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Protection, Management, and Monitoring of Old-Growth Forests: Insights from the Nature Conservation Agency

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Old-Growth Forest definition

The old growth forests have been described by the adjective primeval, ancient, wilderness, virgin, pristine while in forester's terminology they are called as over-matured, decadent, and senescent, old growth. The old growth forests may be defined as a climax forest that has never been disturbed by man. The old growth forests can be classified as per the age and disturbance criteria*.

- are all the forests in the nature reserves old-growth forests?
- does the limitation of forestry activity defined in regulatory acts mean that the forest will be old-growth forest?
- are all forest habitats of EU importance old-growth forests?

*European Environmental Agency definition

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Legislation and obligations

- Habitats Directive, Birds Directive, Natura 2000 network, Reporting obligations:
  - The aim - to maintain or restore the natural habitats and the populations of species of wild fauna and flora at a favourable status
- EU Biodiversity Strategy 2030, EU Nature Restoration Plan, EU Forest Strategy for 2030, EU Climate Change Strategy…

All EU states have obligations to protect, manage and monitor nature values, including EU forest habitats, protected species.

But how ready we are to collect data, monitor and report? Do we have enough resources ?

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Biodiversity Monitoring

- Environmental Monitoring Program 2021-2026 foresees four monitoring directions:
  - Air and climate change monitoring program;
  - Water monitoring program;
  - Earth monitoring program;
  - Biodiversity monitoring program

- NCA ensures the implementation of Biodiversity Monitoring program:
  - to monitor the status of specially protected species and habitats in Natura 2000 sites;
  - to evaluate the effects of natural and man-made factors on the observed habitats and species;
  - to update information on the trends of changes in the size of species populations and habitat areas in the country.

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Biodiversity Monitoring

Types of biodiversity monitoring:

- monitoring of Natura 2000 sites;
- background monitoring;
- special monitoring;
- invasive species monitoring.

Methodologies, reports, contracts - everything is available at NCA homepage

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The use of data from Biodiversity Monitoring and Environmental Indicators

- Political planning documents
- International reports - Birds and Habitats Directive reporting (Art.12&17 reporting, Invasive species reporting, Natura 2000 Data base, CDDA Data base,OECD, INSPIRE, open data, …)
- Since 2009, national environmental indicators, including 15 biodiversity indicators, have been set in national legislation (black stork, white stork, lesser spoted eagle, salmon, birds, butterfly species, dragonfly species , amphibians, etc.)

Environmental Indicators

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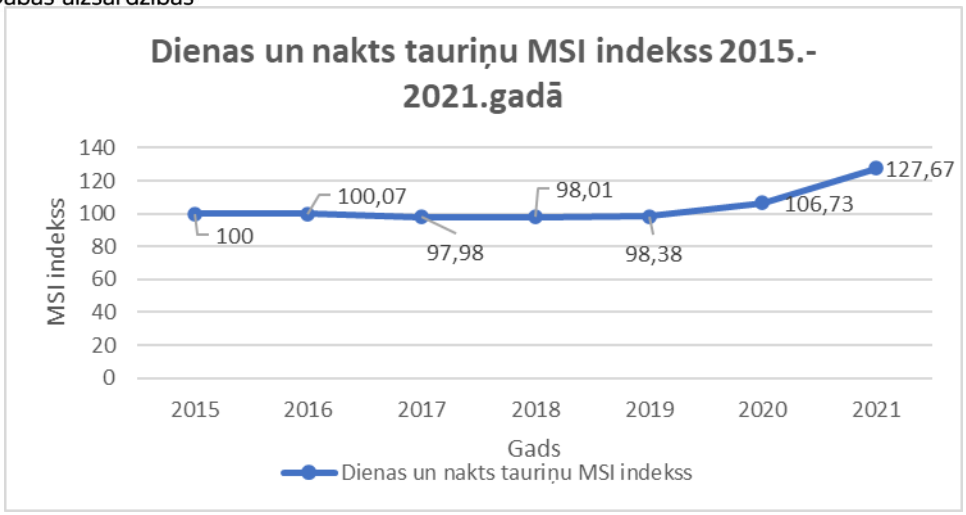

