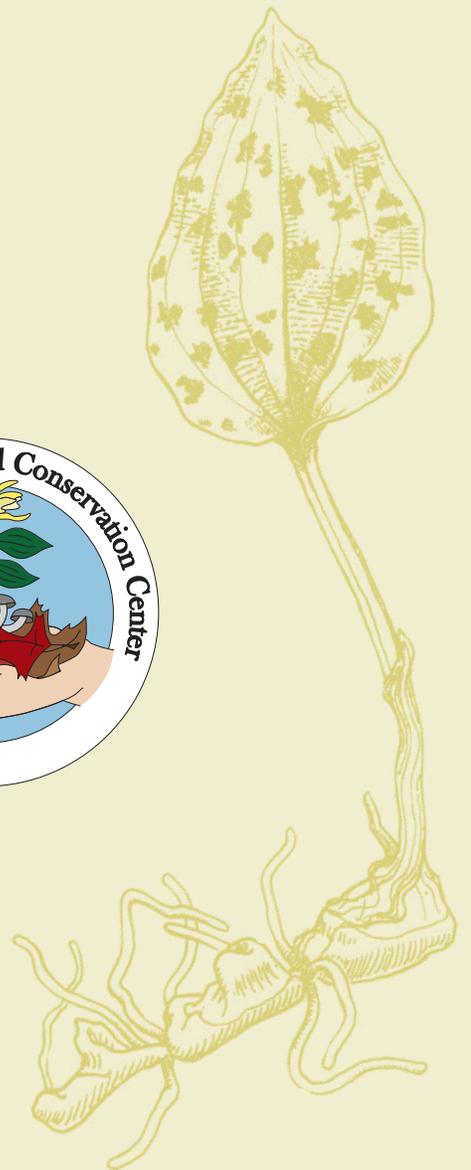


North American Orchid Conservation Center

A national public-private partnership to conserve orchids native to North America



What is NAOCC?

Why is it needed?



- The North American Orchid Conservation Center (NAOCC) is a partnership between the Smithsonian Institution, the U.S. Botanic Garden, public, and private organizations promoting biodiversity through orchid conservation.
- NAOCC will advance the conservation of native orchids through research, cultivation, restoration, and education.
- Orchids represent about ten percent of all plant species on earth. Many of the 25,000 known orchid species are threatened or endangered, including many of the more than 200 species in the U.S. and Canada.
- Orchids are the plant equivalent of “canaries in the coal mine” because the orchid life cycle makes them especially vulnerable to habitat alteration.
- To date, the complexity of the orchid life cycle has precluded any successful effort to fully restore a native orchid population. There is currently no centralized effort to overcome the challenges for the conservation, cultivation, and restoration of native orchids.
- NAOCC is the first national effort to bring together the resources to conserve, cultivate, and restore the biodiversity of all species in this flagship plant group.



The NAOCC Mission and Goals

The mission of NAOCC is to:

Conserve orchids native to the U.S. and Canada

The goals of NAOCC are:

- Develop a national seed bank that is representative of the genetic diversity of all orchid species in the U.S. and Canada.
- Develop a national collection of fungi that is representative of the genetic diversity of mycorrhizal fungi required by native orchids.
- Use seed and mycorrhizal fungus banks to develop techniques for conserving, cultivating, and restoring orchids in native habitats.
- Develop techniques to conserve the genetic diversity of all native orchids by cultivating them in a national network of botanic gardens and arboreta.
- Support efforts to conserve orchid populations through habitat conservation and restoration.
- Develop web-based materials that provides up-to-date information on the ecology, conservation status, and techniques for the cultivation of native orchids in the U.S. and Canada.



Our Organization

- NAOCC administration is based at the Smithsonian Environmental Research Center, which also serves as the primary research facility and one of the repositories for collections of orchid seeds and mycorrhizal fungi.
- The NAOCC Director will be guided by a Board of Trustees, a Scientific Advisory Board, and a committee composed of representatives of Smithsonian units, the U.S. Botanic Garden, and other partners.
- NAOCC supports orchid propagation and display, education, public outreach and research on orchid ecology, systematics and evolution.
- NAOCC partners with public agencies and private organizations committed to the conservation of native plant species.
- NAOCC partners with private landowners committed to the conservation and restoration of native orchids.
- NAOCC partners with at least one botanic garden in each North American ecoregion.
- Botanic gardens and public and private landowners assist NAOCC to:
 - ✓ develop techniques for cultivating and displaying native orchids,
 - ✓ develop the national seed and mycorrhizal fungal collections,
 - ✓ develop and implement educational materials and,
 - ✓ develop protocols for restoring orchids to native habitats.



NAOCC Development—Phase I

(Years 1–3)

INITIAL STAFFING – Hire NAOCC Director, one technician and one post-doctoral fellow.

ESTABLISH PARTNERSHIPS – Initiate development of the NAOCC seed bank and mycorrhizal fungal collections working with at least one regional botanic garden, one Federal agency, and one private landowner organization.

DEVELOP *IN VITRO* CULTURE PROCEDURES – Use the seed bank and mycorrhizal fungi collections to initiate development of protocols for growing native orchids.

DEVELOP *EX SITU* DISPLAY PROTOCOLS – Initiate development of protocols for growing orchids in display gardens at the Smithsonian, the U.S. Botanic Garden and at least one other botanical garden. These activities will serve as experimental models and procedures for future reintroduction plantings in restored habitats.

INITIATE RESEARCH – Initiate ecological studies, with appropriate Federal, state, and private partners, of at least one endangered or threatened orchid with a goal of developing protocols for restoration in native habitats.

COMMUNICATION – Develop nationally focused web-based educational materials that will encompass all aspects of the ecology, taxonomy, conservation, cultivation and restoration of native orchids, including facilitation of scientific data sharing.

Funding for Phase I has come from a grant from the Smithsonian, financial support from the USBG, and additional supporting funds from private gifts and donations.

NAOCC Development—Phase II

(Years 4–10)

COMPLETE STAFFING – Hire second post-doctoral fellow (3-year appointments), Research Curator of orchids at the National Museum of Natural History, Horticultural Curator of orchids (shared by Smithsonian Gardens, Smithsonian National Zoo, U.S. Botanic Garden), and two interns per year.

EXPAND COLLECTIONS – Meet or exceed the goal of 90% development of NAOCC orchid seed bank and mycorrhizal fungal collections.

COMPLETE CULTIVATION PROTOCOLS – Meet or exceed the goal of 50 percent development of protocols for growing native orchids.

GROW PARTNERSHIPS – Complete development of partnerships for growing and displaying native orchids in botanic gardens in each ecoregion.

BUILD ON RESEARCH – Continue to develop and implement studies leading to the restoration of all endangered or threatened native orchids, including their *ex situ* conservation in botanic gardens.

COMPLETE COMMUNICATION INFRASTRUCTURE – Complete development of nationally focused web-based educational component that will include relevant information on all native orchids.

Funding for Phase II, will come from Smithsonian Institution-funded positions, gifts, contracts and an endowment that will be funded by private donations raised through efforts of the NAOCC Director and Smithsonian Institution.





Learn more about NAOCC and how you can participate in its development by contacting Dennis Whigham at the Smithsonian Environmental Research Center
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