Expert level monitoring

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Optimising the Governance and Management of the Natura 2000 Protected Areas Network in Latvia
LIFE19 IPE/LV/000010 - LIFE-IP LatViaNature

Preparation and approbation of methods for assessing grassland and forest management effectiveness

Project

"Optimising the Governance and Management of the Natura 2000 Protected Areas Network in Latvia
"

(LIFE-IP LatViaNature)

Management goals – improve EU forest habitat quality

The purpose of the monitoring is to evaluate the management and restoration of forest habitats.

It is planned to develop these methods so universal that they can be applied not only within this Project, but also in future LIFE projects as well as in other projects in Latvia concerning the restoration and sustainable management of grasslands and forests.

Management and restoration goals

Creation of single monitoring database which further will provide:

1) a basis for large-scale evaluation of habitat restoration projects, taken together;
2) data for scientific research;
3) will be a resource for choosing the most favourable management scenarios in further projects, aiming at a better conservation of species and habitats of Community importance.

Main restoration activities

- increase amount of structural elements,
- increase naturalness of vegetation structures and composition,
- restoration of a particular stage of succession,
- combat invasive and expansive species,
- restoration of natural hydrological regime,
- ensure suitable light levels.

Main descriptive parameters

Tree canopy

Stand structures (logs, dead standing trees)

Vegetation

In specific cases also special monitoring of a species or taxon group such as epiphytes or saproxylic species is required – not included in this method.

Control

Before-After-Control-Impact

Stands decribed before and after restoration.

Control plots are established where management is not conducted

Replication

Replication of stands where restoration conducted and control stands, and within these stands.

Results from replicates within a stand represent only the stand where restoration is conducted. Replicates of stands can be acquired over many projects.

Plots

Two plot types – large and small within the large.

Stand structures described in circular plots with 15 m radius (707 m^2) or rectangular with size 600 m^2 līdz 800 m^2 (large plots).

Vegetation plots with radius 1.5 m (small plots) within the large plots.

