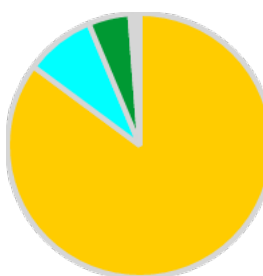


07/04/2021 Laz\_Gr1\_prod

### Site conditions

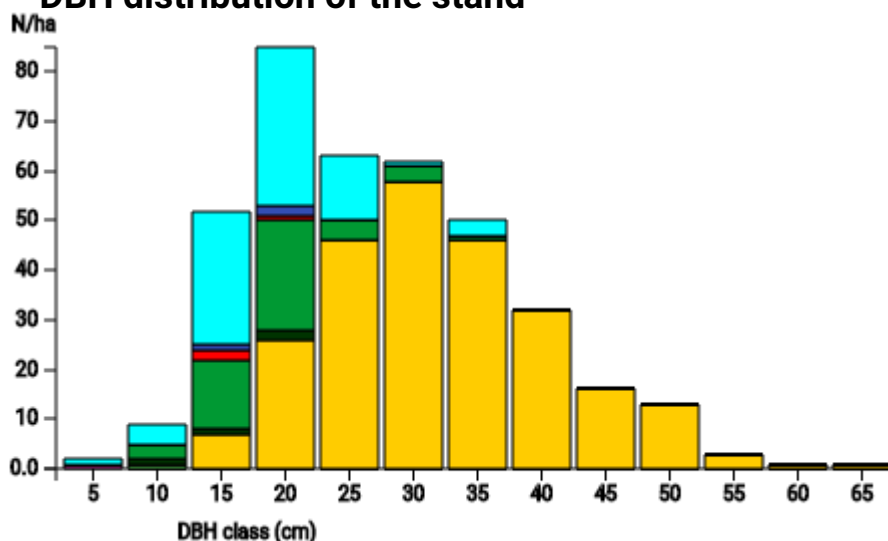
Altitude: 870 m.a.s.l.  
 Geology / Bedrock: Alluvial and mixed beds  
 Soil type: Cambisol – Leptosol with Luvisol of the Central Appenino Mountains.  
 Natural forest community: Aceri obtusati-Querco cerridis sigmetum  
 Mean annual temperature: 12.4 C;  
 Mean annual precipitation: 1154 mm; Ownership: State-owned Agency "Sala"; Establishment: 2020

### Tree species distribution by volume (in %)



- Turkey oak: 85.1 %
- European hop-hornbeam: 8.5 %
- Italian maple: 5.1 %
- manna ash: 0.6 %
- field maple: 0.3 %
- hornbeam: 0.3 %
- common beech: 0 %
- downy oak: 0 %

### DBH distribution of the stand



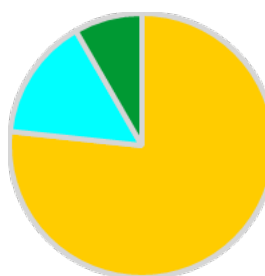
### Initial stand (details by tree species)

Tree species	N/ha	Basal area (m <sup>2</sup> )	Volume (m <sup>3</sup> )	Economic value (€)	Habitat value (pts.)	Microhabitats (N)
European hop-hornbeam	81	3	34.6	2647	1669	101
Italian maple	47	1.8	20.8	1588	917	65
Turkey oak	249	24.7	346.4	26500	7807	401
common beech	1	0	0.2	16	0	0
downy oak	1	0	0.1	10	0	0
field maple	4	0.1	1.4	104	115	6
hornbeam	3	0.1	1.3	101	24	1
manna ash	3	0.1	2.3	174	38	4
<b>Total</b>	<b>389</b>	<b>29.9</b>	<b>407.1</b>	<b>31140</b>	<b>10570</b>	<b>578</b>

### Removed trees

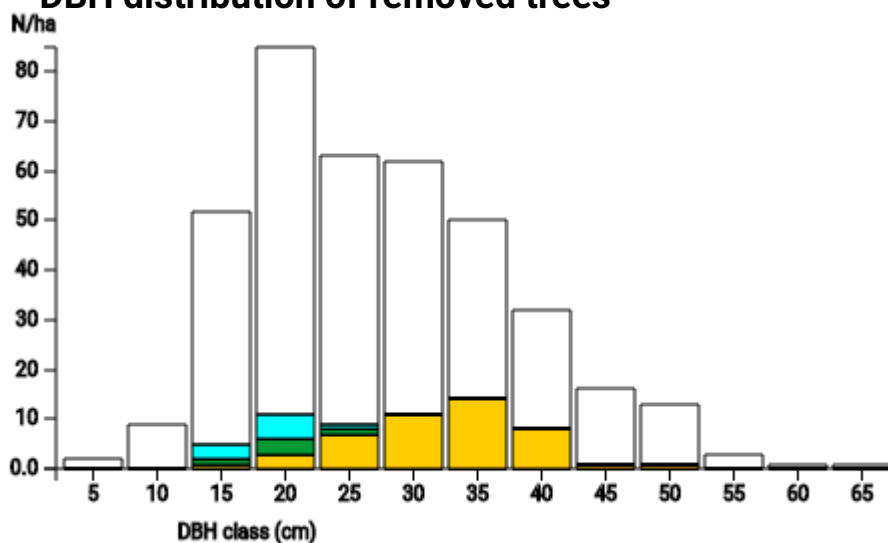
Volume: 67.9 m<sup>3</sup>  
 Basal area: 4.9 m<sup>2</sup>  
 Economic value: 5190 €  
 Habitat value: 1499 pts.

