

Botanic Gardens Conservation International
The world's largest plant conservation network



Establishing a Global Conservation Consortia

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Botanic Gardens Conservation International



***Small NGO** working in collaboration with a **big network** of botanic gardens, arboreta, botanical institutions and plant conservation organisations worldwide*

Mission:

*"To **mobilise** botanic gardens and engage partners in **securing plant diversity** for the well-being of people and the planet"*

BGCI's work aims to support and empower our members and the wider conservation community and promote and develop a **more efficient, cost effective and rational** approach to **plant conservation**.

How do we do this?

Leading innovative and strategic programmes



GLOBAL
SEED
CONSERVATION
CHALLENGE



Co-ordinate efforts: prioritisation



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Articles

GlobalTreeSearch: The first complete global database of tree species and country distributions

E. Beech, M. Rivers, S. Oldfield & P. P. Smith

Pages 454-489 | Accepted author version posted online: 23 Mar 2017, Published online: 23 Mar 2017

Download citation | <http://dx.doi.org/10.1080/10549811.2017.1310049> | [Check for updates](#)

Full Article | Figures & data | References | Citations | Metrics | Reprints & Permissions | Get access

Article Metrics

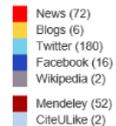
Views



Citations



Altmetric



Geo-referenced **global tree list** complete and launched on BGCI website as **GlobalTreeSearch** in April 2017

https://www.bgci.org/global_tree_search.php

- 60,000 tree species

Through?id=3548&url=%2Fpage%2Fopenaccess&loc=%2Fdoi%2Ffull%2F10.1080/...

Co-ordinate efforts: prioritisation



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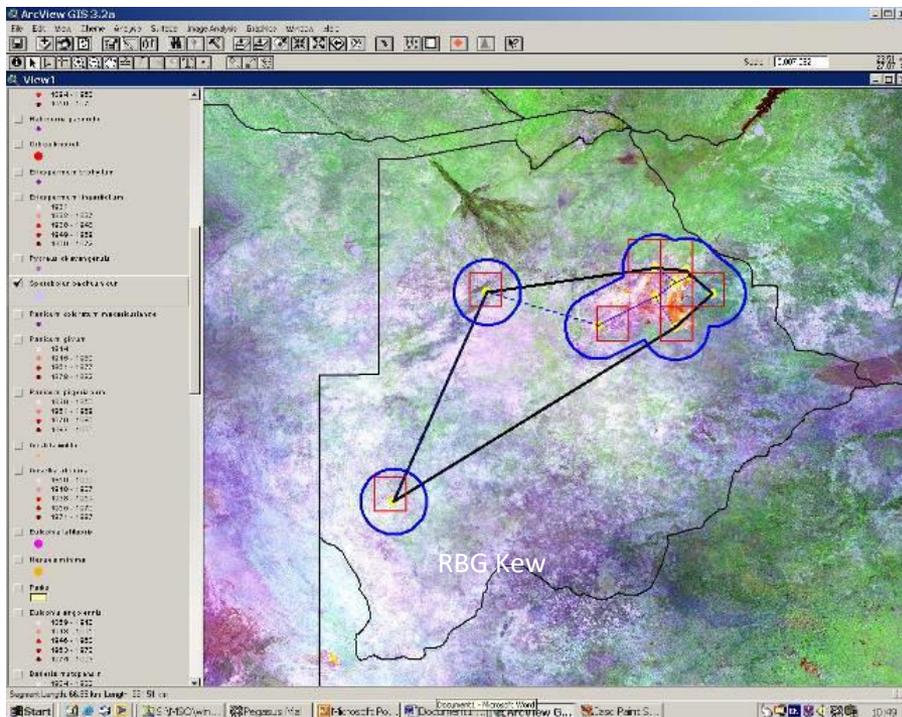
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Global Tree Assessment, co-ordinated by BGCI and the IUCN Global Tree Specialist Group, to be completed by **2020**.

- 26,250 assessed (44%)
- 10,660 threatened

Maps of the distribution of each species supplied to CBD focal points and governments.



