

# Djilgarin and Jalum conservation parks

Management Plan

2011



Wet Tropics Bioregion

Prepared by:

Planning Services Unit, Department of Environment and Science (DES)

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*The department is committed to respecting, protecting and promoting human rights, and our obligations under the Human Rights Act 2019.*

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The Djilgarin and Jalum Conservation Parks Management Plan 2011 has been extended in 2023 in line with the Queensland *Nature Conservation Act 1992* (s120G). Minor amendments have been made. There has been no change to the plan's original management intent and direction.

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Front cover photograph: Jalum Conservation Park looking towards Mt Tyson. Photo: DES.

Top right photograph: Black bean *Castanospermum australe*. Photo: DES.

Middle photograph: Painted Grasshawk dragonfly *Neurothemis stigmatizans*. Photo: Russell Best.

Bottom photograph: Roth's Treefrog *Litoria rothii*. Photo: Russell Best.

## Vision statement

Djilgarin and Jalum conservation parks will be managed to rehabilitate and protect the integrity of the endangered swamp forest communities. The parks will be managed to maintain spiritual, cultural and natural heritage values through co-operative management with Jirrbal, Girramay and Gulnay Traditional Owners and other interested parties. Jalum Conservation Park is located in an area where the traditional lands of Girramay, Gulnay and Jirrbal people meet. Djilgarin is located within the traditional lands of the Gulnay people. Self-sufficient recreational and educational use will be encouraged for Djilgarin Conservation Park. Visitor use will not be promoted in Jalum Conservation Park due to lack of access and invasion of pest plants.

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## 1. Management intent

The management plan for Djilgarin and Jalum conservation parks provides direction and policy to guide relevant planning and decision-making in the parks, that is aimed at achieving ecologically sustainable use.

The objectives of this management plan are to:

- conserve and protect the natural and cultural values of the parks
- incorporate the interests and rights of the Jirrbal, Girramay and Gulnay people and their affiliations to the area by co-operatively protecting and managing the parks
- provide self-sufficient recreational and educational use in Djilgarin Conservation Park, for example, school groups or bird watchers
- ensure Jalum Conservation Park is not promoted or catered for visitor use due to lack of access and presence of Siam weed
- encourage Jirrbal, Girramay and Gulnay people and others with local knowledge to be involved in interpretation of the park
- develop co-operative management relationships with neighbours, stakeholders, the local community and the Jirrbal, Girramay and Gulnay people.

## 2. Basis for management

The Queensland Parks and Wildlife Service (QPWS) is responsible for the day-to-day management of Djilgarin and Jalum conservation parks. These parks are primarily managed in accordance with the *Nature Conservation Act 1992* and associated regulations to protect land, wildlife and cultural values.

These parks are managed according to the management principles for conservation parks as defined under Section 20 of the *Nature Conservation Act*.

The Jirrbal, Girramay and Gulnay people are the Traditional Owners of these areas and have a continuing custodial responsibility in the management of the parks, including Aboriginal cultural heritage places, consistent with traditional lore and traditional knowledge. Involving Traditional Owner groups will be an important part of management, including through engagement with the Giringun Aboriginal Corporation. This plan does not affect any future native title claims made under the *Native Title Act 1993*.

The State, through QPWS, has agreed to a Memorandum of Understanding with the Giringun Aboriginal Corporation to further enable greater future co-operative activities and opportunities.

Endangered and of concern regional ecosystems are described under the DES biodiversity status and endangered, vulnerable and near threatened species are listed under the *Nature Conservation (Wildlife) Regulation 2006*.

QPWS has a responsibility under the *Land Protection (Pest and Stock Route Management) Act 2002* to control declared pests on protected areas.

Cultural heritage places in Queensland are legislatively managed under the *Aboriginal Cultural Heritage Act 2003* and the *Queensland Heritage Act 1992*. The Burra Charter provides detailed guidelines for the management of cultural heritage places.

## 3. Location and regional context

Djilgarin and Jalum conservation parks are south-west of Tully (Map 1), and access to both parks is along Davidson Road. They are located within the Cassowary Coast Regional Council area. They have an annual mean minimum temperature of 19 °C and an annual mean maximum temperature of 29 °C (Bureau of Meteorology 2008). The annual mean rainfall for Djilgarin Conservation Park is 3500 mm and for Jalum Conservation Park, 3000 mm.

Both parks are small and limited recreational opportunities are available for visitors. People seeking broader recreational opportunities are encouraged to visit the larger significant national parks in the region, in particular Giringun and Girramay national parks. Both parks are within the Tully River–Murray River floodplain area that is listed in the *Directory of Important Wetlands in Australia*. These parks represent remnants of the once extensive forests of the Tully River floodplain.