### Removed trees (N in %)



- Turkey oak: 76.7 %
- European hop-hornbeam: 15 %
- Italian maple: 8.3 %
- common beech: 0 %
- downy oak: 0 %
- field maple: 0 %
- manna ash: 0 %
- hornbeam: 0 %

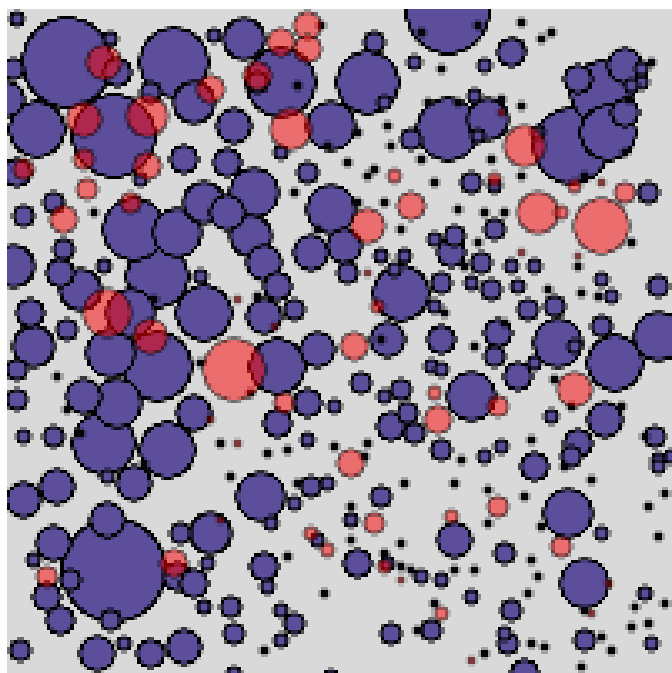
### DBH distribution of removed trees



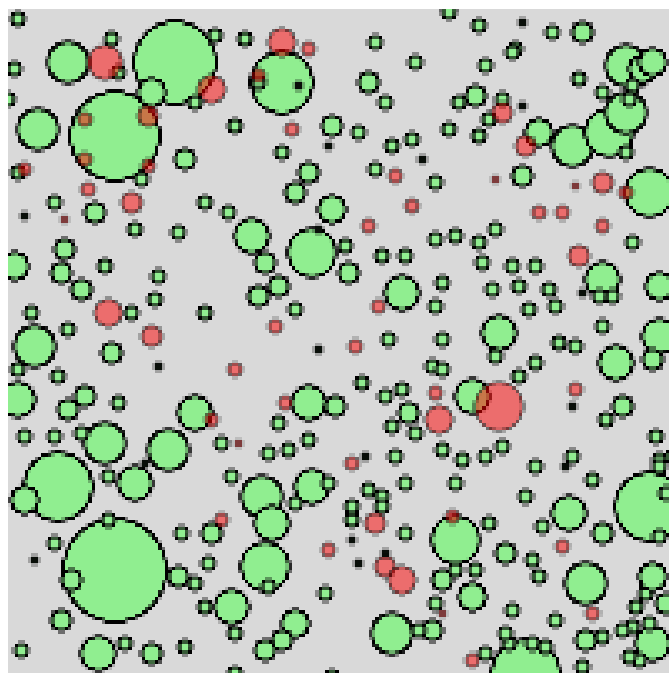
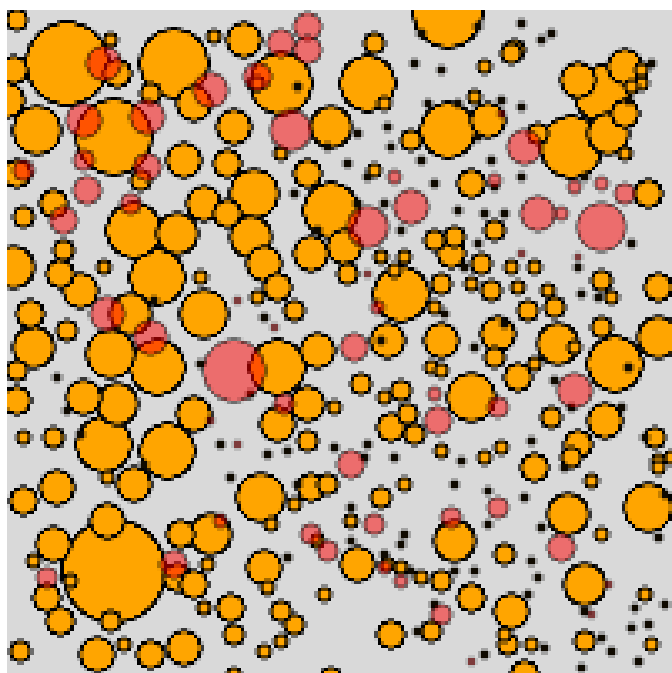
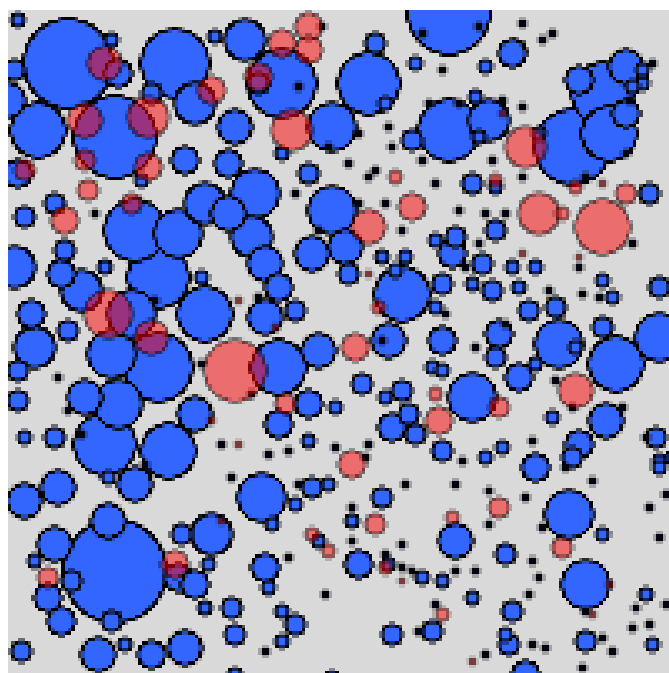
### Removed trees (details by tree species)

Tree species	N/ha	Basal area (m <sup>2</sup> )	Volume (m <sup>3</sup> )	Economic value (€)	Habitat value (pts.)	Microhabitats (N)
European hop-hornbeam	9	0.3	3.2	246	155	12
Italian maple	5	0.2	2.9	220	128	9
Turkey oak	46	4.4	61.7	4724	1216	59
common beech	0	0	0	0	0	0
downy oak	0	0	0	0	0	0
field maple	0	0	0	0	0	0
hornbeam	0	0	0	0	0	0
manna ash	0	0	0	0	0	0
<b>Total</b>	<b>60</b>	<b>4.9</b>	<b>67.8</b>	<b>5190</b>	<b>1499</b>	<b>80</b>

Economic value [EUR]



Habitat value

Basal area [m<sup>2</sup>]Volume [m<sup>3</sup>]**Description:**

Red circles (removed trees); circle size according to numerical values (e.g. large circles mean high values); trees with very low values (e.g. habitat value "0") are not visible.

