

PROJECT BACKGROUND



The state of Finland is committed to the implementation of the Global Strategy for Plant Conservation (GSPC). Hence, the proportion of threatened plant taxa in *ex-situ* conservation should be increased to 75% by 2020. At the moment only 11% of the red-listed vascular plants in Finland are in *ex situ* conservation, which shows a great need for the development of species conservation

WHO ARE WE?

ESCAPE is an EU LIFE2011 project coordinated by the Botany Unit of the Finnish Museum of Natural History (LUOMUS) at the University of Helsinki.

Associated beneficiaries are:

Botanical Gardens of the University of Oulu,
Natural Heritage Services of Metsähallitus and
Finnish Environment Institute.

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CONTACT DETAILS

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ESCAPE

1.9.2012–31.8.2017

EX-SITU CONSERVATION OF
FINNISH NATIVE PLANT SPECIES



Cephalanthera rubra © Mika Kalliovirta. Brochure 10/2013. All rights reserved.



WHAT DOES THE ESCAPE PROJECT DO?

ESCAPE aims at developing ex-situ conservation methods and enhancing the protection of threatened plant species in Finland.

WHAT IS *EX-SITU* CONSERVATION?

Ex-situ conservation is defined as protection of an organism 'off-site' i.e. outside its native habitat in zoos, aquaria, botanic gardens and gene banks. It complements *in-situ* conservation, which means species protection in its original environment.

WHY SHOULD WE CONSERVE *EX-SITU*?

Conservation in natural habitats (*in-situ*) is simply not enough. In Europe, the conservation status of more than half of the habitats and species listed in the annexes of the EU Habitats directive is classified as unfavorable, and the target of halting biodiversity loss by 2010 was not achieved. *Ex-situ* conservation is one way to stop the loss of biodiversity.



Maple seed © Imajilon – Creative Commons

LIVING COLLECTIONS, SEED BANK AND CRYOPRESERVATION

In botanic gardens, threatened plants are conserved as living plants in garden collections. To further ensure plant species conservation, a national seed bank for threatened native plant species has been established in the University of Helsinki Kumpula botanic garden.

For various reasons, some plants do not produce seeds that can be preserved in seed banks. For such species, an alternative *ex-situ* conservation method is cryopreservation which means preservation as frozen tissues in ultralow temperature. The technology and know-how for cryopreservation is provided by our ESCAPE partner, The Botanic Garden of the University of Oulu. Cryopreserved plant tissues will be

propagated in pure culture for future use, for example, when reintroducing species to their original localities.



Tissue culture © Marko Hyvärinen / Cryotank ©Annu Ruotsalainen

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REINTRODUCTIONS AND ASSISTED MIGRATION

Ex-situ conserved plants can be reintroduced to their original or, where necessary, ecologically restored habitats.

Additionally, new areas considered to provide more favorable living conditions as climate change proceeds, can be targeted, especially if the species dispersal to the favorable areas is limited.



Primula nutans © Marko Hyvärinen