Jalum Conservation Park is located in an area close to where the traditional lands of Girramay, Gulnay and Jirrbal people meet. Djilgarin is located within the traditional lands of the Gulnay people. Both of the parks are within the proposed Gerringun Region Indigenous Protected Area.

**Djilgarin Conservation Park** is 30 km north-west of Cardwell and 10 km south-west of Tully. 'Jindarigan' is the traditional name describing this location. The land was dedicated as a conservation park in 1990 and covers 89 ha of the Tully Coastal Lowlands province in the Wet Tropics biogeographic region. It was dedicated to protect the important natural values of the area, which are predominantly swamp paperbark open forest with rainforest and sclerophyll species. These dominant vegetation types are considered to be endangered in the Wet Tropics biogeographic region. These forests extended along lowland and riverine areas on the Tully–Murray flood plain, but have now been extensively cleared. The area surrounding the park is used predominantly for agricultural production.

Djilgarin is surrounded by a combination of drains and artificial wetlands created by the neighbouring cane farmers. The Riversdale–Murray Valley Water Management Board, with representatives from local and state governments and agricultural industries, manages water issues over an area that includes the Djilgarin Conservation Park.

**Jalum Conservation Park** is 12 km south-west of Tully and covers 227 ha of the Tully Coastal Lowlands province in the Wet Tropics biogeographic region. It was dedicated as a conservation park in 1998 to conserve the largest remaining area of endangered closed *Melaleuca* forest wetland on the Tully River flood plain. The swamp forest provides habitat for the endangered southern cassowary *Casuarius casuarius johnsonii* and a breeding area for the vulnerable estuarine crocodile *Crocodylus porosus*. Agricultural drains border 70 per cent of the park.

This park is an important flood retention basin and nutrient sink and has been identified as a valuable natural-water retention area during floods. It also acts as an important aquifer recharge site for groundwater supply for domestic and agricultural purposes. The park is surrounded by sugarcane and banana farms. Visits to the park for purposes other than management are not promoted. Direct access is limited by private, non-gazetted roads and the park contains declared pest plants (Class 1 and 2), with visitation providing a vector for transfer and reinfestation.

## 4. Protecting and presenting the park's values

This section outlines the values of Djilgarin and Jalum conservation parks, desired outcomes for those values and the proposed actions and guidelines that will be used to manage them.

### 4.1 Landscape

Geological formations are a significant part of Aboriginal cultural heritage. Traditional Owners relate landscape values with traditional storylines and totems, and springs are recognised as having significant cultural values.

**Djilgarin Conservation Park** is in the Tully–Murray flood plain. Its typical geology is moderately to poorly drained alluvial soil of mainly very dark grey sapric silty loam or clay loam in slight depressions in the alluvial plain. The park also contains well-drained soil on the terrace plains and backplains. There is a drain on private property along the entire boundary of Djilgarin Conservation Park.

**Jalum Conservation Park** is on the southern edge of the main Tully River flood plain and receives flood flows from the Tully River and the Boar Creek sub-catchment. The park has seasonally inundated depressions with poorly drained alluvial silty loam and clay soil. The water table is not far below the surface during the drier months. Boar Creek flows through the park as an unconfined wetland system containing several deepwater lagoons.

Jalum Conservation Park forms a natural water retention basin, nutrient sink and water recharge area in a developed agricultural landscape; as such, the park has a significant role in maintaining surface and groundwater quality for the Tully–Murray flood plain.

The values of both of these parks are significantly threatened by drain construction, surface water diversion and lowering of groundwater levels

Desired outcomes 2021	Actions and guidelines
<p>Non-natural erosion is minimal.</p> <p>Both parks remain a natural water recharge area for surrounding lands.</p>	<p>A1. Work with neighbours and Traditional Owners on erosion control near park boundaries.</p> <p>A2. Work and liaise with neighbours and Traditional Owners to minimise the impact of adjoining land management practices, particularly those impacting on water flows on the park.</p>

## 4.2 Native plants and animals

### 4.2.1 Native plants

Many plant species have significance to Aboriginal people for their totemic values, artefact resource, and for food and medicine.

These two parks represent some of the largest remaining areas of a formerly extensive section of the Tully–Murray flood plain, protecting the endangered closed freshwater forest wetland. The parks stand out as natural ‘islands’ in an agricultural landscape.

