown	2	1971	0	Unknown
Flowering Plants	Poaceae	*Thaumastochloa brassii*	Thaumastochloa			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Thaumastochloa major*	Thaumastochloa			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Thaumastochloa pubescens*	Thaumastochloa			0	Unknown	2	1998	1	1998
Flowering Plants	Poaceae	*Thaumastochloa rubra*	Thaumastochloa			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Thaumastochloa striata*	Thaumastochloa			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Themeda arguens*	Annual Kangaroo Grass			0	Unknown	2	2010	0	Unknown
Flowering Plants	Poaceae	*Themeda avenacea*	Oat Kangaroo Grass			0	Unknown	2	2010	0	Unknown
Flowering Plants	Poaceae	*Themeda triandra*	Kangaroo Grass			0	Unknown	2	1976	0	Unknown
Flowering Plants	Poaceae	*Triodia bitextura*	Curly Spinifex			0	Unknown	6	1991	2	1998
Flowering	Poaceae	*Triodia burbidgeana*	Spinifex			0	Unknown	2	1989	0	Unknown

Plants											
Flowering Plants	Poaceae	*Triodia epactia*	Spinifex			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Triodia inutilis*	Spinifex			0	Unknown	4	2010	0	Unknown
Flowering Plants	Poaceae	*Triodia latzii*	Spinifex			0	Unknown	2	1971	0	Unknown
Flowering Plants	Poaceae	*Triodia microstachya*	Spinifex			0	Unknown	3	2010	0	Unknown
Flowering Plants	Poaceae	*Triodia pungens*	Soft Spinifex			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Triodia stenostachya*	Spinifex			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Urochloa atrisola*	Urochloa	DD		0	Unknown	2	1947	0	Unknown
Flowering Plants	Poaceae	*Urochloa holosericea*	Silkytop Armgrass			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Urochloa holosericea subsp. velutina*	Silkytop Armgrass			0	Unknown	4	2010	0	Unknown
Flowering Plants	Poaceae	*Urochloa piligera*	Hairy Armgrass			0	Unknown	2	1995	0	Unknown
Flowering Plants	Poaceae	*Urochloa pubigera*	Armgrass Millet			0	Unknown	1	1989	0	Unknown
Flowering Plants	Poaceae	*Urochloa reptans*	Fine Armgrass			0	Unknown	2	1994	0	Unknown
Flowering Plants	Poaceae	*Whiteochloa capillipes*	Whiteochloa			0	Unknown	1	1995	0	Unknown
Flowering Plants	Poaceae	*Whiteochloa cymbiformis*	Whiteochloa			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Whiteochloa semitonsa*	Whiteochloa			0	Unknown	2	2010	0	Unknown
Flowering Plants	Poaceae	*Yakirra australiensis*	Desert Flinders Grass			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Poaceae	*Yakirra australiensis var. australiensis*	Desert Flinders Grass			0	Unknown	2	1991	0	Unknown
Flowering Plants	Poaceae	*Yakirra australiensis var. intermedia*	Desert Flinders Grass			0	Unknown	6	2010	0	Unknown

Flowering Plants	Poaceae	*Yakirra majuscula*	Yakirra			0	Unknown	2	1971	0	Unknown
Flowering Plants	Poaceae	*Yakirra muelleri*	Yakirra	DD		0	Unknown	4	2010	0	Unknown
Flowering Plants	Poaceae	*Yakirra pauciflora*	Yakirra			0	Unknown	2	1985	0	Unknown
Flowering Plants	Commelinaceae	*Cartonema parviflorum*	Arda			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Commelinaceae	*Cartonema spicatum*	Cartonema			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Commelinaceae	*Commelina ensifolia*	Wandering Jew			0	Unknown	20	2010	0	Unknown
Flowering Plants	Commelinaceae	*Cyanotis axillaris*	Commelina			0	Unknown	4	1989	1	1998
Flowering Plants	Commelinaceae	*Murdannia graminea*	Pink Swamp Lily			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Pontederiaceae	*Monochoria cyanea*	Monochoria			0	Unknown	6	1985	0	Unknown
Flowering Plants	Philydraceae	*Philydrum lanuginosum*	Woolly Waterlily			0	Unknown	2	1984	0	Unknown
Flowering Plants	Haemodoraceae	*Haemodorum coccineum*	Scarlet-flowered Bloodroot			0	Unknown	10	1998	0	Unknown
Flowering Plants	Menispermaceae	*Tiliacora australiana*	Tiliacora			0	Unknown	2	1989	0	Unknown
Flowering Plants	Menispermaceae	*Tinospora smilacina*	Snake Vine			0	Unknown	4	1988	0	Unknown
Flowering Plants	Proteaceae	*Banksia dentata*	Northern Banksia			0	Unknown	8	1997	0	Unknown
Flowering Plants	Proteaceae	*Grevillea dimidiata*	Caustic Bush			0	Unknown	1	1948	0	Unknown
Flowering Plants	Proteaceae	*Grevillea dryandri*	Dryander`s Grevillea			0	Unknown	2	1959	0	Unknown
Flowering Plants	Proteaceae	*Grevillea dryandri subsp. dryandri*	Dryander`s Grevillea			0	Unknown	2	2010	0	Unknown
Flowering Plants	Proteaceae	*Grevillea heliosperma*	Rock Grevillea			0	Unknown	8	2010	0	Unknown
Flowering Plants	Proteaceae	*Grevillea mimosoides*	Grevillea			0	Unknown	0	Unknown	0	Unknown
Flowering	Proteaceae	*Grevillea parallela*	Silver Grevillea			0	Unknown	4	1999	0	Unknown

Plants											
Flowering Plants	Proteaceae	*Grevillea prasina*	Grevillea			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Proteaceae	*Grevillea pteridifolia*	Fern-leaved Grevillea			0	Unknown	4	1976	1	1998
Flowering Plants	Proteaceae	*Grevillea pungens*	Flame Grevillea			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Proteaceae	*Grevillea refracta*	Silver-leaved Grevillea			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Proteaceae	*Grevillea refracta subsp.*	Silver-leaved Grevillea			0	Unknown	6	1996	0	Unknown
		refracta									
Flowering Plants	Proteaceae	*Grevillea striata*	Western Beefwood			0	Unknown	2	1985	0	Unknown
Flowering Plants	Proteaceae	*Grevillea wickhamii subsp.*	Holly Grevillea			0	Unknown	2	1981	0	Unknown
		aprica									
Flowering Plants	Proteaceae	*Hakea arborescens*	Yellow Hakea			0	Unknown	6	1986	0	Unknown
Flowering Plants	Proteaceae	*Hakea chordophylla*	Northern Corkwood			0	Unknown	2	1948	0	Unknown
Flowering Plants	Proteaceae	*Hakea lorea subsp. borealis*	Northern Long-leaf			0	Unknown	2	1979	0	Unknown
			Corkwood								
Flowering Plants	Proteaceae	*Persoonia falcata*	Milky Plum			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Proteaceae	*Stenocarpus acacioides*	Stenocarpus			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Dilleniaceae	*Hibbertia auriculiflora subsp.*	Guinea Flower			0	Unknown	2	2010	0	Unknown
		minor									
Flowering Plants	Dilleniaceae	*Hibbertia lepidota*	Scaly Guinea Flower			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Dilleniaceae	*Hibbertia oblongata subsp.*	Guinea Flower			0	Unknown	0	Unknown	0	Unknown
		Brevifolia									
Flowering Plants	Dilleniaceae	*Hibbertia tomentosa*	Guinea Flower			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Droseraceae	*Drosera burmanni*	Burman's Sundew			0	Unknown	1	1997	0	Unknown

Flowering Plants	Droseraceae	*Drosera indica*	Narrow-leaved Sundew			0	Unknown	7	1997	0	Unknown
Flowering Plants	Plumbaginaceae	*Plumbago zeylanica*	Native Plumbago			0	Unknown	4	1995	0	Unknown
Flowering Plants	Polygonaceae	*Muehlenbeckia florulenta*	Tangled Lignum			0	Unknown	2	1998	0	Unknown
Flowering Plants	Polygonaceae	*Persicaria barbata*	Smartweed			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Caryophyllaceae	*Polycarpaea breviflora*	Polycarpaea			0	Unknown	8	1995	0	Unknown
Flowering Plants	Caryophyllaceae	*Polycarpaea corymbosa*	Polycarpaea			0	Unknown	12	1991	0	Unknown
Flowering Plants	Caryophyllaceae	*Polycarpaea holtzei*	Polycarpaea			0	Unknown	4	2010	0	Unknown
Flowering Plants	Caryophyllaceae	*Polycarpaea involucrata*	Polycarpaea			0	Unknown	4	1996	0	Unknown
Flowering Plants	Caryophyllaceae	*Polycarpaea longiflora*	Polycarpaea			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Caryophyllaceae	*Polycarpaea multicaulis*	Polycarpaea	DD		0	Unknown	4	1997	1	1998
Flowering Plants	Caryophyllaceae	*Polycarpaea spirostylis*	Copper Plant			0	Unknown	18	2010	0	Unknown
Flowering Plants	Caryophyllaceae	*Polycarpaea violacea*	Polycarpaea			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Amaranthaceae	*Achyranthes aspera*	Prickly Chaff Flower			0	Unknown	6	1991	0	Unknown
Flowering Plants	Amaranthaceae	*Alternanthera angustifolia*	Narrow-leaf Joyweed			0	Unknown	3	2010	0	Unknown
Flowering Plants	Amaranthaceae	*Alternanthera denticulata*	Lesser Joyweed			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Amaranthaceae	*Alternanthera denticulata*	Lesser Joyweed			0	Unknown	4	2010	0	Unknown
		var. denticulata									
Flowering Plants	Amaranthaceae	*Alternanthera nana*	Hairy Joyweed			0	Unknown	10	2010	0	Unknown
Flowering Plants	Amaranthaceae	*Alternanthera nodiflora*	Common Joyweed			0	Unknown	6	1990	0	Unknown
Flowering Plants	Amaranthaceae	*Amaranthus cochleitepalus*	Amaranth			0	Unknown	0	Unknown	0	Unknown
Flowering	Amaranthaceae	*Amaranthus interruptus*	Native Amaranth			0	Unknown	5	1984	0	Unknown

Plants											
Flowering Plants	Amaranthaceae	*Amaranthus pallidiflorus*	Pale-flowered Amaranth			0	Unknown	2	1990	0	Unknown
Flowering Plants	Amaranthaceae	*Amaranthus undulatus*	Amaranth			0	Unknown	6	2010	0	Unknown
Flowering Plants	Amaranthaceae	*Dysphania rhadinostachya*	Rat Tails			0	Unknown	1	1989	0	Unknown
		subsp. rhadinostachya									
Flowering Plants	Amaranthaceae	*Enchylaena tomentosa*	Ruby Saltbush			0	Unknown	2	1991	0	Unknown
Flowering Plants	Amaranthaceae	*Gomphrena affinis*	Gomphrena			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Amaranthaceae	*Gomphrena brachystylis*	Gomphrena			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Amaranthaceae	*Gomphrena breviflora*	Gomphrena			0	Unknown	6	1998	0	Unknown
Flowering Plants	Amaranthaceae	*Gomphrena canescens*	Batchelor`s Buttons			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Amaranthaceae	*Gomphrena canescens*	Batchelor`s Buttons			0	Unknown	8	1991	0	Unknown
		subsp. canescens									
Flowering Plants	Amaranthaceae	*Gomphrena conica*	Gomphrena Weed	DD		0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Amaranthaceae	*Gomphrena diffusa*	Gomphrena Weed			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Amaranthaceae	*Gomphrena flaccida*	Gomphrena Weed			0	Unknown	6	2010	0	Unknown
Flowering Plants	Amaranthaceae	*Gomphrena lanata*	Gomphrena			0	Unknown	12	2010	0	Unknown
Flowering Plants	Amaranthaceae	*Gomphrena leptophylla*	Gomphrena			0	Unknown	2	1986	0	Unknown
Flowering Plants	Amaranthaceae	*Maireana villosa*	Silky Bluebush			0	Unknown	2	1991	0	Unknown
Flowering Plants	Amaranthaceae	*Ptilotus calostachyus*	Weeping Mulla Mulla			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Amaranthaceae	*Ptilotus conicus*	Red Everlasting			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Amaranthaceae	*Ptilotus corymbosus*	Mulla Mulla			0	Unknown	14	2010	0	Unknown
Flowering	Amaranthaceae	*Ptilotus dissitiflorus*	Mulla Mulla			0	Unknown	8	1948	0	Unknown

Plants											
Flowering Plants	Amaranthaceae	*Ptilotus distans*	Mulla Mulla			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Amaranthaceae	*Ptilotus exaltatus*	Pink Mulla Mulla			0	Unknown	4	1991	0	Unknown
Flowering Plants	Amaranthaceae	*Ptilotus fusiformis*	Skeleton plant			0	Unknown	6	2010	0	Unknown
Flowering Plants	Amaranthaceae	*Ptilotus polystachyus*	Long Pussy-tails			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Amaranthaceae	*Ptilotus spicatus*	Mulla Mulla			0	Unknown	7	2010	0	Unknown
Flowering Plants	Amaranthaceae	*Salsola australis*	Rolypoly			0	Unknown	5	2010	0	Unknown
Flowering Plants	Molluginaceae	*Glinus lotoides*	Hairy Carpet-weed			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Molluginaceae	*Glinus oppositifolius*	Slender Carpet-weed			0	Unknown	4	1993	0	Unknown
Flowering Plants	Portulacaceae	*Calandrinia gracilis*	Parakeelya			0	Unknown	2	1997	0	Unknown
Flowering Plants	Portulacaceae	*Calandrinia uniflora*	Parakeelya			0	Unknown	6	1998	0	Unknown
Flowering Plants	Portulacaceae	*Portulaca bicolor*	Heart Plant			0	Unknown	4	2007	0	Unknown
Flowering Plants	Portulacaceae	*Portulaca filifolia*	Slender Pigweed			0	Unknown	1	2010	0	Unknown
Flowering Plants	Portulacaceae	*Portulaca intraterranea*	Buttercup Pigweed			0	Unknown	4	1991	0	Unknown
Flowering Plants	Portulacaceae	*Portulaca oleracea*	Munyeroo			0	Unknown	2	2010	0	Unknown
Flowering Plants	Portulacaceae	*Portulaca oleracea var. Yuendumu*	Munyeroo			0	Unknown	2	1998	0	Unknown
Flowering Plants	Portulacaceae	*Portulaca oligosperma*	Pigweed			0	Unknown	4	1998	0	Unknown
Flowering Plants	Portulacaceae	*Portulaca sp. clay soil*	Pigweed			0	Unknown	2	1998	0	Unknown
Flowering Plants	Portulacaceae	*Portulaca sp. Elliott*	Pigweed			0	Unknown	6	2010	0	Unknown
Flowering Plants	Aizoaceae	*Trianthema pilosa*	Purslane			0	Unknown	4	1986	0	Unknown

Flowering Plants	Aizoaceae	*Trianthema rhynchocalyptra*	Purslane			0	Unknown	2	2010	0	Unknown
Flowering Plants	Nyctaginaceae	*Boerhavia burbidgeana*	Tar Vine			0	Unknown	2	1998	0	Unknown
Flowering Plants	Nyctaginaceae	*Boerhavia coccinea*	Scarlet Tar Vine			0	Unknown	12	2010	0	Unknown
Flowering Plants	Nyctaginaceae	*Boerhavia dominii*	Tar Vine			0	Unknown	2	1998	0	Unknown
Flowering Plants	Nyctaginaceae	*Boerhavia gardneri*	Tar Vine			0	Unknown	1	2010	0	Unknown
Flowering Plants	Nyctaginaceae	*Boerhavia paludosa*	Black-soil Tar Vine			0	Unknown	10	2010	0	Unknown
Flowering Plants	Nyctaginaceae	*Boerhavia schomburgkiana*	Yipa			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Olacaceae	*Olax aphylla*	Leafless Olax			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Opiliaceae	*Opilia amentacea*	Opilia			0	Unknown	2	1995	0	Unknown
Flowering Plants	Santalaceae	*Santalum album*	Indian Sandalwood			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Santalaceae	*Santalum lanceolatum*	Plumbush			0	Unknown	16	2010	0	Unknown
Flowering Plants	Loranthaceae	*Amyema herbertiana*	Mistletoe	DD		0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Loranthaceae	*Amyema maidenii*	Pale-leaf Mistletoe			0	Unknown	1	1989	0	Unknown
Flowering Plants	Loranthaceae	*Amyema maidenii subsp. maidenii*	Pale-leaf Mistletoe			0	Unknown	2	1991	0	Unknown
Flowering Plants	Loranthaceae	*Amyema miquelii*	Box Mistletoe			0	Unknown	2	1979	0	Unknown
Flowering Plants	Loranthaceae	*Amyema sanguinea*	Blood Mistletoe			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Loranthaceae	*Amyema villiflora*	Mistletoe			0	Unknown	4	1996	0	Unknown
Flowering Plants	Loranthaceae	*Dendrophthoe glabrescens*	Orange-Flowered Mistletoe			0	Unknown	12	2010	0	Unknown
Flowering Plants	Loranthaceae	*Diplatia grandibractea*	Royal Mistletoe			0	Unknown	2	1998	0	Unknown
Flowering	Loranthaceae	*Lysiana spathulata subsp.*	Flat-leaved Mistletoe			0	Unknown	4	1981	0	Unknown

Plants											
		spathulata									
Flowering Plants	Haloragaceae	*Gonocarpus chinensis*	Gonocarpus			0	Unknown	4	2010	0	Unknown
Flowering Plants	Haloragaceae	*Gonocarpus chinensis*	Gonocarpus			0	Unknown	2	2010	0	Unknown
		subsp. chinensis									
Flowering Plants	Haloragaceae	*Gonocarpus leptothecus*	Gonocarpus			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Haloragaceae	*Haloragis glauca*	Grey Raspwort			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Haloragaceae	*Haloragis glauca f. glauca*	Raspwort			0	Unknown	2	1948	0	Unknown
Flowering Plants	Haloragaceae	*Myriophyllum dicoccum*	Water Milfoil			0	Unknown	2	1985	0	Unknown
Flowering Plants	Vitaceae	*Cayratia maritima*	Native Grape			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Vitaceae	*Cayratia trifolia*	Native Grape			0	Unknown	8	1998	0	Unknown
Flowering Plants	Vitaceae	*Cissus reniformis*	Large-leaved Jungle Vine			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Combretaceae	*Macropteranthes kekwickii*	Bullwaddy			0	Unknown	6	1991	0	Unknown
Flowering Plants	Combretaceae	*Terminalia aridicola subsp.*	Arid Peach			0	Unknown	4	1970	0	Unknown
		aridicola									
Flowering Plants	Combretaceae	*Terminalia bursarina*	Bendee			0	Unknown	14	2010	0	Unknown
Flowering Plants	Combretaceae	*Terminalia canescens*	Winged Nut Tree			0	Unknown	7	1988	1	1998
Flowering Plants	Combretaceae	*Terminalia carpentariae*	Wild Peach			0	Unknown	2	1984	0	Unknown
Flowering Plants	Combretaceae	*Terminalia ferdinandiana*	Billy-goat Plum			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Combretaceae	*Terminalia platyphylla*	Red Plum			0	Unknown	4	2010	0	Unknown
Flowering Plants	Combretaceae	*Terminalia pterocarya*	Wing-fruited Terminalia			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Combretaceae	*Terminalia volucris*	Rosewood			0	Unknown	8	1995	0	Unknown

Flowering Plants	Lythraceae	*Ammannia baccifera*	Ammannia			0	Unknown	2	2010	0	Unknown
Flowering Plants	Lythraceae	*Ammannia multiflora*	Jerry-Jerry			0	Unknown	11	1996	1	1998
Flowering Plants	Lythraceae	*Nesaea crinipes*	Neasea	DD		0	Unknown	2	2004	0	Unknown
Flowering Plants	Lythraceae	*Rotala diandra*	Rotala			0	Unknown	2	2010	0	Unknown
Flowering Plants	Lythraceae	*Rotala mexicana*	Rotala			0	Unknown	2	1985	0	Unknown
Flowering Plants	Lythraceae	*Rotala occultiflora*	Rotala			0	Unknown	2	2010	0	Unknown
Flowering Plants	Onagraceae	*Ludwigia hyssopifolia*	Seedbox			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Onagraceae	*Ludwigia octovalvis*	Willow Primrose			0	Unknown	4	1981	0	Unknown
Flowering Plants	Onagraceae	*Ludwigia perennis*	Ludwigia			0	Unknown	4	1984	0	Unknown
Flowering Plants	Myrtaceae	*Asteromyrtus symphyocarpa*	Liniment Tree			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Myrtaceae	*Calytrix brownii*	Kerosene Bush			0	Unknown	10	2010	0	Unknown
Flowering Plants	Myrtaceae	*Calytrix exstipulata*	Turkey Bush			0	Unknown	15	1996	2	1998
Flowering Plants	Myrtaceae	*Calytrix mimiana*	Fringe-myrtle			0	Unknown	2	1997	0	Unknown
Flowering Plants	Myrtaceae	*Corymbia aspera*	Rough-leaved Range Gum			0	Unknown	10	1993	0	Unknown
Flowering Plants	Myrtaceae	*Corymbia bella*	Ghost Gum			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Myrtaceae	*Corymbia confertiflora*	Roughleaf Cabbage Gum			0	Unknown	4	1986	0	Unknown
Flowering Plants	Myrtaceae	*Corymbia dichromophloia*	Variable-barked Bloodwood			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Myrtaceae	*Corymbia drysdalensis*	Bloodwood			0	Unknown	6	1993	0	Unknown
Flowering Plants	Myrtaceae	*Corymbia ferruginea*	Rusty Bloodwood			0	Unknown	2	1984	0	Unknown
Flowering Plants	Myrtaceae	*Corymbia ferruginea subsp.*	Rusty Bloodwood			0	Unknown	1	1971	0	Unknown

		ferruginea									
Flowering Plants	Myrtaceae	*Corymbia flavescens*	Cabbage Gum			0	Unknown	7	1971	0	Unknown
Flowering Plants	Myrtaceae	*Corymbia foelscheana*	Broad-leaved Bloodwood			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Myrtaceae	*Corymbia grandifolia*	Large-leaved Cabbage Gum			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Myrtaceae	*Corymbia grandifolia subsp.*	Large-leaved Cabbage Gum			0	Unknown	2	1984	0	Unknown
		grandifolia									
Flowering Plants	Myrtaceae	*Corymbia polycarpa*	Long-fruited Bloodwood			0	Unknown	8	1997	0	Unknown
Flowering Plants	Myrtaceae	*Corymbia ptychocarpa*	Swamp Bloodwood			0	Unknown	0	Unknown	1	1998
Flowering Plants	Myrtaceae	*Corymbia ptychocarpa*	Swamp Bloodwood			0	Unknown	3	1989	0	Unknown
		subsp. ptychocarpa									
Flowering Plants	Myrtaceae	*Corymbia terminalis*	Northern Bloodwood			0	Unknown	10	1996	0	Unknown
Flowering Plants	Myrtaceae	*Eucalyptus barklyensis*	Barkly Coolabah			0	Unknown	2	1988	0	Unknown
Flowering Plants	Myrtaceae	*Eucalyptus brevifolia*	Snappy Gum			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Myrtaceae	*Eucalyptus camaldulensis*	River Red Gum			0	Unknown	0	Unknown	4	1998
Flowering Plants	Myrtaceae	*Eucalyptus camaldulensis*	Northern River Red Gum			0	Unknown	11	2008	0	Unknown
		subsp. obtusa									
Flowering Plants	Myrtaceae	*Eucalyptus chlorophylla*	Green-leaf Box			0	Unknown	12	2000	0	Unknown
Flowering Plants	Myrtaceae	*Eucalyptus chlorophylla*	Greenleaf Box			0	Unknown	2	2008	0	Unknown
		subsp. chlorophylla									
Flowering Plants	Myrtaceae	*Eucalyptus leucophloia*	Snappy Gum			0	Unknown	16	1998	0	Unknown
Flowering Plants	Myrtaceae	*Eucalyptus leucophloia*	Snappy Gum			0	Unknown	1	1984	1	1998
		subsp. euroa									
Flowering Plants	Myrtaceae	*Eucalyptus microtheca*	Western Coolibah			0	Unknown	10	2010	0	Unknown