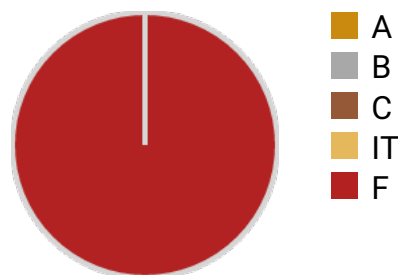
### Economic values

Total value of removed trees: 5190 €  
 Percentage of total stand value: 16.7 %  
 Stand value after harvest: 25949 €

### Economic value by tree species [€]

Tree species	Total	Per m <sup>3</sup>
common beech	0	0
downy oak	0	0
Turkey oak	4724	77
field maple	0	0
Italian maple	220	77
manna ash	0	0
hornbeam	0	0
European hop-hornbeam	246	77
Total	5190	77

### Wood quality distribution (m<sup>3</sup> in %)



Quality class	m <sup>3</sup>	%
A	0	0
B	0	0
C	0	0
Industrial Timber	0	0
Fuelwood	67.9	100

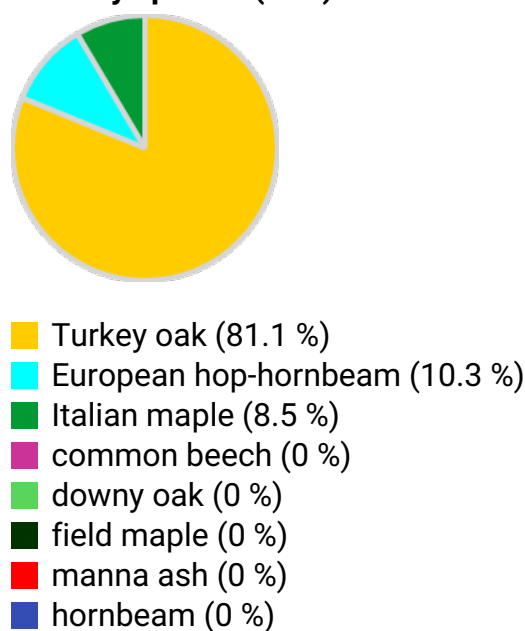
### Habitat values

Total habitat value of removed trees: 1499 pts.  
 Percentage of total stand value: 14.2 %  
 Stand value after harvest: 9071 pts.

### Habitat value by tree species [pts.]

Tree species	Total	Per m <sup>3</sup>	Microhabitats [N]
common beech	0	0	0
downy oak	0	0	0
Turkey oak	1216	19.7	59
field maple	0	0	0
Italian maple	128	44.5	9
manna ash	0	0	0
hornbeam	0	0	0
European hop-hornbeam	155	48.1	12
Total	1499	22.1	80

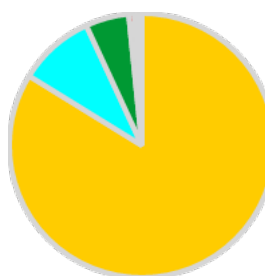
### Habitat value (points) of removed trees by species (in %)



### Remaining stand

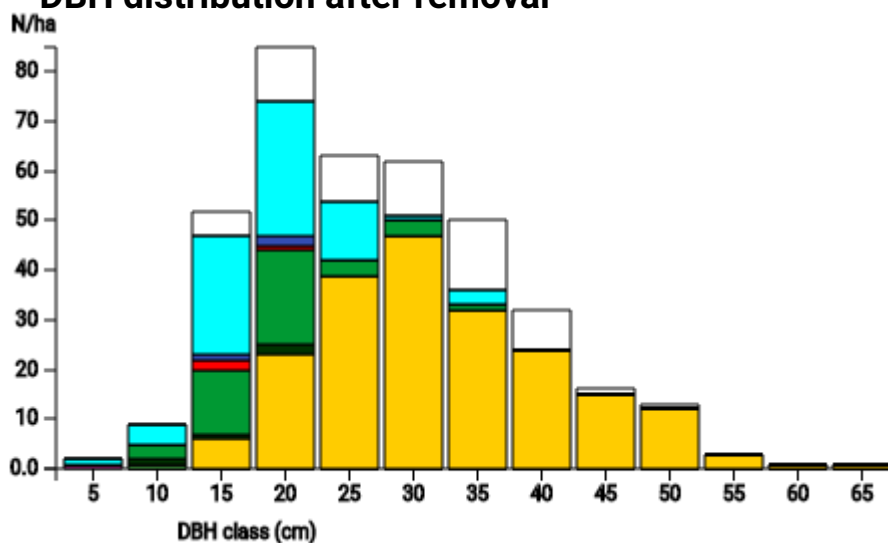
Volume: 339.1 m<sup>3</sup>  
 Basal area: 24.9 m<sup>2</sup>  
 Economic value: 25949 €  
 Habitat value: 9071 pts.

