

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

Approved Conservation Advice for
Ctenopteris blechnoides

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

Ctenopteris blechnoides, Family Grammitidaceae, is a small terrestrial rhizomatous fern with fronds that occur in two rows. The rhizome is short-creeping densely scaly, light brown, narrowly triangular in outline, with an attenuate apex, and occasional coarse hairs at the margins. The stalks are about 1 cm long, black, narrowly winged and have short hairs. Lamina (fronds) are leathery, dark green above, paler beneath, are narrowly elliptical to 20 cm long and 2 cm wide, and have a black central axis that is sparingly hairy beneath. Each frond is deeply divided into segments with margins that curl inwards, and each segment contains up to 14 groups of spore cases (Andrews, 1990; Landsberg & Clarkson, 2004). Synonyms include *Grammitis blechnoides* and *Polypodium blechnoides* (CHAH, 2008a).

Conservation Status

Ctenopteris blechnoides 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). *Ctenopteris blechnoides* is also listed as vulnerable under Schedule 3 of the *Nature Conservation Act 1992* (Queensland).

Distribution and Habitat

Ctenopteris blechnoides is known from north-east Queensland, south-east Asia, Malesia, Melanesia and Polynesia (Parris, 1998). This species has been collected from a very restricted range from the McIlwraith Range, Cape York Peninsula (Landsberg and Clarkson, 2004). The population size and extent of occurrence of this species are unknown. Herbarium records may under represent this species as much of its potential range is rugged, remote and inaccessible and collections may have been referred under invalid names. This species' habitat has largely been protected from damage by people, feral animals, weeds or changed fire regimes and there is no evidence to suggest any ongoing population decline (Landsberg & Clarkson 2004).

Ctenopteris blechnoides occurs in mesophyll closed forest. The land tenure of this species' primary habitat includes National Park and Aboriginal freehold. This species is data deficient. *Ctenopteris blechnoides* occurs within the Cape York (Queensland) Natural Resource Management Region.

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

Threats

The main potential threats to *Ctenopteris blechnoides* include stochastic events leading to localised extinction and there may be a slight threat associated with illegal collection (Landsberg & Clarkson, 2004).

Research Priorities

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

- Design and implement a monitoring program or, if appropriate, support and enhance existing programs (Landsberg & Clarkson, 2004).
- More precisely assess population size, distribution, ecological requirements and the relative impacts of threatening processes.
- Undertake survey work in suitable habitat and potential habitat to locate any additional populations/occurrences/remnants.
- Undertake spore germination and/or vegetative propagation trials to determine the requirements for successful establishment.
- Investigate the precise taxonomic relationship between Australian populations of *C. blechnoides* and non-Australian populations using appropriate methodologies including DNA marker analysis.
- Develop a genetic tagging system to establish a means of identifying illegal collections from the wild, and providing evidence required for prosecution (see for example Palsboll et al., 2006).

Regional and Local Priority Actions

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

Habitat Loss, Disturbance and Modification

- 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.
- If appropriate, develop and implement a program to restrict illegal collection.
- Identify populations of high conservation priority.
- Control access routes to suitably constrain public access to known sites on public land.
- Suitably control and manage access on private land.

Conservation Information

- Raise awareness of *C. blechnoides* within the local community.
- Establish and/or maintain partnerships with private landholders and managers of land on which populations occur to ensure appropriate conservation.

Enable Recovery of Additional Sites and/or Populations

- Undertake appropriate spore 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 list does not necessarily encompass all actions that may be of benefit to *C. blechnoides*, but highlights those that are considered to be of highest priority at the time of preparing the Conservation Advice.

Existing Plans/Management Prescriptions that are Relevant to the Species

- Cape York Back on Track Biodiversity Action Plan (EPA, 2008),
- Management Program for Protected Plants in Queensland 2006–2010 (EPA, 2006), and
- Cape York Peninsula natural resource management plan (Earth Tech, 2005).

These prescriptions were current at the time of publishing; please refer to the relevant agency's website for any updated versions.

Information Sources:

- Andrews, SB 1990, *Ferns of Queensland*, Queensland Department of Primary Industries, Brisbane.
- Council of Heads of Australian Herbaria (CHAH) 2008a, *Australian Plant Name Index*, Centre for Plant Biodiversity Research, viewed 25 August 2008, <<http://www.anbg.gov.au/cgi-bin/apni>>.
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- Earth Tech 2005, *Cape York Peninsula natural resource management plan – final draft*, viewed 25 August 2008, <http://www.capeyorklandcare.org.au/CYPNRM_Plan.pdf>.
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- Landsberg, J & Clarkson, J 2004, *Threatened plants of Cape York Peninsula*, Queensland Parks and Wildlife Service.
- Palsboll, PJ, Berube, M, Skaug, HJ & Raymakers, C 2006, 'DNA registers of legally obtained wildlife and derived products as means to identify illegal takes', *Conservation Biology*, vol. 20, pp. 1284–1293.
- Parris, BS 1998, 'Grammitidaceae', In: Orchard, AE (Ed.) *Flora of Australia*, vol. 48, CSIRO, Melbourne.
- Vallee, L, Hogbin, T, Monks, L, Makinson, B, Matthes, M & Rossetto, M 2004, *Guidelines for the Translocation of Threatened Plants in Australia* (2nd ed.), Australian Network for Plant Conservation, Canberra.