**Djilgarin Conservation Park** contains four ecosystems, all defined as endangered under the DES biodiversity status (Appendix C). Vegetation is predominantly swamp paperbark *Melaleuca quinquenervia* forest, with rainforest and sclerophyll species, such as swamp mahogany *Lophostemon suaveolens*, red stringybark *Eucalyptus pellita*, Leichardt tree *Nauclea orientalis*, golden bouquet tree *Deplanchea tetraphylla*, black wattle *Acacia mangium* and beach wattle *Acacia crassicaarpa*. The park also contains paperbark forest consisting of swamp tea-tree *Melaleuca dealbata* and broad-leaved tea-tree *Melaleuca leucadendra*.

Djilgarin Conservation Park contains complex mesophyll vine forest characterised by the presence of rainforest species, including kamala *Rockinghamia angustifolia*, black bean *Castanospermum australe*, white fig *Ficus virens*, northern laurel *Cryptocarya hypospodia* as well as ferns, orchids and feather palms. No detailed plant surveys have been conducted in the park.

**Jalum Conservation Park** contains three regional ecosystems, all defined as endangered under the DES biodiversity status (Appendix C). This park conserves the largest remaining example of the endangered closed freshwater paperbark forest wetland on the Tully–Murray flood plain. The area is dominated by emergent *Melaleuca*, *Acacia* and *Eucalyptus* species. Leichardt tree *Nauclea orientalis* is common in the canopy and rainforest species are prominent in the upper and mid-storey layers. No detailed plant surveys have been conducted in the park.

There is little information on the flora for either park, so the presence of species of conservation significance is undetermined.

### 4.2.2 Native animals

As part of culture, many animal species possess significance for the Traditional Owners of these conservation parks. This significance lies in the values that animals hold as totems, artefact resources, food and medicine.

While no detailed animal surveys have been conducted in **Djilgarin Conservation Park**, it is likely that remnant vegetation provides important habitat and food for animals. The migratory pied imperial-pigeon *Ducula bicolor* and the endangered southern cassowary *Casuarius casuarius johnsonii* are known to be present. The black-necked stork *Ephippiorhynchus asiaticus*, near threatened under the Nature Conservation Act, and the spectacled flying-fox *Pteropus conspicillatus*, vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999*, have been recorded in the park.

Only preliminary fauna surveys have been conducted for Jalum Conservation Park, which is on the flood plain between the habitat areas of the Cardwell Range and the coast. The park provides a critical shelter and feeding area for several bird species, including pied imperial-pigeons, fruit pigeons and several honeyeaters that move seasonally between the coast and the upland rainforests. The endangered southern cassowary also feeds and shelters in the park. The aquatic habitat associated with Boar Creek supports fish species endemic to the coastal lowlands. The vulnerable and Bonn-listed estuarine crocodile *Crocodylus porosus* lives and breeds in the Boar Creek complex that flows through the park.

While only one preliminary fauna survey has been undertaken, restricted species are expected to occur in this significant floodplain habitat remnant. The park is connected to other habitat areas by degraded riparian corridors, with wildlife movement into and out of the park constrained by gaps in these corridors.

Desired outcomes 2021	Actions and guidelines
The composition and extent of the flora type and fauna is maintained subject to natural change.	<p>A3. Support flora and fauna surveys to improve knowledge of species in the parks, undertaken in collaboration with Traditional Owners, where possible.</p> <p>A4. Support periodic monitoring of key components of animal communities and their habitats.</p> <p>A5. Protect threatened species by focusing on habitat management.</p> <p>A6. Continue to monitor vegetation, including the impact of pest plants and fire (planned burns and wildfire) on plant populations and diversity, to aid evaluation of management actions.</p> <p>A7. Consider fauna requirements, such as breeding, nesting and feeding, in relation to plant community management.</p> <p>Also see section 5.2 Fire management.</p>

### 4.3 Indigenous culture

Jirrabal, Girramay and Gulnay Traditional Owners lived in and around **Djilgarin and Jalum conservation parks** and continue to maintain traditional links to these areas. Djilgarin Conservation Park is wholly within the traditional lands of the Gulnay people. Gulnay Traditional Owners for this place identify it as Jindarigan. The name 'Jalum' was chosen by the then Girringun Elders and Reference Group Aboriginal Corporation (now Girringun Aboriginal Corporation). 'Jalum' is the traditional place name of a deep lagoon to the east of the park where Aboriginal people continue to fish and gather traditional food. The park is close to an area where three tribal groups converge and is of cultural significance.

In most stories of Dreaming, ancestral spirits came to earth in human form and as they moved through the land they created the animals, plants, rocks and other forms of the land that are familiar today. Once the ancestor spirits had created the world, they changed into trees, stars, rocks, watering holes or other objects. These are spiritual or sacred places and have special properties. Knowledge of sacred places is learned through a process of initiation and the gaining of understanding of Aboriginal custom and tradition. It is not public knowledge. This is why the existence of many places may not be told unless they are threatened.