Co-ordinate efforts: seed conservation



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RBG Kew



<http://www.bgci.org/ourwork/seedconservation/>

Co-ordinate efforts: tree conservation



- **Zero** tree species extinctions
- All highly threatened and rare tree species are conserved *in situ* and/or backed up in botanic gardens, arboreta or seed banks

<http://www.bgci.org/ourwork/globaltrees/>

Co-ordinate efforts: consortia



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New BGCI Initiative

Global Conservation Consortia

BGCI is establishing **consortia** with **specialist knowledge** of particular genera/group of plants that are technically challenging to conserve and manage with the ultimate **goal** of **preventing their extinction**



Specialist knowledge: botanic gardens, arboreta, scientific community



Living Collections:

- act as an Insurance policy against **extinction**
- are used for **Research, Conservation** and **Education**

Professional community:

- possess a unique set of skills that encompass finding, identifying, collecting, conserving and growing plant diversity across the entire taxonomic spectrum.

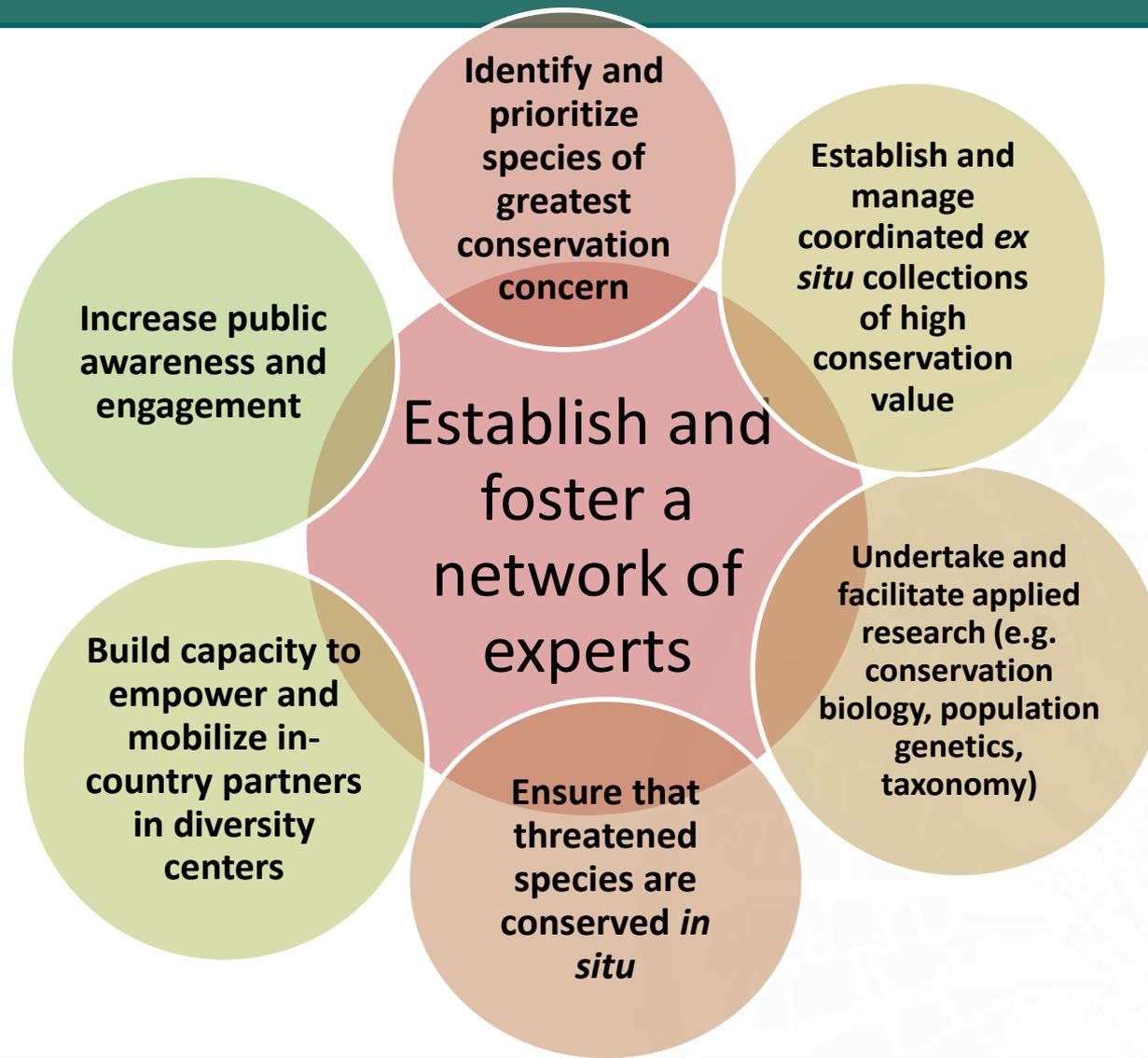


Global Conservation Consortia: Objectives



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Global Conservation Consortia



