



Species Conservation Plan for *Aegiphila caymanensis*

National Conservation Law, section 17

Conservation Status

Aegiphila caymanensis is a woody, clambering shrub with soft, downy leaves. It is unique to Grand Cayman. It was assessed in the global IUCN Red List in 2014, and is currently listed as Critically Endangered*.

The species is listed as a protected species in Part 1 of Schedule 1 of the National Conservation Law (NCL).

Nomenclature

Historically there has been some debate over the correct identity of *Aegiphila caymanensis*, which on Grand Cayman was confused with a specimen of the liana *Aegiphila elata* at Spotts, and another *Aegiphila* species that occurs in the Lower Valley region. Genetic analysis has confirmed the taxonomic identity of surviving *Aegiphila caymanensis* as a unique Grand Cayman endemic species quite distinct from the regionally distributed species *A. elata* and *A. martinicensis*.

Because of its extreme rarity, *Aegiphila caymanensis* has never gained a traditional common name.

* Burton, F.J. & Barrios, S. 2014. *Aegiphila caymanensis*. The IUCN Red List of Threatened Species 2014.

Species, Ecology and Threats

At the time of writing this Conservation Plan, *Aegiphila caymanensis* is only known from three locations, comprising a total of fourteen specimens. Two were left isolated within a recently cleared dry forest in East End, and ten specimens survive in former farm land near a dry forest ridge in North Side. The other two known specimens are located in West Bay, off Conch Point Road adjacent to a fragment of dry forest. Additional specimens are likely to exist in other locations, but given the absence of sightings during past surveys and targeted fieldwork to date it is evident that this species is extremely rare, and endangered by habitat loss. As a species inhabiting higher ground *Aegiphila caymanensis* may not be immediately threatened by sea level rise but other direct and indirect impacts of climate change, and alien invasive plant pests are among potential threats of concern.

This is a woody shrub which apparently occurs naturally in dry forest where its long slender branches clamber up into the tree canopy. The known specimens indicate it is capable of growing on karst rock terrain, and in red and in sandy soils, and can persist in anthropogenic clearings. The species appears to be dichogamous (producing male and female flowers at different times), with individuals being either protandrous or protogynous (first producing male, or female flowers respectively).

Seeds of this species are highly recalcitrant and difficult to germinate, which presents challenges for propagation of a genetically diverse cultivated collection for population restoration purposes. Clonal propagation of individuals by cuttings is also proving technically challenging but possible.

Conservation objectives

The goal of this Conservation Plan is to ensure the survival of *Aegiphila caymanensis* as a sustainable wild population. Specific objectives are as follows:

- An improved assessment of the existing population size and distribution of this species

- All known specimens in the wild are protected through National Conservation Law (NCL) Permits, Conservation Agreements, Critical Habitat designation, or Protected Area designation as appropriate, including sufficient buffer to maintain habitat integrity immediately around those specimens in wild settings.
- All specimens in cultivation and in man-modified landscapes are closely managed under the terms of Permits issued under the NCL.
- Subject to feasibility and without endangering the surviving wild origin specimens, propagation techniques are developed and a sustainable cultivated population is established at the Queen Elizabeth II Botanic Park (QEII BP) as a safeguard against loss of known individuals and as a source of plants for restoration in the wild.
- Subject to successful conservation propagation and the identification of ecologically appropriate protected habitat for restoration, additional individuals propagated at the QEII BP and representing the maximum genetic diversity available are planted into the wild to restore a larger wild population size.

Conservation Strategies

Habitat protection

In the event that additional specimens or populations of *Aegiphila caymanensis* are found in the wild which warrant habitat protection, the NCC will seek appropriate measures to protect the habitat within which these specimens exist. This may involve proposing to establish or expand protected areas through s.7 of the NCL, or through Conservation Agreements under s.13 of the NCL; or by designation of Critical Habitat through a revision to this Plan.

Conservation propagation and restoration

The Department of Environment (DoE) is permitted, in partnership with the QE II Botanic Park and the Royal Botanic Gardens, Kew and with other agencies or private entities or individuals as appropriate, subject to permit by the NCC, to conduct artificial propagation and/or seed banking of specimens to maintain a reserve of the species' genetic diversity that could be re-established

in event of loss of the wild population. Establishment of ex-situ populations (outside of Grand Cayman) is not contemplated or authorized at this time.

