Integrate+

The Groenendaal Marteloscope

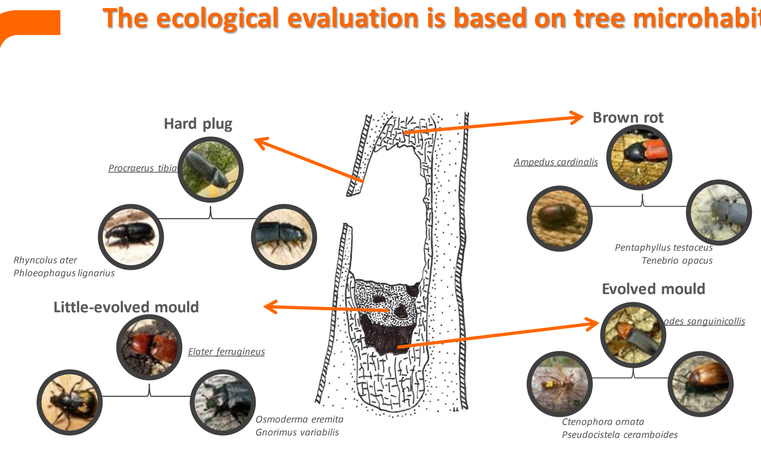
Marteloscopes and silvicultural training

One of the main tasks in forest management is to decide, where, when and what kind of forest interventions are applied. It is also important to note that the key factors influencing decisions practitioners make when applying specific silvicultural tools are their understanding of forest dynamics as well as their level of experience. In addition, the presence of a wide range of theoretical strategies and concepts in forestry usually results in differences when implementing certain silvicultural practices. This applies even when clear forest management guidelines are in place. Therefore it is important to ask how substantial are the consequences of different silvicultural approaches and to what extent do they affect forest biodiversity?

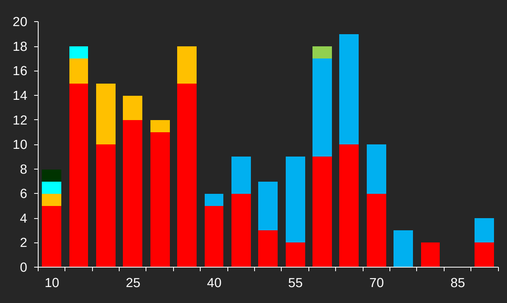
Experimental silviculture (“trial and error”) will not provide answer to this question. Nonetheless simulating interventions applied by individual practitioners within the same stand is able to provide such insights.

This is exactly what Marteloscopes do: the term is derived from French and describes a more detailed examination of tree selection and their consequences. These intervention will be simualted in tree selection exercises.

The ecological evaluation is based on tree microhabitats (TReMs)