There are known and documented cultural heritage sites on Jalum Conservation Park and in its immediate vicinity. There are known and documented cultural sites located immediately adjacent to Djilgarin Conservation Park.

At the time of writing, there were no native title claims lodged over Djilgarin or Jalum conservation parks

Desired outcomes 2021	Actions and guidelines
<p>Traditional Owners are involved in managing these conservation parks.</p> <p>Cultural places are identified and protected in accordance with the wishes of the Traditional Owners.</p>	<p>A8. Continue to consult with relevant Traditional Owners on:</p> <ul style="list-style-type: none"> <li>• managing the conservation parks</li> <li>• protecting Indigenous cultural heritage places from disturbance by visitors and introduced plants or animals.</li> </ul> <p>A9. Encourage and support relevant Traditional Owners to:</p> <ul style="list-style-type: none"> <li>• undertake Indigenous cultural heritage surveys or assessments of the parks</li> <li>• develop and review existing Indigenous cultural heritage management plans if Indigenous cultural heritage places are, or may be, disturbed by visitors, pest plants or animals, or other natural processes.</li> </ul> <p>A10. Support Indigenous cultural heritage surveys or assessments undertaken by consultants or research institutions, provided they have the support of relevant Traditional Owners.</p> <p>A11. Continue to support existing co-operative arrangements, such as employment of local Traditional Owners as Queensland Parks and Wildlife Service rangers.</p> <p>A12. Investigate the change of the name of Djilgarin Conservation Park to Jindarigan Conservation Park to express the traditional name for the park.</p>

## 4.4 Shared-history culture

**Djilgarin Conservation Park** was previously owned by the Digman family who donated it to the Queensland Government in 1990 for conservation purposes. **Jalum Conservation Park** was part of the historical King Ranch cattle property, most of which was cleared in the 1960s. No physical evidence of shared-history culture is evident in the parks.

## 4.5 Tourism and visitor opportunities

There are no visitor facilities at **Djilgarin Conservation Park**. There is a basic directional sign and a cleared area used for car parking on adjoining public land. The park may attract a small number of visitors with specific interests in nature. Conventional vehicles can easily gain access to the park, although wet weather may limit access for short periods. The area is unsuitable for camping. There are currently no permits issued for commercial use of the park or its resources.

Visits to **Jalum Conservation Park** for purposes other than management are not promoted. Direct access is limited to private non-gazetted roads and the park contains declared pest plants (Classes 1, 2 and 3) with visitors providing a potential vector for seed transfer and reinfestation.

As existing visitor opportunities on the park are limited, members of the public are encouraged to visit the nearby Girringun and Girramay national parks instead.

Desired outcomes 2021	Actions and guidelines
Recreation does not significantly impact on Djilgarin Conservation Park values. Visitor access is not promoted for Jalum Conservation Park.	A13. Do not permit camping in Djilgarin Conservation Park. A14. Do not promote Jalum Conservation Park on the DES website or by entrance signs.

## 4.6 Education and science

**Djilgarin Conservation Park** is close to Tully and Cardwell. It is readily accessible by the community and school groups, and may be appropriate for small groups for educational activities. The park could be used as an example of a wetland habitat in a developed agricultural landscape. The Aboriginal heritage values of the park could also provide an educational perspective on the relationship Aboriginal people had, and continue to have, with the land and waters. This plan recognises Aboriginal traditional knowledge as an important cultural resource.

As an area of remnant habitat on the upper section of the Tully–Murray flood plain, Djilgarin Conservation Park provides a valuable opportunity for scientific research into:

- the role of habitat remnants in conserving biodiversity in the Wet Tropics biogeographic region
- the role of wetlands in maintaining water quality and aquifer recharge in a developed landscape
- endemic plant and animal species remaining on the flood plain
- control mechanisms for pest species.

Visiting **Jalum Conservation Park** for purposes other than management is not promoted as visitors provide a possible or potential carrier for pest plant seed transfer and reinfestation.