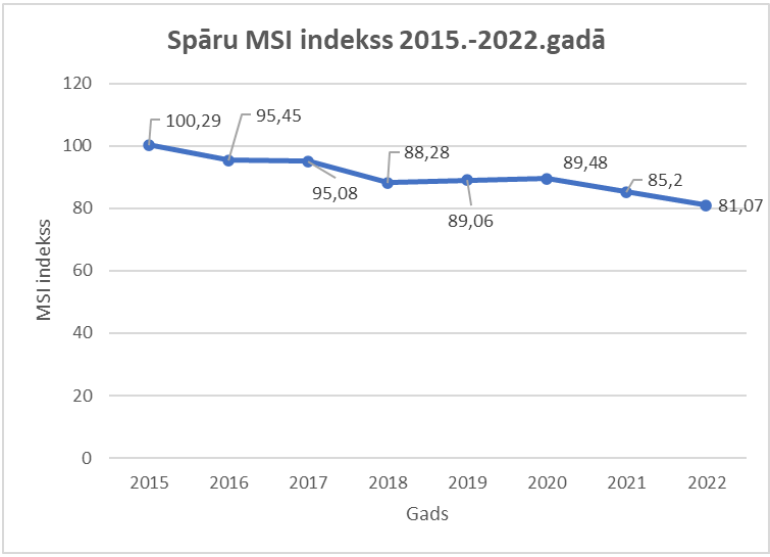

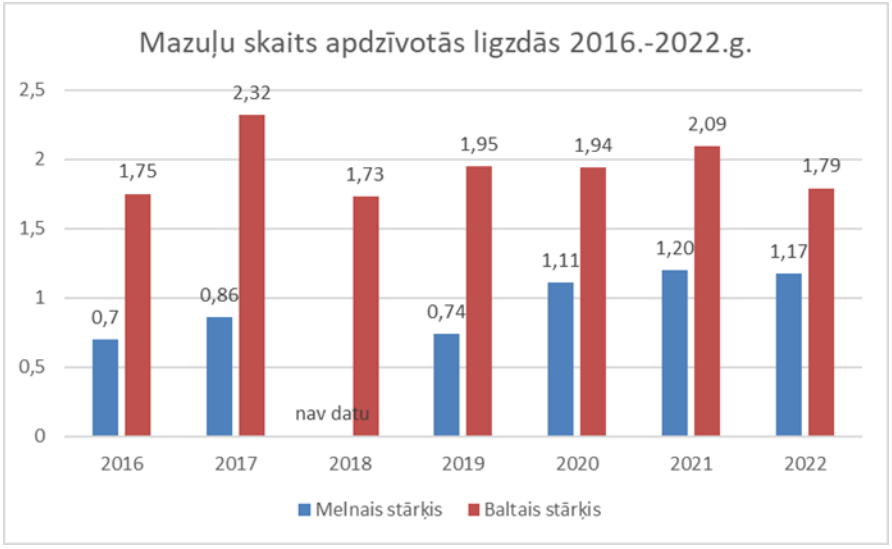

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Old-growth forest vs. biologically valuable forest

Signs of a biologically valuable forest:

- Forest longevity - biologically old trees, slow growing trees, dead wood, indicator species, specially protected species
- Structures - relief, natural hydrology, floodplains, etc.
- Forest stand quality - multi-age stand, number of species, under-stand quality
- Land use change

In nature conservation legislation focuss on EU forest habitats

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EU habitat mapping and protection in Latvia

- Mapping of forest habitats of European importance in Latvia (EU boreal biogeographical region) was conducted in 2017–2021.
- A total of 274 experts participated in field survey.
- In the field, identified forest habitats were mapped and information on structures, processes and species were entered on the standardised data forms.
- The area of mapped forest habitats is about 10% of total forest area.
- Strictly protected forest land area is about 3%
- Not all strictly protected forest land areas fit to EU habitats and not all EU habitats protected