Flowering Plants	Myrtaceae	*Eucalyptus miniata*	Darwin Woollybutt			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Myrtaceae	*Eucalyptus normantonensis*	Normanton Box			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Myrtaceae	*Eucalyptus phoenicea*	Scarlet Gum			0	Unknown	2	1986	0	Unknown
Flowering Plants	Myrtaceae	*Eucalyptus pruinosa*	Silver-leaf Box			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Myrtaceae	*Eucalyptus pruinosa subsp.*	Silver-leaf Box			0	Unknown	4	1991	0	Unknown
		pruinosa									
Flowering Plants	Myrtaceae	*Eucalyptus pruinosa subsp.*	Silver-leaf Box			0	Unknown	2	1997	0	Unknown
		tenuata									
Flowering Plants	Myrtaceae	*Eucalyptus tectifica*	McArthur River Box			0	Unknown	2	1985	0	Unknown
Flowering Plants	Myrtaceae	*Eucalyptus tetrodonta*	Darwin Stringybark			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Myrtaceae	*Homalocalyx ericaeus*	Featherflower			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Myrtaceae	*Lithomyrtus hypoleuca*	Lithomyrtus			0	Unknown	7	1997	0	Unknown
Flowering Plants	Myrtaceae	*Lophostemon grandiflorus*	Northern Swamp Box			0	Unknown	5	1985	1	1998
Flowering Plants	Myrtaceae	*Lophostemon grandiflorus*	Northern Swamp Box			0	Unknown	6	1985	0	Unknown
		subsp. riparius									
Flowering Plants	Myrtaceae	*Melaleuca acacioides*	Coastal Paperbark			0	Unknown	2	1990	0	Unknown
Flowering Plants	Myrtaceae	*Melaleuca argentea*	Silver-leaved Paperbark			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Myrtaceae	*Melaleuca bracteata*	Black Tea-tree			0	Unknown	6	2010	0	Unknown
Flowering Plants	Myrtaceae	*Melaleuca citrolens*	Lemon-scented Paperbark			0	Unknown	6	1986	0	Unknown
Flowering Plants	Myrtaceae	*Melaleuca ferruginea*	Paperbark			0	Unknown	2	1984	0	Unknown
Flowering Plants	Myrtaceae	*Melaleuca leucadendra*	Weeping Paperbark			0	Unknown	6	1995	2	1998
Flowering	Myrtaceae	*Melaleuca nervosa*	Yellow-barked Paperbark			0	Unknown	6	1984	0	Unknown

Plants											
Flowering Plants	Myrtaceae	*Melaleuca stenostachya*	Paperbark			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Myrtaceae	*Melaleuca viridiflora*	Broad-leaved Paperbark			0	Unknown	3	1984	0	Unknown
Flowering Plants	Myrtaceae	*Syzygium angophoroides*	Yarrabah Satinash			0	Unknown	14	1995	0	Unknown
Flowering Plants	Melastomataceae	*Melastoma malabathricum*	Native Lasiandra			0	Unknown	11	1995	1	1998
		subsp. malabathricum									
Flowering Plants	Zygophyllaceae	*Tribulopis angustifolia*	Tribulopis			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Zygophyllaceae	*Tribulopis pentandra*	Tribulopis			0	Unknown	10	2010	0	Unknown
Flowering Plants	Celastraceae	*Denhamia cunninghamii*	Yellowberry Bush			0	Unknown	12	1996	0	Unknown
Flowering Plants	Celastraceae	*Denhamia ferdinandi*	Matytenus			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Celastraceae	*Stackhousia intermedia*	Wiry Stackhousia			0	Unknown	7	2010	0	Unknown
Flowering Plants	Violaceae	*Hybanthus aurantiacus*	Orange Spade Flower			0	Unknown	2	1991	0	Unknown
Flowering Plants	Violaceae	*Hybanthus enneaspermus*	Blue Spade Flower			0	Unknown	10	1991	0	Unknown
Flowering Plants	Violaceae	*Hybanthus enneaspermus*	Blue Spade Flower			0	Unknown	0	Unknown	0	Unknown
		subsp. enneaspermus									
Flowering Plants	Euphorbiaceae	*Calycopeplus collinus*	Calycopeplus			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Euphorbiaceae	*Euphorbia biconvexa*	Euphorbia			0	Unknown	10	2010	0	Unknown
Flowering Plants	Euphorbiaceae	*Euphorbia bifida*	Euphorbia			0	Unknown	6	2010	0	Unknown
Flowering Plants	Euphorbiaceae	*Euphorbia coghlanii*	Euphorbia			0	Unknown	4	1987	0	Unknown
Flowering Plants	Euphorbiaceae	*Euphorbia drummondii*	Caustic Weed			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Euphorbiaceae	*Euphorbia mitchelliana*	Native Gypsophila			0	Unknown	12	2010	0	Unknown
Flowering	Euphorbiaceae	*Euphorbia schizolepis*	Euphorbia			0	Unknown	10	2010	0	Unknown

Plants											
Flowering Plants	Euphorbiaceae	*Euphorbia schultzii var. comans*	Euphorbia			0	Unknown	6	1989	0	Unknown
Flowering Plants	Euphorbiaceae	*Euphorbia schultzii var. schultzii*	Euphorbia			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Euphorbiaceae	*Euphorbia sp. Winnecke Hills*	Euphorbia			0	Unknown	2	1989	0	Unknown
Flowering Plants	Euphorbiaceae	*Euphorbia tannensis*	Desert Spurge			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Euphorbiaceae	*Euphorbia tannensis subsp. eremophila*	Caustic Bush			0	Unknown	2	2010	0	Unknown
Flowering Plants	Euphorbiaceae	*Euphorbia tannensis subsp. tannensis*	Caustic Bush			0	Unknown	2	2008	0	Unknown
Flowering Plants	Euphorbiaceae	*Excoecaria parvifolia*	Gutta-percha			0	Unknown	2	1988	0	Unknown
Flowering Plants	Euphorbiaceae	*Mallotus nesophilus*	Yellow Ball Flower			0	Unknown	8	1989	0	Unknown
Flowering Plants	Euphorbiaceae	*Microstachys chamaelea*	Striped Seed Plant			0	Unknown	10	1997	1	1998
Flowering Plants	Phyllanthaceae	*Antidesma ghesaembilla*	Black Currant Bush			0	Unknown	6	1995	0	Unknown
Flowering Plants	Phyllanthaceae	*Antidesma parvifolium*	Currant Bush			0	Unknown	10	1996	0	Unknown
Flowering Plants	Phyllanthaceae	*Breynia cernua*	Breynia			0	Unknown	5	2010	0	Unknown
Flowering Plants	Phyllanthaceae	*Bridelia tomentosa*	Pop-gun Seed			0	Unknown	2	1985	0	Unknown
Flowering Plants	Phyllanthaceae	*Flueggea virosa*	White Currant			0	Unknown	8	1988	0	Unknown
Flowering Plants	Phyllanthaceae	*Flueggea virosa subsp. melanthesoides*	White Currant			0	Unknown	4	2010	1	1998
Flowering Plants	Phyllanthaceae	*Glochidion apodogynum*	Cheese Tree			0	Unknown	0	Unknown	0	Unknown
Flowering	Phyllanthaceae	*Glochidion disparipes*	Cheese Tree			0	Unknown	0	Unknown	0	Unknown

Plants											
Flowering Plants	Phyllanthaceae	*Glochidion xerocarpum*	Little Cheeses			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Phyllanthaceae	*Margaritaria dubium-traceyi*	Tracey's Puzzle			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Phyllanthaceae	*Notoleptopus decaisnei*	Leptopus			0	Unknown	11	2010	0	Unknown
Flowering Plants	Phyllanthaceae	*Phyllanthus aridus*	Phyllanthus			0	Unknown	2	1997	0	Unknown
Flowering Plants	Phyllanthaceae	*Phyllanthus arnhemicus*	Phyllanthus			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Phyllanthaceae	*Phyllanthus eutaxioides*	Phyllanthus			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Phyllanthaceae	*Phyllanthus exilis*	Phyllanthus			0	Unknown	14	1998	0	Unknown
Flowering Plants	Phyllanthaceae	*Phyllanthus hebecarpus*	Phyllanthus			0	Unknown	7	2010	0	Unknown
Flowering Plants	Phyllanthaceae	*Phyllanthus indigoferoides*	Phyllanthus			0	Unknown	4	2010	0	Unknown
Flowering Plants	Phyllanthaceae	*Phyllanthus maderaspatensis*	Phyllanthus			0	Unknown	24	2010	0	Unknown
Flowering Plants	Phyllanthaceae	*Phyllanthus minutiflorus*	Phyllanthus			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Phyllanthaceae	*Phyllanthus reticulatus*	Phyllanthus			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Phyllanthaceae	*Phyllanthus sulcatus*	Phyllanthus			0	Unknown	2	1993	0	Unknown
Flowering Plants	Phyllanthaceae	*Phyllanthus virgatus*	Seed-under-leaf			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Phyllanthaceae	*Sauropus rhytidospermus*	Sauropus			0	Unknown	2	2010	0	Unknown
Flowering Plants	Phyllanthaceae	*Sauropus rigidulus*	Sauropus			0	Unknown	4	2010	0	Unknown
Flowering Plants	Phyllanthaceae	*Sauropus stenocladus*	Sauropus			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Phyllanthaceae	*Sauropus sp.*	Sauropus			0	Unknown	1	1991	0	Unknown
Flowering Plants	Picrodendraceae	*Petalostigma banksii*	Quinine Bush			0	Unknown	0	Unknown	0	Unknown

Flowering Plants	Picrodendraceae	*Petalostigma pubescens*	Quinine Tree			0	Unknown	2	1986	0	Unknown
Flowering Plants	Picrodendraceae	*Petalostigma quadriloculare*	Quinine Bush			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Rhizophoraceae	*Carallia brachiata*	Billabong Tree			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Erythroxylaceae	*Erythroxylum ellipticum*	Kerosene Wood			0	Unknown	8	1991	0	Unknown
Flowering Plants	Elatinaceae	*Bergia pedicellaris*	Water-fire			0	Unknown	2	2010	0	Unknown
Flowering Plants	Elatinaceae	*Bergia trimera*	Small Water-Fire			0	Unknown	4	2010	0	Unknown
Flowering Plants	Fabaceae	*Abrus precatorius*	Crab`s Eye			0	Unknown	2	1984	0	Unknown
Flowering Plants	Fabaceae	*Abrus precatorius subsp. precatorius*	Crab`s Eye			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Fabaceae	*Acacia acradenia*	Wattle			0	Unknown	2	2010	0	Unknown
Flowering Plants	Fabaceae	*Acacia alleniana*	Needle-leaved Wattle			0	Unknown	8	1996	0	Unknown
Flowering Plants	Fabaceae	*Acacia argyraea*	Wattle			0	Unknown	14	2010	0	Unknown
Flowering Plants	Fabaceae	*Acacia asperulacea*	Wattle			0	Unknown	10	2010	0	Unknown
Flowering Plants	Fabaceae	*Acacia auriculiformis*	Northern Black Wattle			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Fabaceae	*Acacia bivenosa*	Hill Umbrella Bush			0	Unknown	2	1948	0	Unknown
Flowering Plants	Fabaceae	*Acacia calligera*	Wattle			0	Unknown	60	2003	0	Unknown
Flowering Plants	Fabaceae	*Acacia colei*	Kalkardi			0	Unknown	2	1992	0	Unknown
Flowering Plants	Fabaceae	*Acacia conjunctifolia*	Wattle			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Fabaceae	*Acacia conspersa*	Wattle			0	Unknown	2	1948	0	Unknown
Flowering Plants	Fabaceae	*Acacia cowleana*	Halls Creek Wattle			0	Unknown	2	1948	0	Unknown
Flowering	Fabaceae	*Acacia difficilis*	River Wattle			0	Unknown	2	1971	0	Unknown

Plants											
Flowering Plants	Fabaceae	*Acacia dimidiata*	Swamp Wattle			0	Unknown	10	1996	0	Unknown
Flowering Plants	Fabaceae	*Acacia drepanocarpa*	Wattle			0	Unknown	4	1985	0	Unknown
Flowering Plants	Fabaceae	*Acacia drepanocarpa subsp. drepanocarpa*	Wattle			0	Unknown	2	1976	0	Unknown
Flowering Plants	Fabaceae	*Acacia elachantha*	Wattle			0	Unknown	2	2000	0	Unknown
Flowering Plants	Fabaceae	*Acacia galioides*	Wattle			0	Unknown	38	2010	0	Unknown
Flowering Plants	Fabaceae	*Acacia gonocarpa*	Wattle			0	Unknown	2	1986	0	Unknown
Flowering Plants	Fabaceae	*Acacia gonoclada*	Wattle			0	Unknown	6	1996	0	Unknown
Flowering Plants	Fabaceae	*Acacia hammondii*	Wattle			0	Unknown	6	1993	0	Unknown
Flowering Plants	Fabaceae	*Acacia hemignosta*	Club-leaf Wattle			0	Unknown	2	2010	0	Unknown
Flowering Plants	Fabaceae	*Acacia hemsleyi*	Wattle			0	Unknown	14	2010	0	Unknown
Flowering Plants	Fabaceae	*Acacia holosericea*	Candelabra Wattle			0	Unknown	4	1992	1	1998
Flowering Plants	Fabaceae	*Acacia humifusa*	Cape York Wattle			0	Unknown	5	2010	0	Unknown
Flowering Plants	Fabaceae	*Acacia hyaloneura*	Wattle			0	Unknown	1	1991	0	Unknown
Flowering Plants	Fabaceae	*Acacia jasperensis*	Wattle			0	Unknown	2	1990	0	Unknown
Flowering Plants	Fabaceae	*Acacia jensenii*	Spear Wattle			0	Unknown	2	1991	0	Unknown
Flowering Plants	Fabaceae	*Acacia laccata*	Wattle			0	Unknown	5	2000	0	Unknown
Flowering Plants	Fabaceae	*Acacia lamprocarpa*	Hickory Wattle			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Fabaceae	*Acacia latescens*	Ball Wattle			0	Unknown	2	1984	1	1998
Flowering Plants	Fabaceae	*Acacia latifolia*	Flat Wattle			0	Unknown	15	2010	0	Unknown

Flowering Plants	Fabaceae	*Acacia leptocarpa*	Wattle			0	Unknown	2	1985	0	Unknown
Flowering Plants	Fabaceae	*Acacia ligulata*	Umbrella Bush			0	Unknown	2	1986	0	Unknown
Flowering Plants	Fabaceae	*Acacia limbata*	Wattle			0	Unknown	6	2000	0	Unknown
Flowering Plants	Fabaceae	*Acacia lycopodiifolia*	Cypress Wattle			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Fabaceae	*Acacia lysiphloia*	Turpentine Bush			0	Unknown	11	1986	0	Unknown
Flowering Plants	Fabaceae	*Acacia monticola*	Hill Turpentine			0	Unknown	2	1997	0	Unknown
Flowering Plants	Fabaceae	*Acacia multisiliqua*	Small-ball Wattle			0	Unknown	4	1995	0	Unknown
Flowering Plants	Fabaceae	*Acacia neurocarpa*	Wattle			0	Unknown	6	1995	0	Unknown
Flowering Plants	Fabaceae	*Acacia nuperrima*	Wattle			0	Unknown	2	1971	0	Unknown
Flowering Plants	Fabaceae	*Acacia oncinocarpa*	Wattle			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Fabaceae	*Acacia oswaldii*	Umbrella Wattle	DD		0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Fabaceae	*Acacia pellita*	Soap Bush			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Fabaceae	*Acacia phlebocarpa*	Tabletop Wattle			0	Unknown	20	2010	0	Unknown
Flowering Plants	Fabaceae	*Acacia platycarpa*	Ghost Wattle			0	Unknown	6	2010	0	Unknown
Flowering Plants	Fabaceae	*Acacia plectocarpa*	Wattle			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Fabaceae	*Acacia plectocarpa subsp. tanumbirinensis*	Wattle			0	Unknown	16	2008	3	1998
Flowering Plants	Fabaceae	*Acacia producta*	Murganella Wattle			0	Unknown	2	2010	0	Unknown
Flowering Plants	Fabaceae	*Acacia retivenea subsp. retivenea*	Wattle			0	Unknown	4	1989	0	Unknown
Flowering Plants	Fabaceae	*Acacia sericophylla*	Dogwood			0	Unknown	2	1979	0	Unknown

Flowering Plants	Fabaceae	*Acacia shirleyi*	Lancewood			0	Unknown	2	1985	0	Unknown
Flowering Plants	Fabaceae	*Acacia stenophylla*	River Cooba			0	Unknown	2	2010	0	Unknown
Flowering Plants	Fabaceae	*Acacia subternata*	Wattle			0	Unknown	9	2008	0	Unknown
Flowering Plants	Fabaceae	*Acacia tenuissima*	Broom Wattle			0	Unknown	2	1971	0	Unknown
Flowering Plants	Fabaceae	*Acacia torulosa*	Torulosa Wattle			0	Unknown	6	1981	1	1998
Flowering Plants	Fabaceae	*Acacia tropica*	Wattle			0	Unknown	4	1992	0	Unknown
Flowering Plants	Fabaceae	*Acacia tumida*	Pindan Wattle			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Fabaceae	*Acacia umbellata*	Wattle			0	Unknown	11	2010	0	Unknown
Flowering Plants	Fabaceae	*Acacia victoriae*	Victoria Wattle			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Fabaceae	*Acacia wickhamii*	Wickham`s Wattle			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Fabaceae	*Acacia wickhamii subsp.*	Wattle			0	Unknown	0	Unknown	0	Unknown
		wickhamii									
Flowering Plants	Fabaceae	*Aeschynomene aspera*	Sola Pith Plant			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Fabaceae	*Aeschynomene indica*	Budda Pea			0	Unknown	6	2010	0	Unknown
Flowering Plants	Fabaceae	*Alysicarpus muelleri*	Rough Chain-pea			0	Unknown	6	2010	0	Unknown
Flowering Plants	Fabaceae	*Alysicarpus schomburgkii*	Alyce Clover			0	Unknown	4	2010	0	Unknown
Flowering Plants	Fabaceae	*Aphyllodium biarticulatum*	Aphyllodium			0	Unknown	10	2010	0	Unknown
Flowering Plants	Fabaceae	*Bauhinia cunninghamii*	Butterfly Tree			0	Unknown	8	2000	1	1998
Flowering Plants	Fabaceae	*Bossiaea bossiaeoides*	Holly-leaved Pea-flower			0	Unknown	4	1979	0	Unknown
Flowering Plants	Fabaceae	*Cajanus acutifolius*	Pigeon-pea			0	Unknown	6	1993	0	Unknown
Flowering Plants	Fabaceae	*Cajanus geminatus*	Pigeon-pea			0	Unknown	1	2010	0	Unknown
Flowering Plants	Fabaceae	*Cajanus marmoratus*	Pigeon-pea			0	Unknown	1	1984	0	Unknown
Flowering	Fabaceae	*Cajanus pubescens*	Pigeon-pea			0	Unknown	15	2010	0	Unknow