Desired outcomes 2021	Actions and guidelines
<p><b>Djilgarin Conservation Park</b></p> <p>The public, community groups, schools and scientists have reasonable access to the park for educational and research purposes.</p> <p><b>Jalum Conservation Park</b></p> <p>There will be restricted access to ensure no further contamination of the park with pest plants.</p>	<p>A15. Develop a Statement of Interpretive Intent for Djilgarin Conservation Park in co-operation with the Gulnay Traditional Owners and the Girringun Aboriginal Corporation.</p> <p>A16. Allow educational and research activities in Djilgarin Conservation Park unless monitoring suggests that plant, animal or the physical ecosystems are being significantly disturbed by the activities. Consultation with the Gulnay Traditional Owners by permit applicants is to be guided by the Wet Tropics of Queensland World Heritage Area Regional Agreement.</p> <p>A17. Information obtained through scientific research is to be made available to DES and Traditional Owners.</p> <p>A18. Do not encourage access or educational or research study in Jalum Conservation Park, notwithstanding those required for management purposes, such as monitoring and species inventory creation.</p>



## 5. Other key issues and responses

### 5.1 Pest management

QPWS has a responsibility under the Land Protection (Pest and Stock Route Management) Act to control declared pests in protected areas.

Pest plants that have been recorded in **Djilgarin Conservation Park** include pond apple *Annona glabra*, which is a declared Class 2 pest plant, and *Clitoria laurifolia*, a non-declared pest plant. The park is also heavily impacted by feral pigs *Sus scrofa*, a Class 2 pest animal.

In **Jalum Conservation Park**, pest plants pose a significant threat to the ecological integrity of the park. Siam weed *Chromolaena odorata*, a declared Class 1 pest plant, is present on the western perimeter. DES and the Department of Employment, Economic Development and Innovation (through Biosecurity Queensland) have jointly committed to a pest management agreement to eradicate the pest plant species Siam weed.

*Hymenachne amplexicaulis*, a declared Class 2 pest plant, occurs on the western boundary of the park and increases the risk of fire by providing extra fuel load. *Hymenachne* also has the ability to grow in an aquatic environment in up to two metres of water, thereby posing a threat to the integrity of the endangered wetland ecosystems. On the south-eastern boundary there is an area of pond apple, a declared Class 2 pest plant. Exotic pasture species include guinea grass *Megathyrsus maximus*, not declared, and para grass *Urochloa mutica*, also not declared.

Feral pigs (Class 2) seek food and shelter in Jalum Conservation Park. They have a significant environmental impact on the park as well as a significant economic impact on adjacent agricultural land. Feral pigs disturb soil, interfere with native plant regeneration and allow pest plant invasion. The pigs themselves transfer Siam weed in the park and into surrounding agricultural land. Feral pigs mainly take refuge in the park during the drier months. Left uncontrolled, they cause significant damage to pasture on the western boundary. This disturbance has led to increased sickle pod *Senna* sp. proliferation, which increases edge effects on the park and increases seed source on the park boundary. It is estimated that 25–30 per cent of the park could be affected by impacts from pigs.

Desired outcomes 2021	Actions and guidelines
<p>The integrity of native plant and animal communities is maintained through strategic, sustained pest management.</p> <p>Pest plants and animals on adjacent land do not become established in the parks and the parks are not a source of pest plants and animals for adjacent lands.</p> <p>Siam weed is eradicated from Jalum Conservation Park.</p>	<p>A19. Co-operatively develop a co-ordinated pest management strategy covering Djilgarin and Jalum conservation parks with Traditional Owners and the Giringun Aboriginal Corporation.</p> <p>A20. Work co-operatively with and actively engage neighbours, Giringun Aboriginal Corporation and Traditional Owners in works being carried out on the parks, including the planning and control of pest plants and pest animals.</p> <p>A21. Follow recommendations in the pest management agreement to eradicate Siam weed from Jalum Conservation Park.</p> <p>A22. Revegetate areas of exotic grasses with local native forest plants, working with Traditional Owners and/or the Giringun Aboriginal Corporation where possible.</p>

### 5.2 Fire management

There is a Statement of Fire Management Intent covering Djilgarin and Jalum conservation parks. QPWS is also developing a new plan with a wider focus, incorporating surrounding protected areas, including Giringun National Park and Girramay National Park.

The swamp paperbark forest in Djilgarin Conservation Park is seasonally inundated with water. The combination of a closed canopy and wetlands provide little opportunity for fire in Jalum Conservation Park.

Desired outcomes 2021	Actions and guidelines
<p>Fire is managed to help protect life and property, conserve natural and cultural values, and minimise associated impacts.</p>	<p>A23. Manage fire in these parks according to the QPWS Statement of Fire Management Intent for the area.</p> <p>A24. Maintain the firebreaks around the parks' boundaries in co-operation with neighbours and Traditional Owners. Building and maintaining breaks will be consistent with the QPWS's Good Neighbour Policy.</p> <p>A25. Determine Traditional Owner involvement in fire management through ongoing consultation with relevant groups and incorporate appropriate information into any fire management strategy.</p>

### 5.3 Climate change

Climate change is likely to have significant impacts on Jalum and Djilgarin conservation parks. The climate is predicted to be warmer, with altered rainfall patterns, although the extent of climatic changes and their effects on regional ecosystems and species are difficult to predict. More seasonal and variable rainfall is likely, along with increased evaporation due to higher temperatures and a reduction in streamflows in the Tully and Murray rivers caused by the rise in the orographic cloud layer in the mountains upstream of the parks (ANU 2009).