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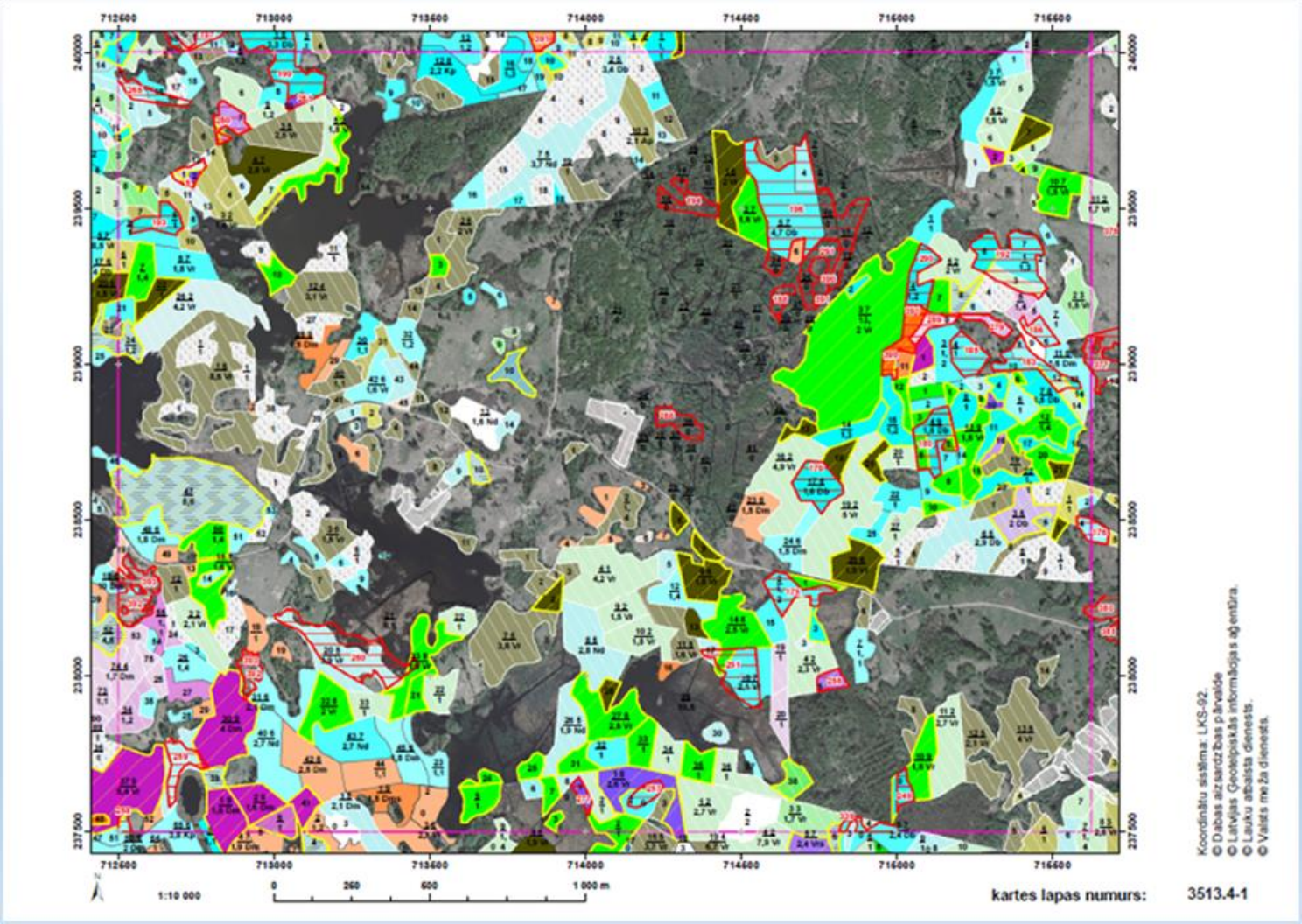
EU habitat mapping



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EU habitat mapping

STRUKTŪRA (Apsekotās platības īpatsvars (%) vai vidēji gabali/ha, kurā biotopam:)

Raksturīga zemsedzes veģetācija _____%	**Ciņi ap koku pamatnēm**	**Vecu lazdu puduri**
Dažādvecuma kokaudzes struktūra _____%	0 1 līdz 5 6 līdz 10 >10	0 1 līdz 5 6 līdz 10 >10
Īslaicīgi vai pastāvīgi pārplūstoši lauk. _____%	**Bioloģiski veci+lieli (virs 50cm caurmērā) koki**	**Atvērumi vainaga klājā, lauces**
Atbilstošs pamežs+paauga+2.stāvs _____%	0 1 līdz 5 6 līdz 10 >10	0 1 līdz 5 6 līdz 10 >10
Mežaudzei raksturīga pašizrobošanās _____%	**Stāvoši koki ar piepēm (dzīvi un nokaltuši)**	**Lēni auguši** (mazi koki)
Avoksnainu platību īpatsvars _____%	0 1 līdz 5 6 līdz 10 >10	0 1 līdz 5 6 līdz 10 >10
Zemsedzē dominē ekspansīvās, invazīvās ruderālās sugas _____%	**Priedes ar deguma rētām** 0 1 līdz 5 6 līdz 10 >10	**Dzeņveidīgo sakalti un dobumaini koki** (t.sk. kritalas, stumbeņi, sausokņi) 0 1 līdz 5 6 līdz 10 >10
Liela izmēra (caurmērā virs 25cm; 91D0 un 9080* virs 20cm) **stumbeņi + sausokņi** 0 1 līdz 5 6 līdz 10 >10	**Liela izmēra** (caurmērā virs 25cm; 91D0 un 9080* virs 20cm) **kritalas** 0 1 līdz 5 6 līdz 10 >10	**Atsegti substrāta laukumi** (2180, 91T0, sausu augšanas apstākļu 9010*) _____%