Global Consortium Lead

- Responsible for global GCC coordination, comms.
- Recruits and coordinates CSC members
- Manages Red List efforts
- Coordinates Consortium meetings
- Manages global checklist of all taxa
- Fundraises

Consortium Steering Committee (CSC)

- <10 institutions + BGCI Consortium Coordinator
- Responsible for regional coordination of GCC
- Reports to Consortium Lead
- Champions at least 1 species
- Liaises w/local, regional networks/agencies
- Manages regional checklist of all taxa, identifies and recruits species champions
- Coordinates data reporting w/species champions
- Fundraises

Species Champions

- Reports to regional CSC member/coordinator
- Responsible for metapopulation management and data reporting of one priority species
- Recruits, manages safe site partners
- Updates Red List assessment
- Manages comms., facilitates collecting trips
- Develops research and conservation projects
- Fundraises

Safe Sites

- Hold living *ex situ* collections (i.e. metapopulation)
- Report data annually to species champion
- May participate in research and conservation projects, collecting trips, fundraising, etc.

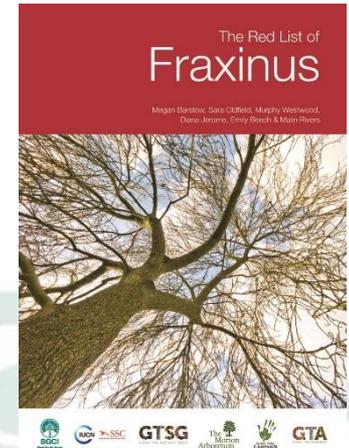
Identify and Prioritize species



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- Ensure conservation assessments are up to date for all taxa
- Gather accession-level collections data from as many institutions as possible, initially using BGCI PlantSearch for collection holders.
- Analyze (i) the climatic spread of collection sites, and (ii) gaps in current collection holdings (taxonomic, threat, geographic)
- Determine species and populations to target for both *in situ* and *ex situ* needs



Identify and Prioritize species

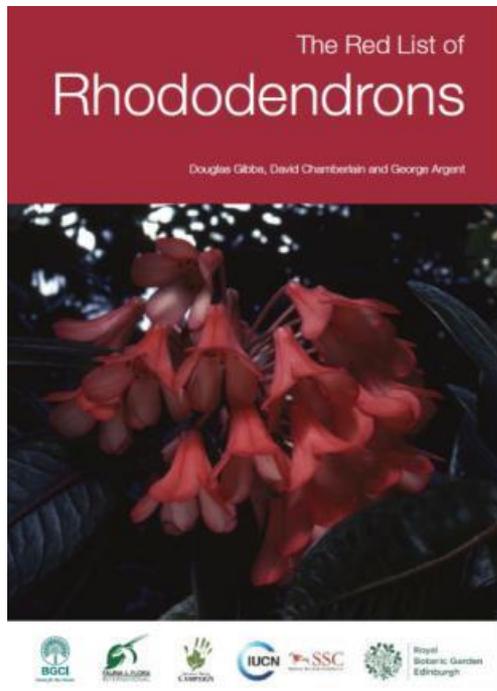


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Case study: Global Conservation Consortium for Rhododendrons

Threatened species



Ex situ collections

Welcome to PlantSearch!

Plant Search
The only global database of living plant, seed and tissue collections:

- Search 1,314,297 collection records, representing 467,892 taxa, at 1,101 contributing institutions
- Locate threatened, rare, medicinal and other plant species in living collections
- Connect with living collectors to aid your conservation, education and research efforts

Enter search criteria below (all fields optional)

Scientific name: Exclude cultivar names
Genus Species Intraspecific Epithet

Conservation Status: Additional Status:
IUCN Red List 2013 -- Please Select -- Crop Wild Relative -- Please Select --
IUCN Red List 1997 -- Please Select -- Medicinal plant species
 CITES listed species
 Threatened Global Trees Campaign species

Which IUCN list should I choose?

