Quercus meavei seedlings at the INECOL nursery in Xalapa, Veracruz, Mexico. Photo by Tarin Toledo Aceves.

Global Conservation Consortium for Oak

2025 Annual Report

Prepared by Lead Institution, The Morton Arboretum

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Global Conservation Consortium
Oak
LED BY
The Morton Arboretum

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Quercus arkansana acorns. Photo by Jared Chauncey.

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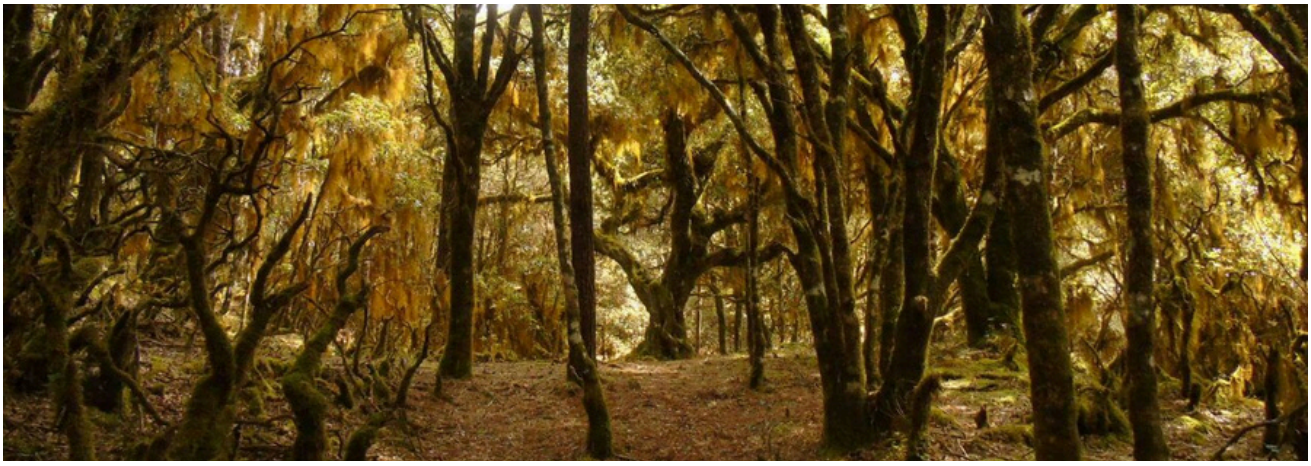


Quercus macdougalii in Mexico. Photo by Nelly Pacheco.

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

The GCCO is led by the Morton Arboretum, in collaboration with Botanic Gardens Conservation International (BGCI) and dozens of other partners.

The goal of the GCCO 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. It was formed to deliver integrated conservation of oak species through practical *ex situ* (in cultivation) and *in situ* (in the wild) conservation and disseminate species recovery knowledge.

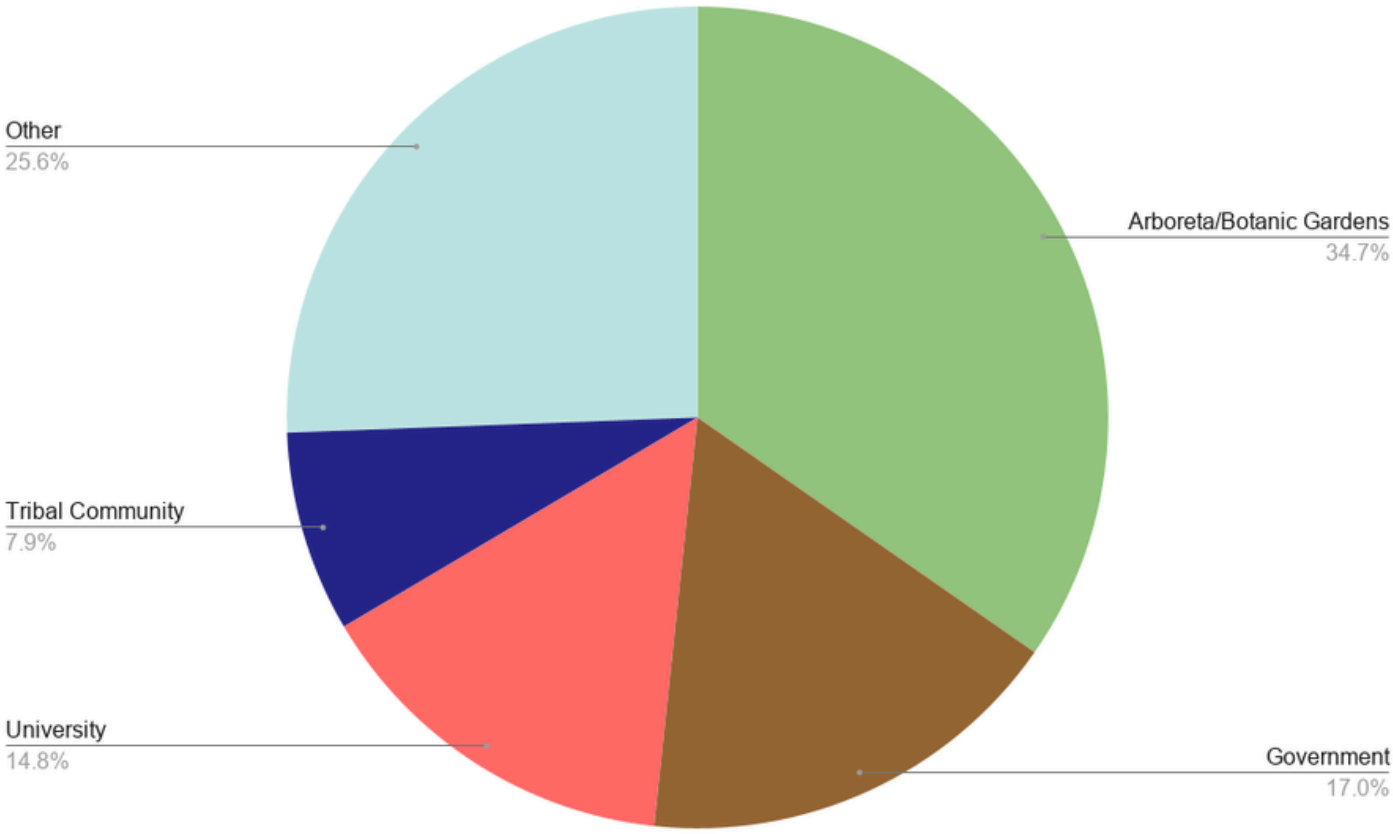
To officially join the GCCO and receive all communications, news releases, and other important updates, members are encouraged to become Affiliates via the BGCI website. Click here to join.