Plants											n
Flowering Plants	Fabaceae	*Cajanus reticulatus var.*	Flat-pod Peaflower			0	Unknown	0	Unknown	0	Unknow n
		grandifolius									
Flowering Plants	Fabaceae	*Canavalia papuana*	Wild Jack Bean			0	Unknown	2	1998	0	Unknow n
Flowering Plants	Fabaceae	*Cathormion umbellatum*	Bean Tree			0	Unknown	0	Unknown	0	Unknow n
		subsp. moniliforme									
Flowering Plants	Fabaceae	*Chamaecrista absus*	Hairy Cassia			0	Unknown	2	2010	0	Unknow n
Flowering Plants	Fabaceae	*Chamaecrista absus var.*	Hairy Cassia			0	Unknown	4	2010	0	Unknow n
		absus									
Flowering Plants	Fabaceae	*Chamaecrista grisea*	Cassia			0	Unknown	4	2010	0	Unknow n
Flowering Plants	Fabaceae	*Chamaecrista mimosoides*	Five-leafed Cassia			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Fabaceae	*Chamaecrista symonii*	Dwarf Cassia			0	Unknown	5	2010	0	Unknow n
Flowering Plants	Fabaceae	*Christia australasica*	Christia			0	Unknown	3	1979	1	1998
Flowering Plants	Fabaceae	*Crotalaria brevis*	Rattlepod			0	Unknown	8	2010	0	Unknow n
Flowering Plants	Fabaceae	*Crotalaria crispata*	Kimberley Horse Poison			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Fabaceae	*Crotalaria dissitiflora*	Grey Rattlepod			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Fabaceae	*Crotalaria dissitiflora subsp.*	Grey Rattlepod			0	Unknown	2	1959	0	Unknow n
		rugosa									
Flowering Plants	Fabaceae	*Crotalaria medicaginea*	Trefoil Rattlepod			0	Unknown	2	2010	0	Unknow n
Flowering Plants	Fabaceae	*Crotalaria medicaginea var.*	Trefoil Rattlepod			0	Unknown	12	1991	0	Unknow n
		neglecta									
Flowering Plants	Fabaceae	*Crotalaria montana*	Rattlepod			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Fabaceae	*Crotalaria montana var.*	Rattlepod			0	Unknown	4	1984	0	Unknow n
		angustifolia									
Flowering Plants	Fabaceae	*Crotalaria montana var.*	Rattlepod	DD		0	Unknown	2	1959	0	Unknow n
		exserta									
Flowering Plants	Fabaceae	*Crotalaria novae-hollandiae*	New Holland Rattlepod			0	Unknown	0	Unknown	0	Unknow n

Flowering Plants	Fabaceae	*Crotalaria novae-hollandiae*	New Holland Rattlepod			0	Unknown	0	Unknown	0	Unknown
		subsp. crassipes									
Flowering Plants	Fabaceae	*Crotalaria novae-hollandiae*	New Holland Rattlepod	DD		0	Unknown	0	Unknown	0	Unknown
		subsp. novae-hollandiae									
Flowering Plants	Fabaceae	*Crotalaria ramosissima*	Rattlepod			0	Unknown	6	2010	0	Unknown
Flowering Plants	Fabaceae	*Crotalaria retusa*	Wedge-leaved Rattlepod			0	Unknown	4	2010	0	Unknown
Flowering Plants	Fabaceae	*Cullen balsamicum*	Verbine			0	Unknown	2	1984	0	Unknown
Flowering Plants	Fabaceae	*Cullen cinereum*	Annual Verbine			0	Unknown	2	2010	0	Unknown
Flowering Plants	Fabaceae	*Cullen plumosum*	Scurf-pea			0	Unknown	12	2010	0	Unknown
Flowering Plants	Fabaceae	*Cullen pustulatum*	Scurf-pea			0	Unknown	2	1948	0	Unknown
Flowering Plants	Fabaceae	*Daviesia reclinata*	Bitter-pea			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Fabaceae	*Desmodium brownii*	Tick-trefoil			0	Unknown	2	2010	0	Unknown
Flowering Plants	Fabaceae	*Desmodium campylocaulon*	Creeping Tick-trefoil			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Fabaceae	*Desmodium filiforme*	Tick-trefoil			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Fabaceae	*Desmodium glareosum*	Tick-trefoil			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Fabaceae	*Desmodium heterocarpon*	Tick-trefoil			0	Unknown	0	Unknown	0	Unknown
		var. strigosum									
Flowering Plants	Fabaceae	*Desmodium muelleri*	Tick-trefoil			0	Unknown	4	1998	0	Unknown
Flowering Plants	Fabaceae	*Desmodium pullenii*	Tick-trefoil			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Fabaceae	*Desmodium trichostachyum*	Tick-trefoil			0	Unknown	0	Unknown	1	1998
Flowering Plants	Fabaceae	*Dichrostachys spicata*	Single Thorn Prickly Bush			0	Unknown	6	1991	0	Unknown
Flowering Plants	Fabaceae	*Erythrina vespertilio subsp.*	Bat Wing Coral Tree			0	Unknown	0	Unknown	0	Unknown
		vespertilio									
Flowering Plants	Fabaceae	*Erythrophleum*	Northern Ironwood			0	Unknown	8	1995	1	1998
		chlorostachys									
Flowering Plants	Fabaceae	*Flemingia parviflora*	Flemingia			0	Unknown	0	Unknown	0	Unknown

Flowering Plants	Fabaceae	*Flemingia pauciflora*	Flemingia			0	Unknown	6	1984	0	Unknown
Flowering Plants	Fabaceae	*Galactia tenuiflora*	Poison Pea			0	Unknown	6	1988	0	Unknown
Flowering Plants	Fabaceae	*Glycine tomentella*	Rusty Glycine			0	Unknown	2	1993	0	Unknown
Flowering Plants	Fabaceae	*Gompholobium subulatum*	Wedge-pea			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Fabaceae	*Indigastrum parviflorum*	Small-flower Indigo			0	Unknown	4	2010	0	Unknown
Flowering Plants	Fabaceae	*Indigofera colutea*	Sticky Indigo			0	Unknown	14	2010	0	Unknown
Flowering Plants	Fabaceae	*Indigofera ewartiana*	Indigo			0	Unknown	2	1999	0	Unknown
Flowering Plants	Fabaceae	*Indigofera haplophylla*	Indigo			0	Unknown	6	2010	0	Unknown
Flowering Plants	Fabaceae	*Indigofera linifolia*	Native Indigo			0	Unknown	10	1998	0	Unknown
Flowering Plants	Fabaceae	*Indigofera linnaei*	Birdsville Indigo			0	Unknown	8	2010	0	Unknown
Flowering Plants	Fabaceae	*Indigofera pratensis*	Forest Indigo			0	Unknown	10	2010	0	Unknown
Flowering Plants	Fabaceae	*Indigofera saxicola*	Indigo			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Fabaceae	*Indigofera trifoliata*	Indigo			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Fabaceae	*Indigofera trita*	Indigo			0	Unknown	4	2010	0	Unknown
Flowering Plants	Fabaceae	*Jacksonia dilatata*	Cladode Pea			0	Unknown	8	1995	2	1998
Flowering Plants	Fabaceae	*Jacksonia odontoclada*	Jacksonia			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Fabaceae	*Leptosema uniflorum*	Leptosema			0	Unknown	6	2010	0	Unknown
Flowering Plants	Fabaceae	*Leptosema villosum*	Leptosema			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Fabaceae	*Neptunia dimorphantha*	Sensitive Plant			0	Unknown	3	1998	0	Unknown
Flowering Plants	Fabaceae	*Neptunia gracilis*	Native Sensitive Plant			0	Unknown	2	1998	0	Unknown
Flowering Plants	Fabaceae	*Neptunia gracilis f. gracilis*	Sensitive Plant			0	Unknown	3	2010	0	Unknown
Flowering Plants	Fabaceae	*Neptunia major*	Sensitive Plant			0	Unknown	2	1971	0	Unknown
Flowering Plants	Fabaceae	*Neptunia monosperma*	One-seeded Sensitive Plant			0	Unknown	2	1947	0	Unknown
Flowering Plants	Fabaceae	*Rhynchosia australis*	Native Rock Trefoil			0	Unknown	0	Unknown	0	Unknown

Flowering Plants	Fabaceae	*Rhynchosia minima*	Native Pea			0	Unknown	7	1991	0	Unknown
Flowering Plants	Fabaceae	*Rothia indica subsp.*	Rothia			0	Unknown	2	2010	0	Unknown
		australis									
Flowering Plants	Fabaceae	*Senna artemisioides subsp.*	Oval-leaf Cassia			0	Unknown	3	1986	0	Unknown
		oligophylla									
Flowering Plants	Fabaceae	*Senna notabilis*	Cockroach Bush			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Fabaceae	*Senna oligoclada*	Cassia			0	Unknown	1	1998	0	Unknown
Flowering Plants	Fabaceae	*Senna planitiicola*	Pepper-leaf Senna			0	Unknown	2	1984	0	Unknown
Flowering Plants	Fabaceae	*Senna venusta*	Graceful Cassia			0	Unknown	5	2010	0	Unknown
Flowering Plants	Fabaceae	*Sesbania brachycarpa*	Sesbania			0	Unknown	8	1998	0	Unknown
Flowering Plants	Fabaceae	*Sesbania cannabina var.*	Yellow Pea-bush			0	Unknown	0	Unknown	0	Unknown
		cannabina									
Flowering Plants	Fabaceae	*Sesbania muelleri*	Peabush			0	Unknown	2	1991	0	Unknown
Flowering Plants	Fabaceae	*Templetonia hookeri*	Templetonia			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Fabaceae	*Tephrosia brachyodon*	Red Pea-bush			0	Unknown	8	2010	0	Unknown
Flowering Plants	Fabaceae	*Tephrosia brachyodon var.*	Red Pea-bush			0	Unknown	6	2010	0	Unknown
		longifolia									
Flowering Plants	Fabaceae	*Tephrosia conspicua*	Tephrosia			0	Unknown	6	1998	0	Unknown
Flowering Plants	Fabaceae	*Tephrosia coriacea*	Tephrosia			0	Unknown	4	2010	0	Unknown
Flowering Plants	Fabaceae	*Tephrosia delestangii*	Tephrosia			0	Unknown	14	2010	0	Unknown
Flowering Plants	Fabaceae	*Tephrosia filipes*	Tephrosia			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Fabaceae	*Tephrosia filipes var. filipes*	Tephrosia			0	Unknown	4	2010	0	Unknown
Flowering Plants	Fabaceae	*Tephrosia gyropoda*	Tephrosia			0	Unknown	9	1998	1	1998
Flowering Plants	Fabaceae	*Tephrosia lasiochlaena*	Tephrosia			0	Unknown	2	1947	0	Unknown
Flowering Plants	Fabaceae	*Tephrosia laxa*	Tephrosia			0	Unknown	2	1996	0	Unknown
Flowering	Fabaceae	*Tephrosia leptoclada*	Tephrosia			0	Unknown	10	2004	0	Unknow

Plants											n
Flowering Plants	Fabaceae	*Tephrosia macrocarpa*	Tephrosia			0	Unknown	2	1993	0	Unknow n
Flowering Plants	Fabaceae	*Tephrosia nematophylla*	Tephrosia			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Fabaceae	*Tephrosia oblongata*	Tephrosia			0	Unknown	2	1947	0	Unknow n
Flowering Plants	Fabaceae	*Tephrosia phaeosperma*	Tephrosia			0	Unknown	17	2010	0	Unknow n
Flowering Plants	Fabaceae	*Tephrosia remotiflora*	Tephrosia			0	Unknown	2	2010	1	1998
Flowering Plants	Fabaceae	*Tephrosia rosea*	Flinder`s River Poison			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Fabaceae	*Tephrosia simplicifolia*	Tephrosia			0	Unknown	4	2010	0	Unknow n
Flowering Plants	Fabaceae	*Tephrosia sp. OT Station*	Tephrosia			0	Unknown	20	2010	0	Unknow n
Flowering Plants	Fabaceae	*Tephrosia sp. Pentecost*	Tephrosia			0	Unknown	4	2010	0	Unknow n
		River									
Flowering Plants	Fabaceae	*Tephrosia spechtii*	Wild Indigo			0	Unknown	6	2010	0	Unknow n
Flowering Plants	Fabaceae	*Tephrosia stuartii*	Tephrosia			0	Unknown	4	2010	0	Unknow n
Flowering Plants	Fabaceae	*Tephrosia subpectinata*	Tephrosia			0	Unknown	2	2010	0	Unknow n
Flowering Plants	Fabaceae	*Uraria lagopodioides*	Purple Clover-weed			0	Unknown	3	2010	0	Unknow n
Flowering Plants	Fabaceae	*Vachellia ditricha*	Wattle			0	Unknown	2	2010	0	Unknow n
Flowering Plants	Fabaceae	*Vachellia farnesiana*	Sweet Acacia			0	Unknown	0	Unknown	9	2010
Flowering Plants	Fabaceae	*Vachellia sutherlandii*	Barklys Wattle			0	Unknown	2	2000	0	Unknow n
Flowering Plants	Fabaceae	*Vachellia valida*	Wattle			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Fabaceae	*Vigna lanceolata*	Maloga Bean			0	Unknown	4	2010	0	Unknow n
Flowering Plants	Fabaceae	*Vigna lanceolata var.*	Maloga Bean			0	Unknown	0	Unknown	0	Unknow n
		filiformis									
Flowering Plants	Fabaceae	*Vigna lanceolata var.*	Maloga Bean			0	Unknown	0	Unknown	0	Unknow n
		lanceolata									
Flowering Plants	Fabaceae	*Vigna radiata*	Mung Bean			0	Unknown	2	1984	0	Unknow n
Flowering	Fabaceae	*Vigna radiata var.*	Mung Bean			0	Unknown	2	1998	0	Unknow

Plants		*sublobata*									n
Flowering Plants	Fabaceae	*Zornia muelleriana subsp.*	Zornia			0	Unknown	2	1991	0	Unknow n
		congesta									
Flowering Plants	Fabaceae	*Zornia muriculata*	Zornia			0	Unknown	6	1984	0	Unknow n
Flowering Plants	Fabaceae	*Zornia muriculata subsp.*	Zornia			0	Unknown	7	2001	0	Unknow n
		angustata									
Flowering Plants	Fabaceae	*Zornia prostrata*	Zornia			0	Unknown	4	1984	0	Unknow n
Flowering Plants	Fabaceae	*Zornia prostrata var.*	Zornia			0	Unknown	5	2010	0	Unknow n
		prostrata									
Flowering Plants	Polygalaceae	*Polygala barbata*	Milkwort			0	Unknown	4	2010	0	Unknow n
Flowering Plants	Polygalaceae	*Polygala barklyensis*	Milkwort			0	Unknown	4	1991	0	Unknow n
Flowering Plants	Polygalaceae	*Polygala crassitesta*	Milkwort			0	Unknown	4	1998	0	Unknow n
Flowering Plants	Polygalaceae	*Polygala dependens*	Milkwort			0	Unknown	2	1998	0	Unknow n
Flowering Plants	Polygalaceae	*Polygala eriocephala*	Milkwort			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Polygalaceae	*Polygala exsquarrosa*	Milkwort			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Polygalaceae	*Polygala galeocephala*	Milkwort			0	Unknown	2	1984	0	Unknow n
Flowering Plants	Polygalaceae	*Polygala integra*	Milkwort			0	Unknown	2	1979	0	Unknow n
Flowering Plants	Polygalaceae	*Polygala longifolia*	Milkwort			0	Unknown	2	1996	0	Unknow n
Flowering Plants	Polygalaceae	*Polygala parviloba*	Milkwort			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Polygalaceae	*Polygala petrophila var.*	Milkwort			0	Unknown	0	Unknown	0	Unknow n
		angustifolia									
Flowering Plants	Polygalaceae	*Polygala pterocarpa*	Milkwort			0	Unknown	14	2010	0	Unknow n
Flowering Plants	Polygalaceae	*Polygala succulenta*	Milkwort			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Polygalaceae	*Polygala stenoclada*	Milkwort			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Polygalaceae	*Polygala wightiana*	Milkwort			0	Unknown	6	2010	0	Unknow n
Flowering Plants	Rhamnaceae	*Alphitonia excelsa*	Red Ash			0	Unknown	5	1991	0	Unknow n

Flowering Plants	Rhamnaceae	*Alphitonia pomaderroides*	Alphitonia			0	Unknown	4	1984	0	Unknown
Flowering Plants	Rhamnaceae	*Ventilago viminalis*	Supplejack			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Cannabaceae	*Celtis philippensis*	Celtis			0	Unknown	7	1995	0	Unknown
Flowering Plants	Cannabaceae	*Trema tomentosa*	Peach-leaved Poison-bush			0	Unknown	4	2010	0	Unknown
Flowering Plants	Cannabaceae	*Trema tomentosa var. aspera*	Peach-leaved Poison-bush			0	Unknown	2	1985	0	Unknown
Flowering Plants	Moraceae	*Ficus aculeata*	Sandpaper Fig			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Moraceae	*Ficus aculeata var. aculeata*	Sandpaper Fig			0	Unknown	10	2001	0	Unknown
Flowering Plants	Moraceae	*Ficus atricha*	Fig			0	Unknown	4	1989	0	Unknown
Flowering Plants	Moraceae	*Ficus carpentariensis*	Fig			0	Unknown	2	1989	0	Unknown
Flowering Plants	Moraceae	*Ficus cerasicarpa*	Fig			0	Unknown	13	2001	0	Unknown
Flowering Plants	Moraceae	*Ficus coronulata*	Peach-leaf Fig			0	Unknown	12	1989	1	1998
Flowering Plants	Moraceae	*Ficus racemosa*	Cluster Fig			0	Unknown	13	1981	0	Unknown
Flowering Plants	Moraceae	*Ficus subpuberula*	Fig			0	Unknown	8	1989	0	Unknown
Flowering Plants	Moraceae	*Ficus virens*	Banyan			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Moraceae	*Ficus virens var. virens*	Banyan			0	Unknown	4	2008	0	Unknown
Flowering Plants	Cucurbitaceae	*Cucumis althaeoides*	Melon			0	Unknown	2	2010	0	Unknown
Flowering Plants	Cucurbitaceae	*Cucumis argenteus*	Melon			0	Unknown	2	2010	0	Unknown
Flowering Plants	Cucurbitaceae	*Cucumis sp.*	Head-ache Vine			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Cucurbitaceae	*Cucumis melo*	Ulcardo Melon			0	Unknown	0	Unknown	18	1991
Flowering Plants	Cucurbitaceae	*Cucumis picrocarpus*	Melon			0	Unknown	2	1979	0	Unknown
Flowering Plants	Cucurbitaceae	*Diplocyclos palmatus*	Native Bryony			0	Unknown	2	1989	0	Unknown
Flowering Plants	Cucurbitaceae	*Trichosanthes cucumerina*	Snake Gourd			0	Unknown	6	1997	0	Unknown
Flowering Plants	Casuarinaceae	*Casuarina cunninghamiana*	River Oak			0	Unknown	5	1983	0	Unknown

		subsp. miodon									
Flowering Plants	Capparaceae	*Capparis lasiantha*	Split-arse-jack			0	Unknown	2	1988	0	Unknown
Flowering Plants	Capparaceae	*Capparis sepiaria*	Native Caper			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Capparaceae	*Capparis spinosa var.*	Caper Bush			0	Unknown	2	1992	0	Unknown
		nummularia									
Flowering Plants	Capparaceae	*Capparis umbonata*	Northern Wild Orange			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Cleomaceae	*Cleome cleomoides*	Spiderflower			0	Unknown	17	2010	0	Unknown
Flowering Plants	Cleomaceae	*Cleome oxalidea*	Spiderflower			0	Unknown	2	1959	0	Unknown
Flowering Plants	Cleomaceae	*Cleome tetrandra*	Spiderflower			0	Unknown	1	2010	0	Unknown
Flowering Plants	Cleomaceae	*Cleome viscosa*	Tickweed			0	Unknown	18	2010	1	1998
Flowering Plants	Bixaceae	*Cochlospermum fraseri*	Kapok Bush			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Bixaceae	*Cochlospermum fraseri*	Kapok Bush			0	Unknown	5	2010	0	Unknown
		subsp. fraseri									
Flowering Plants	Bixaceae	*Cochlospermum fraseri*	Kapok Bush			0	Unknown	0	Unknown	0	Unknown
		subsp. heteronemum									
Flowering Plants	Bixaceae	*Cochlospermum gregorii*	Cotton Tree			0	Unknown	2	1985	0	Unknown
Flowering Plants	Malvaceae	*Abelmoschus ficulneus*	Native Rosella			0	Unknown	2	1963	0	Unknown
Flowering Plants	Malvaceae	*Abutilon hannii*	Mallow			0	Unknown	4	2010	0	Unknown
Flowering Plants	Malvaceae	*Abutilon hannii subsp. erect*	Lantern Bush			0	Unknown	2	1989	0	Unknown
Flowering Plants	Malvaceae	*Abutilon hannii subsp.*	Lantern Bush			0	Unknown	7	2010	0	Unknown
		prostrate									
Flowering Plants	Malvaceae	*Abutilon indicum var.*	Indian Lantern-flower			0	Unknown	2	2010	0	Unknown
		australiense									
Flowering Plants	Malvaceae	*Abutilon leucopetalum*	Desert Lantern-bush			0	Unknown	1	2010	0	Unknown
Flowering Plants	Malvaceae	*Abutilon malvifolium*	Bastard Marshmallow			0	Unknown	2	1998	0	Unknown
Flowering Plants	Malvaceae	*Abutilon otocarpum*	Desert Chinese Lantern			0	Unknown	2	1984	0	Unknown