Priority species for conservation



#	Plant Name	Name Status	IUCN Red List 2013	IUCN Red List 1997	NatureServe G-Rank 2010	CITES Appendix	Invasive Species Compendium fact sheet	CWR	No. of ex situ sites worldwide	Contact ex situ sites
1	<i>Acacia albocorticata</i>	Accepted	Vulnerable	-	-	-	-	-	2	Send Request
2	<i>Alnus acuminata</i>	Accepted	Lower Risk: Least Concern	-	-	-	Look Up	-	11	Send Request
3	<i>Amburana cearensis</i>	Accepted	Endangered	-	-	-	-	-	3	Send Request
4	<i>Araucaria angustifolia</i>	Accepted	Critically Endangered	Rare	-	-	Look Up	-	98	Send Request
5	<i>Araucaria araucana</i>	Accepted	Endangered	Rare	I	-	Look Up	-	180	Send Request
6	<i>Aspidosperma polyneurum</i>	Accepted	Endangered	-	-	-	-	-	3	Send Request
7	<i>Astronium undulatum</i>	Accepted	Data Deficient	-	-	-	-	-	2	Send Request
8	<i>Austrocactus bertini</i>	Accepted	-	-	-	II	-	-	8	Send Request

61% of Red Listed taxa in cultivation

Red List Rhododendron taxa 1,232

By country of origin the poorest representation in cultivation and considering red listed taxa are PNG (29%), Indonesia (37 %) followed by Malaysia (56%)



Identify and Prioritize species

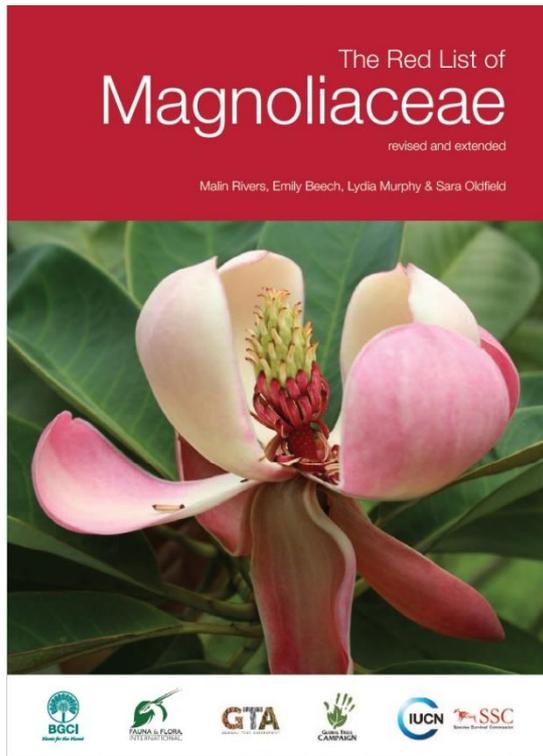


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Case study: Global Conservation Consortium for Magnolias

Threatened species



Red List Magnolia species 303

Ex situ collections

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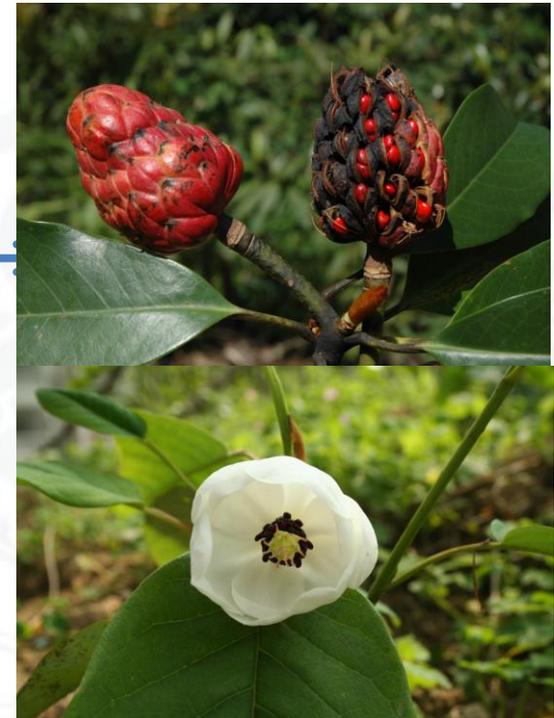
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 Threatened Global Trees Campaign species