Photo: Iluta Dauškane

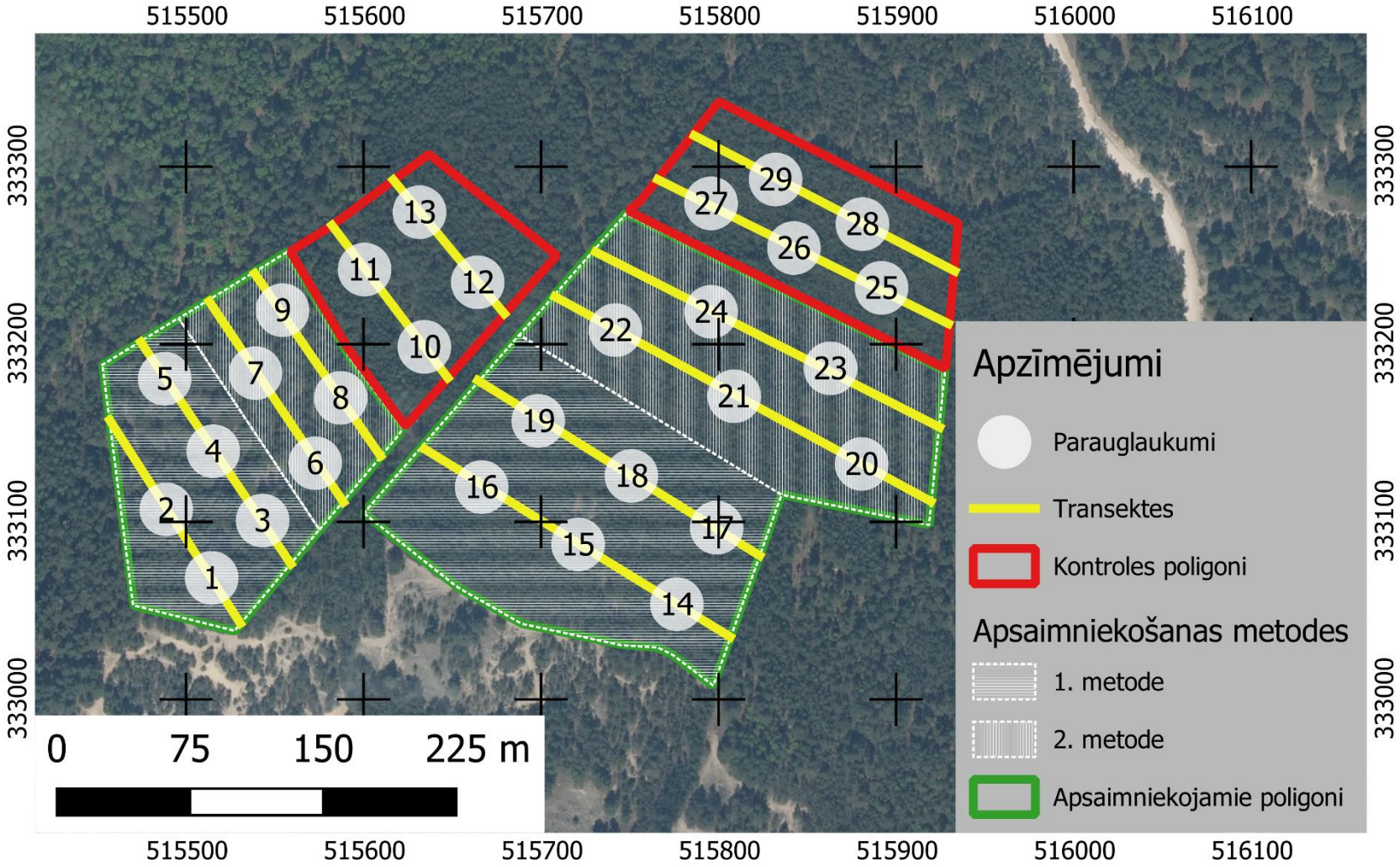
Establishment of large plots

Transects with plots are placed on maps such that they are representative of the stand and the restoration conducted.

Establishment of large plots

If the stand or its part where restoration is small (< 1 ha), then a large plot is placed in the centre.

Large plots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75
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225 m
Apzīmējumi
Parauglaukumi
Transektes
Kontroles poligoni
Apsaimniekošanas metodes
1. metode
2. metode
Apsaimniekojamie poligoni

Possible problems

If the restoration area has a complicated configuration (very thin or bent), then another design of plots will be required.