Flowering Plants	Malvaceae	*Brachychiton collinus*	Kurrajong			0	Unknown	8	1996	0	Unknown
Flowering Plants	Malvaceae	*Brachychiton diversifolius*	Northern Kurrajong			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Malvaceae	*Brachychiton diversifolius subsp. diversifolius*	Northern Kurrajong			0	Unknown	6	1984	0	Unknown
Flowering Plants	Malvaceae	*Corchorus aestuans*	Grubweed			0	Unknown	3	1989	1	1998
Flowering Plants	Malvaceae	*Corchorus fascicularis*	Grubweed			0	Unknown	4	1998	0	Unknown
Flowering Plants	Malvaceae	*Corchorus pumilio*	Grubweed			0	Unknown	10	2010	0	Unknown
Flowering Plants	Malvaceae	*Corchorus sericeus*	Grubweed			0	Unknown	4	2010	0	Unknown
Flowering Plants	Malvaceae	*Corchorus sericeus subsp. sericeus*	Grubweed			0	Unknown	8	2010	0	Unknown
Flowering Plants	Malvaceae	*Corchorus sidoides*	Flannel Weed			0	Unknown	4	1980	1	1998
Flowering Plants	Malvaceae	*Corchorus sidoides subsp. sidoides*	Flannel Weed			0	Unknown	4	1992	0	Unknown
Flowering Plants	Malvaceae	*Corchorus sidoides subsp. vermicularis*	Flannel Weed			0	Unknown	2	1984	0	Unknown
Flowering Plants	Malvaceae	*Corchorus tridens*	Grubweed			0	Unknown	2	2010	0	Unknown
Flowering Plants	Malvaceae	*Gossypium australe*	Native Cotton			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Malvaceae	*Grewia breviflora*	Coffee Fruit			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Malvaceae	*Grewia oxyphylla*	Dog`s Balls			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Malvaceae	*Grewia retusifolia*	Emu Berries			0	Unknown	6	1986	0	Unknown
Flowering Plants	Malvaceae	*Helicteres angustifolia*	Helicteres			0	Unknown	6	1997	0	Unknown
Flowering Plants	Malvaceae	*Helicteres cana*	Purple Salvia-flowered Plant			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Malvaceae	*Helicteres cana subsp. cana*	Purple Salvia-flowered Plant			0	Unknown	9	1996	0	Unknown
Flowering Plants	Malvaceae	*Helicteres isora*	Spiral Bush			0	Unknown	5	1988	0	Unknown
Flowering Plants	Malvaceae	*Herissantia crispa*	Indian Mallow			0	Unknown	12	2010	0	Unknown
Flowering	Malvaceae	*Hibiscus arnhemensis*	Native Hibiscus			0	Unknown	2	2010	0	Unknow

Plants											n
Flowering Plants	Malvaceae	*Hibiscus austrinus var.*	Yellow Hibiscus			0	Unknown	1	1981	0	Unknow n
		austrinus									
Flowering Plants	Malvaceae	*Hibiscus fallax*	Native Hibiscus			0	Unknown	1	2010	0	Unknow n
Flowering Plants	Malvaceae	*Hibiscus fluvialis*	Native Hibiscus			0	Unknown	2	1985	0	Unknow n
Flowering Plants	Malvaceae	*Hibiscus geranioides*	Native Hibiscus			0	Unknown	2	2008	0	Unknow n
Flowering Plants	Malvaceae	*Hibiscus leptocladus*	Variable-leaf Hibiscus			0	Unknown	7	1985	0	Unknow n
Flowering Plants	Malvaceae	*Hibiscus meraukensis*	Ballerina Hibiscus			0	Unknown	12	1991	0	Unknow n
Flowering Plants	Malvaceae	*Hibiscus panduriformis*	Yellow Hibiscus			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Malvaceae	*Hibiscus pentaphyllus*	Native Hibiscus			0	Unknown	8	2010	0	Unknow n
Flowering Plants	Malvaceae	*Hibiscus sturtii*	Sturt`s Hibiscus			0	Unknown	6	2010	0	Unknow n
Flowering Plants	Malvaceae	*Hibiscus sturtii var.*	Sturt`s Hibiscus			0	Unknown	2	2010	0	Unknow n
		campylochlamys									
Flowering Plants	Malvaceae	*Hibiscus verdcourtii*	Bladder Ketmia			0	Unknown	8	1998	0	Unknow n
Flowering Plants	Malvaceae	*Hibiscus zonatus*	Pink Perennial Hibiscus			0	Unknown	24	2010	1	1998
Flowering Plants	Malvaceae	*Melhania oblongifolia*	Velvet Hibiscus			0	Unknown	11	2010	0	Unknow n
Flowering Plants	Malvaceae	*Sida brachypoda*	Sida			0	Unknown	8	2010	0	Unknow n
Flowering Plants	Malvaceae	*Sida fibulifera*	Silver Sida			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Malvaceae	*Sida filiformis*	Fine Sida			0	Unknown	6	2004	0	Unknow n
Flowering Plants	Malvaceae	*Sida hackettiana*	Sida			0	Unknown	14	2010	0	Unknow n
Flowering Plants	Malvaceae	*Sida macropoda*	Sida			0	Unknown	12	2010	0	Unknow n
Flowering Plants	Malvaceae	*Sida rohlenae*	Shrub Sida			0	Unknown	4	1998	0	Unknow n
Flowering Plants	Malvaceae	*Sida rohlenae subsp.*	Shrub Sida	DD		0	Unknown	2	2010	0	Unknow n
		occidentalis									
Flowering Plants	Malvaceae	*Sida rohlenae subsp.*	Shrub Sida			0	Unknown	2	1984	0	Unknow n
		rohlenae									

Flowering Plants	Malvaceae	*Sida sp. Walhallow Station*	Sida			0	Unknown	6	1994	0	Unknown
Flowering Plants	Malvaceae	*Sida spinosa*	Spiny Sida			0	Unknown	0	Unknown	9	1999
Flowering Plants	Malvaceae	*Sida trichopoda*	High Sida			0	Unknown	4	1984	0	Unknown
Flowering Plants	Malvaceae	*Sida virgata*	Sida			0	Unknown	2	1991	0	Unknown
Flowering Plants	Malvaceae	*Triumfetta denticulata*	Burbark			0	Unknown	0	Unknown	1	1998
Flowering Plants	Malvaceae	*Triumfetta micracantha*	Burbark			0	Unknown	6	2010	0	Unknown
Flowering Plants	Malvaceae	*Triumfetta pannosa*	Burbark			0	Unknown	4	1998	0	Unknown
Flowering Plants	Malvaceae	*Triumfetta parviflora*	Burbark			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Malvaceae	*Triumfetta plumigera*	Burbark			0	Unknown	12	2010	0	Unknown
Flowering Plants	Malvaceae	*Waltheria indica*	Waltheria			0	Unknown	12	1995	0	Unknown
Flowering Plants	Thymelaeaceae	*Thecanthes punicea*	Red Wax Plant			0	Unknown	4	1974	0	Unknown
Flowering Plants	Thymelaeaceae	*Thecanthes sanguinea*	Thecanthes			0	Unknown	4	2010	0	Unknown
Flowering Plants	Thymelaeaceae	*Thecanthes sp. Donydji*	Thecanthes			0	Unknown	2	2008	0	Unknown
Flowering Plants	Sapindaceae	*Atalaya hemiglauca*	Whitewood			0	Unknown	2	2000	0	Unknown
Flowering Plants	Sapindaceae	*Atalaya variifolia*	Wing-leaf Whitewood			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Sapindaceae	*Cupaniopsis anacardioides*	Tuckeroo			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Sapindaceae	*Dodonaea barklyana*	False Hopbush	DD		0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Sapindaceae	*Dodonaea hispidula*	False Hopbush			0	Unknown	5	2010	0	Unknown
Flowering Plants	Sapindaceae	*Dodonaea hispidula var.*	False Hopbush	DD		0	Unknown	0	Unknown	0	Unknown
		arida									
Flowering Plants	Sapindaceae	*Dodonaea hispidula var.*	False Hopbush			0	Unknown	0	Unknown	0	Unknown
		hispidula									
Flowering Plants	Sapindaceae	*Dodonaea lanceolata*	Yellow Hop-bush			0	Unknown	12	1993	0	Unknown
Flowering Plants	Sapindaceae	*Dodonaea lanceolata var.*	Yellow Hop-bush			0	Unknown	6	2010	0	Unknown
		lanceolata									

Flowering Plants	Sapindaceae	*Dodonaea oxyptera*	Hop Bush			0	Unknown	6	1996	0	Unknown
Flowering Plants	Sapindaceae	*Dodonaea physocarpa*	Balloon Hopbush			0	Unknown	16	1996	0	Unknown
Flowering Plants	Sapindaceae	*Dodonaea polyzyga*	Hop Bush			0	Unknown	2	1989	0	Unknown
Flowering Plants	Sapindaceae	*Dodonaea stenophylla*	Netted Hopbush			0	Unknown	2	1989	0	Unknown
Flowering Plants	Sapindaceae	*Dodonaea viscosa*	Sticky Hopbush			0	Unknown	2	1989	0	Unknown
Flowering Plants	Sapindaceae	*Dodonaea viscosa subsp.*	Hill Sticky Hopbush			0	Unknown	1	1984	0	Unknown
		mucronata									
Flowering Plants	Burseraceae	*Canarium australianum*	Mango Bark			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Anacardiaceae	*Buchanania obovata*	Green Plum			0	Unknown	3	1988	2	1998
Flowering Plants	Meliaceae	*Owenia vernicosa*	Emu Apple			0	Unknown	4	1996	1	1998
Flowering Plants	Rutaceae	*Boronia lanceolata*	Boronia			0	Unknown	23	2010	0	Unknown
Flowering Plants	Rutaceae	*Melicope elleryana*	Pink Evodia			0	Unknown	5	1989	0	Unknown
Flowering Plants	Lecythidaceae	*Barringtonia acutangula*	Freshwater Mangrove			0	Unknown	2	1985	0	Unknown
		subsp. acutangula									
Flowering Plants	Lecythidaceae	*Planchonia careya*	Cocky Apple			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Ebenaceae	*Diospyros compacta*	Iron Tree			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Ebenaceae	*Diospyros humilis*	Small-leaved Ebony			0	Unknown	10	1996	1	1998
Flowering Plants	Sapotaceae	*Pouteria sericea*	Wild Prune			0	Unknown	1	1996	0	Unknown
Flowering Plants	Boraginaceae	*Coldenia procumbens*	Coldenia			0	Unknown	4	1987	0	Unknown
Flowering Plants	Boraginaceae	*Cordia dichotoma*	Cordia			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Boraginaceae	*Ehretia saligna*	Coonta			0	Unknown	4	1995	0	Unknown
Flowering Plants	Boraginaceae	*Heliotropium ballii*	Heliotrope	DD		0	Unknown	2	2010	0	Unknown
Flowering Plants	Boraginaceae	*Heliotropium bracteatum*	Heliotrope			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Boraginaceae	*Heliotropium cunninghamii*	Heliotrope			0	Unknown	2	2010	0	Unknown
Flowering	Boraginaceae	*Heliotropium dichotomum*	Heliotrope	DD		0	Unknown	4	2010	0	Unknow

Plants											n
Flowering Plants	Boraginaceae	*Heliotropium fasciculatum*	Heliotrope	DD		0	Unknown	2	1971	0	Unknow n
Flowering Plants	Boraginaceae	*Heliotropium foliatum*	Heliotrope			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Boraginaceae	*Heliotropium glabellum*	Heliotrope			0	Unknown	2	1947	0	Unknow n
Flowering Plants	Boraginaceae	*Heliotropium haesum*	Heliotrope			0	Unknown	5	1998	0	Unknow n
Flowering Plants	Boraginaceae	*Heliotropium ovalifolium*	Heliotrope			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Boraginaceae	*Heliotropium pachyphyllum*	Heliotrope			0	Unknown	2	1948	0	Unknow n
Flowering Plants	Boraginaceae	*Heliotropium paniculatum*	Bushy Heliotrope			0	Unknown	3	2010	0	Unknow n
Flowering Plants	Boraginaceae	*Heliotropium plumosum*	Heliotrope			0	Unknown	2	1947	0	Unknow n
Flowering Plants	Boraginaceae	*Heliotropium ramulipatens*	Heliotrope			0	Unknown	6	1998	0	Unknow n
Flowering Plants	Boraginaceae	*Heliotropium synaimon*	Heliotrope			0	Unknown	4	2010	0	Unknow n
Flowering Plants	Boraginaceae	*Heliotropium tenuifolium*	Devil's Son			0	Unknown	2	2010	0	Unknow n
Flowering Plants	Boraginaceae	*Heliotropium ventricosum*	White Heliotrope			0	Unknown	2	2010	0	Unknow n
Flowering Plants	Boraginaceae	*Trichodesma zeylanicum*	Cattle Bush			0	Unknown	2	1971	0	Unknow n
Flowering Plants	Boraginaceae	*Trichodesma zeylanicum*	Cattle Bush			0	Unknown	6	1991	0	Unknow n
		var. latisepalum									
Flowering Plants	Boraginaceae	*Trichodesma zeylanicum*	Cattle Bush			0	Unknown	4	1985	0	Unknow n
		var. zeylanicum									
Flowering Plants	Rubiaceae	*Dentella minutissima*	Bedstraw			0	Unknown	2	1971	0	Unknow n
Flowering Plants	Rubiaceae	*Dentella repens*	Bedstraw			0	Unknown	2	2010	0	Unknow n
Flowering Plants	Rubiaceae	*Gardenia ewartii subsp.*	Native Gardenia			0	Unknown	0	Unknown	0	Unknow n
		ewartii									
Flowering Plants	Rubiaceae	*Gardenia fucata*	Native Gardenia			0	Unknown	0	Unknown	1	1998
Flowering Plants	Rubiaceae	*Gardenia pyriformis subsp.*	Native Gardenia			0	Unknown	11	1998	0	Unknow n
		orientalis									
Flowering Plants	Rubiaceae	*Nauclea orientalis*	Leichhardt Tree			0	Unknown	2	1989	0	Unknow n

Flowering Plants	Rubiaceae	*Oldenlandia argillacea*	Oldenlandia			0	Unknown	2	1989	0	Unknown
Flowering Plants	Rubiaceae	*Oldenlandia galioides*	Oldenlandia			0	Unknown	3	2010	0	Unknown
Flowering Plants	Rubiaceae	*Oldenlandia laceyi*	Oldenlandia			0	Unknown	4	2010	0	Unknown
Flowering Plants	Rubiaceae	*Oldenlandia mitrasacmoides*	Oldenlandia			0	Unknown	10	1998	0	Unknown
Flowering Plants	Rubiaceae	*Oldenlandia mitrasacmoides*	Oldenlandia			0	Unknown	4	2010	0	Unknown
		subsp. mitrasacmoides									
Flowering Plants	Rubiaceae	*Pavetta muelleri*	Pavetta			0	Unknown	2	1988	0	Unknown
Flowering Plants	Rubiaceae	*Psydrax attenuata var.*	Canthium			0	Unknown	0	Unknown	0	Unknown
		myrmecophila									
Flowering Plants	Rubiaceae	*Spermacoce auriculata*	Buttonweed			0	Unknown	11	2010	0	Unknown
Flowering Plants	Rubiaceae	*Spermacoce calliantha*	Buttonweed			0	Unknown	2	2010	0	Unknown
Flowering Plants	Rubiaceae	*Spermacoce dolichosperma*	Buttonweed			0	Unknown	7	2010	0	Unknown
Flowering Plants	Rubiaceae	*Spermacoce fabiformis*	Buttonweed			0	Unknown	2	2010	0	Unknown
Flowering Plants	Rubiaceae	*Spermacoce leptoloba*	Silver-blue Buttonweed			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Rubiaceae	*Spermacoce lignosa*	Buttonweed			0	Unknown	2	2010	0	Unknown
Flowering Plants	Rubiaceae	*Spermacoce platyloba*	Buttonweed			0	Unknown	4	2010	0	Unknown
Flowering Plants	Rubiaceae	*Spermacoce pogostoma*	Buttonweed			0	Unknown	2	1979	0	Unknown
Flowering Plants	Rubiaceae	*Spermacoce rupicola*	Buttonweed			0	Unknown	5	2010	0	Unknown
Flowering Plants	Rubiaceae	*Spermacoce stenophylla*	Blue Buttonweed			0	Unknown	2	1985	0	Unknown
Flowering Plants	Rubiaceae	*Timonius timon*	Swizzle Bush			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Loganiaceae	*Mitrasacme ambigua*	Mitre Plant			0	Unknown	2	2010	0	Unknown
Flowering Plants	Loganiaceae	*Mitrasacme connata*	Mitre Plant			0	Unknown	2	1991	0	Unknown
Flowering Plants	Loganiaceae	*Mitrasacme exserta*	White Flood Plant			0	Unknown	2	2010	0	Unknown
Flowering Plants	Loganiaceae	*Mitrasacme gentianea*	Mitre Plant			0	Unknown	2	1976	0	Unknown
Flowering	Loganiaceae	*Mitrasacme laricifolia*	Mitre Plant			0	Unknown	4	2010	0	Unknow

Plants											n
Flowering Plants	Loganiaceae	*Mitrasacme nudicaulis*	Mitre Plant			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Loganiaceae	*Mitrasacme nudicaulis var.*	Mitre Plant			0	Unknown	10	2010	0	Unknow n
		nudicaulis									
Flowering Plants	Loganiaceae	*Mitrasacme nummularia*	Mitre Plant			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Loganiaceae	*Mitrasacme patens*	Mitre Plant	DD		0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Loganiaceae	*Mitrasacme prolifera*	Mitre Plant			0	Unknown	2	2010	0	Unknow n
Flowering Plants	Loganiaceae	*Mitrasacme scrithicola*	Mitre Plant			0	Unknown	2	1995	0	Unknow n
Flowering Plants	Loganiaceae	*Mitrasacme squamigera*	Mitre Plant			0	Unknown	2	2010	0	Unknow n
Flowering Plants	Loganiaceae	*Strychnos lucida*	Strychnine Tree			0	Unknown	2	1948	0	Unknow n
Flowering Plants	Apocynaceae	*Alstonia actinophylla*	Milkwood			0	Unknown	4	1989	0	Unknow n
Flowering Plants	Apocynaceae	*Carissa lanceolata*	Conkerberry			0	Unknown	3	1995	0	Unknow n
Flowering Plants	Apocynaceae	*Cynanchum floribundum*	Native Pear			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Apocynaceae	*Gymnanthera oblonga*	Gymnanthera			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Apocynaceae	*Marsdenia australis*	Bush Banana			0	Unknown	2	1991	0	Unknow n
Flowering Plants	Apocynaceae	*Marsdenia geminata*	Milkvine			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Apocynaceae	*Marsdenia trinervis*	Milkvine			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Apocynaceae	*Marsdenia viridiflora subsp.*	Bush Banana			0	Unknown	10	2010	0	Unknow n
		tropica									
Flowering Plants	Apocynaceae	*Tylophora cinerascens*	Tylophora			0	Unknown	6	1989	0	Unknow n
Flowering Plants	Apocynaceae	*Tylophora flexuosa*	Tylophora			0	Unknown	2	1988	0	Unknow n
Flowering Plants	Apocynaceae	*Wrightia saligna*	Milk Bush			0	Unknown	2	1989	0	Unknow n
Flowering Plants	Solanaceae	*Physalis angulata*	Wild Gooseberry			0	Unknown	4	2010	0	Unknow n
Flowering Plants	Solanaceae	*Solanum carduiforme*	Thorny Solanum			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Solanaceae	*Solanum dioicum*	Wild Tomato			0	Unknown	0	Unknown	0	Unknow n

Flowering Plants	Solanaceae	*Solanum eburneum*	Solanum			0	Unknown	2	2010	0	Unknown
Flowering Plants	Solanaceae	*Solanum echinatum*	Wild Tomato			0	Unknown	26	2010	0	Unknown
Flowering Plants	Solanaceae	*Solanum melanospermum*	Solanum			0	Unknown	2	1970	0	Unknown
Flowering Plants	Solanaceae	*Solanum orbiculatum*	Wild Tomato			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Solanaceae	*Solanum quadriloculatum*	Plains Nightshade			0	Unknown	13	2010	0	Unknown
Flowering Plants	Solanaceae	*Solanum tumulicola*	Black-soil Wild Tomato			0	Unknown	3	1948	0	Unknown
Flowering Plants	Convolvulaceae	*Bonamia brevifolia*	Bonamia			0	Unknown	2	1984	0	Unknown
Flowering Plants	Convolvulaceae	*Bonamia media*	Grey-vine			0	Unknown	4	2010	0	Unknown
Flowering Plants	Convolvulaceae	*Bonamia media var. media*	Grey-vine			0	Unknown	2	2010	0	Unknown
Flowering Plants	Convolvulaceae	*Bonamia pannosa*	Bonamia			0	Unknown	14	2010	0	Unknown
Flowering Plants	Convolvulaceae	*Evolvulus alsinoides*	Blue Periwinkle			0	Unknown	9	2010	0	Unknown
Flowering Plants	Convolvulaceae	*Evolvulus alsinoides var.*	Blue Periwinkle			0	Unknown	0	Unknown	0	Unknown
		decumbens									
Flowering Plants	Convolvulaceae	*Evolvulus alsinoides var.*	Blue Periwinkle			0	Unknown	0	Unknown	0	Unknown
		sericeus									
Flowering Plants	Convolvulaceae	*Evolvulus alsinoides var.*	Blue Periwinkle			0	Unknown	2	2010	0	Unknown
		villosicalyx									
Flowering Plants	Convolvulaceae	*Ipomoea aquatica*	Kangkong			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Convolvulaceae	*Ipomoea argillicola*	Cow-vine			0	Unknown	2	1998	0	Unknown
Flowering Plants	Convolvulaceae	*Ipomoea coptica*	Cow-vine			0	Unknown	2	2010	0	Unknown
Flowering Plants	Convolvulaceae	*Ipomoea diamantinensis*	Desert Cow-vine			0	Unknown	2	1979	0	Unknown
Flowering Plants	Convolvulaceae	*Ipomoea eriocarpa*	Small Pink Convolvulus			0	Unknown	3	2010	0	Unknown
Flowering Plants	Convolvulaceae	*Ipomoea muelleri*	Poison Morning Glory			0	Unknown	2	1947	0	Unknown
Flowering Plants	Convolvulaceae	*Ipomoea nil*	Morning Glory			0	Unknown	10	2010	0	Unknown
Flowering Plants	Convolvulaceae	*Ipomoea plebeia*	Bell Vine			0	Unknown	7	2010	0	Unknown

