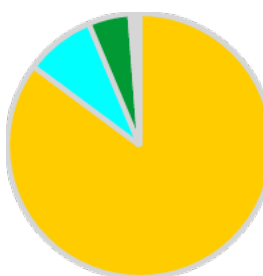


**Site conditions**

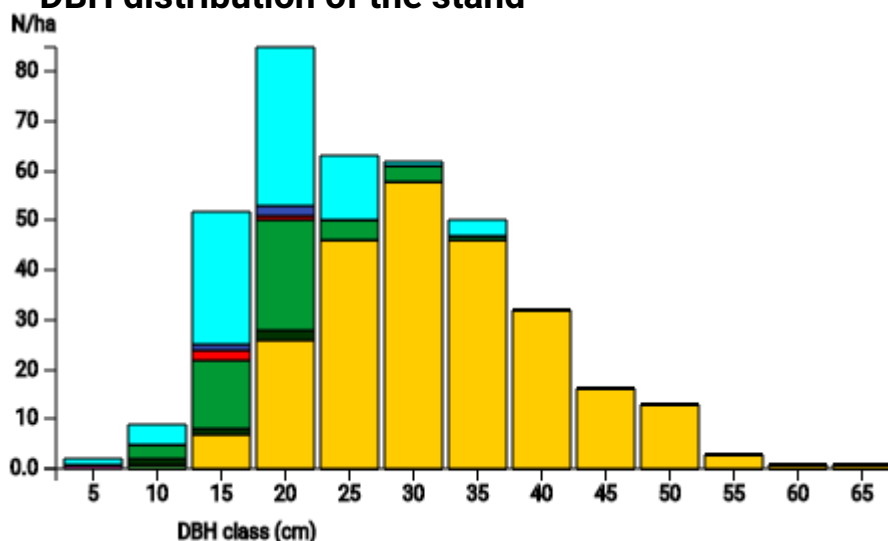
Altitude: 870 m.a.s.l.  
 Geology / Bedrock: Alluvial and mixed beds  
 Soil type: Cambisol – Leptosol with Luvisol of the Central Appenino Mountains.  
 Natural forest community: Aceri obtusati-Quercu cerridis sigmetum  
 Mean annual temperature: 12.4 C;  
 Mean annual precipitation: 1154 mm; Ownership: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



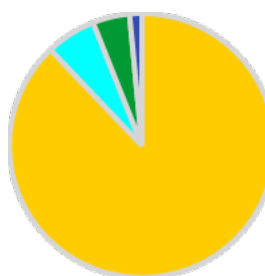
**Initial stand (details by tree species)**

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

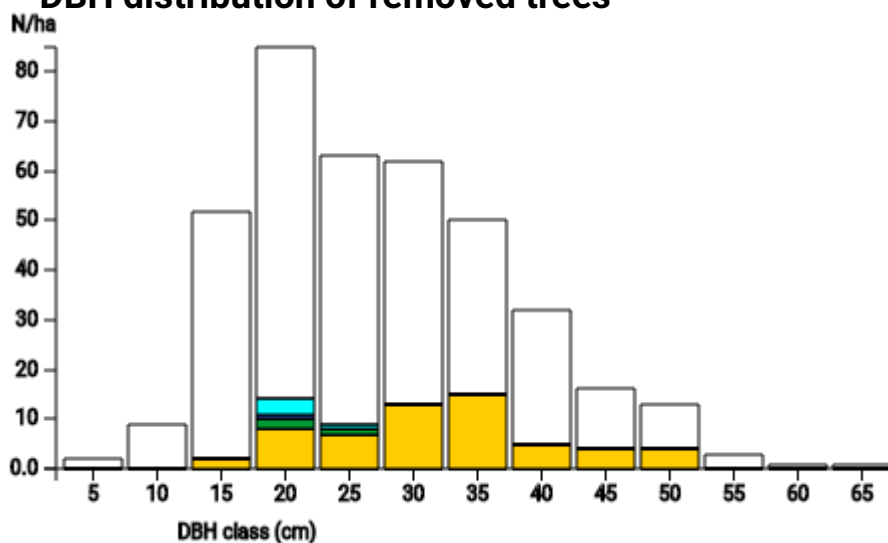
Volume: 84.9 m<sup>3</sup>  
 Basal area: 6 m<sup>2</sup>  
 Economic value: 6489 €  
 Habitat value: 1688 pts.