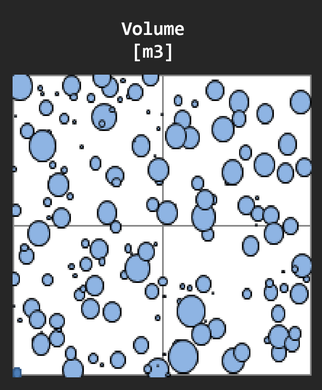


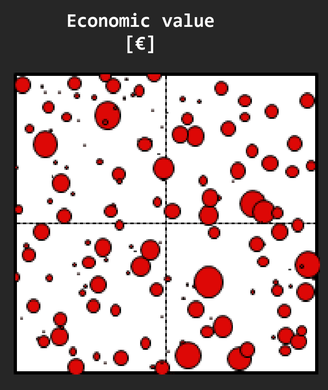
Saproxylic Microhabitats	Cavities	CV1	Woodpecker cavities
		CV2	Trunk and mould cavities
		CV3	Branch holes
		CV4	Dendrotelms and water-filled holes
		CV5	Insect galleries and bore holes
	Injuries and Wounds	IN1	Bark loss / Exposed sapwood
		IN2	Exposed heartwood / Stem and crown breakage
		IN3	Cracks and scars
	Bark	BA1	Bark pockets
	Deadwood	DW1	Dead branches and limbs / crown deadwood
Epixylic Microhabitats	Growth orm related microhabitats	GF1	Root buttress cavities
		GF2	Witch broom
		GF3	Cankers and burrs
	Epiphytic krypto- and phanerogams	EP1	Fruiting bodies fungi
		EP2	Myxomycetes
		EP3	Bryophytes
			Foliose lichens
			Lianas
			Ferns
			Misteltoe
	Nests and aeries	NE1	Nests / aeries
	Other microhabitats	OT1	Sap and resin run
		OT2	Microsoil

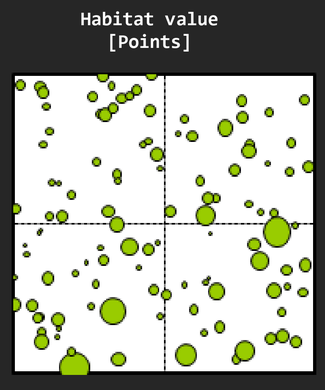


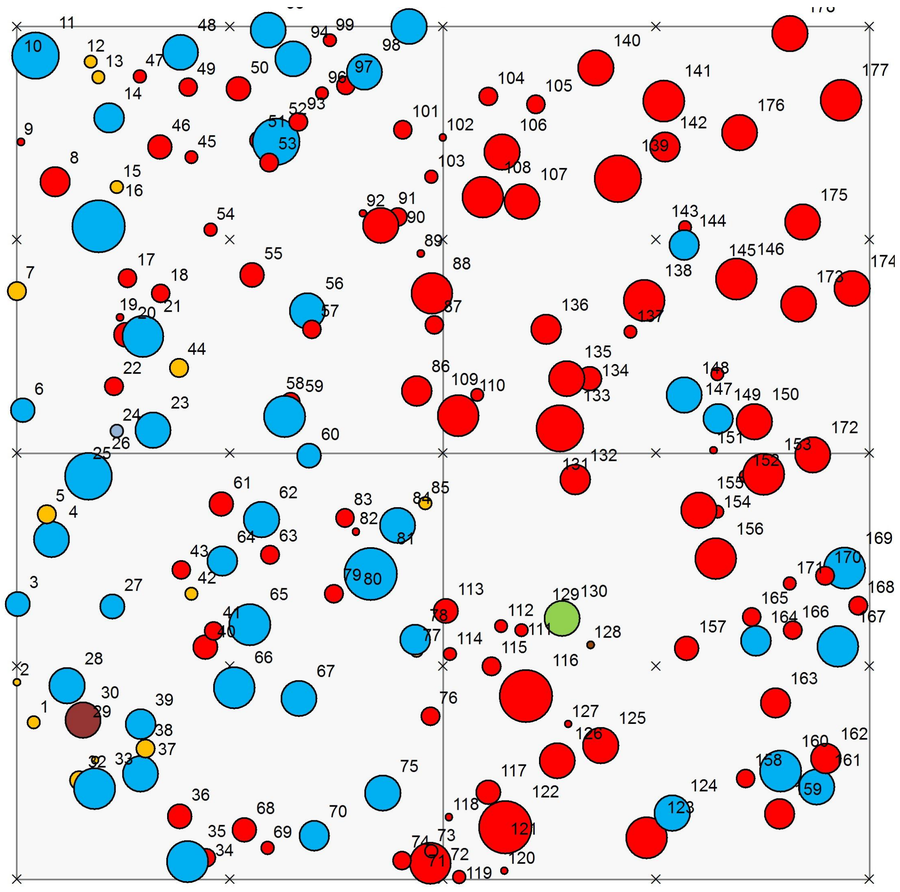
Stand characteristics

N/ha [ ]	178
BA/ha [m²]	31.43
V/ha [m³]	388.2
Habitat value [Points]	4524
Economic value[€]	27509.0