Flowering Plants	Convolvulaceae	*Ipomoea polymorpha*	Silky Cow-vine			0	Unknown	11	2010	0	Unknown
Flowering Plants	Convolvulaceae	*Ipomoea racemigera*	Cow-vine			0	Unknown	2	1984	0	Unknown
Flowering Plants	Convolvulaceae	*Jacquemontia browniana*	Snake Stem			0	Unknown	2	1991	0	Unknown
Flowering Plants	Convolvulaceae	*Jacquemontia paniculata*	Purple-flowered Jungle			0	Unknown	4	1998	0	Unknown
			Creeper								
Flowering Plants	Convolvulaceae	*Merremia incisa*	Merremia	DD		0	Unknown	4	2010	0	Unknown
Flowering Plants	Convolvulaceae	*Operculina aequisepala*	Potato Vine			0	Unknown	10	2010	0	Unknown
Flowering Plants	Convolvulaceae	*Polymeria ambigua*	Creeping Polymeria			0	Unknown	8	1984	0	Unknown
Flowering Plants	Convolvulaceae	*Polymeria longifolia*	Erect Bindweed			0	Unknown	5	1998	0	Unknown
Flowering Plants	Convolvulaceae	*Xenostegia tridentata*	Morning Vine			0	Unknown	7	2010	0	Unknown
Flowering Plants	Oleaceae	*Jasminum molle*	Stiff Jasmine			0	Unknown	8	2010	0	Unknown
Flowering Plants	Scrophulariaceae	*Eremophila longifolia*	Long-leaved Desert Fuchsia			0	Unknown	4	2000	0	Unknown
Flowering Plants	Acanthaceae	*Dicliptera armata*	Dicpliptera			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Acanthaceae	*Hygrophila angustifolia*	Hygrophila			0	Unknown	2	1984	2	1998
Flowering Plants	Acanthaceae	*Hypoestes floribunda*	Rosy Hypoestes			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Acanthaceae	*Hypoestes floribunda var.*	Rosy Hypoestes			0	Unknown	5	1991	0	Unknown
		cinerea									
Flowering Plants	Acanthaceae	*Nelsonia campestris*	Nelsonia			0	Unknown	6	1984	1	1998
Flowering Plants	Acanthaceae	*Rostellularia adscendens*	Pink Tongues			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Acanthaceae	*Rostellularia adscendens*	Pink Tongues			0	Unknown	10	2010	0	Unknown
		var. clementii									
Flowering Plants	Acanthaceae	*Rostellularia adscendens*	Pink Tongues			0	Unknown	2	1979	0	Unknown
		var. largiflorens									
Flowering Plants	Pedaliaceae	*Josephinia eugeniae*	Josephinia Burr			0	Unknown	2	1979	0	Unknown
Flowering Plants	Bignoniaceae	*Dolichandrone filiformis*	Whistling Tree			0	Unknown	2	1988	0	Unknown
Flowering	Bignoniaceae	*Dolichandrone heterophylla*	Lemon Wood			0	Unknown	11	2010	0	Unknow

Plants											n
Flowering Plants	Lamiaceae	*Anisomeles malabarica*	Purple Bush Flower			0	Unknown	12	2010	0	Unknow n
Flowering Plants	Lamiaceae	*Basilicum polystachyon*	Musk Basil			0	Unknown	13	2010	0	Unknow n
Flowering Plants	Lamiaceae	*Callicarpa candicans*	Beauty Berry			0	Unknown	6	1995	0	Unknow n
Flowering Plants	Lamiaceae	*Clerodendrum floribundum*	Smooth Spiderbush			0	Unknown	6	1995	0	Unknow n
Flowering Plants	Lamiaceae	*Muniria angustisepala*	Pityrodia			0	Unknown	2	2010	0	Unknow n
Flowering Plants	Lamiaceae	*Pityrodia ternifolia*	Pityrodia			0	Unknown	2	2008	0	Unknow n
Flowering Plants	Lamiaceae	*Plectranthus scutellarioides*	Mintbush			0	Unknown	2	2010	0	Unknow n
Flowering Plants	Lamiaceae	*Premna acuminata*	Premna			0	Unknown	4	1988	0	Unknow n
Flowering Plants	Lamiaceae	*Teucrium integrifolium*	Green Germander			0	Unknown	4	1948	0	Unknow n
Flowering Plants	Lamiaceae	*Vitex acuminata*	Cheeky Black Plum			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Lamiaceae	*Vitex glabrata*	Black Plum			0	Unknown	2	1989	0	Unknow n
Flowering Plants	Phrymaceae	*Peplidium muelleri*	Pepilidium			0	Unknown	2	1995	0	Unknow n
Flowering Plants	Phrymaceae	*Uvedalia linearis var. linearis*	Monkey-flower			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Phrymaceae	*Uvedalia sp. Groote Eylandt*	Monkey-flower			0	Unknown	2	2010	0	Unknow n
Flowering Plants	Orobanchaceae	*Buchnera asperata*	Blackrod			0	Unknown	2	2010	0	Unknow n
Flowering Plants	Orobanchaceae	*Buchnera linearis*	Dainty Bush Flower			0	Unknown	6	1991	0	Unknow n
Flowering Plants	Orobanchaceae	*Buchnera ramosissima*	Blackrod			0	Unknown	2	1977	0	Unknow n
Flowering Plants	Orobanchaceae	*Centranthera cochinchinensis*	Swamp Foxglove			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Orobanchaceae	*Rhamphicarpa australiensis*	Rhamphicarpa			0	Unknown	2	2010	0	Unknow n
Flowering Plants	Plantaginaceae	*Adenosma muelleri*	Adenosma			0	Unknown	8	1997	0	Unknow n
Flowering Plants	Plantaginaceae	*Bacopa floribunda*	Bacopa			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Plantaginaceae	*Stemodia glabella*	Smooth Bluerod			0	Unknown	3	2000	0	Unknow n
Flowering	Plantaginaceae	*Stemodia lathraia*	Bluerod			0	Unknown	4	2010	0	Unknow

Plants											n
Flowering Plants	Plantaginaceae	*Stemodia lythrifolia*	Bluerod			0	Unknown	10	1997	0	Unknown
Flowering Plants	Plantaginaceae	*Stemodia viscosa*	Sticky Bluerod			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Plantaginaceae	*Striga curviflora*	Witchweed			0	Unknown	8	2008	0	Unknown
Flowering Plants	Linderniaceae	*Lindernia aplectra*	Lindernia			0	Unknown	4	1979	0	Unknown
Flowering Plants	Linderniaceae	*Lindernia clausa*	Lindernia			0	Unknown	6	2010	0	Unknown
Flowering Plants	Linderniaceae	*Lindernia lobelioides*	Lindernia			0	Unknown	4	1989	0	Unknown
Flowering Plants	Linderniaceae	*Lindernia scapigera*	Lindernia			0	Unknown	2	1989	0	Unknown
Flowering Plants	Linderniaceae	*Lindernia sp. cliff lover*	Lindernia			0	Unknown	17	1997	0	Unknown
Flowering Plants	Lentibulariaceae	*Utricularia limosa*	Bladderwort			0	Unknown	2	2010	0	Unknown
Flowering Plants	Lentibulariaceae	*Utricularia muelleri*	Bladderwort			0	Unknown	2	2010	0	Unknown
Flowering Plants	Lentibulariaceae	*Utricularia sp. small white*	Bladderwort			0	Unknown	2	2010	0	Unknown
Flowering Plants	Byblidaceae	*Byblis liniflora*	Flypaper Trap			0	Unknown	2	1948	0	Unknown
Flowering Plants	Araliaceae	*Trachymene microcephala*	Lace Flower			0	Unknown	2	2008	0	Unknown
Flowering Plants	Campanulaceae	*Lobelia arnhemica*	Lobelia			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Campanulaceae	*Lobelia dioica*	Lobelia			0	Unknown	4	2001	0	Unknown
Flowering Plants	Campanulaceae	*Lobelia douglasiana*	Slender Lobelia			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Stylidiaceae	*Stylidium adenophorum*	Trigger Plant			0	Unknown	4	1991	0	Unknown
Flowering Plants	Stylidiaceae	*Stylidium capillare*	Trigger Plant			0	Unknown	4	2010	0	Unknown
Flowering Plants	Stylidiaceae	*Stylidium longicornu*	Trigger Plant			0	Unknown	3	2010	0	Unknown
Flowering Plants	Stylidiaceae	*Stylidium schizanthum*	Trigger Plant			0	Unknown	2	2010	0	Unknown
Flowering Plants	Menyanthaceae	*Nymphoides crenata*	Wavy Marshwort			0	Unknown	6	1985	0	Unknown
Flowering Plants	Menyanthaceae	*Nymphoides indica*	Water Snowflake			0	Unknown	1	2010	0	Unknown
Flowering Plants	Menyanthaceae	*Nymphoides parvifolia*	Marshwort			0	Unknown	0	Unknown	0	Unknown

Flowering Plants	Menyanthaceae	*Nymphoides quadriloba*	Marshwort			0	Unknown	2	2010	0	Unknown
Flowering Plants	Goodeniaceae	*Goodenia armitiana*	Narrow-leaved Goodenia			0	Unknown	8	2010	0	Unknown
Flowering Plants	Goodeniaceae	*Goodenia armstrongiana*	Narrow-leaved Goodenia			0	Unknown	3	2010	0	Unknown
Flowering Plants	Goodeniaceae	*Goodenia fascicularis*	Silky Goodenia			0	Unknown	8	1999	0	Unknown
Flowering Plants	Goodeniaceae	*Goodenia hispida*	Goodenia			0	Unknown	2	1984	0	Unknown
Flowering Plants	Goodeniaceae	*Goodenia janamba*	Goodenia			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Goodeniaceae	*Goodenia lamprosperma*	Goodenia			0	Unknown	7	1995	0	Unknown
Flowering Plants	Goodeniaceae	*Goodenia leiosperma*	Goodenia			0	Unknown	6	1991	0	Unknown
Flowering Plants	Goodeniaceae	*Goodenia odonnellii*	Goodenia			0	Unknown	25	2010	0	Unknown
Flowering Plants	Goodeniaceae	*Goodenia pilosa*	Hairy Goodenia			0	Unknown	2	2010	0	Unknown
Flowering Plants	Goodeniaceae	*Goodenia pumilio*	Goodenia			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Goodeniaceae	*Goodenia redacta*	Goodenia			0	Unknown	2	2010	0	Unknown
Flowering Plants	Goodeniaceae	*Goodenia strangfordii*	Goodenia			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Goodeniaceae	*Goodenia viscidula*	Goodenia			0	Unknown	2	1947	0	Unknown
Flowering Plants	Goodeniaceae	*Lechenaultia filiformis*	Fanflower			0	Unknown	5	1998	0	Unknown
Flowering Plants	Goodeniaceae	*Scaevola amblyanthera var.*	Fanflower			0	Unknown	6	1971	0	Unknown
		amblyanthera									
Flowering Plants	Goodeniaceae	*Scaevola glabrata*	Fanflower			0	Unknown	2	1947	0	Unknown
Flowering Plants	Goodeniaceae	*Scaevola revoluta subsp.*	Fanflower			0	Unknown	6	2010	0	Unknown
		revoluta									
Flowering Plants	Asteraceae	*Apowollastonia cylindrica*	Sunflower Daisy			0	Unknown	4	2010	0	Unknown
Flowering Plants	Asteraceae	*Bidens bipinnata*	Cobbler's Pegs			0	Unknown	6	1998	0	Unknown
Flowering Plants	Asteraceae	*Blumea axillaris*	Daisy			0	Unknown	2	1911	0	Unknown
Flowering Plants	Asteraceae	*Blumea diffusa*	Daisy			0	Unknown	3	1991	0	Unknown
Flowering	Asteraceae	*Blumea integrifolia*	Daisy			0	Unknown	4	1984	0	Unknow

Plants											n
Flowering Plants	Asteraceae	*Blumea saxatilis*	Daisy			0	Unknown	4	1984	0	Unknow n
Flowering Plants	Asteraceae	*Blumea tenella*	Daisy			0	Unknown	6	1984	0	Unknow n
Flowering Plants	Asteraceae	*Calotis breviseta*	Burr-Daisy			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Asteraceae	*Centipeda borealis*	Sneezeweed			0	Unknown	2	1959	0	Unknow n
Flowering Plants	Asteraceae	*Centipeda minima*	Spreading Sneezeweed			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Asteraceae	*Centipeda minima subsp.*	Spreading Sneezeweed			0	Unknown	2	1994	0	Unknow n
		macrocephala									
Flowering Plants	Asteraceae	*Cyanthillium cinereum*	Vernonia			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Asteraceae	*Cyanthillium sp. grey leaf*	Cyanthillium			0	Unknown	11	2010	0	Unknow n
Flowering Plants	Asteraceae	*Eclipta sp. Humpty Doo*	Twin-heads			0	Unknown	2	2010	0	Unknow n
Flowering Plants	Asteraceae	*Iotasperma sessilifolium*	Daisy	DD		0	Unknown	2	1971	0	Unknow n
Flowering Plants	Asteraceae	*Pluchea rubelliflora*	Daisy			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Asteraceae	*Pterocaulon ciliosum*	Daisy			0	Unknown	2	1971	0	Unknow n
Flowering Plants	Asteraceae	*Pterocaulon globuliflorus*	Daisy			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Asteraceae	*Pterocaulon serrulatum*	Fruit Salad Bush			0	Unknown	2	1974	0	Unknow n
Flowering Plants	Asteraceae	*Pterocaulon serrulatum var.*	Fruit Salad Bush			0	Unknown	0	Unknown	0	Unknow n
		serrulatum									
Flowering Plants	Asteraceae	*Pterocaulon serrulatum var.*	Fruit Salad Bush			0	Unknown	8	1999	0	Unknow n
		velutinum									
Flowering Plants	Asteraceae	*Pterocaulon sphacelatum*	Apple Bush			0	Unknown	0	Unknown	0	Unknow n
Flowering Plants	Asteraceae	*Pterocaulon tricholobum*	Daisy			0	Unknown	7	2010	0	Unknow n
Flowering Plants	Asteraceae	*Rutidosis helichrysoides*	Grey Wrinklewort	DD		0	Unknown	3	1991	0	Unknow n
		subsp. acutiglumis									
Flowering Plants	Asteraceae	*Sphaeranthus indicus*	East Indian Globe-Thistle			0	Unknown	8	2010	0	Unknow n
Flowering Plants	Asteraceae	*Sphaeromorphaea australis*	Spreading Nut-heads			0	Unknown	2	2010	0	Unknow n

Flowering Plants	Asteraceae	*Streptoglossa adscendens*	Desert Daisy			0	Unknown	2	1971	0	Unknown
Flowering Plants	Asteraceae	*Streptoglossa bubakii*	Stinkweed			0	Unknown	1	1999	0	Unknown
Flowering Plants	Asteraceae	*Streptoglossa odora*	Aromatic Daisy			0	Unknown	0	Unknown	0	Unknown
Flowering Plants	Asteraceae	*Wedelia verbesinoides*	Daisy			0	Unknown	2	1989	0	Unknown
Frogs	Limnodynastidae	*Notaden melanoscaphus*	Northern Spadefoot Toad			1	1989	0	Unknown	0	Unknown
Frogs	Limnodynastidae	*Platyplectrum ornatus*	Ornate Burrowing Frog			0	Unknown	1	1975	3	1996
Frogs	Myobatrachidae	*Crinia bilingua*	Bilingual Froglet			0	Unknown	12	1977	3	1990
Frogs	Myobatrachidae	*Crinia deserticola*	Desert Froglet			0	Unknown	37	1977	0	Unknown
Frogs	Myobatrachidae	*Uperoleia inundata*	Floodplain Toadlet			0	Unknown	3	1976	0	Unknown
Frogs	Myobatrachidae	*Uperoleia lithomoda*	Stonemason Toadlet			0	Unknown	4	2010	1	1996
Frogs	Myobatrachidae	*Uperoleia trachyderma*	Blacksoil Toadlet			0	Unknown	3	2010	0	Unknown
Frogs	Hylidae	*Litoria australis*	Giant Frog			4	1997	8	1995	0	Unknown
Frogs	Hylidae	*Litoria caerulea*	Green Tree-frog			3	1997	3	1994	0	Unknown
Frogs	Hylidae	*Litoria cultripes*	Knife-footed Frog			0	Unknown	3	2003	0	Unknown
Frogs	Hylidae	*Litoria inermis*	Peter`s Frog			0	Unknown	8	1990	0	Unknown
Frogs	Hylidae	*Litoria longipes*	Long-footed Frog			0	Unknown	3	1986	0	Unknown
Frogs	Hylidae	*Litoria pallida*	Pale Frog			0	Unknown	27	2000	1	1990
Frogs	Hylidae	*Litoria rothii*	Roth`s Tree-Frog			3	1997	9	1994	3	1990
Frogs	Hylidae	*Litoria rubella*	Red Tree-frog			0	Unknown	7	2000	0	Unknown
Frogs	Hylidae	*Litoria tornieri*	Tornier`s Frog			0	Unknown	1	1975	1	1990
Frogs	Hylidae	*Litoria wotjulumensis*	Wotjulum Frog			1	1989	8	1976	2	1990
Reptiles	Crocodylidae	*Crocodylus johnstoni*	Freshwater Crocodile			3	1989	0	Unknown	0	Unknown
Reptiles	Crocodylidae	*Crocodylus porosus*	Saltwater Crocodile			2	Unknown	0	Unknown	0	Unknown
Reptiles	Cheluidae	*Elseya dentata*	Northern Snapping Turtle			1	Unknown	0	Unknown	0	Unknown
Reptiles	Cheluidae	*Emydura subglobosa*	Diamond Head Turtle			3	Unknown	1	1959	0	Unknown
Reptiles	Cheluidae	*Emydura victoriae*	Victoria River Red-faced Turtle			0	Unknown	2	1971	0	Unknown

Reptiles	Gekkonidae	*Diplodactylus conspicillatus*	Fat-tailed Gecko			3	1994	2	1994	0	Unknown
Reptiles	Gekkonidae	*Diplodactylus tessellatus*	Tessellated Gecko			0	Unknown	1	2000	0	Unknown
Reptiles	Gekkonidae	*Gehyra australis*	Northern Dtella			6	1994	21	2008	9	2000
Reptiles	Gekkonidae	*Gehyra borroloola*	Borroloola Dtella			0	Unknown	30	2008	5	1990
Reptiles	Gekkonidae	*Gehyra dubia*	Dubious Dtella			0	Unknown	2	2006	0	Unknown
Reptiles	Gekkonidae	*Gehyra nana*	Northern Spotted Rock			0	Unknown	3	2007	0	Unknown
			Dtella								
Reptiles	Gekkonidae	*Gehyra purpurascens*	Purplish Dtella			1	1991	4	2000	1	1991
Reptiles	Gekkonidae	*Gehyra variegata*	Tree Dtella			0	Unknown	1	1992	0	Unknown
Reptiles	Gekkonidae	*Heteronotia binoei*	Bynoe`s Gecko			5	1994	26	2005	5	2000
Reptiles	Gekkonidae	*Heteronotia planiceps*	Bynoe`s Prickly Gecko			0	Unknown	0	Unknown	1	1990
Reptiles	Gekkonidae	*Lucasium immaculatum*	Pale-striped Ground Gecko			1	1994	1	1994	1	1996
Reptiles	Gekkonidae	*Lucasium stenodactylum*	Crowned Gecko			2	2006	1	1975	1	1991
Reptiles	Gekkonidae	*Oedura marmorata*	Marbled Velvet Gecko			1	1989	1	1989	1	1990
Reptiles	Gekkonidae	*Oedura rhombifer*	Zig-zag Gecko			2	1991	2	1985	2	1991
Reptiles	Gekkonidae	*Rhynchoedura ornata*	Beaked Gecko			1	1991	0	Unknown	0	Unknown
Reptiles	Gekkonidae	*Strophurus ciliaris*	Spiny-tailed Gecko			6	1994	4	1994	0	Unknown
Reptiles	Pygopodidae	*Delma borea*	Rusty-topped Delma			2	1994	2	2008	0	Unknown
Reptiles	Pygopodidae	*Delma nasuta*	Sharp-snouted Delma			1	1994	2	1994	0	Unknown
Reptiles	Pygopodidae	*Delma tincta*	Black-necked Snake-lizard			4	1994	1	2003	2	2000
Reptiles	Pygopodidae	*Lialis burtonis*	Burton`s Legless Lizard			19	1994	4	1996	1	1992
Reptiles	Pygopodidae	*Pygopus steelescotti*	Northern Hooded Scaly-foot			16	1994	5	1994	0	Unknown
Reptiles	Scincidae	*Carlia amax*	Two-Spined Rainbow Skink			3	1994	3	1994	7	1993
Reptiles	Scincidae	*Carlia munda*	Striped Rainbow Skink			1	2006	0	Unknown	1	1990
Reptiles	Scincidae	*Carlia rufilatus*	Red-Sided Rainbow Skink			0	Unknown	1	1979	0	Unknown
Reptiles	Scincidae	*Carlia triacantha*	Three-Spined Rainbow			0	Unknown	8	1979	0	Unknown
			Skink								
Reptiles	Scincidae	*Cryptoblepharus*	Spotted Snake-Eyed Skink			1	1989	3	1976	2	1990
		megastictus									