### Remaining trees by volume (m<sup>3</sup> in %)



- Turkey oak: 83.9 %
- European hop-hornbeam: 9.3 %
- Italian maple: 5.3 %
- manna ash: 0.7 %
- field maple: 0.4 %
- hornbeam: 0.4 %
- common beech: 0.1 %
- downy oak: 0 %

### DBH distribution after removal



### Remaining stand (details by tree species)

Tree species	N/ha	Basal area (m <sup>2</sup> )	Volume (m <sup>3</sup> )	Economic value (€)	Habitat value (pts.)	Microhabitats (N)
European hop-hornbeam	72	2.7	31.4	2400	1514	89
Italian maple	42	1.6	17.9	1368	789	56
Turkey oak	203	20.3	284.7	21776	6591	342
common beech	1	0	0.2	16	0	0
downy oak	1	0	0.1	10	0	0
field maple	4	0.1	1.4	104	115	6
hornbeam	3	0.1	1.3	101	24	1
manna ash	3	0.1	2.3	174	38	4
<b>Total</b>	<b>329</b>	<b>24.9</b>	<b>339.2</b>	<b>25949</b>	<b>9071</b>	<b>498</b>

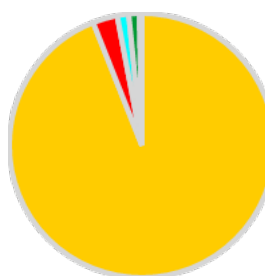
**Retention trees**Volume: 70.3 m<sup>3</sup>

Elite trees: 19

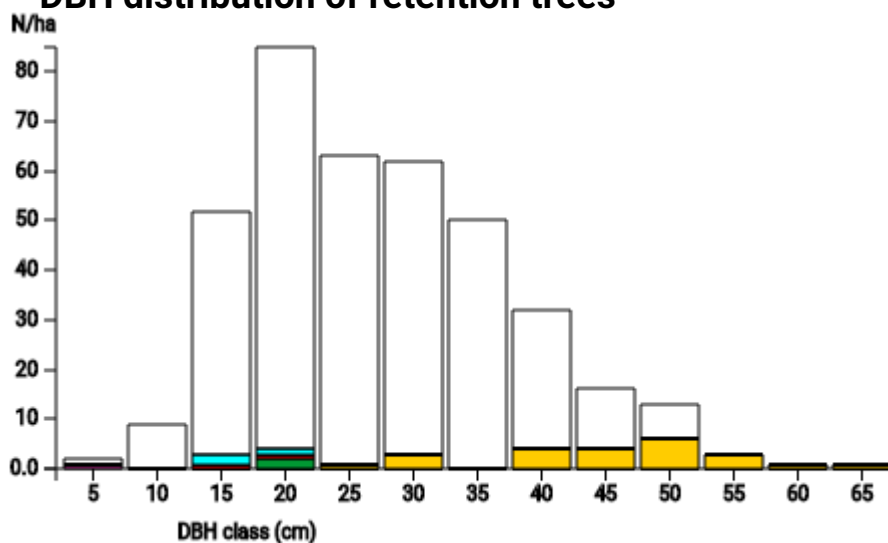
Habitat trees: 12

Economic value: 5378 €

Habitat value: 1334 pts.

**Retention trees by volume (m<sup>3</sup> in %)**

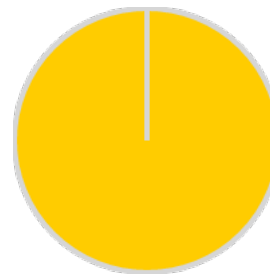
Turkey oak:	94.1 %
manna ash:	3 %
European hop-hornbeam:	1.4 %
Italian maple:	1.3 %
common beech:	0.3 %
downy oak:	0 %
field maple:	0 %
hornbeam:	0 %

**DBH distribution of retention trees****Retained trees (details by tree species)**

Tree species	N/ha	Basal area (m <sup>2</sup> )	Volume (m <sup>3</sup> )	Economic value (€)	Habitat value (pts.)	Microhabitats (N)
European hop-hornbeam	3	0.1	1	74	24	1
Italian maple	2	0.1	0.9	67	28	2
Turkey oak	23	4.3	66.2	5062	1274	77
common beech	1	0	0.2	16	0	0
downy oak	0	0	0	0	0	0
field maple	0	0	0	0	0	0
hornbeam	0	0	0	0	0	0
manna ash	2	0.1	2.1	159	8	2
<b>Total</b>	<b>31</b>	<b>4.5</b>	<b>70.3</b>	<b>5378</b>	<b>1334</b>	<b>82</b>

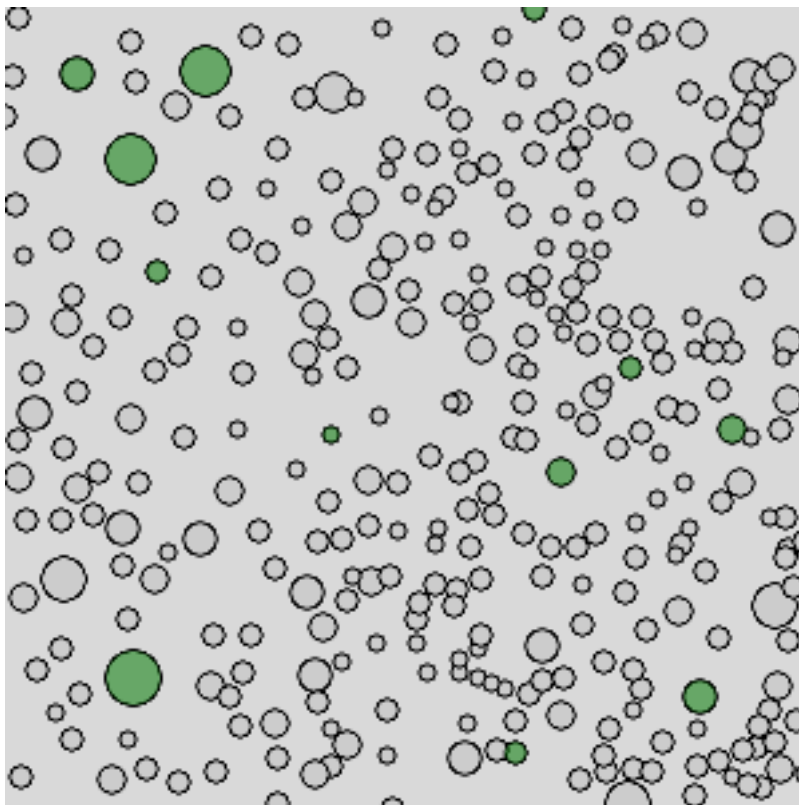
Number of habitat trees	[N]	12
Habitat value	pts.	824
	[% of total]	7.8
Economic value	[€]	2922
	[% of total]	9.4
Number of microhabitats	[N]	53
	[% of total]	9.2

