

Prioritizing Trees for Global Conservation Action: BGCI's Tree Conservation Agenda¹

K. Shaw,² M. Rivers,² and E. Beech²

Botanic Gardens Conservation International (BGCI) is a global voice for plant conservation via its worldwide network of botanic gardens and partners. Tree conservation has been a strong focus of BGCI's program for many years. In collaboration with Fauna & Flora International, BGCI runs the Global Trees Campaign (GTC, www.globaltrees.org), the only international program dedicated to saving the world's threatened tree species. Through the GTC, we prioritise and protect the trees of greatest conservation concern, and improve and promote tree conservation action globally.

As a foundation of these efforts, BGCI is developing a world list of trees, GlobalTreeSearch, which currently contains over 55,000 accepted species. GlobalTreeSearch will be complete to species level and geo-referenced to country level by the end of 2016. GlobalTreeSearch will underpin GTC activities and provide critical support for conservation, restoration, forestry and agroforestry worldwide.

BGCI hosts the secretariat of the IUCN/SSC Global Tree Specialist Group (GTSG), a network of over 80 specialists who, working in their own institutions, carry out red listing of the world's trees. By 2020, the GTSG will leverage its global membership and expertise to ensure that we have conservation assessments for all of the world's tree species in the Global Tree Assessment. Red list assessments will be made available through published reports focusing on particular families or regions, and will be published onto the IUCN Red List of Threatened Species (www.iucnredlist.org). The Global Tree Assessment will enable identification of tree species at greatest risk of extinction. These species are priorities for conservation action.

BGCI's PlantSearch database is a global database of living plant collections with records from over 1,100 participating institutions (www.bgci.org/plant_search.php). PlantSearch enables BGCI to further prioritise where tree conservation action is most needed by identifying gaps in existing collections and mobilizing our network of botanic gardens, arboreta and seed banks, to bring missing and under-represented taxa into *ex situ* collections. In 2015, BGCI published (Rivers, M.; Shaw, K.; Beech, E.; Jones, M. 2015. Conserving the world's most threatened trees: a global survey of *ex situ* collections. Richmond, UK: Botanic Gardens Conservation International. <http://globaltrees.org/wp-content/uploads/2015/10/webLR.pdf>) a study that evaluated current collection records for 9,641 tree species identified as Critically Endangered and Endangered and determined that only one in four of the world's most threatened trees are represented in *ex situ* collections. While this result demonstrates that our network of partners has the technical ability to provide protection for some of the world's most at risk tree species, many of which are recalcitrant, there is clearly a lot of work to be done to provide *ex situ* protection for the remaining priority species. The report and accompanying annex enables conservation institutions to identify which trees require increased protection *ex situ* and to target their collecting programmes to address these gaps.

In addition to guiding conservation efforts, GTC works with partners on the ground to protect tree species *in situ*, carrying out reintroduction, restoration and sustainable use projects that trial new techniques and provide models of best practice. By sharing news and results from our projects, this direct action aims to provide inspiration so that our methods can be replicated for other threatened trees.

GTC also works to improve tree conservation practice by producing resources and delivering training. We draw upon the skills of specialists in our network and focus our efforts in areas where capacity is particularly limited. We provide recommendations including guidelines for the consideration of genetic diversity in both *ex* and *in situ* projects. All our resources are open access on our website and therefore available to a wide audience of conservation practitioners.

¹ A version of this paper was presented at the Gene Conservation of Tree Species – Banking on the Future Workshop, May 16-19, 2016, Chicago, IL.

² Botanic Gardens Conservation International, Descanso House, 199 Kew Road, Richmond, Surrey TW9 3BW, United Kingdom. Corresponding author: kirsty.shaw@bgci.org.

By identifying which species are of greatest conservation concern, establishing replicable tree conservation projects, and providing technical and practical guidance, GTC guides, encourages, and enables action to be undertaken for a wider number of threatened trees than can be covered through GTC's direct actions. BGCI's network of botanic gardens, with sites for *ex situ* conservation, as well as research and horticultural expertise, provides a particularly valuable resource for tree conservation, as well as a platform for scaling up action.

To find out more about the Global Trees Campaign and BGCI's tree conservation agenda, please visit our websites: www.globaltrees.org and www.bgci.org/plant-conservation/globaltrees/.