Reptiles	Scincidae	*Cryptoblepharus metallicus*	Metallic Snake-eyed Skink			0	Unknown	14	2009	0	Unknown
Reptiles	Scincidae	*Cryptoblepharus*	Arboreal Snake-eyed Skink			0	Unknown	2	2006	3	1996
		plagiocephalus									
Reptiles	Scincidae	*Ctenotus inornatus*	Plain Ctenotus			5	1994	12	2008	5	1993
Reptiles	Scincidae	*Ctenotus joanae*	Black-Soil Ctenotus			0	Unknown	6	2003	1	2000
Reptiles	Scincidae	*Ctenotus pantherinus*	Leopard Ctenotus			3	1994	4	1996	1	1996
Reptiles	Scincidae	*Ctenotus pulchellus*	Pretty Ctenotus			2	1994	3	1996	2	1996
Reptiles	Scincidae	*Ctenotus robustus*	Robust Ctenotus			3	2006	0	Unknown	0	Unknown
Reptiles	Scincidae	*Ctenotus saxatilis*	Rock Ctenotus			0	Unknown	1	1979	0	Unknown
Reptiles	Scincidae	*Ctenotus schomburgkii*	Schomburk`s Ctenotus			1	1991	0	Unknown	0	Unknown
Reptiles	Scincidae	*Ctenotus spaldingi*	Spalding`s Ctenotus			3	1994	8	1996	6	1996
Reptiles	Scincidae	*Egernia hosmeri*	Hosmer`s Egernia			0	Unknown	0	Unknown	1	1990
Reptiles	Scincidae	*Eremiascincus isolepis*	Smooth-Tailed Skink			0	Unknown	0	Unknown	1	1990
Reptiles	Scincidae	*Lerista griffini*	Griffin`s Lerista			1	1991	0	Unknown	0	Unknown
Reptiles	Scincidae	*Lerista orientalis*	Eastern Lerista			2	1991	29	2006	2	1991
Reptiles	Scincidae	*Menetia greyii*	Grey`s Menetia			0	Unknown	3	1978	1	1990
Reptiles	Scincidae	*Menetia maini*	Main`s Menetia			1	1991	4	2006	1	1996
Reptiles	Scincidae	*Morethia ruficauda*	Red-Tailed Snake-Eyed			0	Unknown	0	Unknown	1	1990
			Skink								
Reptiles	Scincidae	*Notoscincus ornatus*	Ornate Snake-Eyed Skink			0	Unknown	0	Unknown	2	1990
Reptiles	Scincidae	*Proablepharus kinghorni*	Kinghorn`s Snake-Eyed			0	Unknown	0	Unknown	4	2000
			Skink								
Reptiles	Scincidae	*Proablepharus tenuis*	Slender Snake-Eyed Skink			0	Unknown	2	1996	4	1996
Reptiles	Scincidae	*Tiliqua multifasciata*	Centralian Blue-Tongued			5	2000	2	1977	0	Unknown
			Lizard								
Reptiles	Scincidae	*Tiliqua scincoides*	Common Blue-Tongued	DD		2	1994	2	1979	0	Unknown
			Lizard								
Reptiles	Agamidae	*Chlamydosaurus kingii*	Frilled Lizard			1	1991	1	2000	0	Unknown
Reptiles	Agamidae	*Ctenophorus caudicinctus*	Ring-tailed Dragon			3	1989	6	1989	0	Unknown
Reptiles	Agamidae	*Diporiphora albilabris*	White-lipped Dragon			0	Unknown	5	2004	0	Unknown
Reptiles	Agamidae	*Diporiphora bennettii*	Robust Dragon			1	1994	0	Unknown	0	Unknow

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Reptiles	Agamidae	*Diporiphora bilineata*	Two-Lined Dragon			2	1989	1	1971	0	Unknown
Reptiles	Agamidae	*Diporiphora lalliae*	Lally`s Two-line Dragon			0	Unknown	1	2004	0	Unknown
Reptiles	Agamidae	*Diporiphora magna*	Yellow-sided Two-line			1	2006	4	2004	1	1990
			Dragon								
Reptiles	Agamidae	*Lophognathus gilberti*	Gilbert`s Dragon			11	1994	20	2004	9	2000
Reptiles	Agamidae	*Pogona vitticeps*	Central Bearded Dragon			2	1995	4	2003	0	Unknown
Reptiles	Agamidae	*Tympanocryptis cephalus*	Pebble Dragon			0	Unknown	2	1978	0	Unknown
Reptiles	Agamidae	*Tympanocryptis lineata*	Lined Earless Dragon			1	2000	4	1976	0	Unknown
Reptiles	Agamidae	*Tympanocryptis*	Long-tailed Earless Dragon			0	Unknown	1	2004	0	Unknown
		tetraporophora									
Reptiles	Varanidae	*Varanus acanthurus*	Ridge-tailed Monitor			10	1994	13	1994	2	1996
Reptiles	Varanidae	*Varanus glebopalma*	Long-Tailed Rock Monitor	DD		1	1985	2	1986	0	Unknown
Reptiles	Varanidae	*Varanus gouldii*	Sand Goanna			3	1989	0	Unknown	0	Unknown
Reptiles	Varanidae	*Varanus mitchelli*	Mitchell`s Water Monitor	VU		0	Unknown	2	1976	0	Unknown
Reptiles	Varanidae	*Varanus panoptes*	Yellow-spotted Monitor	VU		0	Unknown	0	Unknown	1	1990
Reptiles	Varanidae	*Varanus scalaris*	Spotted Tree Monitor	DD		0	Unknown	3	1988	0	Unknown
Reptiles	Varanidae	*Varanus spenceri*	Spencer`s Monitor	DD		3	2009	8	1978	0	Unknown
Reptiles	Varanidae	*Varanus storri*	Storr`s Monitor			0	Unknown	1	1975	0	Unknown
Reptiles	Varanidae	*Varanus tristis*	Black-tailed Monitor			0	Unknown	0	Unknown	2	1991
Reptiles	Typhlopidae	*Ramphotyphlops diversus*	Northern Blind Snake			1	1994	0	Unknown	0	Unknown
Reptiles	Typhlopidae	*Ramphotyphlops ligatus*	Robust Blind Snake			0	Unknown	1	2008	0	Unknown
Reptiles	Pythonidae	*Antaresia childreni*	Children`s Python			2	1994	7	2003	1	1990
Reptiles	Pythonidae	*Antaresia stimsoni*	Stimson`s Python			0	Unknown	5	1995	0	Unknown
Reptiles	Pythonidae	*Aspidites melanocephalus*	Black-headed Python			3	1995	1	2008	2	1993
Reptiles	Colubridae	*Boiga irregularis*	Brown Tree Snake			0	Unknown	1	1989	0	Unknown
Reptiles	Colubridae	*Dendrelaphis punctulata*	Green Tree Snake	DD		0	Unknown	3	1990	1	1990
Reptiles	Colubridae	*Tropidonophis mairii*	Keelback			0	Unknown	2	2008	0	Unknown

Reptiles	Elapidae	*Acanthophis hawkei*	Plains Death Adder	VU	VU	0	Unknown	4	1980	0	Unknown
Reptiles	Elapidae	*Brachyurophis roperi*	Northern Shovel-nosed Snake			1	1994	1	1994	0	Unknown
Reptiles	Elapidae	*Demansia olivacea*	Olive Whip Snake	DD		3	1994	0	Unknown	0	Unknown
Reptiles	Elapidae	*Demansia papuensis*	Papaun Whip Snake			1	1994	3	2003	0	Unknown
Reptiles	Elapidae	*Demansia quaesitor*	Whip Snake			3	1994	3	1994	0	Unknown
Reptiles	Elapidae	*Demansia rimicola*	Whip Snake			0	Unknown	4	2003	0	Unknown
Reptiles	Elapidae	*Furina ornata*	Orange-naped Snake			0	Unknown	3	2003	1	1990
Reptiles	Elapidae	*Pseudechis australis*	King Brown Snake			0	Unknown	2	1979	0	Unknown
Reptiles	Elapidae	*Pseudonaja guttata*	Speckled Brown Snake			0	Unknown	3	2003	0	Unknown
Reptiles	Elapidae	*Pseudonaja ingrami*	Ingram`s Brown Snake			0	Unknown	11	1978	0	Unknown
Reptiles	Elapidae	*Pseudonaja nuchalis*	Western Brown Snake			0	Unknown	2	2008	0	Unknown
Reptiles	Elapidae	*Pseudonaja textilis*	Eastern Brown Snake			0	Unknown	2	1978	0	Unknown
Reptiles	Elapidae	*Suta punctata*	Little Spotted Snake			6	1994	2	1994	0	Unknown
Reptiles	Elapidae	*Suta suta*	Curl Snake			2	1994	13	1994	0	Unknown
Birds	Casuariidae	*Dromaius novaehollandiae*	Emu			3	2001	0	Unknown	0	Unknown
Birds	Phasianidae	*Coturnix pectoralis*	Stubble Quail			1	1993	0	Unknown	0	Unknown
Birds	Phasianidae	*Coturnix ypsilophora*	Brown Quail			5	2001	1	1975	2	1996
Birds	Anseranatidae	*Anseranas semipalmata*	Magpie Goose			0	Unknown	0	Unknown	1	1995
Birds	Anatidae	*Dendrocygna arcuata*	Wandering Whistling-Duck			0	Unknown	0	Unknown	1	1995
Birds	Anatidae	*Dendrocygna eytoni*	Plumed Whistling-Duck			7	2001	0	Unknown	10	1995
Birds	Anatidae	*Stictonetta naevosa*	Freckled Duck			0	Unknown	0	Unknown	1	1995
Birds	Anatidae	*Cygnus atratus*	Black Swan			2	1985	0	Unknown	0	Unknown
Birds	Anatidae	*Chenonetta jubata*	Australian Wood Duck			1	1985	0	Unknown	1	1995
Birds	Anatidae	*Malacorhynchus membranaceus*	Pink-eared Duck			8	2001	0	Unknown	5	1995
Birds	Anatidae	*Anas gracilis*	Grey Teal			14	2001	0	Unknown	9	1995
Birds	Anatidae	*Anas superciliosa*	Pacific Black Duck			15	2001	0	Unknown	1	1995

Birds	Anatidae	*Aythya australis*	Hardhead			9	2000	0	Unknown	4	1995
Birds	Podicipedidae	*Tachybaptus*	Australasian Grebe			7	2000	0	Unknown	8	1995
		novaehollandiae									
Birds	Podicipedidae	*Poliocephalus poliocephalus*	Hoary-headed Grebe			4	1983	0	Unknown	2	1995
Birds	Columbidae	*Phaps chalcoptera*	Common Bronzewing			8	2001	1	1915	3	1993
Birds	Columbidae	*Phaps histrionica*	Flock Bronzewing			9	2000	0	Unknown	1	1996
Birds	Columbidae	*Ocyphaps lophotes*	Crested Pigeon			48	2002	0	Unknown	5	2000
Birds	Columbidae	*Geophaps plumifera*	Spinifex Pigeon			10	2000	9	1992	1	1993
Birds	Columbidae	*Geophaps smithii*	Partridge Pigeon	VU	VU	3	1911	0	Unknown	0	Unknown
Birds	Columbidae	*Geopelia cuneata*	Diamond Dove			52	2009	2	1994	15	2001
Birds	Columbidae	*Geopelia striata*	Peaceful Dove			70	2002	0	Unknown	20	2001
Birds	Columbidae	*Geopelia humeralis*	Bar-shouldered Dove			28	2001	2	1913	8	2001
Birds	Podargidae	*Podargus strigoides*	Tawny Frogmouth			9	2001	0	Unknown	3	1991
Birds	Eurostopodidae	*Eurostopodus argus*	Spotted Nightjar			13	1991	0	Unknown	3	1991
Birds	Aegothelidae	*Aegotheles cristatus*	Australian Owlet-nightjar			5	1993	2	1917	6	1993
Birds	Apodidae	*Hirundapus caudacutus*	White-throated Needletail			1	2000	0	Unknown	0	Unknown
Birds	Apodidae	*Apus pacificus*	Fork-tailed Swift			1	1985	0	Unknown	0	Unknown
Birds	Anhingidae	*Anhinga novaehollandiae*	Australasian Darter			11	2001	0	Unknown	4	1995
Birds	Phalacrocoracidae	*Microcarbo melanoleucos*	Little Pied Cormorant			18	2001	0	Unknown	1	1993
Birds	Phalacrocoracidae	*Phalacrocorax carbo*	Great Cormorant			5	1999	0	Unknown	0	Unknown
Birds	Phalacrocoracidae	*Phalacrocorax sulcirostris*	Little Black Cormorant			8	2001	0	Unknown	0	Unknown
Birds	Phalacrocoracidae	*Phalacrocorax varius*	Pied Cormorant			4	1981	0	Unknown	0	Unknown
Birds	Pelecanidae	*Pelecanus conspicillatus*	Australian Pelican			10	1999	0	Unknown	4	1995
Birds	Ciconiidae	*Ephippiorhynchus asiaticus*	Black-necked Stork			5	2001	0	Unknown	2	1995
Birds	Ardeidae	*Ixobrychus flavicollis*	Black Bittern			0	Unknown	3	1917	0	Unknown
Birds	Ardeidae	*Ardea pacifica*	White-necked Heron			31	2001	0	Unknown	3	1995
Birds	Ardeidae	*Ardea modesta*	Eastern Great Egret			16	2001	0	Unknown	4	1995
Birds	Ardeidae	*Ardea intermedia*	Intermediate Egret			3	2001	0	Unknown	2	1995
Birds	Ardeidae	*Egretta novaehollandiae*	White-faced Heron			25	2001	0	Unknown	3	2001
Birds	Ardeidae	*Egretta garzetta*	Little Egret			3	1989	0	Unknown	0	Unknown
Birds	Ardeidae	*Nycticorax caledonicus*	Nankeen Night Heron			10	2001	1	1911	1	1993
Birds	Threskiornithidae	*Plegadis falcinellus*	Glossy Ibis			6	1999	0	Unknown	1	1995

Birds	Threskiornithidae	*Threskiornis molucca*	Australian White Ibis			3	2001	0	Unknown	1	1995
Birds	Threskiornithidae	*Threskiornis spinicollis*	Straw-necked Ibis			11	2001	0	Unknown	2	1995
Birds	Threskiornithidae	*Platalea regia*	Royal Spoonbill			5	2001	0	Unknown	1	1995
Birds	Threskiornithidae	*Platalea flavipes*	Yellow-billed Spoonbill			6	1987	0	Unknown	1	1995
Birds	Accipitridae	*Elanus axillaris*	Black-shouldered Kite			1	1985	0	Unknown	0	Unknown
Birds	Accipitridae	*Hamirostra melanosternon*	Black-breasted Buzzard			4	2001	0	Unknown	0	Unknown
Birds	Accipitridae	*Aviceda subcristata*	Pacific Baza			1	1981	0	Unknown	0	Unknown
Birds	Accipitridae	*Haliaeetus leucogaster*	White-bellied Sea-eagle			1	1981	0	Unknown	0	Unknown
Birds	Accipitridae	*Haliastur sphenurus*	Whistling Kite			46	2001	0	Unknown	5	2000
Birds	Accipitridae	*Milvus migrans*	Black Kite			64	2002	0	Unknown	1	1993
Birds	Accipitridae	*Accipiter fasciatus*	Brown Goshawk			16	2001	3	1992	6	2001
Birds	Accipitridae	*Accipiter cirrocephalus*	Collared Sparrowhawk			4	1999	1	1913	0	Unknown
Birds	Accipitridae	*Circus assimilis*	Spotted Harrier			13	2001	1	1976	0	Unknown
Birds	Accipitridae	*Aquila audax*	Wedge-tailed Eagle			28	2001	0	Unknown	0	Unknown
Birds	Accipitridae	*Hieraaetus morphnoides*	Little Eagle			3	2001	1	1913	0	Unknown
Birds	Falconidae	*Falco cenchroides*	Nankeen Kestrel			26	2001	0	Unknown	1	1993
Birds	Falconidae	*Falco berigora*	Brown Falcon			23	2001	5	1917	1	1991
Birds	Falconidae	*Falco longipennis*	Australian Hobby			4	1999	1	1913	1	1993
Birds	Falconidae	*Falco subniger*	Black Falcon			5	2001	0	Unknown	0	Unknown
Birds	Falconidae	*Falco peregrinus*	Peregrine Falcon			2	1985	0	Unknown	0	Unknown
Birds	Gruidae	*Grus rubicunda*	Brolga			27	2001	1	1912	6	1996
Birds	Rallidae	*Porphyrio porphyrio*	Purple Swamphen			3	2000	0	Unknown	3	1995
Birds	Rallidae	*Tribonyx ventralis*	Black-tailed Native-hen			0	Unknown	0	Unknown	1	1993
Birds	Rallidae	*Gallinula tenebrosa*	Dusky Moorhen			2	1976	0	Unknown	0	Unknown
Birds	Rallidae	*Fulica atra*	Eurasian Coot			6	2000	0	Unknown	3	1995
Birds	Otididae	*Ardeotis australis*	Australian Bustard			99	2009	2	1967	1	1993
Birds	Burhinidae	*Burhinus grallarius*	Bush Stone-curlew			4	1989	0	Unknown	0	Unknown
Birds	Recurvirostridae	*Himantopus himantopus*	Black-winged Stilt			6	2001	0	Unknown	3	1995
Birds	Charadriidae	*Charadrius veredus*	Oriental Plover			3	1986	1	1966	0	Unknow

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Birds	Charadriidae	*Elseyornis melanops*	Black-fronted Dotterel			11	2001	2	1917	1	1993
Birds	Charadriidae	*Erythrogonys cinctus*	Red-kneed Dotterel			2	1981	0	Unknown	1	1995
Birds	Charadriidae	*Vanellus miles*	Masked Lapwing			13	2001	0	Unknown	8	1995
Birds	Scolopacidae	*Tringa glareola*	Wood Sandpiper			2	1993	0	Unknown	0	Unknow n
Birds	Scolopacidae	*Calidris acuminata*	Sharp-tailed Sandpiper			1	1978	0	Unknown	0	Unknow n
Birds	Turnicidae	*Turnix pyrrhothorax*	Red-chested Button-quail			0	Unknown	2	1981	1	1996
Birds	Turnicidae	*Turnix velox*	Little Button-quail			7	1989	3	1986	2	2000
Birds	Glareolidae	*Glareola maldivarum*	Oriental Pratincole			2	1978	0	Unknown	0	Unknow n
Birds	Glareolidae	*Stiltia isabella*	Australian Pratincole			18	2001	0	Unknown	6	1996
Birds	Laridae	*Gelochelidon nilotica*	Gull-billed Tern			2	1999	0	Unknown	0	Unknow n
Birds	Laridae	*Hydroprogne caspia*	Caspian Tern			4	1999	0	Unknown	1	1995
Birds	Laridae	*Chlidonias hybrida*	Whiskered Tern			4	1999	0	Unknown	1	1995
Birds	Laridae	*Chroicocephalus*	Silver Gull			2	1985	0	Unknown	0	Unknow n
		novaehollandiae									
Birds	Cacatuidae	*Calyptorhynchus banksii*	Red-tailed Black-cockatoo	N		31	2000	4	1913	0	Unknow n
		macrorhynchus									
Birds	Cacatuidae	*Eulophus roseicapilla*	Galah			91	2002	3	1902	7	2001
Birds	Cacatuidae	*Cacatua sanguinea*	Little Corella			15	2001	0	Unknown	0	Unknow n
Birds	Cacatuidae	*Cacatua galerita*	Sulphur-Crested Cockatoo	N		25	2001	2	1913	3	1993
Birds	Cacatuidae	*Nymphicus hollandicus*	Cockatiel			44	2001	0	Unknown	2	1993
Birds	Psittacidae	*Trichoglossus haematodus*	Rainbow Lorikeet			26	1993	0	Unknown	4	1993
Birds	Psittacidae	*Psitteuteles versicolor*	Varied Lorikeet			12	1999	7	1917	1	1990
Birds	Psittacidae	*Aprosmictus erythropterus*	Red-winged Parrot			24	2001	0	Unknown	8	1992
Birds	Psittacidae	*Platycercus venustus*	Northern Rosella			9	2000	4	1992	2	1990
Birds	Psittacidae	*Melopsittacus undulatus*	Budgerigar			17	2000	2	1913	1	1993
Birds	Cuculidae	*Centropus phasianinus*	Pheasant Coucal			9	1999	0	Unknown	2	2001
Birds	Cuculidae	*Eudynamys orientalis*	Eastern Koel			3	2000	0	Unknown	0	Unknow n
Birds	Cuculidae	*Chalcites basalis*	Horsfield`s Bronze-Cuckoo			1	2001	0	Unknown	0	Unknow n
Birds	Cuculidae	*Cacomantis pallidus*	Pallid Cuckoo			5	2001	2	1975	1	2001
Birds	Cuculidae	*Cacomantis variolosus*	Brush Cuckoo			2	1999	0	Unknown	0	Unknow n

Birds	Strigidae	*Ninox connivens*	Barking Owl			1	1985	2	1913	0	Unknown
Birds	Strigidae	*Ninox novaeseelandiae*	Southern Boobook			16	2001	3	1917	2	1993
Birds	Tytonidae	*Tyto novaehollandiae*	Masked Owl (northern	VU	VU	0	Unknown	1	1913	0	Unknown
		kimberli	mainland)								
Birds	Tytonidae	*Tyto javanica*	Eastern Barn Owl			11	1995	2	1917	1	1993
Birds	Tytonidae	*Tyto longimembris*	Eastern Grass Owl			0	Unknown	2	1976	0	Unknown
Birds	Alcedinidae	*Ceyx azureus*	Azure Kingfisher			9	1989	3	1917	0	Unknown
Birds	Halcyonidae	*Dacelo leachii*	Blue-winged Kookaburra			34	2001	0	Unknown	4	1990
Birds	Halcyonidae	*Todiramphus macleayii*	Forest Kingfisher			2	1977	0	Unknown	0	Unknown
Birds	Halcyonidae	*Todiramphus pyrrhopygius*	Red-backed Kingfisher			10	2001	3	1917	1	1993
Birds	Halcyonidae	*Todiramphus sanctus*	Sacred Kingfisher			10	2000	2	1913	4	2001
Birds	Meropidae	*Merops ornatus*	Rainbow Bee-eater			36	2001	0	Unknown	6	2001
Birds	Coraciidae	*Eurystomus orientalis*	Dollarbird			10	2000	0	Unknown	0	Unknown
Birds	Climacteridae	*Climacteris melanura*	Black-tailed Treecreeper			19	2001	8	1992	16	2001
Birds	Ptilonorhynchidae	*Ptilonorhynchus nuchalis*	Great Bowerbird			49	2002	3	1911	7	2001
Birds	Maluridae	*Malurus coronatus*	Purple-crowned Fairy-wren			8	1999	2	1975	4	1993
		macgillivrayi	(eastern)								
Birds	Maluridae	*Malurus melanocephalus*	Red-backed Fairy-wren			38	2001	2	1976	3	1996
Birds	Maluridae	*Malurus lamberti*	Variegated Fairy-wren			23	2001	2	1976	1	2001
Birds	Maluridae	*Amytornis dorotheae*	Carpentarian Grasswren	EN	EN	2	1994	4	1917	0	Unknown
Birds	Acanthizidae	*Smicrornis brevirostris*	Weebill			44	2001	3	1976	9	2001
Birds	Acanthizidae	*Gerygone albogularis*	White-throated Gerygone			8	2001	3	1917	2	1990
Birds	Pardalotidae	*Pardalotus rubricatus*	Red-browed Pardalote			5	1999	0	Unknown	0	Unknown
Birds	Pardalotidae	*Pardalotus striatus*	Striated Pardalote			26	2002	1	1976	10	2001
Birds	Meliphagidae	*Lichenostomus virescens*	Singing Honeyeater			18	2000	0	Unknown	3	1996
Birds	Meliphagidae	*Lichenostomus unicolor*	White-gaped Honeyeater			35	2001	0	Unknown	12	2001
Birds	Meliphagidae	*Lichenostomus keartlandi*	Grey-headed Honeyeater			1	1988	4	1917	1	1993
Birds	Meliphagidae	*Lichenostomus plumulus*	Grey-fronted Honeyeater			22	2001	2	1992	17	1993
Birds	Meliphagidae	*Lichenostomus flavescens*	Yellow-tinted Honeyeater			61	2002	11	1992	22	2001