GLOBAL ACHIEVEMENTS

Communications & engagement

In 2025, 28 new readers subscribed to receive the GCCO quarterly newsletter, totaling 756 recipients, representing 39 countries. The newsletter is one of the main ways for GCCO leadership and members to share updates about oak conservation, upcoming events, funding opportunities, and more. View past GCCO newsletters on The Morton Arboretum website.

Insights from 2025 data reveal that one-third of our mailing list is made up of botanic garden and arboretum staff, and one-quarter represents various non-profit organizations, conservation groups, and independent oak conservationists (Other).



GCCO mailing list by sector

The GCCO network involves hundreds of members who participate in regional meetings, technical working groups, and more. Among these participants, the GCCO recognizes Affiliates, those who have officially applied to be part of the consortium on the GCCO website, for a variety of reports and other engagement metrics. In 2025, GCCO membership grew from 165 Affiliates at the start of the year to 182. Since 2024, members from over 60 institutions are currently serving as Species Stewards for 30 out of 30 priority oak species of conservation concern in the US region. In Mexico and Central America, 27 Species Stewards are currently supporting conservation for 26 out of 59 regional priority species.

In an effort to share oak conservation research and further engage network members, GCCO leadership also helped to organize and participate in a number of virtual and in-person events:

- The International Oak Society (IOS) and GCCO **collaborated to co-host four virtual webinars in 2025**, sharing oak-related research, conservation work, and other tools from around the world. The GCCO and IOS will continue to co-host these virtual meetings into the future to facilitate interaction and engagement between the two networks. The webinar titles are listed below, and recordings can be accessed here by IOS members:
    - IOS Webinar #7: Regeneration of *Quercus macdougallii* in Sierra de Juárez and the Oaks of Martha's Vineyard and Polly Hill Arboretum
    - IOS Webinar #8: Conservation Actions for Five Endemic Mexican Oak Species and the Oaks at Bokrijk Arboretum
    - IOS Webinar #9. Acute Oak Decline and the Oak Collection at Shanghai Chenshan Botanical Garden
    - IOS Webinar #10: Consequences of Oak Diversification On Gall Wasp Communities, and the Oaks of Lebanon
- In 2025, the GCCO and its lead institution, The Morton Arboretum, celebrated **Reverse the Red Day** with a number of activities. A species pledge was submitted for *Quercus brandegeei*, the Arroyo oak, an endangered species endemic to Baja California Sur, Mexico. A press release about conservation work for this and several other species was published in collaboration with Chicago Botanic Garden, Shedd Aquarium, Brookfield

Zoo, and the Peggy Notebaert Nature Museum. GCCO Global Lead Silvia Alvarez-Clare was interviewed by ABC 7's livestreaming news about Reverse the Red Day with other conservation experts from Chicago Botanic Garden and the Shedd Aquarium.