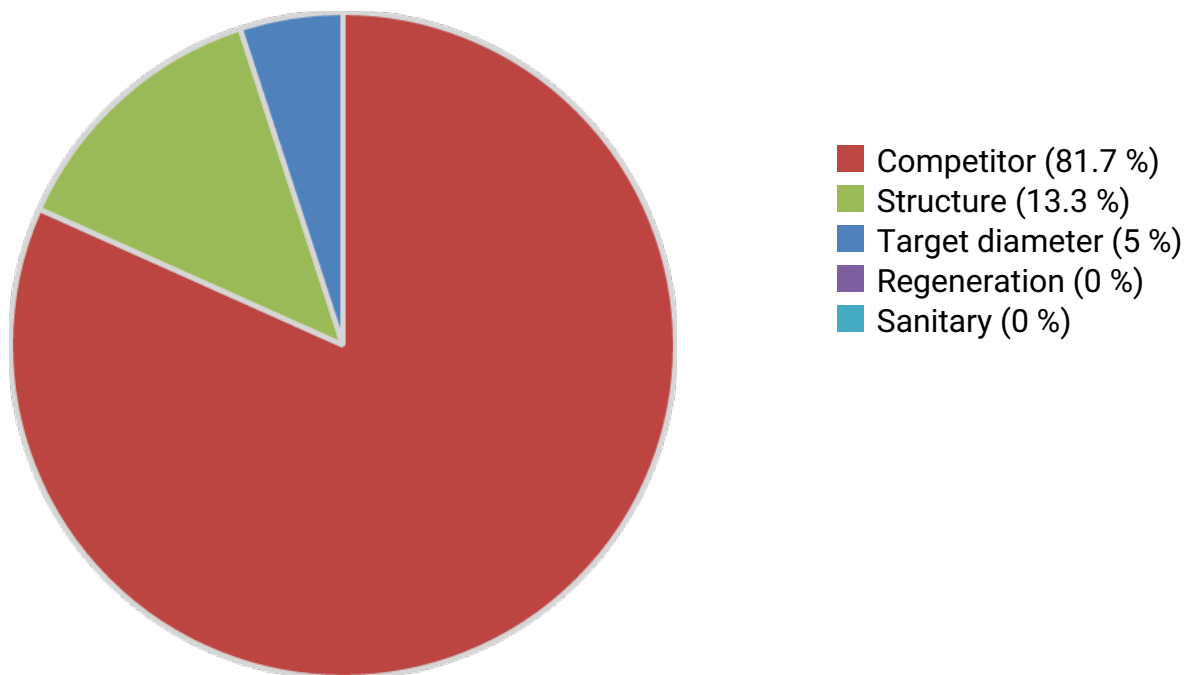
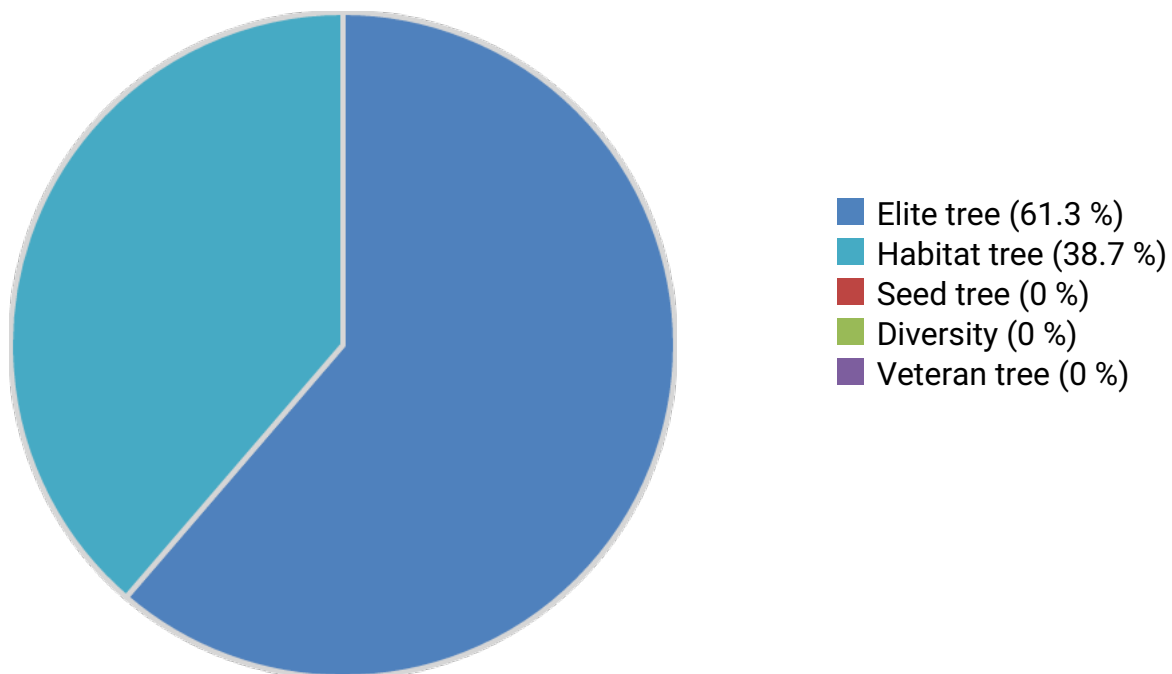
### Habitat tree distribution by species (N in %)