Birds	Meliphagidae	*Lichenostomus penicillatus*	White-plumed Honeyeater			4	2000	0	Unknown	0	Unknown
Birds	Meliphagidae	*Manorina flavigula*	Yellow-throated Miner			19	2001	1	1976	2	2000
Birds	Meliphagidae	*Acanthagenys rufogularis*	Spiny-cheeked Honeyeater			1	1983	0	Unknown	0	Unknown
Birds	Meliphagidae	*Ramsayornis fasciatus*	Bar-breasted Honeyeater			9	1999	0	Unknown	1	1990
Birds	Meliphagidae	*Conopophila albogularis*	Rufous-banded Honeyeater			1	1985	0	Unknown	0	Unknown
Birds	Meliphagidae	*Conopophila rufogularis*	Rufous-throated Honeyeater			30	2000	11	1992	2	2001
Birds	Meliphagidae	*Epthianura tricolor*	Crimson Chat			3	1985	0	Unknown	0	Unknown
Birds	Meliphagidae	*Cissomela pectoralis*	Banded Honeyeater			20	2000	1	1975	6	1996
Birds	Meliphagidae	*Lichmera indistincta*	Brown Honeyeater			40	2002	1	1965	14	2001
Birds	Meliphagidae	*Melithreptus gularis*	Black-chinned Honeyeater			6	1999	3	1992	0	Unknown
Birds	Meliphagidae	*Melithreptus albogularis*	White-throated Honeyeater			10	1999	1	1975	6	2001
Birds	Meliphagidae	*Entomyzon cyanotis*	Blue-faced Honeyeater			20	2001	0	Unknown	2	1993
Birds	Meliphagidae	*Philemon argenticeps*	Silver-crowned Friarbird			16	2001	0	Unknown	7	2001
Birds	Meliphagidae	*Philemon citreogularis*	Little Friarbird			33	2000	0	Unknown	5	1991
Birds	Meliphagidae	*Grantiella picta*	Painted Honeyeater	VU	VU	1	1978	3	1917	0	Unknown
Birds	Pomatostomidae	*Pomatostomus temporalis*	Grey-crowned Babbler			48	2002	0	Unknown	12	1996
Birds	Neosittidae	*Daphoenositta chrysoptera*	Varied Sittella			9	1999	13	1992	4	1991
Birds	Campephagidae	*Coracina maxima*	Ground Cuckoo-shrike			12	2001	0	Unknown	0	Unknown
Birds	Campephagidae	*Coracina novaehollandiae*	Black-faced Cuckoo-shrike			59	2001	5	1975	9	2001
Birds	Campephagidae	*Coracina papuensis*	White-bellied Cuckoo-shrike			21	2001	4	1965	4	1993
Birds	Campephagidae	*Lalage sueurii*	White-winged Triller			36	2000	2	1979	5	1996
Birds	Pachycephalidae	*Pachycephala rufiventris*	Rufous Whistler			65	2001	0	Unknown	20	2001
Birds	Pachycephalidae	*Colluricincla megarhyncha*	Little Shrike-thrush			1	1989	0	Unknown	1	1996
Birds	Pachycephalidae	*Colluricincla woodwardi*	Sandstone Shrike-thrush			4	1989	2	1917	0	Unknown
Birds	Pachycephalidae	*Colluricincla harmonica*	Grey Shrike-thrush			14	2001	1	1992	10	1993
Birds	Pachycephalidae	*Oreoica gutturalis*	Crested Bellbird			2	2000	0	Unknown	0	Unknown
Birds	Oriolidae	*Oriolus sagittatus*	Olive-backed Oriole			22	2001	3	1917	9	2001
Birds	Artamidae	*Artamus leucorynchus*	White-breasted Woodswallow			7	1999	0	Unknown	2	1993
Birds	Artamidae	*Artamus personatus*	Masked Woodswallow			4	2000	0	Unknown	1	1991

Birds	Artamidae	*Artamus superciliosus*	White-browed Woodswallow			2	1985	0	Unknown	0	Unknown
Birds	Artamidae	*Artamus cinereus*	Black-faced Woodswallow			72	2001	3	1917	4	2000
Birds	Artamidae	*Artamus minor*	Little Woodswallow			23	2001	2	1917	11	2001
Birds	Artamidae	*Cracticus torquatus*	Grey Butcherbird			2	1987	0	Unknown	0	Unknown
Birds	Artamidae	*Cracticus nigrogularis*	Pied Butcherbird			84	2002	6	1992	13	2000
Birds	Artamidae	*Cracticus tibicen*	Australian Magpie			60	2001	0	Unknown	2	1993
Birds	Rhipiduridae	*Rhipidura albiscapa*	Grey Fantail			3	1999	0	Unknown	0	Unknown
Birds	Rhipiduridae	*Rhipidura rufiventris*	Northern Fantail			3	2001	3	1917	4	1990
Birds	Rhipiduridae	*Rhipidura leucophrys*	Willie Wagtail			92	2002	0	Unknown	10	2001
Birds	Corvidae	*Corvus coronoides*	Australian Raven			1	1981	0	Unknown	0	Unknown
Birds	Corvidae	*Corvus bennetti*	Little Crow			5	2000	0	Unknown	0	Unknown
Birds	Corvidae	*Corvus orru*	Torresian Crow			70	2001	3	1967	5	1996
Birds	Monarchidae	*Myiagra rubecula*	Leaden Flycatcher			3	1999	0	Unknown	1	2000
Birds	Monarchidae	*Myiagra inquieta*	Restless Flycatcher			25	1993	0	Unknown	9	2001
Birds	Monarchidae	*Grallina cyanoleuca*	Magpie-lark			107	2001	0	Unknown	4	1996
Birds	Corcoracidae	*Struthidea cinerea*	Apostlebird			23	2002	0	Unknown	2	1993
Birds	Petroicidae	*Microeca fascinans*	Jacky Winter			23	2001	2	1917	0	Unknown
Birds	Petroicidae	*Microeca flavigaster*	Lemon-bellied Flycatcher			1	1977	0	Unknown	0	Unknown
Birds	Petroicidae	*Melanodryas cucullata*	Hooded Robin			8	1999	3	1917	4	1993
		picata/westralensis									
Birds	Petroicidae	*Poecilodryas cerviniventris*	White-browed Robin			2	1985	4	1917	4	1990
Birds	Alaudidae	*Mirafra javanica rufescens/*	Horsfield's Bushlark			8	2001	0	Unknown	4	2000
		forresti	(Mainland)								
Birds	Cisticolidae	*Cisticola exilis*	Golden-headed Cisticola			2	2001	1	1975	0	Unknown
Birds	Acrocephalidae	*Acrocephalus australis*	Australian Reed-Warbler			1	2000	0	Unknown	0	Unknown
Birds	Megaluridae	*Cincloramphus mathewsi*	Rufous Songlark			4	1993	3	1917	0	Unknown
Birds	Megaluridae	*Cincloramphus cruralis*	Brown Songlark			4	1993	0	Unknown	0	Unknown
Birds	Hirundinidae	*Hirundo neoxena*	Welcome Swallow			1	1999	0	Unknown	0	Unknown
Birds	Hirundinidae	*Petrochelidon ariel*	Fairy Martin			17	2001	2	1971	0	Unknown
Birds	Hirundinidae	*Petrochelidon nigricans*	Tree Martin			5	1985	0	Unknown	1	2001

Birds	Nectariniidae	*Dicaeum hirundinaceum*	Mistletoebird			27	1999	0	Unknown	15	2001
Birds	Estrildidae	*Taeniopygia guttata*	Zebra Finch			42	2001	0	Unknown	2	1993
Birds	Estrildidae	*Taeniopygia bichenovii*	Double-barred Finch			25	2002	5	1917	10	2001
Birds	Estrildidae	*Poephila acuticauda*	Long-tailed Finch			31	2002	1	1912	7	1996
Birds	Estrildidae	*Poephila personata*	Masked Finch			13	2002	1	Unknown	2	1990
Birds	Estrildidae	*Neochmia phaeton*	Crimson Finch			9	1989	3	1912	5	2001
Birds	Estrildidae	*Erythrura gouldiae*	Gouldian Finch	VU	EN	7	2009	0	Unknown	1	2001
Birds	Estrildidae	*Lonchura castaneothorax*	Chestnut-breasted Mannikin			0	Unknown	2	1994	1	1993
Birds	Estrildidae	*Heteromunia pectoralis*	Pictorella Mannikin			3	1993	0	Unknown	1	1996
Birds	Motacillidae	*Anthus novaeseelandiae*	Australasian Pipit			5	2001	0	Unknown	0	Unknown
Mammals	Tachyglossidae	*Tachyglossus aculeatus*	Echidna			3	1987	0	Unknown	3	1990
Mammals	Dasyuridae	*Pseudantechinus bilarni*	Sandstone Antechinus			0	Unknown	1	1976	0	Unknown
Mammals	Dasyuridae	*Planigale ingrami*	Long-tailed Planigale			0	Unknown	0	Unknown	2	2000
Mammals	Dasyuridae	*Planigale maculata*	Common Planigale			2	2006	1	2006	2	1991
Mammals	Dasyuridae	*Sminthopsis macroura*	Stripe-faced Dunnart			0	Unknown	1	1978	0	Unknown
Mammals	Petauridae	*Petaurus breviceps*	Sugar Glider			1	2006	1	2007	0	Unknown
Mammals	Phalangeridae	*Trichosurus vulpecula*	Common Brushtail Possum	EN		1	1969	0	Unknown	0	Unknown
		vulpecula	(southern)								
Mammals	Macropodidae	*Lagorchestes conspicillatus*	Spectacled Hare-wallaby			6	1991	2	1986	0	Unknown
Mammals	Macropodidae	*Macropus agilis*	Agile Wallaby	N		1	1986	0	Unknown	0	Unknown
Mammals	Macropodidae	*Macropus antilopinus*	Antilopine Wallaroo			1	1989	0	Unknown	1	1996
Mammals	Macropodidae	*Macropus robustus*	Common Wallaroo			20	2006	4	1988	19	1993
Mammals	Macropodidae	*Macropus rufus*	Red Kangaroo			4	1999	0	Unknown	1	1993
Mammals	Macropodidae	*Onychogalea unguifera*	Northern Nailtail Wallaby			36	1991	8	1986	2	1993
Mammals	Macropodidae	*Petrogale brachyotis*	Short-eared Rock-wallaby			1	1986	2	1976	0	Unknown
Mammals	Pteropodidae	*Pteropus alecto*	Black Flying-fox			0	Unknown	0	Unknown	1	1993
Mammals	Pteropodidae	*Pteropus scapulatus*	Little Red Flying-fox			1	2006	0	Unknown	1	1993
Mammals	Hipposideridae	*Hipposideros ater*	Dusky Leaf-nosed Bat			1	1990	0	Unknown	0	Unknown
Mammals	Emballonuridae	*Taphozous georgianus*	Common Sheath-tailed Bat			5	1989	2	1985	0	Unknown
Mammals	Vespertilionidae	*Nyctophilus arnhemensis*	Northern Long-eared Bat			2	1990	2	1990	0	Unknown
Mammals	Vespertilionidae	*Nyctophilus walkeri*	Pygmy Long-eared Bat			1	1990	0	Unknown	0	Unknow

											n
Mammals	Vespertilionidae	*Chalinolobus gouldii*	Gould`s Wattled Bat			3	2006	0	Unknown	0	Unknow n
Mammals	Vespertilionidae	*Chalinolobus nigrogriseus*	Hoary Wattled Bat			1	1988	0	Unknown	0	Unknow n
Mammals	Vespertilionidae	*Myotis macropus*	Large-footed Myotis			2	2006	0	Unknown	0	Unknow n
Mammals	Vespertilionidae	*Scotorepens greyii*	Little Broad-nosed Bat			2	1988	0	Unknown	0	Unknow n
Mammals	Vespertilionidae	*Vespadelus caurinus*	Northern Cave Bat			1	1990	0	Unknown	0	Unknow n
Mammals	Muridae	*Leggadina lakedownensis*	Northern Short-tailed Mouse			1	1991	0	Unknown	1	2000
Mammals	Muridae	*Mesembriomys macrurus*	Golden-backed Tree-rat	CR	VU	4	Unknown	1	1901	0	Unknow n
				(PE)							
Mammals	Muridae	*Pseudomys delicatulus*	Delicate Mouse			2	1985	2	1986	0	Unknow n
Mammals	Muridae	*Pseudomys nanus*	Western Chestnut Mouse			0	Unknown	9	1976	0	Unknow n
Mammals	Muridae	*Zyzomys argurus*	Common Rock-rat			10	2006	17	1991	9	1993
Mammals	Canidae	*Canis lupus*	Dingo / Wild dog	N		3	1989	16	1969	0	Unknow n

EX = Extinct EW = Extinct in the Wild ER= Extinct in the NT EN = Endangered
EN/VU = One Endangered subspecies/One Vulnerable subspecies
VU=Vulnerable
VU/- = One or more subspecies vulnerable EN/- = One or more subspecies endangered

Survey = this category refers to data collected using systematic survey methodology
Specimen = this category refers to museum or other records where a specimen has been collected and lodged
Observation = this category refers to all other incidental recordings where systematic methodology may not have been used consistently.

More species info: Go to www.landmanager.org.au/view/index.aspx?id=#### where #### is the ID number from the tables above for the species of interest.

Appendix 10. Road Agency Approval - 2018-0213-D1

NORTHERN TERRITORY GOVERNMENT

DEPARTMENT OF
INFRASTRUCTURE, PLANNING
AND LOGISTICS

Level 3, Highway House,
Palmerston Circuit,
Palmerston NT 0831

Postal Address
PO Box 61,
Palmerston NT 0831

T 08 8924-7104
F 08 8924 7211
E DevRoads.NTG@nt.gov.au

Our ref: DDPI2005/4572-02-0063~0005
Your ref: N/A

TCSD Project No: 2018-0213

Alex Underwood
Imperial Oil & Gas Pty Ltd
Level 7, 151 Macquarie Street
Sydney NSW 2000

aunderwood@empiregp.net

Dear Alex

Re: KATHERINE - NEAR NT PORTION 5706 - 23475 CARPENTARIA HIGHWAY - EP 187 SEISMIC SURVAY ACROSS CARPENTARIA HIGHWAY - IMPERIAL OIL & GAS PTY LTD - ALEX UNDERWOOD

ROAD AGENCY APPROVAL – 2018-0213-D1

I refer to your Email correspondence of 26/10/2018 and proposed Seismic Survey across Carpentaria Highway works near NT Portion5706.

The Transport and Civil Services Division, Department of Infrastructure, Planning and Logistics has no objections for the proposed works subject to the following comments and conditions:

General

1. The Contractor **is required** to obtain a "Permit to Work Within NT Government Road Reserves" prior to the commencement of any works within the Carpentaria Highway road reserve.

   The Application Procedure for a Permit to Work within NT Government Road Reserves is available at https://nt.gov.au/driving/management/apply-for-permit-to-work-on-a-road.

   On application for a "Permit to Work Within NT Government Road Reserves" the contractor will have to provide:
   (i) A copy of Transport and Civil Services Division, Department of Infrastructure, Planning and Logistics Approval (this letter).
   (ii) An appropriate "Work ZoneTraffic Management Plan" prepared by a competent and accredited agent, and endorsed as in accordance with "AS1742.3".

2. Where any damages occurred in road reserve due to works, road reserve should be rehabilitated and vegetated in accordance with the department standard and specifications

Should you wish to discuss the above mentioned further, please contact Corridor Access at the Transport and Civil Services Division on telephone 8924 7524.

Please quote the TCSD Project No 2018-0213 in all correspondence.

Yours sincerely

Digitally signed by Mike Tait
Date: 2018.10.31 15:56:35 +09'30'

Mike Tait
A/Director, Corridor Management
cc: Manager Operations & Traffic – Ian Smith
Project Director, Civil Assets Management – David Kerslake
Manager Projects, Katherine – Paul Flanagan
Regional Lands Officer, Katherine – Shoshane Boyd

www.nt.gov.au

Appendix 11. Road Agency Approval to defer

NORTHERN TERRITORY GOVERNMENT

DEPARTMENT OF
INFRASTRUCTURE, PLANNING
AND LOGISTICS

Level 1 NT Government Centre
5 First Street
KATHERINE NT 0850

Postal Address
PO Box 1171
Katherine NT 0851

T 08 89738665
F 08 89738666
E phil.harris@nt.gov.au

File Ref:

Geoff Hokin
Level 7,
151Macquarie Street
SYDNEY NSW 2000

Dear Geoff

Re: DIPL Seismic 2018 traffic approvals Katherine deferral.

DIPL acknowledge your correspondence on Thursday 6 December 2018 and approve your request to defer the DIPL approved Traffic Management Plan and Permit to Work in the Road Reserve.

DIPL request that the company provide 10 working days' notice of its intent to commence works on site so the changes of dates are recorded in our system.

Yours sincerely,

Phil Harris
Senior Director Northern Region
7 December 2018

www.nt.gov.au

Appendix 12. EP187 Work Program Communications Log

Name	Company	Number	Email
	NLC		
	Imperial		
	DPIR		
	NT Worksafe		
	Carpentaria Downs		
	Terrex		
	Mallapunyah Downs		
	DPIR		
	PWC NT		
	DENR Weeds office		
	DPIR		
	PDG NT		
	AAPA		
	DPIR		
	NLC		
	NLC		
	OSD ltd		
	DPIR		
	Carpentaria Downs		
	Ward Keller		
	Dol – Main Roads		
	AAPA		
	Terrex		
	DPIR		
	NLC		
	DENR		
	DIPL – Div. Roads		
	DIPL corridor management		
	Katherine Traffic Control		
	OSD ltd		
	DIPL Div. Roads Katherine		
	Relief Creek		
	NLC		
	DPIR		

Name	Company	Number	Email
	Carpentaria Downs		
	DENR		
	DENR		
	Carpentaria Downs		
	NLC		
	AAPA		

Date	Contact	Company	Information Provided	Objections	Discussion / Assessment of Objections	Outcome / Response
8/09/2017		PWC NT		No	Discussion re management of the McArthur gas pipeline and requirements for crossing the pipeline, weights and approvals	Positive engagement. indicated PWC NT had no concerns with the proposal but we would need to clear it with OSD as they now had the pipeline management responsibility.
4/05/2018		NLC	Introduction of EP187 and EP184 proposal	No	provided introduction to new regional officers for EP187/184 Ian Harris and Malcolm Hauser respectively	No action required
10/05/2018		NLC	Ecology Study	No	Work program submission for ecology study made to NLC for review	NLC confirmed receipt of application for work program
11/05/2018		NLC		No	Request information on S19 land users for EP187	need to follow up
14/06/2018		NLC	Seismic work program	No	Work program submission for seismic made to NLC for review	submit original work program for NLC review and approval. NLC acknowledge receipt. advises process will be managed
24/06/2018		Carpentaria Downs	Proposed land access	No	Discussion re land access to undertake planned seismic works	positive engagement. has no concerns with work planned program but wanted to review the route map to check gates, fences etc. and potential impact.
24/06/2018		Relief creek	Proposed land access	No	Discussion re land access to undertake planned seismic works	indicated he had no concerns with the proposal and was happy to sign the land access agreement but would discuss it with the NLC pastoral officer
25/06/2018		Carpentaria Downs	Proposed seismic route	No	Follow up discussions. Review proposed seismic route.	indicated he had no concerns and was willing to sign the land access agreement as drafted