These factors may increase the frequency and intensity of drought conditions and periodic drying in the parks' wetlands. More intense cyclones are predicted, with potentially significant impacts on the parks' endangered swamp forests, which are highly exposed by their location surrounded by cleared coastal plains. Increased cyclone disturbance may change forest structure, favouring vines and early succession species, as well as invasion by pest plants (Dunlop and Brown 2008). Opening and drying of the forest canopy due to increased drought and cyclone intensity is likely to increase the potential for fire, which may result in a gradual replacement of rainforest by more fire-tolerant regional ecosystems (Dunlop and Brown 2008). Native species may be more vulnerable due to the appearance of new competitors, predators, diseases and pest species favoured by changing climates (ANU 2009).

While climate change is difficult to manage and is largely outside the scope of this plan, reducing stresses on Jalum and Djilgarin conservation parks may make them more resilient to climatic change. Management of pest species, fire and drainage regimes in the parks and surrounding areas, in co-operation with stakeholders, will reduce impacts caused by drying, fire and cyclones in a changing future climate.

Desired outcomes 2021	Actions and guidelines
Potential impacts from climate change, particularly on endangered swamp forest regional ecosystems and threatened and near threatened species, are understood and inform park management.	A26. Encourage research that identifies the flora and fauna species and ecosystems potentially at risk from climate change. A27. Where appropriate, adapt on-ground management in response to the results of any relevant research.
Suitable habitats are linked to assist native species to move through the landscape and adapt to climate change impacts.	A28. Promote linking important habitats for climate change-affected species by establishing and maintaining corridors, connections and/or 'habitat stepping stones'.
Fire is managed to avoid climate-related changes in fire regimes from adversely impacting on fire-sensitive species and communities.	A29. Implement the fire management actions that aim to protect significant species and communities that may be susceptible to altered fire regimes.
Impacts of invasive species as a result of climate change are minimised.	A30. Monitor the impacts of invasive species as a result of climate change and, where necessary, include actions in pest management programs to minimise identified impacts.

## 6. References

- Australian National University (2009) *Implications of climate change for Australia's World Heritage properties: A preliminary assessment. A report to the Department of Climate Change and the Department of the Environment, Water, Heritage and the Arts by the Fenner School of Environment and Society*, Australian National University, Canberra.
- Dunlop, M. & Brown, P.R. (2008) *Implications of climate change for Australia's National Reserve System: A preliminary assessment. Report to the Department of Climate Change*, Department of Climate Change, Canberra.
- Sattler, P. and Williams, R. (eds) 1999, *The conservation status of Queensland's bioregional ecosystems*. Environmental Protection Agency, Queensland Government, Brisbane.

## 7. Hyperlinks

- Aboriginal Cultural Heritage Act 2003* <<http://www.legislation.qld.gov.au>>
- DES website <<http://www.des.qld.gov.au>>
- Environmental Protection Act 1994* <<http://www.legislation.qld.gov.au>>
- Environment Protection and Biodiversity Conservation Act 1999* <<http://www.comlaw.gov.au>>
- Land Protection (Pest and Stock Route Management) Act 2002* <<http://www.legislation.qld.gov.au>>
- Management principles for conservation parks <<http://www.legislation.qld.gov.au>>
- Nature Conservation Act 1992* <<http://www.legislation.qld.gov.au>>
- Native Title Act 1994* <<http://www.comlaw.gov.au>>
- Queensland Heritage Act 1992* <<http://www.legislation.qld.gov.au>>
- The Burra Charter <<http://www.icomos.org>>.