Artificially propagated specimens will be managed to maximize genetic diversity and may be used to supply individuals for restoration to the wild.

Monitoring and research

The DoE will research and monitor the distribution and health of the *Aegiphila caymanensis* population and maintain collaborative research arrangements to improve understanding of the status, biology and ecology of this species.

Public outreach, education and awareness

Once all known specimens are covered by Permits as part of the implementation of this Conservation Plan, the DoE will design and initiate a public outreach effort with emphasis on Grand Cayman, to culminate in selection and adoption of a common name for *Aegiphila caymanensis*.

Conservation Controls

Critical Habitat

No Critical Habitat is defined for *Aegiphila caymanensis* at this time.

Control of take

All specimens of *Aegiphila caymanensis* are protected at all times, and take, possession, purchase, sale, donation and exchange are offences under all the provisions of s.33 (1) of the NCL, unless a permit has been issued under s.20. Control of take includes artificial or assisted propagation from seed, cuttings, division, air-layering, tissue culture or any other technique, for any reason.

Within 6 weeks of this Plan coming into effect, all suspected specimens of *Aegiphila caymanensis* that have already been taken from or have been artificially propagated from the wild population or are otherwise in cultivation must be brought to the attention of the DoE for permitting under the NCL, or surrendered for conservation relocation at the DoE's discretion after taking into account the current owner's preference, the health and security of the specimen, and the feasibility of relocation. Three months after the date this conservation plan comes into effect the knowing possession of any unpermitted cultivated specimens of *Aegiphila caymanensis* will be treated as an offence under s.33 (1) of the NCL.

Consultation on development proposals

The NCC will advise any government agency making decisions affecting known specimens of *Aegiphila caymanensis* that no actions can be permitted that may involve any direct or indirect take of *Aegiphila caymanensis*.

Import and export

Aegiphila caymanensis may not be exported from Grand Cayman to Little Cayman, to Cayman Brac or anywhere else in the world without a permit under the NCL.

Implementation, Evaluation and Review

Responsibility for implementing this plan lies primarily with the NCC, and the DoE. At the date of commencement of this plan, the QEIIBP and the Royal Botanic Gardens, Kew are partnering with DoE to advance key aspects of this work.

This Conservation Plan will be evaluated periodically by the DoE, and at such time that any revision appears to be necessary, the Department will bring proposed revisions to the NCC.

Species Success Criteria & Cost Estimates

Because *Aegiphila caymanensis* is naturally restricted to the small areas of dry forest remaining in Grand Cayman (much of which is currently not protected), and considering the technical challenges limiting artificial propagation, it cannot be confidently predicted that its wild population can be restored to an extent where it is no longer critically endangered. Its entire wild population is likely to remain at risk from largely unpredictable threats such as the arrival of a new plant pest, for the immediately foreseeable future.

This species therefore is expected to have to remain in Part 1 of Schedule 1 of the NCL for now without a time frame for any future removal to Part 2.

If it does prove possible to restore a large viable population of *Aegiphila caymanensis* in the wild, then the criterion for removal to Part 2 of Schedule 1 will be its formal down-listing from Critically Endangered, to Endangered or less, in the IUCN Red List.

Costs for implementation of this plan can be covered within the recurrent budgets of the DoE and other agencies that may partner in this work, potentially supplemented by external grant funds.

Legal Basis

Section 17 of the National Conservation Law, 2013 requires the National Conservation Council to formulate and adopt a conservation plan for each protected species whose range includes the Islands.

Schedule 1, Part 1 of the Law designates species that are the subject of protection at all times.

Species conservation plans must set out the steps which the Council considers to be necessary to achieve the conservation and survival of the species and their critical habitat.

For species listed in Part 1 of Schedule 1 the Plan must include:

(i) objective, measurable criteria which, when met, would result in a determination that the species no longer requires the protection of Part 1;

(ii) estimates of the time required and the costs involved to carry out those measures needed to achieve such goals and to achieve any intermediate steps towards that goal.

Priority is accorded to the development of Plans for threatened or endangered species that are at risk from development projects or other forms of economic activity, or that would otherwise be most likely to benefit from such plans.

Species Conservation Plans may take into account traditional cultural needs and applicable regional programmes under the various biological, conservation and climate change Conventions to which the Cayman Islands are party [section 6(2)(j)].