Working Groups

- A new website launched for the Global Conservation Consortia working groups in 2025. You can now easily find all information such as meeting recordings, upcoming meeting dates, and sign-up sheets to join.
- The **Conservation Genetics Working Group** aims to unite professionals to communicate, collaborate, and develop best practices in conservation genetics to ensure the conservation of priority threatened species. In 2025, the group met three times, featuring presentations from collaborators on cycad genomics, genetic tissue sampling and preservation, ecological character displacement in oaks, and the Global Genome Initiative for Gardens.
- The **Conservation Planning for Plants Working Group** is intended to bring conservation practitioners together to share experiences and continue to move plant species from the assessment phase into planning and action, following the IUCN Species Survival Commission and Conservation Planning Specialist Group recommendations. In 2025, the group met three times to learn more about conservation planning, population viability analyses for plants, and *ex situ* conservation and translocation assessments.
- The **Cryopreservation Working Group** is working to communicate, collaborate, and stay informed on the best cryopreservation practices globally, contributing to the conservation of threatened plant species. The working group met three times in 2025 to discuss developing cryopreservation protocols for new species, and heard presentations on somatic embryogenesis and micropropagation for threatened species.

Species action plans

The GCCO's lead institution, The Morton Arboretum, is working closely with the IUCN SSC Conservation Planning Specialist Group to lead workshops and facilitate the development of conservation action plans for priority oak species. Groups of stakeholders from various sectors and fields of expertise participate in an inclusive discussion and collaboratively develop a long-term strategy for the conservation of a given species. Below is a summary of the advancements made by GCCO members as part of conservation action plans in 2025:

- An Action Plan for the Conservation of Oaks in the Upper Watershed of La Antigua River, Veracruz, Mexico was published in January by Instituto de Ecología, A.C. The plan focuses on ten key oak species from the tropical montane cloud forest in the upper La Antigua River watershed of southern Mexico (*Quercus calophylla*, *Q. corrugata*, *Q. cortesii*, *Q. delgadoana*, *Q. germana*, *Q. meavei*, *Q. paxtalensis*, *Q. pinnativenulosa*, *Q. sartorii*, and *Q. xalapensis*). View the action plan here.
- A conservation action plan for *Quercus hirtifolia*, an endangered oak endemic to Mexico, was published by the Jardín Botánico Universidad Autónoma Benemérita de Puebla. The publication, Conservation Action Plan for *Quercus hirtifolia* and Associated Oak Species in the Sierra Madre Oriental, Mexico, can be found on the Morton Arboretum website.
- A conservation action plan for *Quercus brandegeei* was published in English and Spanish by The Morton Arboretum and collaborators. *Quercus brandegeei*, "el encino arroyero" in Spanish, is an endangered oak that grows along seasonal streambeds, endemic to Baja California Sur, Mexico. Find the publication on the Morton Arboretum website.
- In late November, the GCCO and the California Wildlife Foundation's California Oaks program hosted a conservation action planning workshop for Blue oak (*Quercus douglasii*) and Valley oak (*Q. lobata*). This workshop included over 20 participants from ranches, land trusts, conservation organizations, and universities who gathered to discuss the species threats and outline conservation goals to implement over the next five years. This

- action plan workshop was the final step in Amy's Development Pathway Program with IUCN's Conservation Planning Specialist Group (CPSG). With the completion of this workshop, Amy is officially one of approximately 15 GPSG trainers globally.
- The GCCO and San Diego Zoo Wildlife Alliance coordinated a two-day "Oaks of the Californias" workshop in December. On the first day, over 20 participants representing more than 10 institutions from southern CA, USA and Baja California, MX, attended to work together to update the Oaks of the Californias Action Plan. On the second day, over 75 participants representing more than 45 institutions were in attendance to present and learn more about the ongoing conservation and research efforts for oak species across California, USA and Baja California, MX.

Oaks of the Californias workshop participants at the San Diego Zoo. Photo by San Diego Zoo Wildlife Alliance.

Quercus engelmannii sapling with acorns developing. Photo by Karina Orozco.

REGIONAL ACHIEVEMENTS

United States

The GCCO-US focuses on 30 species of conservation concern, 28 of which are highlighted in the Conservation Gap Analysis of Native US Oaks (Beckman et al., 2019). *Quercus cornelius-mulleri* and *Q. depressipes* were added to the list of priority species following the publication of the gap analysis.

The GCCO-US is split into three sub-regions based on where the species of concern are distributed geographically:

- Western US
- Texas/Southwestern US
- Eastern US

Communications & engagement

- In May, several GCCO partners organized a plant survey workshop with the Viejas Band of Kumeyaay Indians environmental team. Activities included a vegetation survey to identify native and invasive plant species using citizen science applications, and presentations from local conservation NGOs to highlight their work and how it may support the interests of Tribal Nations. Collaborators included San Diego Botanic Garden, The Morton Arboretum, the Resource Conservation District of Greater San Diego County, San Diego Zoo Wildlife Alliance, River Partners, UCSD Natural Reserve System, and USFS, who all played a role in supporting this workshop. Some members of the Tribal youth also participated in planting and conservation inspired art activities.
- The San Diego Zoo Wildlife Alliance (SDZWA) received of publicity in early July for adding the endangered Nutall's scrub oak (*Quercus dumosa*) to its Frozen Zoo, including a press release, CBS article, and Instagram post. This marks the first time that plants have been added to the Frozen Zoo at SDZWA, and the first time that *Q. dumosa* has been placed into cryopreservation. Former SDZWA postdoctoral researcher Joe Ree harvested the somatic embryos that were placed in the Frozen Zoo.

