



Global
Conservation
Consortium

Oak



GCC

About the Global Conservation Consortium for Oak

The Global Conservation Consortium for Oak brings together the world's oak experts, conservationists, and the botanic garden community to ensure that no wild species of oak becomes extinct.

No one garden or arboretum can or should conserve all of the world's threatened oak species, so a coordinated, global effort is needed. Led by the Morton Arboretum in collaboration with BGCI and dozens of other partners, the Global Conservation Consortium (GCC) for Oak was launched to prevent extinctions and ensure healthy oak species and populations for the future.

The goal of the GCC for Oak is to mobilize a coordinated network of institutions and experts who work collaboratively to develop and implement a comprehensive conservation strategy to prevent the extinction of the world's oak species.

The Global Conservation Consortia are coordinated by BGCI. Contact us ggc@bgci.org.



**BOTANIC
GARDENS**
CONSERVATION
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About Oak

Comprising around 450 species, oaks are found in forest and shrubland ecosystems throughout the northern hemisphere.

As keystone species, they exhibit an astonishing array of morphological and ecological diversity, thriving in the subtropical forests of southeast Asia, the deserts of Mexico, and the temperate hardwood forests of North America.

Their two centers of diversity are in Mexico and eastern Asia, both of which harbour nearly 200 native species.



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Lead Institution

The Morton Arboretum
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THE
CHAMPION
of **TREES**

Current Steering Committee Members:



Dr. Silvia Alvarez-Clare
The Morton Arboretum
United States



Dr. Murphy Westwood
The Morton Arboretum
United States



Allen J. Coombes
Jardin Botanico
Universitario BUAP
Mexico



Dr. Maricela Rodriguez
Mexico



Dr. Hoàng Văn Sâm
Vietnam National
University of Forestry
Vietnam



For questions or more information, or if you are interested in learning more about current GCC for Oak activities please contact [Amy Byrne](#), GCC for Oak Coordinator or [Karina Orozco](#)

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Uses

Oaks are prized for their sturdy timber and are valuable sources of wood for building ships, wine barrels, and fine furniture.

They are the source of many other non-timber products such as cork, tannins and nutritious acorns for feeding livestock.

These iconic trees grace the flags of many nations and states and hold cultural and religious value for people around the world.



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Threats

Despite their great economic, ecological, and cultural value, many oaks are under threat of extinction. Threats including habitat destruction, climate change, modification of natural systems, pests, and diseases are impacting oak populations around the world.

As part of the Global Tree Assessment, The Morton Arboretum leads efforts to compile IUCN Red List threat assessments for all of the oak species. [The Red List of Oaks](#) (Carrero et al., 2020) reveals that at least one-third of the world's oak species are at risk of extinction.

This report, including a comprehensive *ex situ* collections survey, was published in 2020, updating the 2007 Red List of Oaks (Oldfield and Eastwood, 2007) including more than twice the number of species previously assessed.



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Conservation Action

Species identified as at risk of extinction require conservation action to ensure that they not only survive but are also resilient to the myriad threats they face.

This entails protection of threatened wild populations of plants in their natural habitats, and *ex situ* conservation in botanic gardens and seed banks.



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Conservation Action

Because oaks are “exceptional species” – their acorns do not survive the low temperature and humidity conditions of a standard seed bank – these species require alternative methods for effective *ex situ* conservation of genetic diversity.

Living collections of trees and cryopreservation of embryos and vegetative (growth) tissues are two solutions to this challenge, but these require more time, expertise, and management than standard seed banking.

Thus, oaks are in urgent need of a coordinated, global effort to efficiently and effectively preserve species and populations both in their native habitats and in *ex situ* collections.



Operational Regions

United States

There are 91 native US oaks. The GCCO is focusing on 29 species of conservation concern, under the coordination of [Amy Byrne](#) (The Morton Arboretum).

Mexico and Central America

Mexico is an important centre of diversity for oaks with more than 168 species distributed across multiple habitats, with around 32 species that are threatened in the wild. Dr. Maricela Rodriguez is coordinating the GCCO in Mexico and Central America, focusing efforts on the priority, threatened and Data Deficient species in this region, outlined in The Red List of Oaks 2020 report.

China

With around 117 oak species, of which 36 are threatened, China is another important diversity hotspot for oaks. Dr. Yi-Gang Song from Shanghai Chenshan Botanical Garden is coordinating oak conservation efforts in this region, focusing on the priority threatened, and Data Deficient species, outlined in The Red List of Oaks 2020 report.

Southeast Asia

There are around 86 oak species in Southeast Asia. 36 species are threatened. Dr. Hoàng Văn Sâm and other partners are coordinating efforts in Vietnam, Laos, Thailand and Cambodia. Focus in this region is on the priority threatened, and Data Deficient species, outlined in The Red List of Oaks 2020 report.