## **8. Appendixes**

**Appendix A – Map**

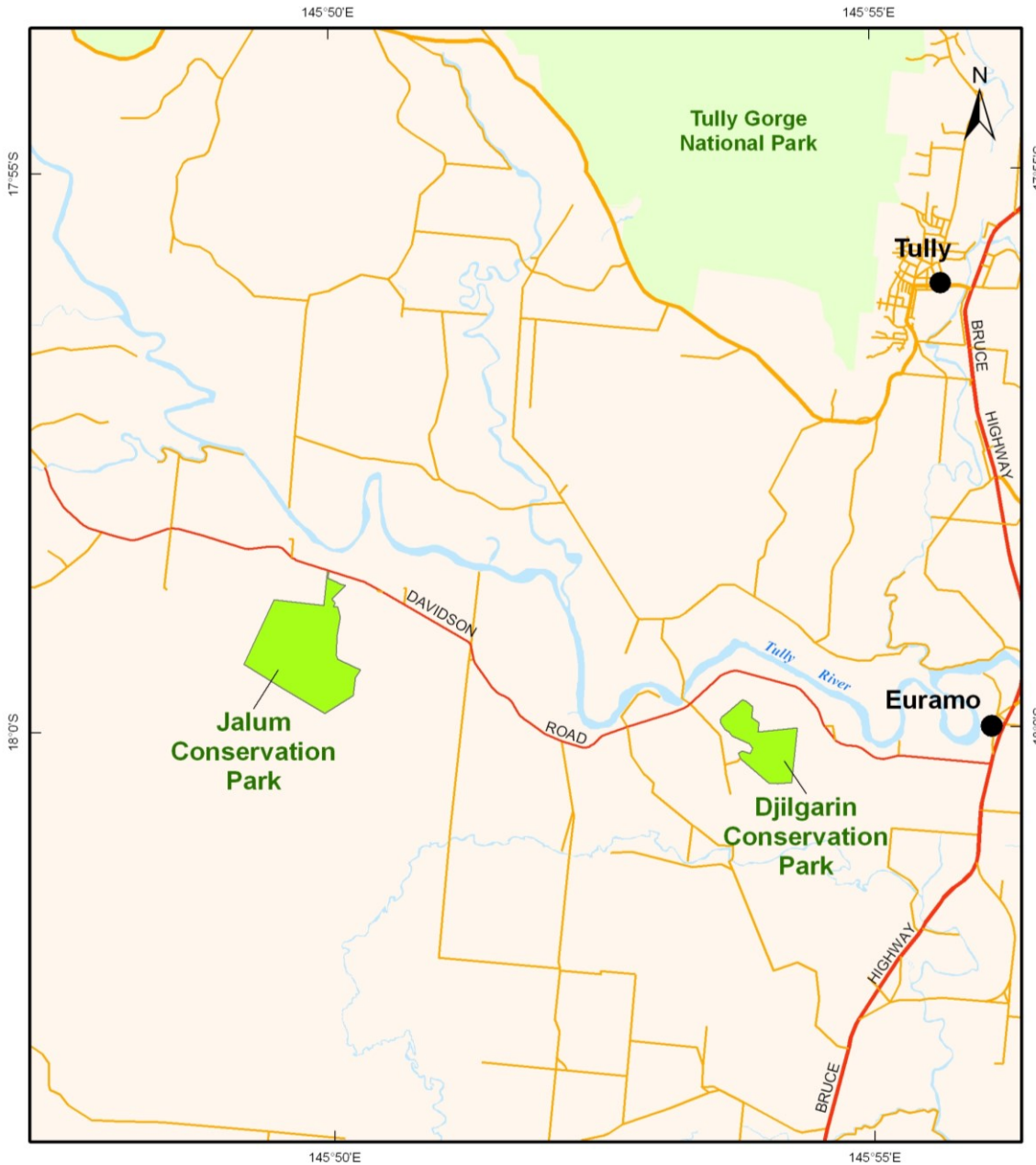
**Appendix B – Definitions**

**Appendix C – Regional ecosystems**



## Appendix A – Map

### Map 1 Location



Map Projection:  
 Universal Transverse Mercator (MGA) zone 55  
 Horizontal Datum:  
 Geocentric Datum of Australia 1994 (GDA94)

Map Production:  
 Spatial Services - Brisbane,  
 Queensland Parks and Wildlife Service,  
 Department of Environment and Resource Management,  
 10 December 2010

Disclaimer:  
 This map has been produced for the purposes  
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Accuracy statement:  
 Due to varying source, accuracy or currency  
 of data layers used in this map, the spatial locations  
 of features may not coincide when overlaid.

#### Legend

- Road network**
- Highways
  - Secondary roads
  - Connector
  - Local access
- Tenure**
- National Park
  - Conservation Park

Source Material:  
 •QPWS Estate - DERM; June 2010  
 •State Digital Road Network (SDRN); September 2010  
 © Pitney Bowes Business Insight 2010



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 Department of Environment and Resource Management 2010

## Appendix B – Definitions

### Endangered

At the state level, endangered species are those species listed as endangered under schedule 2 of Queensland's Nature Conservation (Wildlife) Regulation 2006. At the national level, endangered species are those species listed as endangered under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999*.