Collaborators from the Viejas Band of Kumeyaay Indians Tribal Government, San Diego Botanic Garden, and San Diego Zoo Wildlife Alliance post-tree planting.

Capacity building

- Two new modules are available in the Center for Plant Conservation (CPC) Applied Plant Conservation Course, including "Propagation and Horticulture of Rare Plants" and "Tools & Partnerships." In module 8, you will find the section Special Considerations for Oaks, which features several partners from the San Diego Zoo Wildlife Alliance horticulture team and their work propagating *Quercus cedrosensis*! Watch to learn more about their experience with air layering, micropropagation, and identifying viable acorns in the field.

Metacollection development

- Partners from USFS Region 8, Bartlett Tree Research Laboratories & Arboretum, North American Land Trust, and the GCCO gathered for a third annual oak planting at the Francis Marion National Forest in South Carolina. The seed orchard at this site was chosen in collaboration with the USFS to host a conservation grove for the vulnerable oak species *Quercus austrina*, or Bluff oak, which is native to the U.S. southeast. The GCCO has made an effort to collect survival and growth data on seedlings planted here since 2023. Around 40 seedlings were planted in 2025.

Quercus austrina seedlings ready for transplant. Photo by Karina Orozco.

Funding opportunities

- **APGA Tree Gene Conservation Partnership grants** led by GCCO members and collaborators were completed in 2025:
  - *Scouting and Collecting Quercus dumosa*, San Diego Zoo Wildlife Alliance
  - *Scouting, collection, and conservation of Quercus oglethorpensis*, Atlanta Botanical Garden
- Additionally, multiple GCCO members and collaborators in the U.S. were awarded **Oak Conservation and Research Grants** by the International Oak Society in 2025, including:
  - *Epigenetics as a Potential Mechanism of Rapid Response to Climate Change in the Endangered Oak Quercus hinckleyi*, Oklahoma State University
  - *Identification of Somatic Variation in Cryopreserved Oak Species*, Cincinnati Zoo and Botanical Garden
  - *Preserving the Future of the Vulnerable Endemic Species Quercus arkansana*, Norfolk State University
  - *Resolution of Priorities in Taxonomy, Ecology, and Conservation of Quercus austrina*, Holden Forests and Gardens

Quercus cedrosensis. Photo by Greg Bluffin.

Quercus meavei acorns.
Photo by Tarin Toledo Aceves.

REGIONAL ACHIEVEMENTS

Mexico & Central America

The GCCO-Mexico and Central America is focusing on the conservation and research for 59 threatened and data deficient species, which are highlighted in the Conservation Gap Analysis of Native Mesoamerican Oaks (Good et al., 2024).

Communications & engagement

- GCCO Mexico & Central America Coordinator Dr. Maricela Rodríguez-Acosta gave a lecture to biology students at the University of El Salvador, organized by Professor Gabriel Cerén. The lecture, "The Oaks of Mexico and Central America: El Salvador," focused on sharing recognizable characteristics of oaks that allow for their identification to support.
- The Morton Arboretum, in collaboration with Centro de Investigaciones Biológicas del Noroeste S.C., held a Forest Immersion Program in Baja California Sur, Mexico. Educational activities and sessions related to the *Quercus brandegeei* conservation project were implemented to provide 10 teachers in grades 6-12 in the Chicago region with the opportunity to gain hands-on field experience and research projects in tree conservation. These experiences will provide valuable opportunities for educators to connect their experience to classroom teaching and curriculum.
- The first meeting for GCCO Mexico and Central America Species Stewards was held in October as a satellite meeting prior to the 11th International Oak Society Conference in Oaxaca, Mexico. This event, organized by Dr. Maricela Rodríguez Acosta, Amy Byrne, and Karina Orozco, brought together 33 members of the GCCO Mexico and Central America region. More than 15 presentations detailing oak conservation projects, community engagement, and research were shared, followed by a discussion session to identify shared challenges and potential points of collaboration.

Left: Participants in the GCCO Mexico & Central America Species Steward meeting. Right: Members of the 2025 Forest Immersion Program cohort.

- A symposium on the current conservation of Mexican oaks was organized as part of the XXIII Congreso Mexicano de Botánica. The symposium, coordinated by Dr. Maricela Rodriguez Acosta and Dr. Susana Valencia Ávalos, featured 10 presentations on topics related to taxonomy, morphology, diversity, genetics, and macroecology. Progress made on oaks through the GCCO (Center for the Conservation of Oaks) was also presented. Participants agreed that meetings like these are crucial for collaboration, and that taxonomy remains a fundamental basis to support other oak-related studies.

