

The Cycad Specialist Group – putting the action plan to work

The activities of the Cycad Specialist Group (CSG) in the period from 2000 to 2004 can be divided into the pre-Action Plan phase and the post-Action Plan phase. At the outset of the triennium, the main objective of the CSG was to complete the Cycad Status Survey and Action Plan (AP), published in 2003. The AP set the scene for further action, providing responses to the two most clear threats to cycad survival, habitat destruction and the unsustainable trade in wild collected plants. The twelve actions outlined in the AP focused on five key areas: the conservation of cycad habitat, *ex situ* conservation, trade monitoring and control, research, and the provision of information.

Among the priority actions for 2003-2004 were completion of Red List, the development of a consistent taxonomy, the extension of *ex situ* genebanks of the most threatened taxa, a review of trade and the effectiveness of CITES listings, actions to develop a conservation culture in cycad societies, the promotion of research on key subjects such as the collapse of pollinator mutualisms, and disseminating up to date information on cycads and their conservation.

The review of cycad taxa for the IUCN Red List began as part of the action planning process and the assessments were first published in the cycad AP. The CSG worked hard to complete the assessments during 2003 and were proud to provide one of the few complete assessments for plant groups for the 2004 Red List. The results confirm that more than half of the world's cycad species are threatened with extinction and they remain one of the most threatened groups of plants. Sadly, since the publication of the Red List, it appears that one more cycad species has become extinct in the wild, with the removal of the last known plants of *Encephalartos brevifoliolatus* from the wild in South Africa.

Despite the relatively small number of cycads (ca. 300 species), there is considerable uncertainty about species boundaries, leading to frequent changes in taxonomy and classification and a fair amount of confusion in conservation assessments. Between 1983 and 2003, the number of recognized cycad species and subspecies rose from 137 to 297 with a 48% change in the species included in IUCN Red Lists. As part of a process to reduce uncertainty about cycad classification, a workshop was held at the Montgomery Botanical Centre in the USA, which brought together cycad specialists from 7 countries for three days of lively debate and discussion. The output was a book on cycad concepts and classification published by CABI early in 2004.

Cycads were identified by the CITES Plants Committee as a group requiring a review of significant trade. This process within CITES examines the implementation of Article IV of the convention and coincided with a CSG action to improve the effectiveness of CITES for cycad conservation. Currently, five genera as well as *Cycas beddomei* are listed in Appendix I of CITES and the remaining species are listed in Appendix II. The CSG contributed to an assessment of cycads that was co-ordinated by TRAFFIC East/ Southern Africa and submitted to the 14th meeting of the Plants Committee held in Namibia in February 2004.

The CSG also undertook further work on trade in cycad seeds and pollen and the exchange of herbarium specimens. CITES regulations and, more specifically, the way CITES is enforced in many countries makes it difficult to trade in artificially propagated plants and to exchange herbarium material for scientific study. The CSG identified this as a problem that was contributing to both ongoing collection of plants from the wild and problems with scientific studies. A review of CITES regulations revealed that there some inconsistencies in way CITES is applied to cycad trade.

The CSG has supported proposals to amend the regulations affecting trade in seeds/seedlings and is putting together an information sheet to assist range States with the implementation of CITES with respect to cycads. An amendment of the CITES definition of artificial propagation was accepted by the 13th Conference of the Parties, which will allow trade in seedlings of Appendix 1 species that have been grown from wild harvested seeds. This will support the activities of sustainable use nurseries linked to wild populations.

The high number of threatened cycad species means that *ex situ* collections are an essential component of the overall Action Plan and the focus has been on establishing genetically representative collections of the most threatened species. The gardens linked to the CSG network of *ex situ* collections are at the forefront of developing collecting protocols, databases, and maintenance programmes for off-site living collections. Off-site collections have been enhanced by material collected in Mexico, Honduras, parts of Africa, and south-east Asia. The value of garden collections has also been increased by ongoing research on pollination, genetic diversity, DNA fingerprinting, and re-introductions carried out by members of the CSG and associated institutions.

Providing high quality information on cycads remains a high priority. Members of the CSG have regularly published a world list of cycads, providing an up to date list of names. The list is published approximately every three years although the publication has been delayed for various reasons. Nevertheless, an up to date list was published as part of the cycad classifications book and an updated version is currently in press with the Memoirs of the New York Botanical Garden. Up to date information on cycads is also provided on the PlantNet website. To highlight the precarious existence of many cycad taxa, the CSG also provided brief accounts of threatened cycad species for the Flora Mundi project being undertaken by Royal Botanic Gardens, Kew, and Dorling Kindersley publishers (the final book was titled *Plants*).

During this triennium, the CSG took on greater responsibility for the international cycad conference that is held every three years. In the past, the conference has been organized on an *ad hoc* basis, but the CSG recognized the value of these meetings for promoting the science and conservation of cycads and decided to play a more active role. At its meeting in Thailand in 2002, the CSG agreed to appoint a contact person to help organize the conferences, starting with the next meeting scheduled for Xalapa, Mexico in January 2005.

This has been an active and exciting triennium. Most of the activities will continue into the next triennium with a greater focus on parts of the AP that were scheduled to begin between 2005 and 2008. As a result, the next three years promise to be as busy as the last.