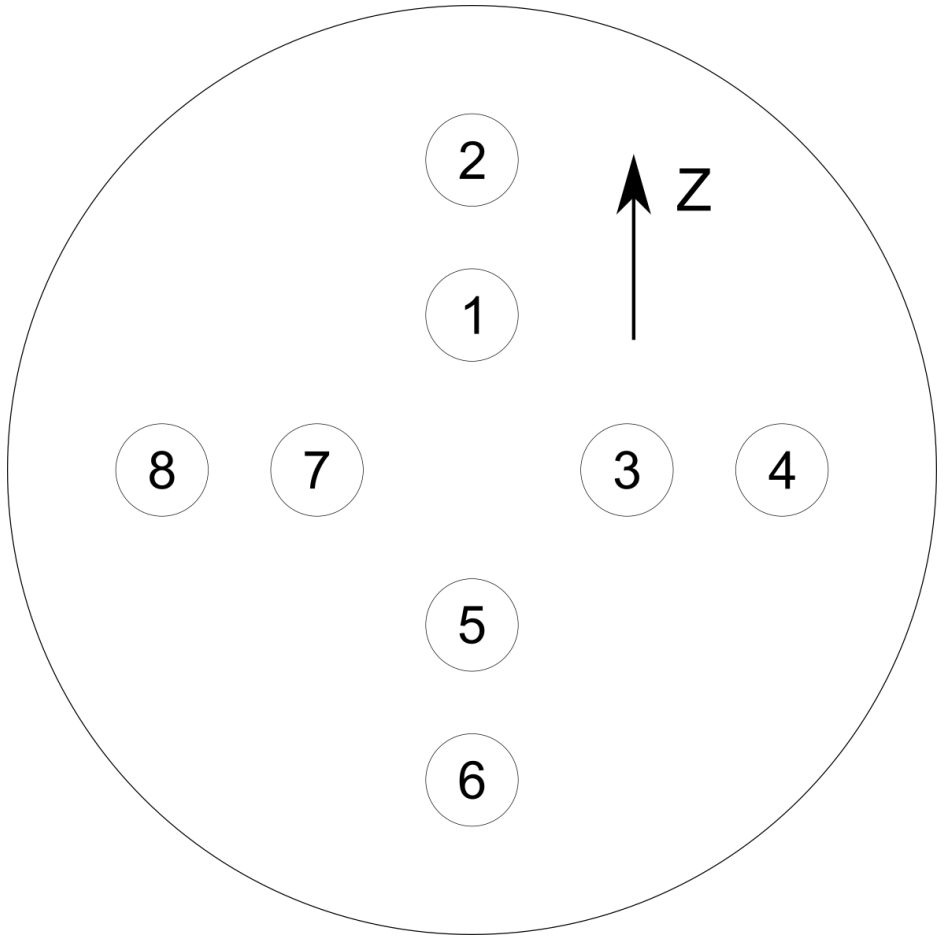
Time and financial restraints can limit number of plots.

Circular plots

Plot centre located with GPS – marked with a stake after restoration. No markings before restoration

Photo taken of the plot from the South.