Capacity building

- GCCO partners visited the Ejido Ajusco in Baja California to monitor the growth of *Quercus agrifolia* seedlings in the community greenhouse and to see native populations of *Q. cedrosensis*. Suggestions for improved seedling health included sowing seeds directly into nursery bags, improving substrate with sand, installing irrigation and ventilation systems, and closing greenhouse doors to reduce pests. The team later visited an area where *Q. cedrosensis* occurs and observed poorly developed, dry acorns and little evidence of regeneration, suggesting the species may be in decline. GCCO members also demonstrated proper collection techniques.
- A working meeting to establish a network of tree nurseries in Baja California was held at the Faculty of Marine Sciences at the Autonomous University of Baja California (UABC) in August. A total of 15 participants attended, representing the Ministry of Agriculture and Rural Development (SADER), the National Commission of Natural Protected Areas (CONANP), the La Puerta Foundation, the Ajusco Ejido, the UABC Foundation, and Pronatura. Dr. Hiram Rivera Huerta (Professor at UABC and GCCO Species Steward) and Dr. Maricela Rodríguez gave presentations to the group regarding oak conservation challenges and potential projects.
- During the months of May and June, training workshops were held to share the interactive module “A Training Program for Oak Stewards.” These trainings were led by Carmen Alvarez, a collaborator of the GCCO Mexico & Central America. Participants included a small group from El Salvador

and a group from the Tajpianij Collective of Cuetzalan del Progreso, a network of high schools in Puebla. As a result, 12 new Species Stewards received their certification.

Dr. Maricela Rodríguez Acosta and Dr. Hiram Rivera Huerta with Juan Jesús of the Ejido Ajusco in the community greenhouse.

Participants in the oak conservation symposium during the XXIII Congreso Mexicano de Botánica in Tabasco, Mexico.

- An August workshop titled “Techniques for Field Identification and Acorn Propagation of Oaks (Quercus sp.)” was organized by the GCCO and collaborators and held at the Municipal Environmental Training Center, Parque Escuela, Concepción Las Minas. Aimed at forestry technicians, specialists, nursery owners, and others interested in native species conservation, the workshop was attended by 28 people from institutions including CONAP, CUNORI, USAC, and the Municipality of Concepción Las Minas.
- GCCO collaborator Maura Quezada Aguilar (Herbarium Director, Universidad de San Carlos de Guatemala), Valerie Lenis (RaMP Research Aide, The Morton Arboretum) and Silvia Alvarez-Clare (GTCP director and GCCO Global Lead, The Morton Arboretum) organized and co-facilitated a National Checklist of Native Tree Species of Guatemala workshop with primary partners at the University San Carlos of Guatemala in Guatemala City. The meeting brought together 20 local Guatemalan participants, including ecologists, biologists, and agronomists, as well as volunteers, coordinators, and project leaders. The main objective of the workshop was to systematically review a preliminary list of all native tree species of Guatemala, validating certain criteria that can serve as a reference for future research, threat assessments, and conservation actions.
- The Morton Arboretum Global Tree Conservation Program (GTCP) and Herbarium hosted a collaborative oak taxonomy and conservation meeting with Puebla Botanic Garden (BUAP) and GCCO members in Puebla, Mexico in March. Kate Good, Andrew Hipp, Marlene Hahn, and Kieran Althaus represented The Morton Arboretum. Fifteen participants from the United States, Mexico, and Guatemala were in attendance. The goals of the meeting
- included strengthening collaboration between the US, Mexico, and Central America, identifying taxonomic issues related to potential conservation actions, coordinating herbarium specimen work, beginning to reconcile taxonomic concepts, and identifying priorities for oak conservation in Mesoamerica.

Funding opportunities

- GCCO leads and partners including INECOL (Xalapa, Mexico), Benemérita Universidad de Puebla Botanic Garden (Puebla, Mexico), and Asociación Pronatura Agathos (Alajuela, Costa Rica) completed a **2022-2025 Franklinia Foundation grant**, "Safeguarding Threatened Tropical Montane Cloud Forest Oaks in Mesoamerica," in June 2025. This project contributed to over 20,000 native and threatened cloud forest tree species being planted in degraded habitat, as well as increased regional capacity for oak conservation in Costa Rica and Mexico.
- Various GCCO members and collaborators in Mexico and Central America were awarded **Oak Conservation and Research Grants** by the International Oak Society in 2025, including:
  - *Conservation of Two Threatened Oak Species in Western Mexico Through Local Production and Environmental Education*, Vallarta Botanical Garden
  - *Distribution and Conservation of Quercus nixoniana in Guerrero, Mexico*, Universidad Autónoma de Guerrero
  - *Oaks: The Backbone of Mexico*, Jardín Botánico Benemérita Universidad de Puebla
  - *Priority Oaks at the Confluence Between Nuevo León and Tamaulipas, Mexico*, Universidad Autónoma de Tamaulipas
  - *Restoration Nursery for Four Oak Species of Rancho Encinalito and UCAS*, University of California Santa Barbara
  - *Targeted Removal of an Invasive, Weedy Vine (Cryptostegia grandiflora) from Critical Habitat of Quercus brandegeei*, an Endangered Mexican Oak, The University of Chicago/ The Morton Arboretum
  - *Roots of Resilience: Strengthening the Future of Quercus insignis in Monteverde Through Conservation, Reforestation, and Community Engagement*, Monteverde Institute

Quercus myrsinifolia acorn.
Photo by Queen Sirikit Botanical Garden.

