

Approved Conservation Advice  
(s266B of the *Environment Protection and Biodiversity Conservation Act 1999*)

**Approved Conservation Advice for**  
***Cycas platyphylla***

This Conservation Advice has been developed based on the best available information at the time this Conservation Advice was approved; this includes existing plans, records or management prescriptions for this species.

**Description**

*Cycas platyphylla*, Family Cycadaceae, is a small to medium cycad with an erect unbranched trunk sometimes reaching 2 m in height. It has an erect to spreading stiff crown of frond-like leaves 0.5–1 m long. Young leaves are a characteristic blue-green, maturing to grey green. Leaflets number 120–240 and are 4–6 mm wide and 12–24 cm long with distinctly recurved margins. *C. platyphylla* is distinguished by the initially bluish fronds, and the moderately broad leaflets with recurved margins (Hill, 1998; Hill & Osborne, 2001; Jones, 2002).

**Conservation Status**

*Cycas platyphylla* is listed as **vulnerable**. This species is eligible for listing as vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act) as, prior to the commencement of the EPBC Act, it was listed as vulnerable under Schedule 1 of the *Endangered Species Protection Act 1992* (Cwlth). *C. platyphylla* is also listed as vulnerable under the *Nature Conservation Act 1992* (Queensland).

**Distribution and Habitat**

The main population of *C. platyphylla* is known from the Petford district, west of the Atherton Tableland, Queensland. There are three smaller quite disjunct populations recorded from Taravale, Wandovale, and at White Mountains, north of Torrens Creek. The species is not known to occur in any conservation reserve (Queensland Herbarium, 2008). There is no population estimate available. All populations occur in areas of remnant vegetation (Environmental Protection Agency, 2008) as defined under the *Queensland Vegetation Management Act 1999* (Queensland) and are therefore currently protected from broad-scale clearing.

*Cycas platyphylla* occurs in sparse *Eucalyptus sideroxylon* woodland with a grassy understorey, often on rocky slopes in shallow red stony loams (Jones, 2002; Queensland Herbarium, 2008). This species occurs within the Northern Gulf and Burdekin (Queensland) Natural Resource Management Regions.

The distribution of this species is not known to overlap with any EPBC Act-listed threatened community.

**Threats**

The main identified threat to *C. platyphylla* is vulnerability to illegal collection. The species is particularly attractive to collectors because of its coloured foliage and compact habit. At some localities, populations have declined due to the extraction of mature plants (Hill & Osborne, 2001; Forster, 2004).

The main potential threats to the species include inappropriate fire regimes, which kill surface seed and young seedlings; and failure of the insect pollination mutualism (Forster, 2004, 2007).

Genetic inbreeding may possibly impact on long term population viability (Forster, 2004, 2007). Individuals of *C. platyphylla* are slow growing and seed set is intermittent, produces low numbers per individual and dispersal is limited. Both seed and whole plants are sought after by specialist collectors and illegal collecting is expected (Forster, 2004, 2007).

### **Research Priorities**

Research priorities that would inform future regional and local priority actions include:

- More precisely assess the population size, ecological requirements and the impacts of these threatening processes with particular attention to fire ecology.
- Undertake research to determine reproductive needs by identifying pollinators and their life cycle, and identifying mechanisms and vectors of seed dispersal.
- Investigate the effects of fire frequency, intensity and seasonality on reproductive ecology and survival of populations.
- Undertake genetic analyses to 1/ assess current gene flow (using markers and analyses capable of distinguishing population divergence on an evolutionary timescale, from that which might be due to more recent impacts), and 2/ identify populations with low genetic diversity that might benefit from artificial introduction of genetic material from other populations from which they have relatively recently diverged.
- Investigate the potential and efficacy of DNA-based or other identification approaches of individual plants and/or populations to provide a means for detecting and prosecuting illegal collection from the wild (see for example see Palsboll et al., 2006).

### **Regional Priority Actions**

The following regional priority recovery and threat abatement actions can be done to support the recovery of *C. platyphylla*.

#### **Habitat Loss, Disturbance and Modification**

- Develop and implement a suitable management strategy to prevent illegal collection of seed and plants.
- Monitor known populations to identify key threats.
- Monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary.
- Manage threats to vegetation that contain populations of *C. platyphylla*.
- Control access routes to suitably constrain public access to known sites on public land.
- Suitably control and manage access on private land.
- Minimise adverse impacts from land use at known sites.
- Protect populations of the listed species through the development of conservation agreements and and/or covenants.

#### **Fire**

- Identify appropriate intensity and interval of fire to promote seed germination and seedling survival.
- Develop and implement a suitable fire management strategy for *C. platyphylla*.
- Provide maps of known occurrences to land managers and local and state Rural Fire Services and seek inclusion of mitigative measures in bush fire risk management plans, risk register and/or operation maps.

#### **Enable Recovery of Additional Sites and/or Populations**

- Undertake appropriate seed collection and storage.
- Investigate options for linking, enhancing or establishing additional populations.
- Implement national translocation protocols (Vallee et al., 2004) if establishing additional populations is considered necessary and feasible.

This Conservation Advice was approved by the Minister / Delegate of the Minister on:  
1/10/2008

This list does not necessarily encompass all actions that may be of benefit to *C. platyphylla*, but highlights those that are considered to be of highest priority at the time of preparing the conservation advice.

### **Information Sources:**

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Vallee, L, Hogbin, T, Monks, L, Makinson, B, Matthes, M & Rossetto, M 2004, *Guidelines for the Translocation of Threatened Plants in Australia* (2<sup>nd</sup> ed.), Australian Network for Plant Conservation, Canberra.