### Removed trees (N in %)



- Turkey oak: 87.9 %
- European hop-hornbeam: 6.1 %
- Italian maple: 4.5 %
- hornbeam: 1.5 %
- common beech: 0 %
- downy oak: 0 %
- field maple: 0 %
- manna ash: 0 %

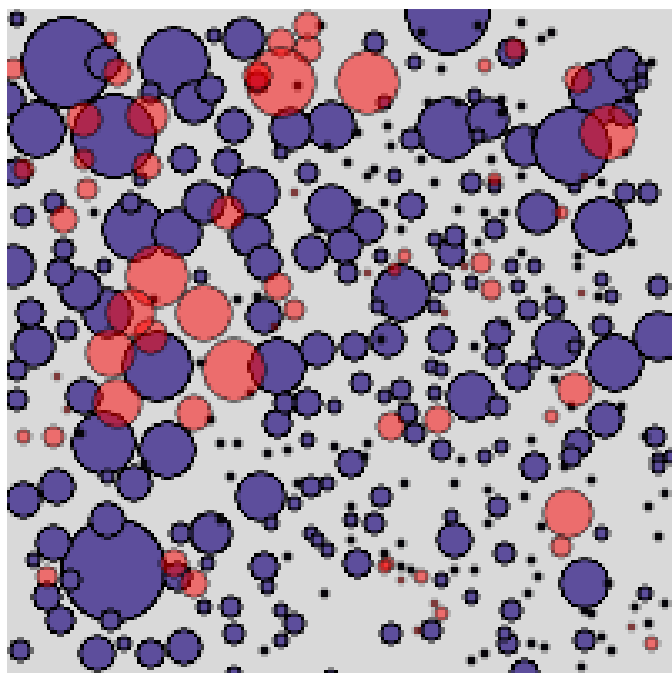
### DBH distribution of removed trees



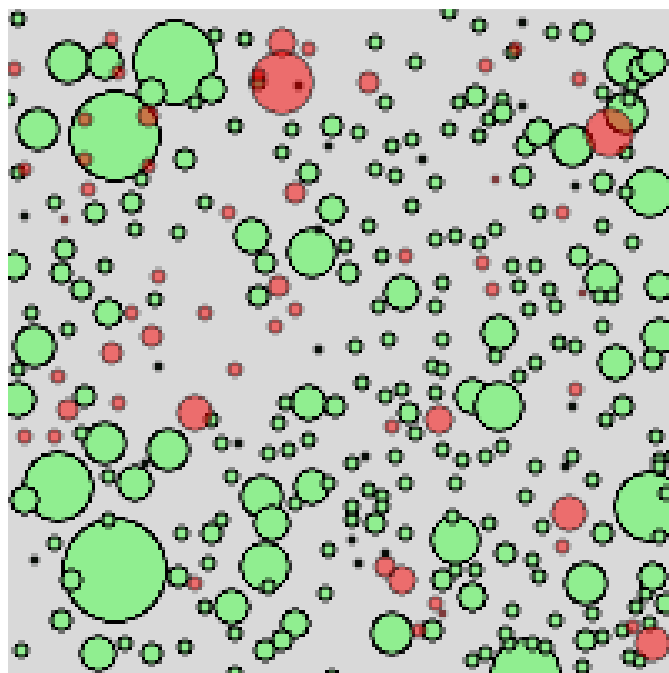
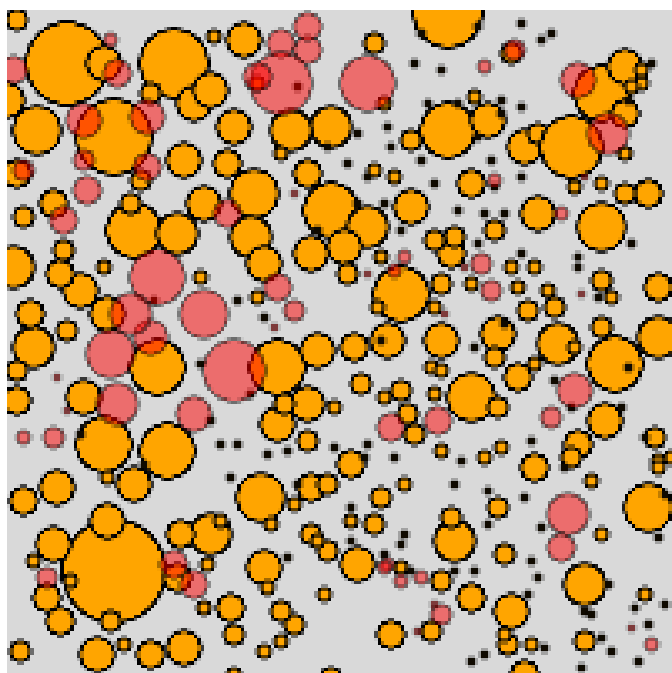
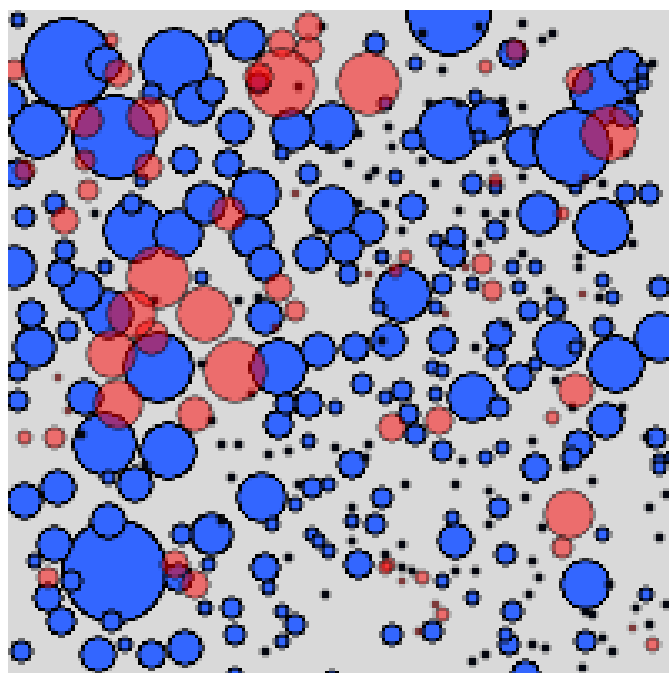
### Removed trees (details by tree species)

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	4	0.2	1.8	139	100	5
Italian maple	3	0.1	1.5	118	95	6
Turkey oak	58	5.6	80.9	6190	1493	77
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	1	0	0.5	41	0	0
manna ash	0	0	0	0	0	0
<b>Total</b>	<b>66</b>	<b>6</b>	<b>84.8</b>	<b>6489</b>	<b>1688</b>	<b>88</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.

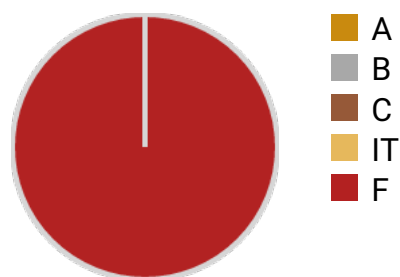
### Economic values

Total value of removed trees: 6489 €  
 Percentage of total stand value: 20.8 %  
 Stand value after harvest: 24651 €

### Economic value by tree species [€]

Tree species	Total	Per m <sup>3</sup>
common beech	0	0
downy oak	0	0
Turkey oak	6190	77
field maple	0	0
Italian maple	118	77
manna ash	0	0
hornbeam	41	76
European hop-hornbeam	139	77
Total	6489	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	84.8	100