REGIONAL ACHIEVEMENTS

Southeast and East Asia

GCCO Southeast and East Asia, thus far, has been coordinated by numerous partners in Vietnam, Laos, Thailand, Malaysia, Indonesia, and South Korea. This region focuses on 53 oaks of conservation concern including threatened and data deficient species (Good *et al.*, in prep).

Communications & engagement

- In late May, GCCO leadership and The Morton Arboretum staff hosted a delegation from the Korea Arboreta and Gardens Institute (KoAGI) to identify potential areas of collaboration. The delegation shared a presentation in the morning about their work and highlighted one of the institutions within the network, Baekdudaegan National Arboretum. During the visit, they had a chance to meet with arboretum President & CEO Jill Koski to discuss opportunities for oak conservation, learn about ongoing plant development projects, tour the oak collections, meet various lab and program teams, and explore the herbarium.
- GCCO Global Coordinator Amy Byrne, Kim Shearer (Director of Collections and Curator at The Morton Arboretum), and Adam Black (Director of Horticulture, Botanical Research and Conservation at Bartlett Tree Research Labs and Arboretum) visited partners at the Korea Arboreta and Gardens Institute (KoAGI) in September. Prior to the visit, The Morton Arboretum and KoAGI signed a Memorandum of Understanding to execute an official partnership to work together on oak and other priority tree conservation and research projects such as conservation collections development, professional staff exchange, and hosting joint training workshops. This will will further support the conservation of oaks and other threatened trees in Korea. Their visit included a celebration of the signed MoU, surveying native oak populations for acorn collecting, discussing potential joint projects, and presenting work to KoAGI staff.

KoAGI and Morton staff in the field surveying for threatened oak species.

Members of the Korea Arboreta and Gardens Institute with Morton Arboretum staff during their visit and tour of the grounds.

Capacity building

- Fieldwork started in 2025 for an International Oak Society-funded project on Population Mapping, Reinforcement, and Reintroduction of the Oaks of Peninsular Malaysia. The project is led by Dr Joeri Sergej Strijk of the Alliance for Conservation Tree Genomics (ACTG), and is supported by Universiti Kebangsaan Malaysia (UKM) and the Forest Research Institute Malaysia (FRIM). Research focuses on the establishment of a nursery and seed collecting program in the Fraser's Hill mountain range for all nine oak species found in the Peninsula, tree planting in selected protected areas to increase population sizes and applying SDM to compile niche models allowing for the creation of current and future potential habitat maps to help inform conservation efforts.

- The Fondation Franklinia project, *Conservation and range restoration of ten threatened Fagaceae species in Laos and Vietnam*, led by Morton Arboretum, Alliance for Conservation Tree Genomics and partners in Vietnam, Dalat University, and Laos Ministry of Education and Sports, and French National Research Institute for Sustainable Development, wrapped year 1 activities. In year 1, project team members successfully established a new conservation nursery dedicated to Fagaceae conservation near Nakai-Nam Theun National Park, Laos, trained and empowered over 100 stakeholders across diverse sectors,in Fagaceae identification, propagation practices, nursery development, and tree conservation and reforestation techniques, expanded the known range of priority species through targeted field surveys, and secured over 8600 seeds. (5161 in Laos, 3000 in Vietnam) for propagations within project nurseries.
- The GCCO, with support from local partners including Dr. Joeri Strijk of Alliance for Conservation Tree Genomics (ACTG), Dr. Oudomphone Insisiengmay (Life Science Research Centre, Science and Innovation Research Institute, Ministry of Education and Sports, Laos) and Dr. Nguyen Van Ngoc (Dalat University, Vietnam), developed 10 identification sheets for *Quercus* and other Fagaceae species native to Vietnam and Laos. The

Left: Seeds and leaves from from various Fagaceae species. Right: Hands on demonstration during the conservation workshop at the Vietnam National University of Forestry. Photos by Chai-Shian Kua.

identification sheets are available in English, Vietnamese and Laos for local partners to utilize in the field when surveying for the species. The files in all three languages can be found here.

- A Conservation Gap Analysis of Select Native Asian Oaks led by Kate Good, Research Manager at The Morton Arboretum, was started in 2025. Kate, Amy Byrne, and Dr. Joeri Strijk (Alliance for Conservation Tree Genomics) worked to curate an occurrence dataset for 60 threatened and Data Deficient target species. Over six herbariums were visited to photograph vouchers of the target species, including Kew (United Kingdom), Forest Herbarium (Thailand), Queen Sirikit Botanic Garden (Thailand), and Herbarium of Andalas University (Indonesia). Accession data and associatedwild provenance details for the target species were requested from *ex situ* collections globally. The final report will be published in 2026.
- Over 100 participants from Laos and Vietnam, representing NGOs, universities, and local communities, attended in-country propagation training workshops to learn hands-on skills to apply to their Fagaceae tree restoration projects. These two workshops were co-hosted with Nakai-Nam Theun National Park, Vietnam National University of Forestry, Dalat University, French National Research Institute for Sustainable Development (IRD), Tropical Rainforest Conservation Research Center, and Alliance for Conservation Tree Genomics. Following the workshops, local tree nurseries were built to support the propagation efforts of the threatened tree species. The nurseries are managed by local partners in Laos and Vietnam.