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8	<i>Austrocactus bertinii</i>	Accepted	-	-	-	II	-	-	8	Send Request

36% of Red Listed taxa in cultivation

Priority species for conservation



Establish and manage *ex situ* collections

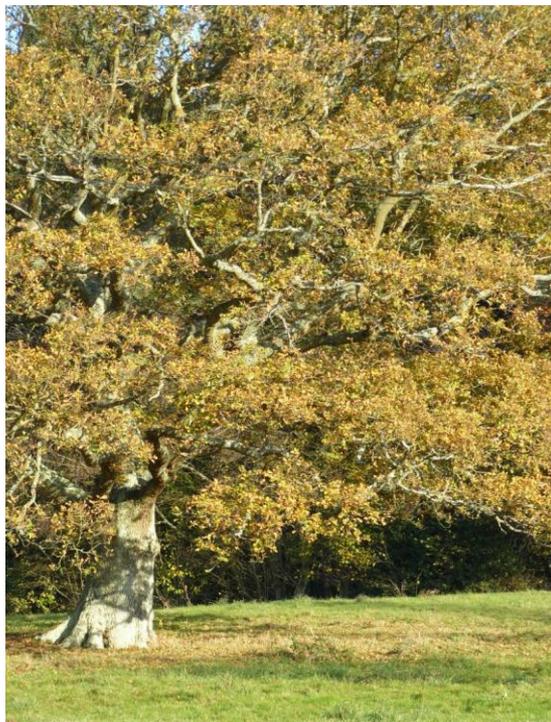
Develop and coordinate efficient and prioritized collection strategies.

For each species:

- identify a “**Species Champion**” institution (ideally *in situ* or “near situ”), who manages the target species’ multisite collection data, recruits safe sites (i.e. collection holders), coordinates collection efforts and germplasm distribution, etc
- identify “**Safe Sites**” that together constitute the multisite collection for preserving the full breadth and depth of genetic diversity for the target species.

Establish and manage *ex situ* collections

Case Study: US Threatened Oaks



In 2017 *ex situ* survey by the Morton Arboretum revealed that of the 28 most threatened oaks native to the US:

- 8 species in ≤ 5 collections
- 5 species only in European collections
- 8 species represented by ≤ 10 individual plants
- 6 species represented by ≤ 5 plants of known wild origin
- 1 species not in any *ex situ* collection (*Q. tardifolia*)

Morton Arboretum, BGCI US, ArbNet and US Forest Service are ensuring that the genetic diversity of US threatened oaks is preserved in robust and representative living collections, “**Species Champions**”

Ensure that threatened species are conserved *in situ*

- Gather information regarding current *in situ* programmes in each country of origin
- Develop and implement conservation projects based on results of previous steps, such as population reinforcement, reintroduction, assisted migration and/or *in situ* breeding programs

Build capacity



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- Review and build capacity including training, infrastructure, training resources, mentorship, staff exchange opportunities.
- Develop the capability to sustain conservation actions independent of long-term Consortia support



Increase public awareness and engagement



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- Engage and encourage a diverse range of stakeholders to protect and promote conservation of threatened taxa as part of their work/daily lives.



- Promotion through website, Twitter, Facebook
- Press
- Conferences
- Community engagement
- Non tree conservation focused NGOs

Contact us!



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GLOBAL
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CONSORTIUM

MAGNOLIA

Global Consortium Lead:

Atlanta Botanic Garden

Emily Coffey

ecoffey@atlantabg.org

Consortia Coordinator:

BGCI

Dan Crowley

dan.crowley@bgci.org

<https://www.bgci.org/our-work/projects-and-case-studies/a-global-conservation-consortium-for-magnolia/>



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Connecting People • Sharing Knowledge • Saving Plants

Our Mission is to mobilise botanic gardens and engage partners in securing plant diversity for the well-being of people and the planet

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