Establishment of small

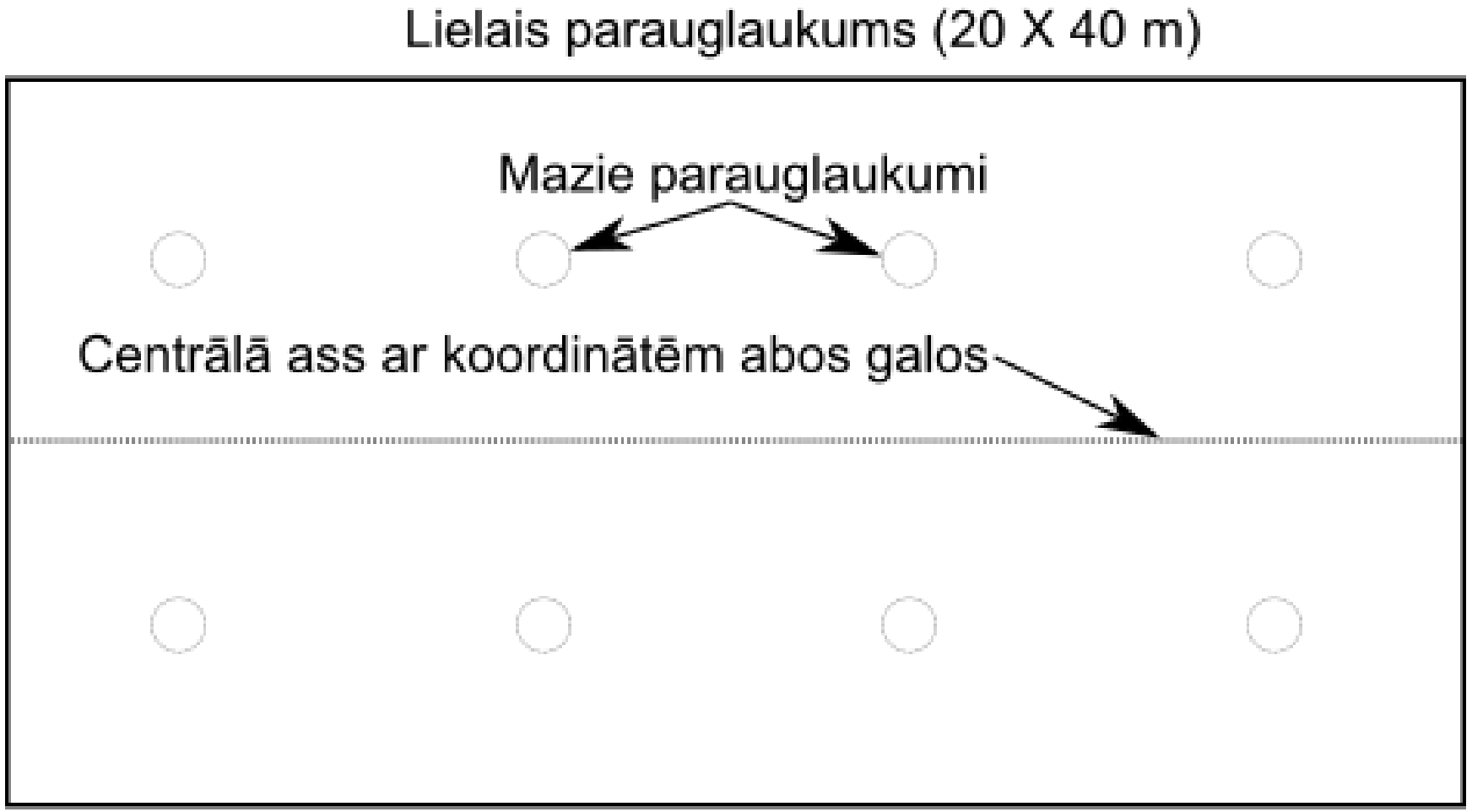


Rectangular plots

Rectangular plots are used if the conditions restrict the use of circular plots – steep slope, thin stand.

Small plots placed along the main axis of the large plot.

Rectangular plots



Description in large plots

Large plots are used to describe the tree canopy, as well as coarse woody debris (logs dead standing trees, stumps), wet depressions, patches of exposed soil, hummocks, etc. raksturošanai.

DBH of all trees ≥10 cm diameter, by species (except *Betula* and *Salix* to genus) at 1.3 m height.

Description of coarse wood debris

All logs >10cm at thickest end within plots are measured (diameter and thick end and thinnest end – to 5 cm; length in plot)

Log decomposition stage determined after Stokland (2001) on a 5-point scale.

Dead standing trees and stumps

DBH of all dead standing trees and stumps ≥10 cm diameter at 1.3 m height.

Decomposition stage determined after Seedre et al. (2012) using a 3-pont scale.

If possible determine species.

Species description within plots

Within large plots, all rare, protected and Woodland key habitat indicator species recorded in classes:

1 – few individuals;

2 – 1–5% cover or on 2–5 trees or logs;

3 – >5% cover or on >5 trees or logs.

Small plots

Small plots are used to describe ground vegetation (not on logs).

Cover of all species in percent and total cover of each layer.
Percent values are rounded off – (1, 2, 3, 4, 5, 10, 20 etc. percent)

Structures are also recorded.

Structure in small plots

Tree layer (h ≥ 10 m)	Tree layer (h = 5-9,9 m)	Shrub layer (h = 1,5-4,9 m)
Shrub layer (h = 0,5-1,5 m)	Shrub layer (h < 0,5 m)	Rubus layer[1]
Small shrub layer [2]	Herb layer	Moss layer
Lichen layer	Stumps	Logs
Debris[3]	Dead plants[4]	Exposed soil

[1]Rubus ģints sugas.
[2] for example, Vaccinium sp.
[3] needles, leaves, branches, cones etc.
[4] dead plant material not on the ground.

Tree and shrub layer

For each species, determine number of individuals in height classes, and projective cover in percent.

If number of individuals is very high (≥50), then given in classes: 50–99 ind.; 100–199 ind.; 200–299 ind. etc. Determine also total tree and shrub cover in height classes.

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Thank You for your attention

PALDIES!

Natura 2000 aizsargājamo teritoriju pārvaldības un apsaimniekošanas optimizācija

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