Funding opportunities

- Various GCCO members and collaborators in Southeast Asia were awarded **Oak Conservation and Research Grants** by the International Oak Society in 2025, including:
  - *Oak Conservation in North Vietnam*, Silviculture Research Institute - Vietnamese Academy of Forest Sciences
  - *Population Mapping, Reinforcement, and Reintroduction of the Oaks of Peninsular Malaysia*, Alliance for Conservation Tree Genomic

Quercus honbaensis acorn. Photo by S. Tagane.

REGIONAL ACHIEVEMENTS

China

Dr. Yi-Gang Song from Shanghai Chenshan Botanical Garden and Dr. Min Deng of Yunnan University have coordinated oak conservation and research efforts for the GCCO in China. This region focuses on 36 threatened oak species for conservation (Carrero *et al.*, 2020).

Communications & engagement

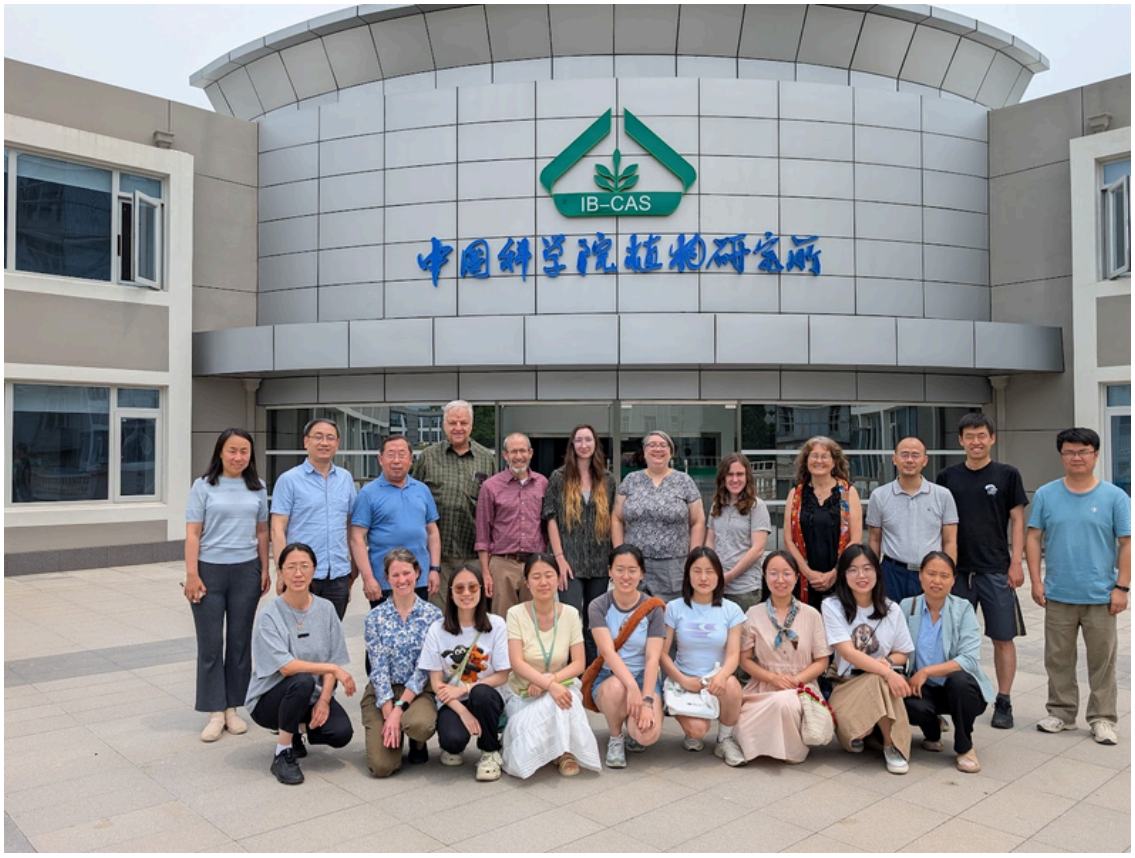
- GCCO collaborators at The Morton Arboretum, including Andrew Hipp (Herbarium Director, Plant Systematics Senior Scientist), Rebekah Mohn (Postdoctoral Researcher), and Alan Whittemore (Research Affiliate) attended a partner meeting in China, funded by the NSF–NSFC-funded Dimensions of Biodiversity Project *Consequences of diversity in Asian and American tree syngameons for functional variation, adaptation and symbiont biodiversity*. The project investigates how gene flow (hybridization and introgression) in white oaks of China and the U.S. shapes ecosystem functions of oaks. It also investigates scales and patterns of local adaptation in a Chinese oak (*Q. serrata*) and an eastern North American oak (*Q. macrocarpa*), as well as how readily oak populations are expected to evolve in response to climate change. The Morton team and colleagues from University of Minnesota, University of Oklahoma, Institute of Botany - Chinese Academy of Sciences (IBCAS), South China Botanical Garden (SCBG), and Beijing Forestry University shared research results; discussed papers and ongoing collaborations; and visited key experimental facilities near Jingdezhen, including BEF-China. Andrew gave an invited public lecture at IBCAS and met with GCCO collaborator Min Deng about their current research on the phylogeny of East Asian oaks; and both he and Rebekah gave invited public lectures at SCBG.