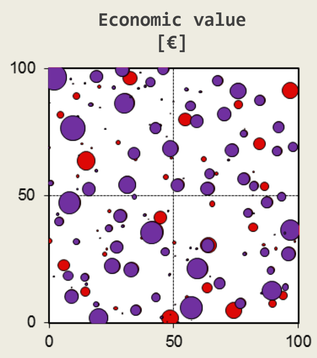




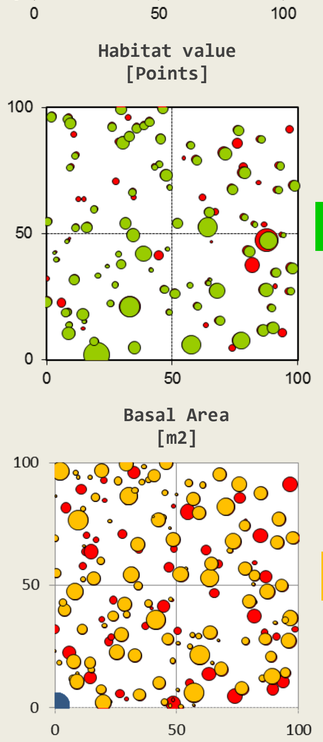


Tree species and DBH map

Interventions



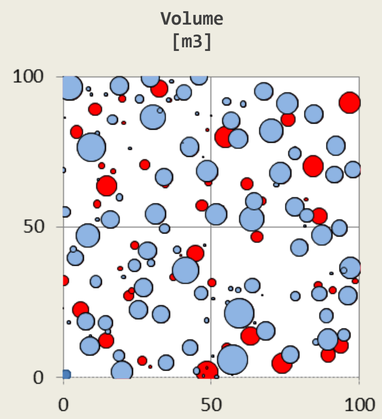
6,116 €



3630

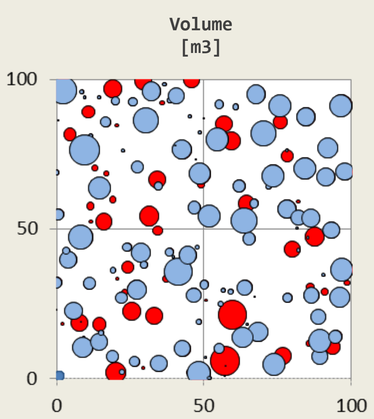
22.6 m²

Scenario 1:

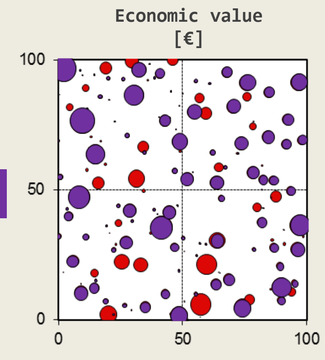


Removal 98.6 m³

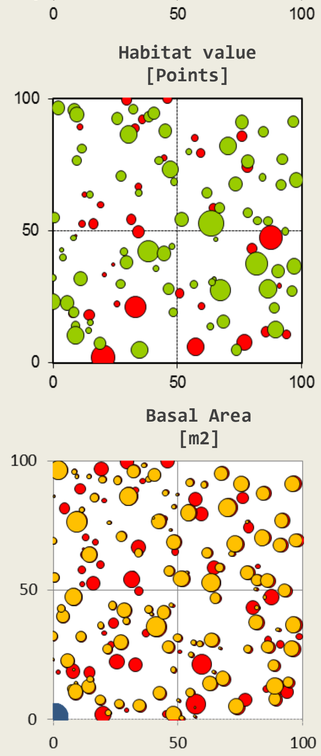
Scenario 2:



Removal 116.2 m³



7,649 €



2485

21.8 m²