

# Long-term socio-economic impacts of scenarios of restrictions on the management in Latvian forest

Šnepsts G., Donis J., Makovskis K., Lazdiņa D.

Latvian State Forest Research Institute "Silava"

contact's: guntars.snepsts@silava.lv

## Introduction

To ensure the practical and political relevance of long-term forest management restrictions, stakeholders were engaged to define scenarios for modelling. The forestry scenarios modeled in the study are not an attempt to predict how forests will be managed in the future or what forestry should be practiced in the future. However, the modeling results allow for a reliable assessment of the impact of forestry activities and their changes on forest resources and the socio-economic indicators dependent on them in the future, which is also the goal of this study.

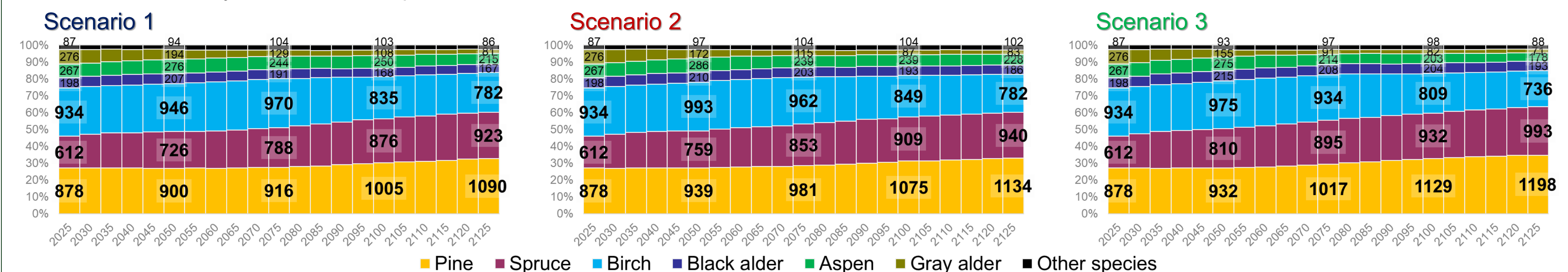
## Methods

The LSFRI Silava forest resource forecasting and modelling simulation model and Latvian National Forest Inventory data were used for the modelling. In all scenarios, the area of strictly protected (forests without forestry activities) and protected forests (selective logging forests) has been increased in line with the European Green Deal (10% + 20%).

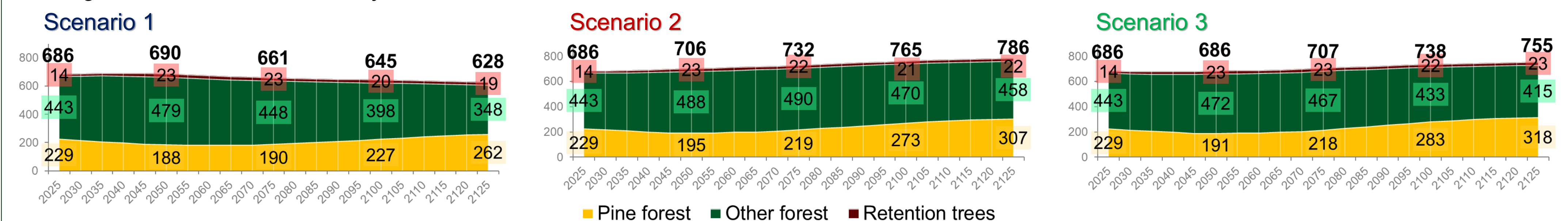
Criteria	Scenario 1	Scenario 2	Scenario 3
Reforestation	like 2022-2024	state forest like 2022-2024 other forest +5%	state forest +5% other forest +10%
Afforestation (in the first 10 years)	28.0 k.ha	28.0 k.ha + 115 k.ha	
Thinning	continuation of conventional forestry	more intensive in younger stands and less intensive in older stands than in conventional forestry	
Replacement of low-yielding stands	1.0 k.ha per year	2.0 k.ha per year	2.5 k.ha per year
Cut volume in commercial logging	18 milj. m <sup>3</sup> per year	19 milj. m <sup>3</sup> per year	20 milj. m <sup>3</sup> per year
Restoration of forest drainage systems	1.0 – 3.0 k.ha per year	2.0 – 6.0 k.ha per year	
New forest drainage (in the first 10 years)	0	80.0 k.ha	
Forest fertilization after thinning (in low-yielding forest types)	40% of stands	80% of stands	