DMB indikatorsugas un specifiskās sugas (*vērtē: "1"- atsevišķi ex, "2"- vid.daudz, "3" - ļoti daudz, "7"- dažas, "8" - vid.daudz, "9"-ļoti daudz)*

_____

_____

_____

_____

Invazīvās sugas (10 ballu skalā)

Amelanchier spicata ___ *Heracleum sosnowskii* ___

Swida alba _____

Impatiens parviflora _____

Solidago canadensis _____

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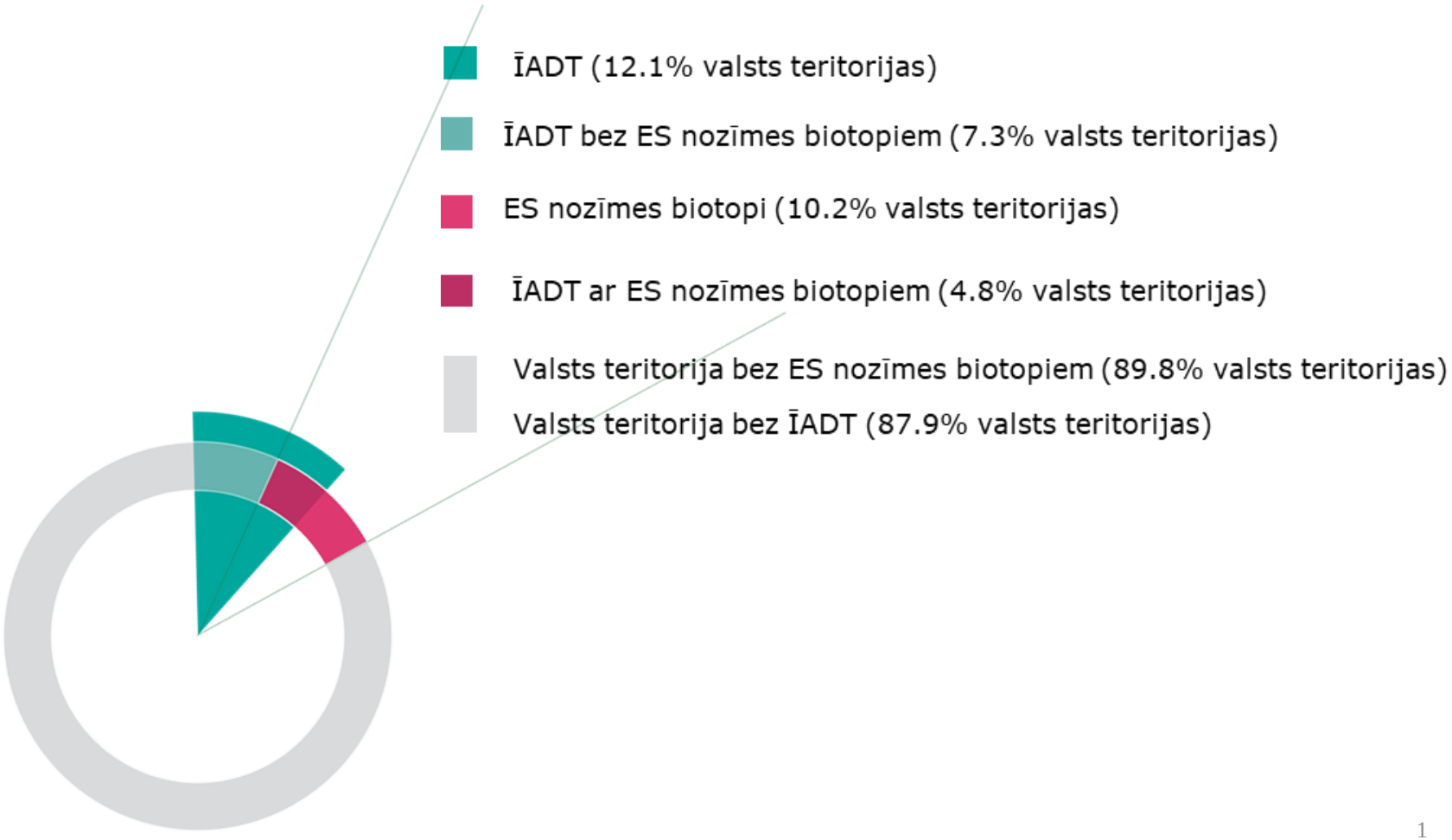
EU Habitat mapping results

The area of mapped forest habitats is about 10% of total forest area, protected sites – 12%.