■ Turkey oak: 100 %
■ common beech: 0 %
■ downy oak: 0 %
■ field maple: 0 %
■ Italian maple: 0 %
■ manna ash: 0 %
■ hornbeam: 0 %
■ European hop-hornbeam: 0 %

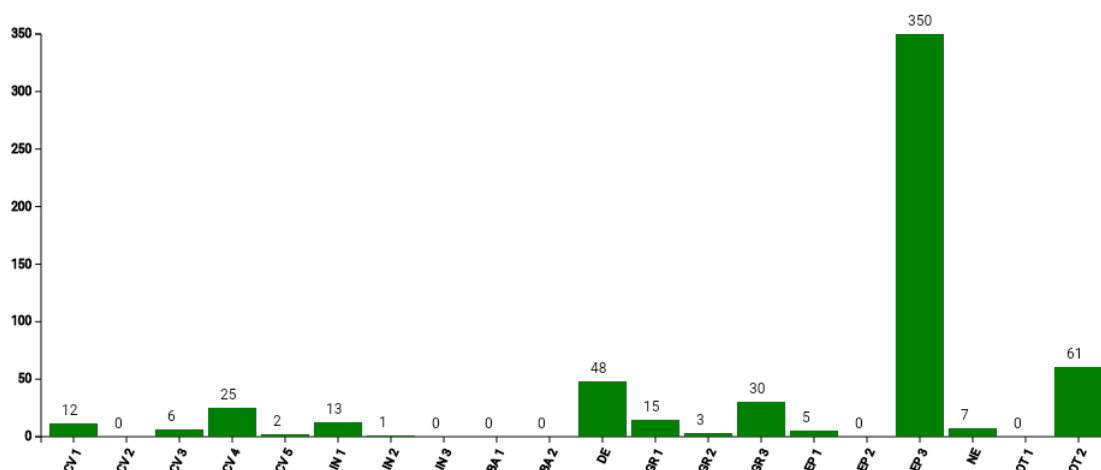
### Spatial distribution of habitat trees



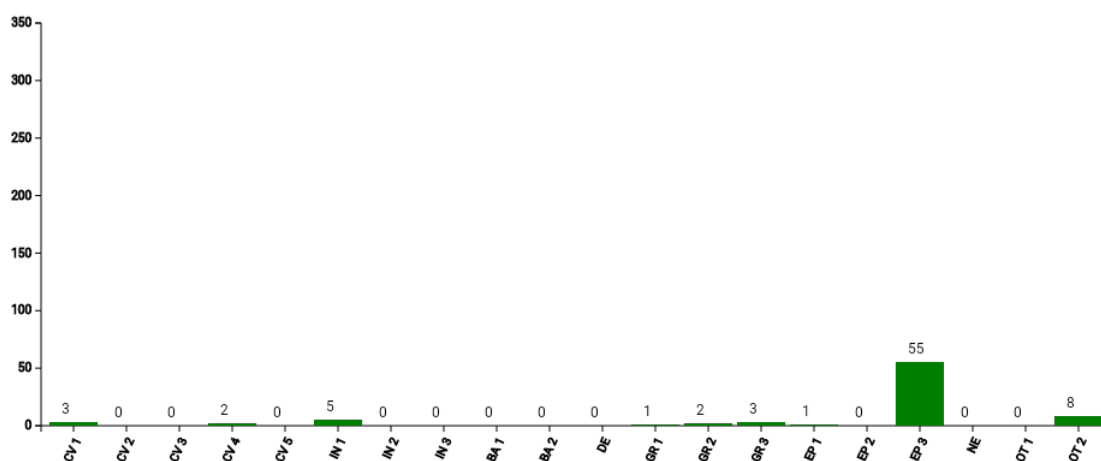
**Reasons for removal****Reasons for retention**



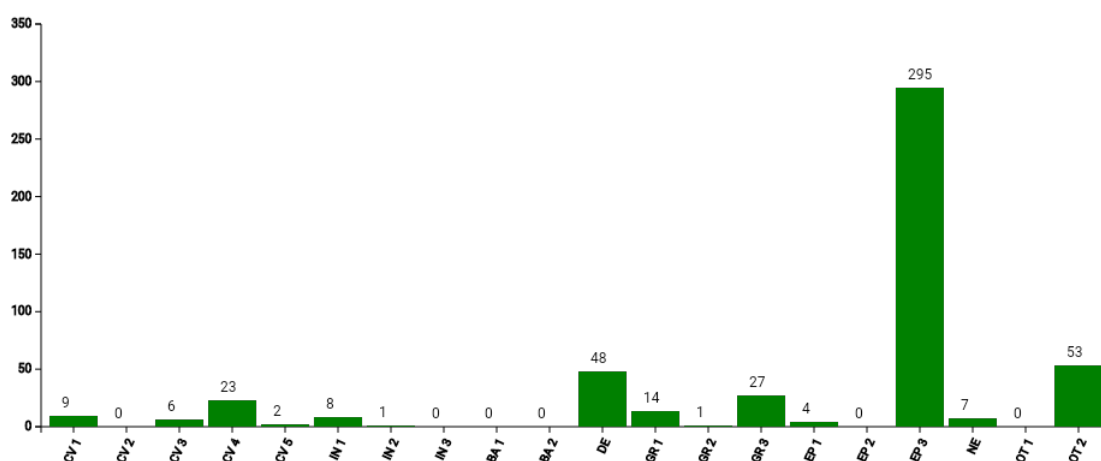
## Distribution of tree microhabitats by code (N total)