## Results

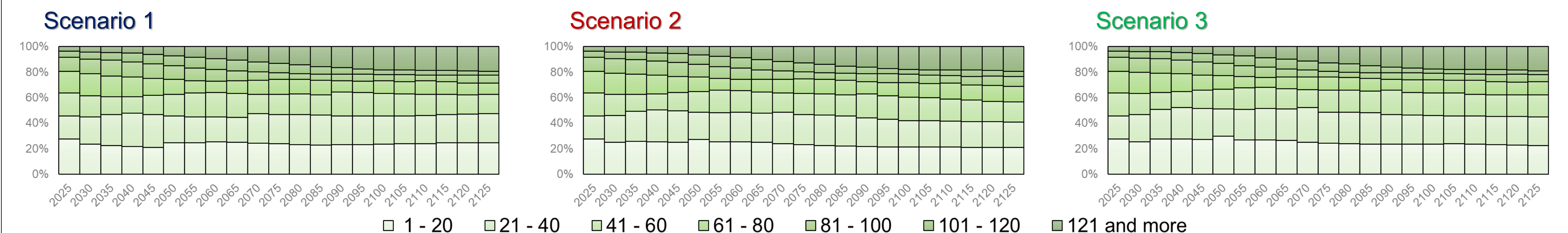
Forest stands area by dominant tree species, ha and %



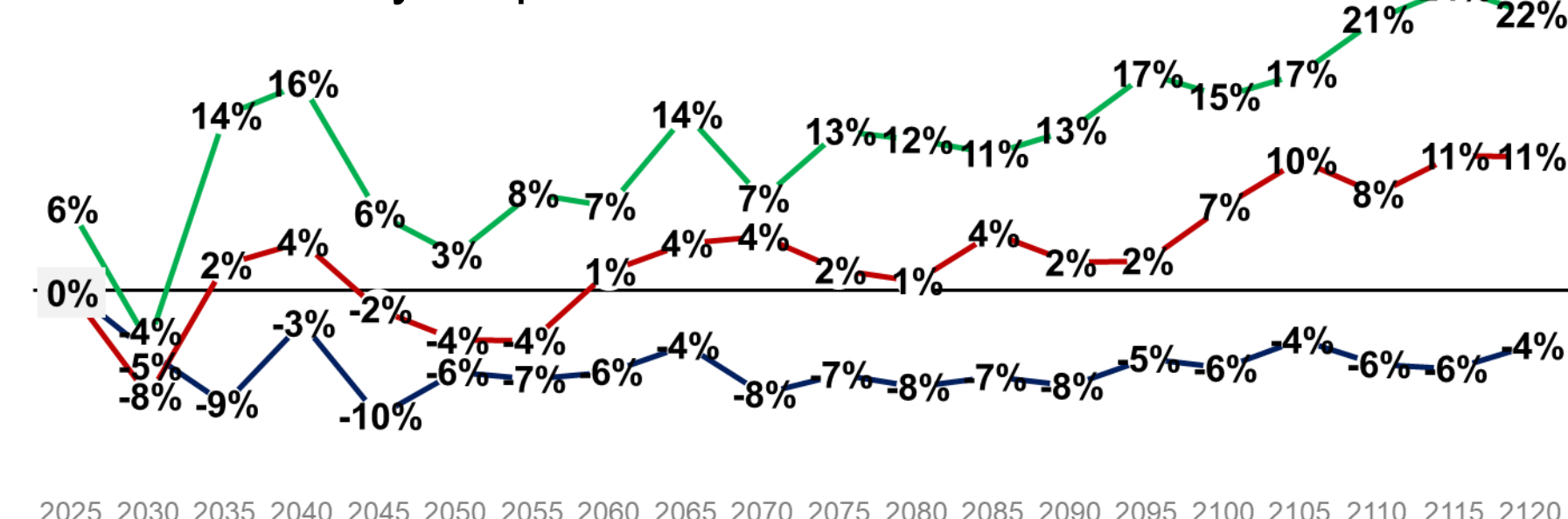
Growing stock of trees in forest, milj. m<sup>3</sup>



Age structure of forest stands, relative area %



Relative annual net income from forestry activities compared to the first five-year period of scenario 1



Relative employment changes in forestry jobs compared to the first decade of scenario 1