25/06/2018		Carpentaria Downs	Map of proposed planned area	No	looking to sub lease a portion of Carpentaria Downs from . Discussed with land access and provided a map of the planned area. indicated that as he was still negotiating access and sub lease that the decision had to be made by but he had no issues with the proposal.	is comfortable with the work program. He did indicate that if Imperial was looking to drill and needed to do water bores could he have some say in where the bore should go. I advised that to a large extent this would be determined by the DPIR but that we would continue to maintain contact.
29/06/2018		NLC	Seismic work program	-	work program submission for seismic made to NLC for review	follow up on original submission of work program
3/07/2018		Carpentaria Downs	-	-	followed up on the agreement.	has confirmed he is willing to sign an agreement as required.
6/07/2018		NLC	-	-	provided update the Ian Harris is on leave and that Malcolm Hauser would take over the responsibility for the area.	Make contact with
13/07/2018		Carpentaria Downs		Minor concerns from Ben indicating he was subleasing part of the block.	followed up on land access. Accepted discussion as notification of intent to enter.	indicated he now had some minor concerns as he was sub leasing part of the block but as the agreement was at this stage confined to seismic he was happy to sign a land access agreement. Advised of discussions with .
18/07/2018		NLC regional Officer	-	-	Malcolm proposed Sept 5. for on country meeting	date conflicts with presentation at SEAOCC. Need to seek alternate date
20/07/2018		Relief creek		No objections. But advised not to sign agreement.	advised that he and have no concerns over signing a land access agreement but they and had been advised by of the NLC not to sign as access was to be negotiated with the NLC and was a matter for the NLC lawyers to sort out. Accepted discussion as notification of intent to enter.	made contact with the company Lawyers to discuss. advised that S42 of the land use agreements between IOG and NLC allowed for S19 land access agreements to be negotiated and that had overstepped his authority or misunderstood the relevant section of the NLC/IOG agreement.
20/07/2018		Imperial CEO	-	-	Advised of the comments made by Relief Creek NT and the comments by . advised that he would contact the NLC to make sure there was no	Confirmation later received that land access agreement is not required in writing with S19 leaseholders.

					confusion over the matter	
26/07/2018		NLC	-	-	email to advise that NLC is unable to do an August on country meeting for EP187	need to find alternate date
30/07/2018		NLC regional Officer	-	-	follow up on date for on country meeting in Borroloola	confirms the meeting for September 6
31/07/2018		Imperial CEO	-	-	followed up on the land access with the NLC	Confirmation later received that land access agreement is not required in writing with S19 leaseholders.
3/08/2018		OSD ltd	Crossing of pipeline		phone call discussion re crossing the pipeline, weights and approvals	Neil will respond with criteria to allow crossover
3/08/2018		OSD ltd	Details of re-planned seismic program	-	Send letter with details of work program re planned seismic	letter sent
6/08/2018		OSD ltd	Vehicle weights crossing pipeline		discussion re vehicle weights and approvals for pipeline crossing	Jarrod will complete the required calculations and provide a letter of authority to cross the pipeline
6/08/2018		NLC	-	-	follow up for on country meeting timing at Borroloola	Needs follow up
23/08/2018		NLC	-	-	cancelled timing for on country meeting Borroloola	AU/JW to follow up to reset meeting date and seek meeting with G. McDonald
24/08/2018		OSD ltd	Approval letter to work in proximity to pipeline	-	provided copy of letter of approval for seismic to operate in proximity to McArthur gas Pipeline.	waiting on sign off of acceptance of conditions by AU
7/08/2018					letter of authority to cross pipeline approved and signed by all parties	approval to cross pipeline obtained
27/08/2018		NLC	Proposed meeting dates	-	proposed alternate meeting dates - 4th, 10th or 11th of October	AU/JW to follow up to reset meeting date and confirm availability for attendance
27/08/2018		Imperial CEO	-	-	follow up confirmation of meeting date with NLC	AU/JW to follow up to reset meeting date and confirm availability for attendance
27/08/2018			-	-	advised that NLC had cancelled proposed meeting date and provided alternative dates for	No action required

					confirmation	
6/09/2018		DPIR/DENR	Environmental aspects of seismic program	Requirement for weed management plan revision	Meeting to discuss environmental aspects of planned 2D seismic survey	review of weed management plan required. AAPA cultural certificate required.
6/09/2018		DENR	Weed management plan	-	provision of weed management plan draft guidelines	Tahnee provided draft of the new weed management plan guidelines and solicited feedback on same
14/09/2018		NLC	Notice of Intent to conduct weed survey	-	advice given of intent to conduct baseline weed survey	authority to conduct obtained
14/09/2018		DPIR	Notice of Intent to conduct weed survey	-	notification of intent to conduct weed survey	No action required
14/09/2018		DPIR	-	-	acknowledgement of intent to conduct weed survey	No action required
3/10/2018		AAPA	Application for AAPA certificate		Application for AAPA certificate for EP187	Application submitted, waiting on transfer of data from NLC anthropology division to progress approvals.
3/10/2018		AAPA	-	-	provision of AAPA application number	transfer number to NLC
10/10/2018		On country	Work program		On country meeting to present work program to traditional owners. Over 100 present. Discussion on fracking impact, water quality and preservation.	traditional owners report agreement with work program and express confidence in Imperial to undertake the exploration while protecting the environment and water.
15/10/2018		NLC	Approval for 2D seismic	-	formal notification received from NLC of permission to acquire 2D seismic	copy of correspondence supplied to DPIR petroleum ops team.
16/10/2018		NLC	Updated weed management plan	-	provided copy of updated weed management plan	No action required
18/10/2018		DPIR	-	Comments on draft EMP	provision of comments on draft EMP	some areas of the EMP need to be updated in line with the DPIR recommendations
18/10/2018		NLC	Data for AAPA certificate	-	internal discussions with anthropology manager NLC for provision of data to AAPA for certificate	No action required
18/10/2018		NLC	-	-	follow up on data and contacts within the NLC for AAPA	key contacts for AAPA within NLC identified

					certificate	
22/10/2018		DoI - Main roads	Requirements for a Traffic Management Plan		discussion on review of traffic management plan approvals	Kushan to review and respond
23/10/2018		DPIR	-	Update EMP with DPIR recommendations	provision of comments on draft EMP	some areas of the EMP need to be updated in line with the DPIR recommendations
25/10/2018		AAPA	-	-	queries on corridor required for seismic lines	AAPA note the 50m width required for survey to go around obstacles and vegetation
25/10/2018		DENR	-	-	confirm agenda and meeting time	various dept.'s to attend round table for review of EMP items.
26/10/2018		AAPA	-	-	receipt of advice on cost of AAPA certificate	No action required
26/10/2018		DoI - Main roads	Intended vehicle use for seismic project	-	confirmation of intended vehicle use and type for seismic acquisition to facilitate traffic management control plan	awaiting feedback from DoI
29/10/2018		DENR NT	Fire Management Plan, Weed Management Plan		discussions on EMP put forward, bush fire control, weed management, and other aspects of the EMP. DENR advise they only circulated the document for review last week and will provide feedback this week.	Appears to be general consensus of agreement, DENR will provide feedback this week.
29/10/2018		DENR/DPIR	-	-	advised relevant departments that would take over control of the work program approvals process.	to become key point of contact for support and delivering the required work program submission documents.
29/10/2018		Terrex	Draft contract for seismic acquisition	-	draft contract agreed for seismic acquisition	final contract to be issued
29/10/2018		NLC	Anthropology data	-	correspondence between (IOG) and re support on anthropology data to AAPA	NLC to follow up on data transfer to AAPA
30/10/2018		DENR NT	-	-	discussion on review of weed management plan and time line to provide approvals.	Tahnee provided opportunity for accelerated approvals of the weed management plan.

30/10/2018		DENR NT	-	Small areas of the program need to be updated	identified small areas of the program had not been completed in the survey and requested these be attended to.	discussion with about science of survey and that the unsurveyed areas were not weed habitats based on information from the DENR regional weeds officers.
31/10/2018		DENR NT	Criteria to undertake further weed survey	Extra areas needed to be addressed.	follow up on required criteria to complete weed survey and for criteria to undertake further surveys by air using helicopters	identified areas needing to be addressed and provided a DENR weeds officer to assist in program. Final sections approved to be done by helicopter.
31/10/2018		DoI - Main roads	Approval for seismic along road ways	-	received approval for seismic along road ways	develop traffic management plan
31/10/2018			-	-	establish planning and coordination to complete weed survey under advise of DENR over tail ends of seismic lines	establish plan to finalise revisions to weed management plan to incorporate DENR recommendations
1/11/2018		DENR	-	Update weed management plan	discussion on DENR comments on edits to the weed management plan	update weed management plan
2/11/2018		Dep't Infrastructure Planning and Logistics – Div. Roads	Approval letter from Dep't Infrastructure, planning and logistics.	-	review of TMP approvals process after receipt of approvals letter from Dep't Infrastructure, Planning and Logistics	Provide copy of approval letter to Katherine traffic control to accompany developed TMP for approvals
6/11/2018		DENR			provide further comments to the EP187 EMP	update EMP in line with comments
6/11/2018		NT WorkSafe	-	Update HSEMP	discussion on review of HSEMP for planned works. Document approvals are valid for 3 years. However it is advisable to update regularly.	Send updated document for review
7/11/2018		DPIR	Revised EMP	-	provide revised version of EMP for review	revised document sent
7/11/2018		Katherine Traffic Control P/l	-	-	called to update on progress of TMP for approvals.	waiting on DIPL - Roads Div. TMP approval
7/11/2018		NLC	-	-	follow up anthropologists' report to be sent to AAPA for provision of AAPA certificate. Adam has indicated the report should be across to AAPA by end of the week.	follow up on 9/11/2018

7/11/2018		NT WorkSafe	Revised HSEMP	-	NT Worksafe provided edits and comments to improve the HSEMP. They advised that it is not necessary to provide them with a corrected document one the edits have been made.	HSEMP revised to note the edits, comments and recommendations of their review. Revised document sent to DPIR.
7/11/2018		DPIR	-	-	several email correspondence queries from DPIR re status of AAPA NLC SSC and other matters	All raised issues have been responded to
8/11/2018		Relief creek	-	-	phone call to discuss land access notification and procedures.	are aware of intent to conduct work program and happy to support
8/11/2018		DPIR	-	-	correspondence re outstanding documents and updates to HSEMP	Update HSEMP in line with comments and reissue Survey Technical work program with application letter and KMZ data file
8/11/2018		DPIR	-	-	phone call to discuss land access notification and procedures. These may be evidenced by use of this log.	send updated copy of this log.
8/11/2018		Premise Ecology	-	-	advised completion of the weed survey with the weeds officer of the DENR. No weeds found in survey	to update the WMP and survey report and submit to DENR for approvals
8/11/2018		DPIR	-	Update HSEMP	required update on HSEMP.	revised document sent
9/11/2018		NLC	-	-	follow up in transfer of anthropology report to AAPA. advises this has not been done and the anthropologist is now overseas. I requested that he follow this up as it is becoming a critical and costly issue now.	referred the matter to who will now follow it up with if necessary.
13/11/2018		NLC	-	-	discussion with Adam re progress on report to AAPA. Adam advises report is in progress with NLC and expecting the report to be processed and delivered by Friday this week	follow up Friday on progress
13/11/2018		DPIR	-	Update technical work program as per DPIR comments	email from to update page numbers of technical work program	update document and resubmit

15/11/2018		DPIR	-	Update seismic work plan as per DPIR comments	update Seismic work plan as required	Document sent for review to DPIR
16/11/2018		NLC	-	Reformat the ethnographic report to comply with AAPA requirements	advised progress on the paperwork required for the AAPA certificate and updated the status of the report. is the NLC anthropologist and familiar with the AAPA systems. is currently reformatting the ethnographic report to comply with AAPA requirements and expects to submit wed next week (22/11/2018).	follow up progress on 22/11/2018. open dialogue with AAPA
16/11/2018		Katherine Traffic Control P/l	-	-	advises the PTW for the traffic management plan has been approved subject to Terrex sign off as prime contractor.	PTW issued for signature. On return of signed document send to for lodgement.
16/11/2018		Terrex	Approved Traffic Management Plan	-	Provide copy of approved TMP for review.	follow up for signed document to send to DIPL
19/11/2018		DPIR	-	References in EMP to be corrected	email re documents and references in EMP to be corrected	review document, edit and reissue and send copies of appendix
20/11/2018		NLC	Intent to conduct seismic	-	receipt of acknowledgement of on country meeting and advise to TO's of intent to conduct seismic.	forward copy of correspondence to DPIR.
20/11/2018		DPIR	-	-	issue version 5 of EMP with corrections as requested.	issue document to DPIR
21/11/2018		Katherine Traffic Control P/l	Confirmation of TMP	-	Provide confirmation of acceptance of Traffic Management plan	Issue copy of documents evidence authority to conduct works to DPIR
21/11/2018		DPIR	-	-	confirmation of status of work program approvals	follow up actions of revision to web document of EMP, follow up status of AAPA certification
22/11/2018		NLC	-	-	NLC anthropologist discussion on progress of AAPA paperwork for certification. advises the report will be completed Monday 26/11/2018 and will then be	Follow up on progress of report to AAPA for issuing of certificate 26/11/2018

					reviewed internally by NLC before sending to the AAPA	
6/12/2018			Deferment of planned seismic program	-	Advise of deferment of planned seismic until 2019	maintain contact with updated program
6/12/2018		S19 pastoralists	Deferment of planned seismic program	-	Advise of deferment of planned seismic until 2019	maintain contact with updated program
6/12/2018		DPIR	Deferment of planned seismic program	-	Advise of deferment of planned seismic until 2019	maintain contact with updated program
6/12/2018		DENR	Deferment of planned seismic program	-	Advise of deferment of planned seismic until 2019	maintain contact with updated program
6/12/2018			Deferment of planned seismic program	-	Advise of deferment of planned seismic until 2019	maintain contact with updated program
6/12/2018		OSD	Deferment of planned seismic program	-	Advise of deferment of planned seismic until 2019	maintain contact with updated program
6/12/2018		DENR	Deferment of planned seismic program	-	Advise of deferment of planned seismic until 2019	maintain contact with updated program
6/12/2018		DIPL Div. Roads Darwin	Deferment of planned seismic program	-	Advise of deferment of planned seismic until 2019	maintain contact with updated program
6/12/2018		DIPL corridor management	Deferment of planned seismic program	-	Advise of deferment of planned seismic until 2019	maintain contact with updated program
6/12/2018		DIPL Div. Roads Katherine	Deferment of planned seismic program	-	Advise of deferment of planned seismic until 2019	maintain contact with updated program
6/12/2018		NT Worksafe	Deferment of planned seismic program	-	Advise of deferment of planned seismic until 2019	maintain contact with updated program
7/12/2018		NLC	Anthropology report sent. Authorisation letter of the permits.	-	advised that the Anthropology report has been sent to AAPA and that IOG will need to supply a redacted copy of the native title agreement to AAPA for the authority certificate to be issued. Greg also provided a letter of authorisation of the redactions permitted.	redact the agreement as advised and issue to AAPA with copy of authorisation letter
10/12/2018		AAPA	Native title agreement	-	issue redacted version of native title agreement as per advise to AAPA	document and cover letter sent. Follow up mid-week.

11/12/2018		NLC	Deferment of planned seismic program	-	sent letter notice of intent to defer 2D seismic due to AAPA authority certificate not yet available to complete DPIR approvals process	NLC acknowledged receipt of letter
4/01/2019		S19 pastoralists	Status of program	-	pastoralist consultation re status of program	maintain contact with updated program
9/01/2019		NT DPIR	-	-	identification of 'no go zone' potential impacts on tenement	no zone excluded other than those on tenement grant
9/01/2019		DENR	-	-	onshore petroleum guidelines for work programs updates, discussion on use of existing water bores for assessment of work program impacts and potential impacts to planned work programs as result of CSIRO report on baseline SREBA of Beetaloo Basin	awaiting feedback from DENR for impact on future work programs
10/01/2019		AAPA	-	-	follow upon Authority certificate for work program	waiting on NLC to provide language group information
14/01/2019		AAPA	-	-	follow upon Authority certificate for work program	waiting on NLC to provide language group information
16/01/2019		AAPA	-	-	follow upon Authority certificate for work program	waiting on NLC to provide language group information
18/01/2019		NLC	Provision of language group representation	-	follow upon provision of language group representation to AAPA for completion of Authority certificate	need to maintain contact
19/01/2019		AAPA	-	-	follow upon provision of language group representation to AAPA for completion of Authority certificate	need to maintain contact
22/01/2019		S19 pastoralists	Status of program	-	pastoralist information on status of program	maintain contact with updated program
6/02/2019		DENR	-	Post wet weed survey is required	discussion on requirements for revision of seismic EMP as submitted in 2018. Need for post wet weed survey.	EMP maintains in place subject to AAPA authority certificate being issued and post wet weed survey

8/02/2019		DENR	-	-	follow up on new EMP application process for change over from DPIR to DENR	new procedure to be issued post 27/2/2019
11/02/2019		DPIR	-	-	issues around issue of AAPA authority certificate and progress to approvals	AAPA certificate required
11/2/219		AAPA	-	-	follow up on status of NLC information to complete certificate	contact NLC to promote for outstanding information to be transferred
12/02/2019		NLC	-	-	follow upon provision of language group representation to AAPA for completion of Authority certificate	need to maintain contact
13/02/2019		NLC	Proof of existing agreement with indigenous groups	NLC to reissue information for AAPA	proof of existence of agreement with indigenous language groups to explore tenement required from NLC to AAPA identifying the indigenous groups represented by the NLC	identifies all required info is in the report provided by the NLC in October 2018, but not in format required by AAPA. NLC to reissue relevant documentation
14/02/2019		AAPA	-	-	follow up on status of NLC information to complete certificate	contact NLC to promote for outstanding information to be transferred
20/02/2019		AAPA	-	-	follow up on status of NLC information to complete certificate	contact NLC to promote for outstanding information to be transferred
21/02/2019		OSD	Update on program status	-	re update on work program EP187 status	need to maintain contact
26/02/2019		AAPA	-	-	follow up on status of NLC information to complete certificate	maintain contact
28/02/2019		NLC	-	-	progress on provision of required information to AAPA	anthropology manager to provide letter of needed information for authority certificate
28/02/2019		AAPA	Approval to excise section	Excise 2km from top of one line	confirmation of receipt of required information and need to excise 2km from top of one line	approval to excise section. AAPA certificate to be issued

1/03/2019		OSD	Status of seismic program	-	status of seismic program and confirmation of authority to operate in proximity to pipeline	waiting feedback
4/03/2019			-	-	solicit quotes for conduct of post wet weed survey	scope of work provided
11/03/2019		AAPA	Authority certificate		authority certificate for 187 seismic received	issue to DPIR/DENR copy of certificate
14/03/2019		S19 pastoralists - Relief creek	Progress of seismic program	Post wet weed survey required.	update on progress of seismic program, need for post wet weed survey. has sold lease over Carpentaria downs. N	Need to contact re work program
17/03/2019		DENR Weeds office	-	-	made contact with as weeds officer to cooperatively undertake weed survey across the region.	will be involved in the survey
19/03/2019		Carpentaria Downs	-	-	contact re planned weed and bore survey	notice of intent to enter given
19/03/2019		S19 pastoralists - Relief creek	-	-	contact re planned weed and bore survey	notice of intent to enter given
19/03/2019		NLC	Notice of Intent to conduct weed and bore survey	-	notice of intent to conduct weed and bore survey under section 5 of the exploration agreement	notice of intent to enter given
19/03/2019		NLC	Application to enter aboriginal land	-	issue application for permit to enter aboriginal land	14 days plus notice provided of intent to enter
19/03/2019		Senior TO Borroloola	-	-	contact re planned weed and bore survey	notice of intent to enter given
19/03/2019		DPIR	Application to enter aboriginal land		notice of intent to conduct weed and bore survey	notice of intent to enter given
22/03/2019		DPIR	letter of custodian of activity	-	letter of custodian of activity	notice of custodian of activity
29/02/2019			-	-	coordination of post wet weed survey	timing confirmed
29/03/2019		NAH	-	-	PO for helicopter for aerial survey	chopper booked
4/04/2019		S19 pastoralists - Relief creek	-	-	update on timing of weed survey and coordination for land access to Relief creek.	confirmed notice of intent to enter and timing
4/04/2019		S19 pastoralists	-	-	update on timing of weed survey and coordination for land access	confirmed notice of intent to enter and timing

4/04/2019		S19 pastoralists	-	-	update on timing of weed survey and coordination for land access	confirmed notice of intent to enter and timing
8/04/2019		S19 pastoralists -	Map of planned access	-	meet with to discuss planned work program, provide map of planned access	consent for work program provided
8/04/2019		S19 pastoralists	Map of planned access	-	meet with o discuss planned work program, provide map of planned access	consent for work program provided
8/04/2019		S19 pastoralists	-	-	gone to hospital with infection	need to follow up
10/04/2019		DENR	-	-	meet with DENR weeds officer, officer accompanied contract ecologist to undertake weed survey	officer satisfied with approach and outcome of survey
18/04/2019			-	-	follow up on timeline to weed survey report completion for submission of revised weed management plan to accompany seismic EMP	waiting on final report
15/5/2019		S19 pastoralists - Relief creek	-	-	Discussed machines typically used to clear lancewood.	Confirmed minimum D6 dozer.
28/5/2019	Electronic lodgement	NLC	Notification of intent to visit	-	Sent site access request	Access granted
29/5/2019		S19 pastoralists	-	-	spoke to re coming up on the 10th-13th.	All good from has cleared more tracks
5/6/2019		S19 pastoralists – Relief Creek	Site visit & scouting visit advice	-	Happy for site visit to proceed.	-
5/6/2019		S19 pastoralists – West Balbarini	Site visit & scouting visit advice	-	Happy for site visit to proceed.	-
11/6/2019		S19 pastoralists – West Balbarini	Update on Site visit status	-	Confirm he had no issue with seismic, and discussed concerns over grazing grass lost due to lease clearing for drilling (future approval process). Happy for Seismic to proceed but wanted further discussion on impact of drilling (future approval process) clearing.	Confirmed project would limit clearing as much as practical for drilling (future approval process). Confirmed that prior to drilling Imperial would clarify stakeholder arrangements around clearing grass.

11/06/2019			Discussed future works & fuel	-	Hotel keen on providing fuel other services including accommodation.	Will seek pricing.
13/06/2019			Seismic Line preparation & well construction scope introduction	-	Discussed upcoming works. very positive about woks.	Will follow with formal scope of work for pricing.
14/06/2019		DENR	Discussed EMPs.	-	Discussed seismic EMP and advised of upcoming drilling EMP (future approval process).	Prepared to review documents on arrival.
1/07/2019		DPIR	Updated ERP	-	Provided updated ERP in response to DPIR request.	ERP received and reviewed with one change requested. Document to be updated and resubmitted.