Capacity building

- A study for a student Master's thesis has been completed to prioritize threatened oak species for conservation in China. Vyan. (2026) Integrating climate projections and human footprint data to reassess conservation priorities for endemic oaks in the Indo–China Peninsula. [unpublished master’s thesis]. Yunnan University.

Funding opportunities

- GCCO collaborator Dr. Min Deng at Yunnan University was awarded an **Oak Conservation and Research Grant** by the International Oak Society in 2025 for her project, *Resolving the Taxonomic Identity and Conservation Status of Data Deficient Chinese Oak Species: An Integrated Approach.*



Attendees of the NSF–NSFC Dimensions of Biodiversity project meeting.

REGIONAL ACHIEVEMENTS

West Eurasia & North Africa

The GGCO Western Eurasia and North Africa group launched in 2024, and coordinated by Roderick Cameron. The group consists of many partners across the regions representing universities, NGOs, botanic gardens/arboreta, research organizations, government entities and more.

Quercus vulcanica.
Photo by Elif Deniz Ülker.

Communications & engagement

- Work in 2025 was structured around quarterly online meetings, featuring presentations from group members and one guest speaker:
  - Dr. Kevin Martin – Selection of oaks for future conditions at Kew
  - Dr. Jean Stephan – Oaks of Lebanon
  - Dr. Carlos Vila-Viçosa – Conservation Strategy for *Quercus canariensis*
  - Dr. Charalambos Neophytou (University of Natural Resources and Life Sciences, Vienna) – Introduction to the ACORN project
- In 2025, participants published articles in the International Oak Society's Species Spotlights series, highlighting threatened oaks in our region. These articles, now highly ranked in Google search results, have raised awareness of species often overlooked or poorly documented, including: *Quercus castaneifolia*, *Q. vulcanica*, *Q. carduchorum*, *Q. kotschyana*, and *Q. persica*. Read more on the IOS website.
- In July, this regional group adopted a five-year plan to guide future activities. It outlines a coordinated strategy to prevent oak extinction by mobilizing institutions and experts. The plan emphasizes germplasm collection, propagation, conservation (both *ex situ* and *in situ*), taxonomic revision, outreach, and fundraising. Roles are assigned to Affiliates, Species Stewards, and the Consortium Steering Committee. Success will be measured through indicators such as the appointment of Species Coordinators, expanded living collections, updated Red List assessments, revised taxonomy, digitized herbarium specimens, documented propagation protocols, species action plans, and submitted funding proposals. Regular meetings, fieldwork, and communication platforms will support collaboration and long-term impact. Key objectives include:
  - Prioritizing species of greatest conservation concern
  - Building and managing ex-situ collections
  - Advancing applied research
  - Ensuring in-situ protection
  - Strengthening local capacity
  - Raising public awareness
  - Securing funding

Building capacity

- In 2025, GCCO members of the West Eurasia & North Africa region developed two projects to collaboratively advance oak conservation for threatened and understudies species
  - **UK-based Oak Metacollection:** Led by Royal Botanic Gardens, Kew and modelled on the International Conifer Conservation Program (ICCP) run by the Royal Botanic Gardens Edinburgh, the Quercus metacollection (name to be defined) will aim to conserve threatened oak species in a network of collections in the UK (with plans to expand to Europe). Colleagues at Kew are preparing a project proposal with a view to start work in 2026. This project has huge potential to significantly impact oak conservation in the region and Kew is an ideal partner for GCCO to engage with in our efforts to save oaks from extinction in this region.
  - **White Oaks of Western Eurasia:** Researchers from Iran, Lebanon, Italy, Türkiye, and Portugal will collaborate to carry out ecological, morphological, and genetic studies of oak species in section Quercus (white oaks) in our region. Initiated through discussions at our quarterly meetings, the group has held separate meetings to discuss the project and evaluate options for funding. This will be an interesting project, involving taxonomical problems ranging from little-known species of debatable recognition and larger complexes like the Q. pubescens complex that involves many species or may not merit recognition at species level.

ACKNOWLEDGMENTS

Oak woodlands on Santa Cruz Island, California, U.S. Photo by Karina Orozco.

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