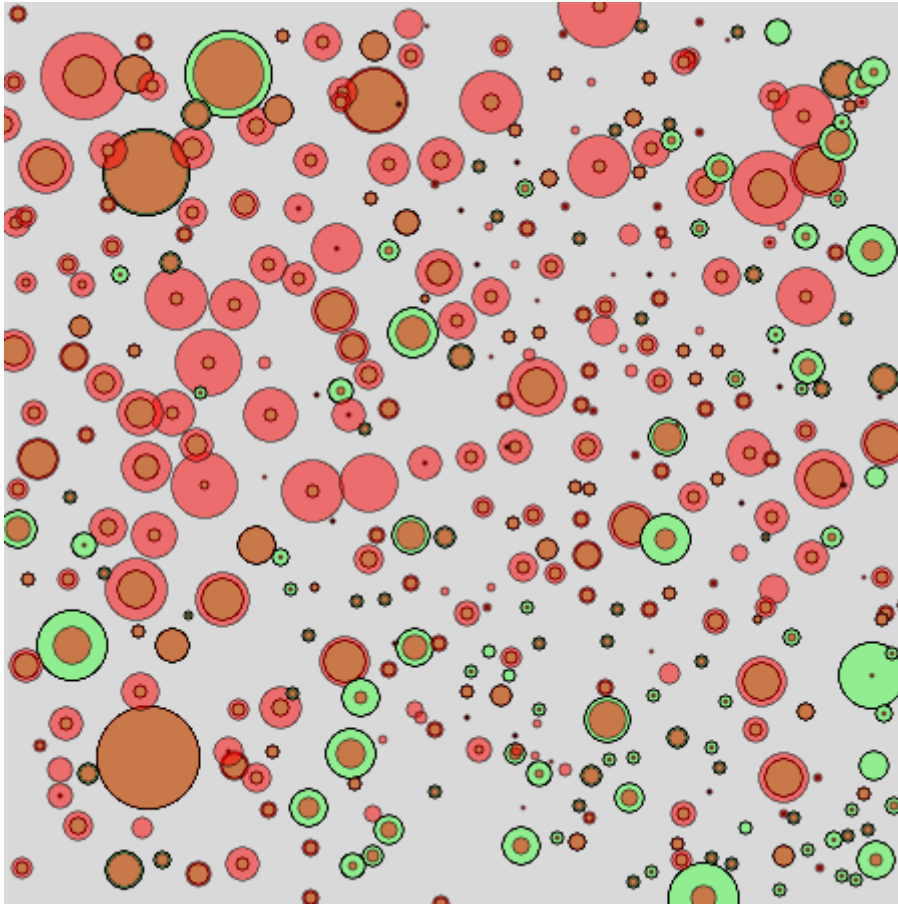
## Removed tree microhabitats by code (N removed)



## Remaining tree microhabitats by code (N after harvest)



For more details on codes consult the field guide "Catalogue of tree microhabitats" or the tree microhabitat app.

**Conflict trees (stand data)****Description:**

Overlay of economic and habitat value: red circles (economic value), green circles (habitat value); circle size according to numerical values (e.g. large circles mean high values); trees with very low values are not visible. Trees where both values overlap considerably represent so called "conflict trees".

## Removed trees

Tree	DBH (cm)	Basal area (m <sup>2</sup> )	Volume (m <sup>3</sup> )	Economic value (€)	Habitat value (pts.)	Reason
Turkey oak (78) Quercus cerris	52	0.21	3.1	238	24	Competitor
Turkey oak (351) Quercus cerris	47	0.17	2.9	224	24	Structure
Turkey oak (360) Quercus cerris	43	0.15	1.9	149	24	Competitor
Turkey oak (22) Quercus cerris	42	0.14	2.1	163	24	Competitor
Turkey oak (15) Quercus cerris	41.5	0.14	1.9	142	60	Competitor
Turkey oak (25) Quercus cerris	41.5	0.14	2.1	157	36	Competitor
Turkey oak (68) Quercus cerris	40.5	0.13	2.3	178	52	Competitor
Turkey oak (349) Quercus cerris	40.5	0.13	2	154	24	Structure
Turkey oak (324) Quercus cerris	40	0.13	2	151	36	Competitor
Turkey oak (27) Quercus cerris	40	0.13	1.9	145	24	Competitor
Turkey oak (75) Quercus cerris	39.5	0.12	1.7	131	36	Competitor
Turkey oak (175) Quercus cerris	38.5	0.12	1.7	127	24	Competitor
Turkey oak (345) Quercus cerris	38	0.11	1.3	101	24	Competitor
Turkey oak (20) Quercus cerris	38	0.11	1.6	123	50	Competitor
Turkey oak (191) Quercus cerris	37.5	0.11	1.6	123	45	Competitor
Turkey oak (38) Quercus cerris	36	0.1	1.1	81	24	Competitor
Turkey oak (221) Quercus cerris	36	0.1	1.3	103	24	Competitor
Turkey oak (6) Quercus cerris	36	0.1	1.4	111	0	Competitor
Turkey oak (31) Quercus cerris	36	0.1	1.5	115	24	Competitor
Turkey oak (132) Quercus cerris	36	0.1	1.5	111	4	Competitor
Turkey oak (8)	35.5	0.1	1.3	98	24	Competitor

Tree	DBH (cm)	Basal area (m <sup>2</sup> )	Volume (m <sup>3</sup> )	Economic value (€)	Habitat value (pts.)	Reason
Quercus cerris						
Turkey oak (5) Quercus cerris	35.5	0.1	1.5	118	52	Target diameter
Turkey oak (11) Quercus cerris	35	0.1	1.5	116	18	Competitor
Turkey oak (169) Quercus cerris	35	0.1	1.6	122	24	Competitor
Turkey oak (226) Quercus cerris	34.5	0.09	1.2	94	24	Competitor
Turkey oak (42) Quercus cerris	34	0.09	1.3	98	12	Target diameter
Turkey oak (182) Quercus cerris	33.5	0.09	1.2	90	81	Competitor
Turkey oak (134) Quercus cerris	33	0.09	1.2	94	0	Competitor
Turkey oak (218) Quercus cerris	33	0.09	1.1	86	0	Competitor
Turkey oak (29) Quercus cerris	32	0.08	1	79	24	Target diameter
Turkey oak (124) Quercus cerris	31.5	0.08	0.9	65	0	Competitor
Turkey oak (240) Quercus cerris	31.5	0.08	1	78	36	Competitor
Turkey oak (126) Quercus cerris	30.5	0.07	0.8	60	24	Competitor
Turkey oak (274) Quercus cerris	30	0.07	0.7	55	16	Competitor
Turkey oak (30) Quercus cerris	30	0.07	0.9	69	24	Competitor
Turkey oak (224) Quercus cerris	29.5	0.07	0.8	63	24	Competitor
Italian maple (330) Acer opalus	29.5	0.07	1	73	24	Structure
Turkey oak (91) Quercus cerris	29	0.07	1	74	24	Competitor
Turkey oak (44) Quercus cerris	29	0.07	0.9	73	32	Competitor
Turkey oak (339) Quercus cerris	28	0.06	0.8	60	24	Competitor
Turkey oak (184) Quercus cerris	28	0.06	0.8	64	24	Competitor