### Management principles for conservation parks

Under Section 20 of the *Nature Conservation Act 1992*:

A conservation park is to be managed to—

- (a) conserve and present the area's cultural and natural resources and their values
- (b) provide for the permanent conservation of the area's natural condition to the greatest possible extent
- (c) ensure that any commercial use of the area's natural resources, including fishing and grazing, is ecologically sustainable.

### Near threatened

Near threatened species are those species listed as near threatened under schedule 5 of Queensland's Nature Conservation (Wildlife) Regulation 2006.

### Regional ecosystems

Regional ecosystems were defined by Sattler and Williams (1999) as vegetation communities in a bioregion that are consistently associated with a particular combination of geology, landform and soil. Readers should refer to this publication for background information about regional ecosystems and the bioregional planning framework used in Queensland.

Compilation of the information about regional ecosystems presented in Sattler and Williams (1999) was derived from a broad range of existing information sources including land system, vegetation and geology mapping and reports. However, the framework is dynamic and is regularly reviewed as new information becomes available. During the past few years the Queensland Herbarium has developed a program for explicitly mapping regional ecosystems across Queensland. This has resulted, and will continue to result, in updates to the descriptions and status of regional ecosystems. The descriptions are maintained in DES's Regional Ecosystem Description Database.

### Vulnerable

At the state level, vulnerable species are those species listed as vulnerable under schedule 3 of Queensland's Nature Conservation (Wildlife) Regulation 2006. At the national level, vulnerable species are those species listed as vulnerable under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999*.

## Appendix C – Regional ecosystems

**Table 1: Of concern or endangered regional ecosystem for Djilgarin Conservation Park.**

Regional ecosystem number	Regional ecosystem name	DES biodiversity status	Reason for status and the threats to ongoing sustainability
7.3.3	Regional ecosystem name	Endangered	Scattered across the coastal lowlands (once much more common), now predominantly the Innisfail and Tully subregions. In many areas drainage works on adjoining lands have altered vital hydrological and water table relationships in this ecosystem. Increased wind exposure associated with agricultural clearing is now also a threat. A favoured habitat of, and often heavily dug up by, feral pigs.
7.3.5	Mesophyll vine forest with <i>Archontophoenix alexandrae</i> on poorly drained alluvial plains	Endangered	Scattered across the coastal lowlands, predominantly the Innisfail and Tully subregions. External and upstream hydrological changes have affected this ecosystem, leading to more concentrated flood flows in streams, with consequent bank erosion and channel siltation.
7.3.10	<i>Melaleuca quinquenervia</i> and/or <i>M. cajuputi</i> closed forest to shrubland on poorly drained alluvial plains	Endangered	This regional ecosystem has been extensively and selectively cleared for agricultural purposes and remaining areas are highly fragmented and altered in structure and species composition.
7.3.40	Simple to complex mesophyll to notophyll vine forest on moderate to poorly drained alluvial plains of moderate fertility	Endangered	Ecosystem has a long history of European exploitation due to its grazing and timber values. This type has been very heavily cleared for sugar cane production because it occurs on the better alluvial soils.

**Table 2: Regional ecosystems for Jalum Conservation Park.**

Regional ecosystem number	Regional ecosystem name	DES biodiversity status	Reason for status and the threats to ongoing sustainability
7.3.5	<i>Melaleuca quinquenervia</i> and/or <i>M. cajuputi</i> closed forest to shrubland on poorly drained alluvial plains	Endangered	Scattered across the coastal lowlands, predominantly the Innisfail and Tully subregions. External and upstream hydrological changes have affected this ecosystem, leading to more concentrated flood flows in streams, with consequent bank erosion and channel siltation.
7.3.29	Sedgeland and grasslands of permanently and semi-permanently inundated swamps, including areas of open water	Endangered	Formally extensive on the coastal lowlands, particularly on the Herbert River floodplain now a rare ecosystem threatened by weed invasions and drainage changes. This sedgeland is habitat for threatened flora, including <i>Eleocharis retroflexa</i> and <i>Fimbristylis adjuncta</i> and is important habitat for migratory wetland birds.
7.3.34	<i>Melaleuca</i> sp. aff. <i>viridiflora</i> open-forest to closed-forest on broad swampy drainage lines of alluvial plains	Endangered	Scattered across the coastal plains from Bluewater to just north of Cairns, formally much more common. Past clearing has greatly reduced the area of this regional ecosystem (10–30 percent remains). This regional ecosystem is the habitat of the vulnerable ant plant <i>Myrmecodia beccarii</i> and the endangered apollo jewel butterfly <i>Hypochrysops apollo</i> .