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How to reach goals of EU Biodiversity Strategy for nature conservation regarding habitat protection?

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How to reach goals of EU Biodiversity Strategy for nature conservation regarding species protection?

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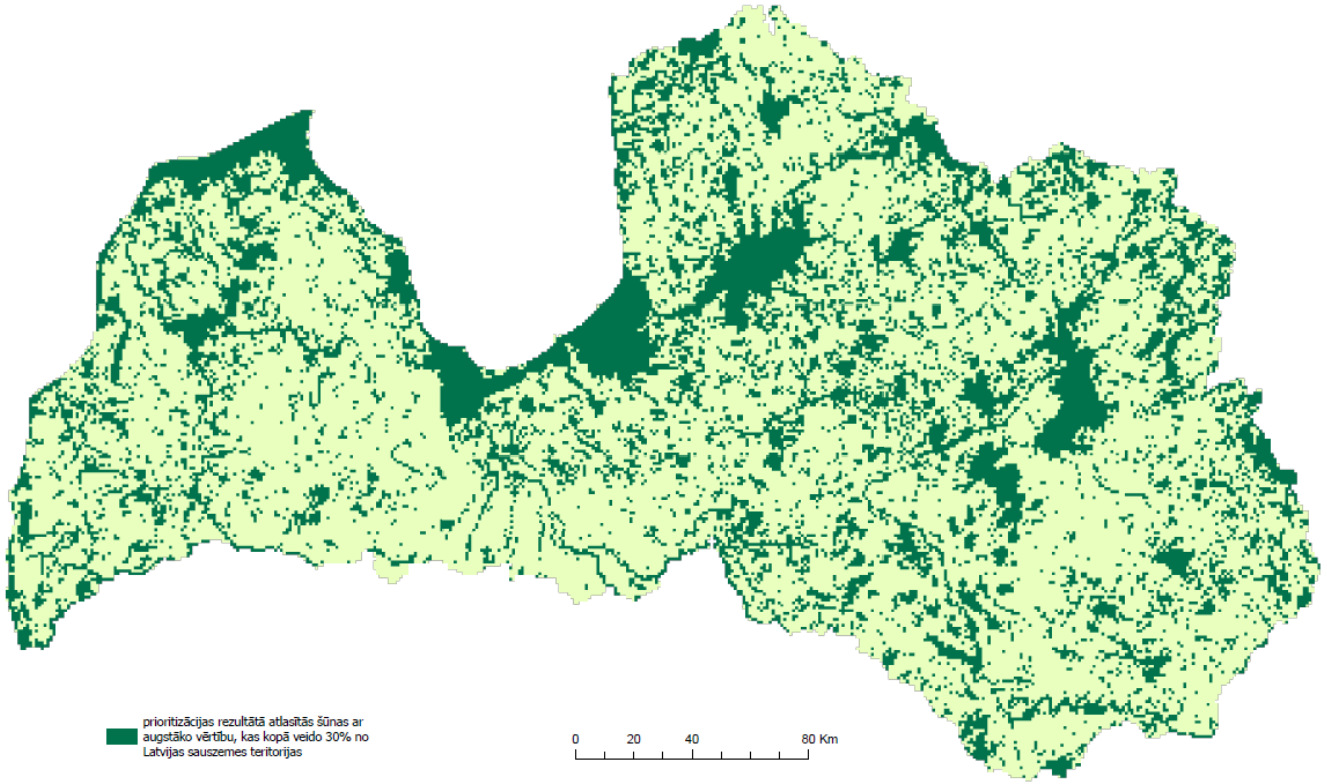
Challenges:

- How to change forestry practice to ensure EU habitat and species protection
- How to change legislation to ensure EU habitat protection if compensation system need more resources
- Does it worse to protect every EU forest habitat patch?
- How to link all different strategies and reach the goals?

Nature
Conservation Agency
Republic of Latvia

EU Biodiversity Strategy 10/30

Valsts mērogā modelēta aizsargāto dabas teritoriju indikatīva karte
(ņemot vērā tikai ekoloģiskās vērtības (bioloģiskā vērtība un ekosistēmas pakalpojumi))



Modelēšanā izmantoti DAP, VMD, LVĢMC, LAD, VZD, LVM, CSP, BIOR, LDF ģeotelpiskie dati