Tree	DBH (cm)	Basal area (m <sup>2</sup> )	Volume (m <sup>3</sup> )	Economic value (€)	Habitat value (pts.)	Reason
Turkey oak (383) Quercus cerris	27.5	0.06	0.8	60	24	Competitor
Turkey oak (258) Quercus cerris	27	0.06	0.6	48	36	Competitor
European hop-hornbeam (336) Ostrya carpinifolia	26.5	0.06	0.6	47	14	Competitor
Italian maple (331) Acer opalus	24	0.05	0.5	39	40	Structure
Italian maple (350) Acer opalus	24	0.05	0.5	42	28	Structure
Turkey oak (260) Quercus cerris	24	0.05	0.5	41	44	Competitor
Turkey oak (122) Quercus cerris	23.5	0.04	0.5	35	18	Competitor
Italian maple (333) Acer opalus	23.5	0.04	0.6	42	8	Structure
European hop-hornbeam (354) Ostrya carpinifolia	22.5	0.04	0.4	29	0	Structure
Turkey oak (283) Quercus cerris	22	0.04	0.4	32	24	Competitor
European hop-hornbeam (246) Ostrya carpinifolia	21.5	0.04	0.5	35	24	Competitor
European hop-hornbeam (231) Ostrya carpinifolia	20.5	0.03	0.3	26	4	Competitor
European hop-hornbeam (314) Ostrya carpinifolia	20.5	0.03	0.3	26	38	Competitor
European hop-hornbeam (72) Ostrya carpinifolia	20	0.03	0.4	27	24	Competitor
Italian maple (88) Acer opalus	19	0.03	0.3	24	28	Competitor
Turkey oak (363) Quercus cerris	18.5	0.03	0.3	25	0	Competitor
European hop-hornbeam (98) Ostrya carpinifolia	18	0.03	0.3	25	16	Competitor
European hop-hornbeam (353) Ostrya carpinifolia	16.5	0.02	0.2	15	31	Structure
European hop-hornbeam (64) Ostrya carpinifolia	16	0.02	0.2	15	4	Competitor

## Retention trees

Tree	DBH (cm)	Basal area (m <sup>2</sup> )	Volume (m <sup>3</sup> )	Economic value (€)	Habitat value (pts.)	Reason
Turkey oak (133) Quercus cerris	68	0.36	5.4	409	174	Habitat tree
Turkey oak (16) Quercus cerris	60	0.28	4.6	351	72	Habitat tree
Turkey oak (26) Quercus cerris	57.5	0.26	4.3	329	148	Habitat tree
Turkey oak (287) Quercus cerris	57	0.26	4.3	330	24	Habitat tree
Turkey oak (13) Quercus cerris	56.5	0.25	3.7	281	144	Habitat tree
Turkey oak (10) Quercus cerris	54	0.23	3.5	269	106	Elite tree
Turkey oak (326) Quercus cerris	53	0.22	3.9	299	66	Elite tree
Turkey oak (80) Quercus cerris	51.5	0.21	3.5	266	16	Elite tree
Turkey oak (317) Quercus cerris	51	0.2	3.2	249	24	Elite tree
Turkey oak (57) Quercus cerris	51	0.2	3.4	258	24	Elite tree
Turkey oak (77) Quercus cerris	50	0.2	3	232	0	Habitat tree
Turkey oak (176) Quercus cerris	49	0.19	3	232	60	Habitat tree
Turkey oak (52) Quercus cerris	49	0.19	3.2	244	24	Habitat tree
Turkey oak (183) Quercus cerris	46	0.17	2.3	179	60	Habitat tree
Turkey oak (232) Quercus cerris	45	0.16	2.5	192	64	Habitat tree
Turkey oak (167) Quercus cerris	43.5	0.15	2.4	181	24	Elite tree
Turkey oak (236) Quercus cerris	43	0.15	1.9	143	78	Elite tree
Turkey oak (69) Quercus cerris	43	0.15	2.4	184	24	Elite tree
Turkey oak (158) Quercus cerris	40	0.13	1.7	126	24	Elite tree
Turkey oak (362) Quercus cerris	33.5	0.09	1.1	87	40	Elite tree
Turkey oak (278)	33	0.09	0.9	70	30	Habitat tree

Tree	DBH (cm)	Basal area (m <sup>2</sup> )	Volume (m <sup>3</sup> )	Economic value (€)	Habitat value (pts.)	Reason
Quercus cerris						
Turkey oak (223) Quercus cerris	32	0.08	1	79	24	Elite tree
Turkey oak (387) Quercus cerris	29.5	0.07	0.9	72	24	Habitat tree
Italian maple (316) Acer opalus	23	0.04	0.6	45	24	Elite tree
European hop-hornbeam (344) Ostrya carpinifolia	22.5	0.04	0.4	33	0	Elite tree
Italian maple (89) Acer opalus	22	0.04	0.3	23	4	Elite tree
mannan ash (323) Fraxinus ornus	20.5	0.03	0.4	34	4	Elite tree
European hop-hornbeam (99) Ostrya carpinifolia	19	0.03	0.3	24	24	Elite tree
European hop-hornbeam (346) Ostrya carpinifolia	17	0.02	0.2	17	0	Elite tree
mannan ash (71) Fraxinus ornus	17	0.02	1.6	125	4	Elite tree
common beech (7) Fagus sylvatica	9	0.01	0.2	16	0	Elite tree