



REPUBLIC OF ESTONIA
ENVIRONMENTAL BOARD

LIFE to alvars: Large-scale Estonian alvar grassland restoration in practice

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Alvar grasslands (6280* Nordic alvar and precambrian calcareous flatrocks)

- characterized by **openness** (maintained by **grazing**)
- **limestone** bedrock
- very **thin soil** layer (0-30 cm)
- plant and invertebrate communities are **rich in species**
- very **limited** distribution
- within the EU, the habitat is only found in **Sweden, Estonia** and minor areas in **Finland**



*The European Commission (DG ENV B2) commissioned the Management of Natura 2000 habitats.
6280 *Nordic alvar and precambrian calcareous flatrocks



Loss of the alvar habitat

Estonia has experienced a major **loss** of alvar grassland (**85%**) in the past 40 years due to:

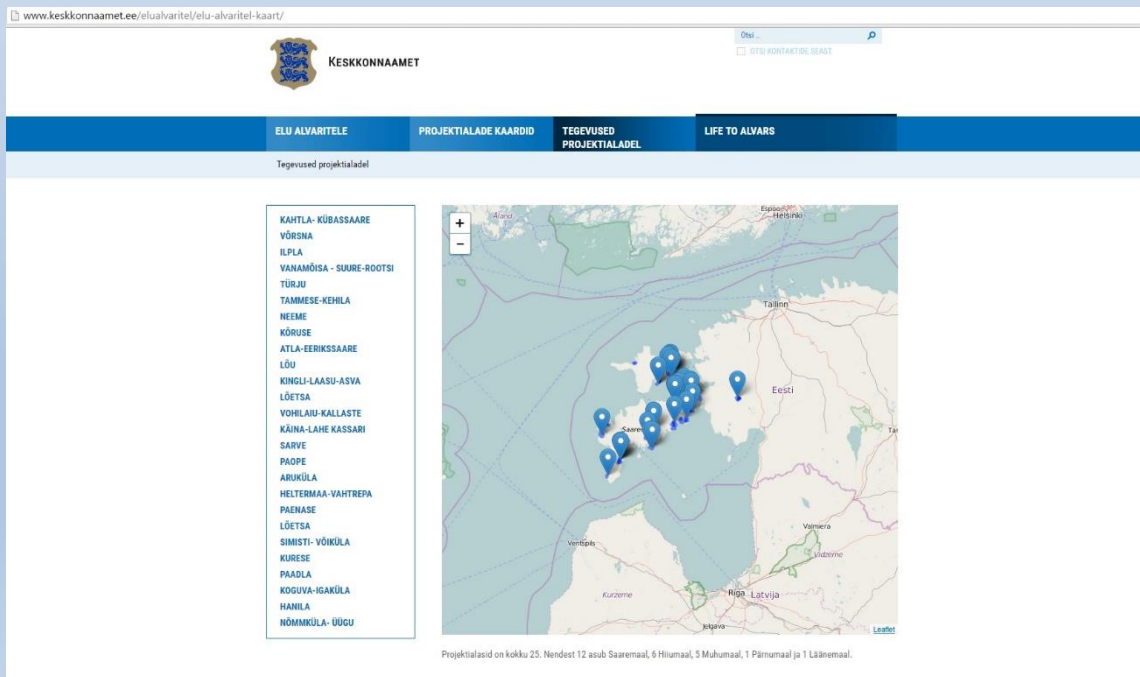
- **abandonment**
- **forestation**
- **inadequate grazing regime**

Main threat to the alvar grasslands is **overgrowing with junipers and pine trees** after grazing has ceased.



LIFE to alvars project

- LIFE to alvars project is targeting the **key areas** of alvar habitat in Western Estonia
- aiming to **restore 2500 hectares** of alvars
- re-establishing **grazing** in the restored areas
- increasing **awareness**



LIFE to alvars project

- Restoration process of the overgrown alvar starts with the **tree and shrub removal**
- Abandoned alvar grasslands are up to **80...100%** covered with junipers and pine trees
- **10...30%** of the trees and shrubs remain after the restoration process.



Large scale restoration challenges

- **Timeframe**
- **Traditionally** restored manually
- Little previous experience in **using machinery** at restoration work
- Little previous experience in large scale restoration **outcomes**



Large scale restoration in action

- 4 different types of forestry and communal machinery proved to be **successful restoration tools**



Large scale restoration results

- About 50% of the restoration work is carried out by now. Restoration is well visible from the orthographic photos. Works are going on privat lands – communication skills are most important: individual



Large scale restoration – keeping the result

- **GRAZING** must follow the restoration immediately!
- Otherwise the restored area is overgrown with leafy shrubs in few years.
- Part of the LIFE to alvars project is to build grazing infrastructure in all the restored areas.



Training of farmers

- 6 educational trips
- 6 farmer training events
- 2 exhibitions
- 1 app for the kids
- best practice guidelines
- webpage and FB page
- cooperation for new products:
-

juniper products stick for fences

meat and wool products

alvar plants seed collection





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Thank you!

More information on website:

<http://www.keskkonnaamet.ee/elualvaritel/life-to-alvars/>

or in Facebook LIFEtoalvars