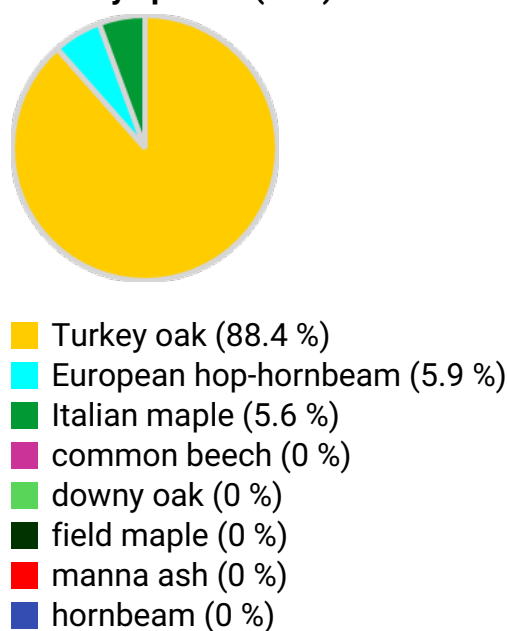
### Habitat values

Total habitat value of removed trees: 1688 pts.  
 Percentage of total stand value: 16 %  
 Stand value after harvest: 8882 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	1493	18.5	77
field maple	0	0	0
Italian maple	95	61.4	6
manna ash	0	0	0
hornbeam	0	0	0
European hop-hornbeam	100	55	5
Total	1688	19.9	88

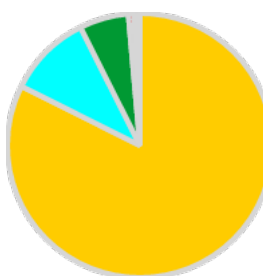
### Habitat value (points) of removed trees by species (in %)



### Remaining stand

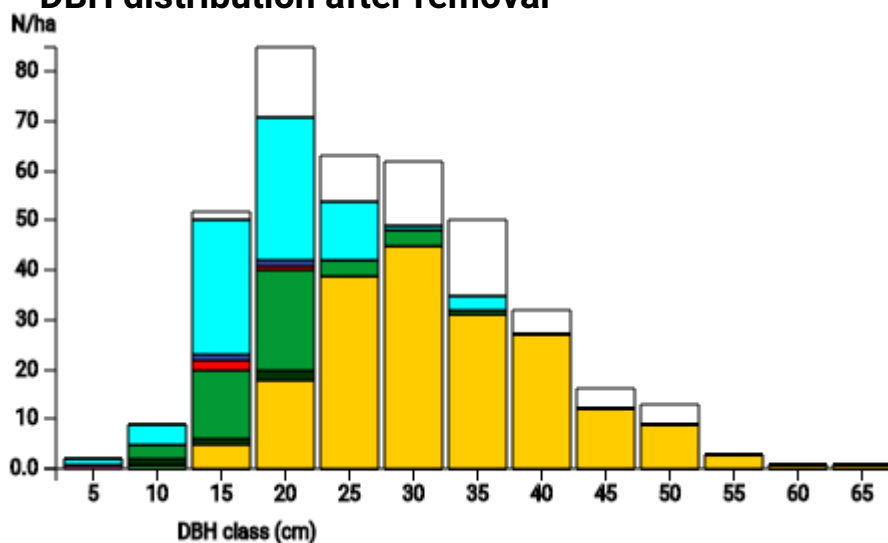
Volume: 322.1 m<sup>3</sup>  
 Basal area: 23.9 m<sup>2</sup>  
 Economic value: 24651 €  
 Habitat value: 8882 pts.

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



- Turkey oak: 82.4 %
- European hop-hornbeam: 10.2 %
- Italian maple: 6 %
- manna ash: 0.7 %
- field maple: 0.4 %
- hornbeam: 0.2 %
- 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	77	2.8	32.8	2508	1569	96
Italian maple	44	1.7	19.2	1470	822	59
Turkey oak	191	19.1	265.5	20309	6314	324
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	2	0.1	0.8	60	24	1
manna ash	3	0.1	2.3	174	38	4
<b>Total</b>	<b>323</b>	<b>23.9</b>	<b>322.2</b>	<b>24651</b>	<b>8882</b>	<b>490</b>

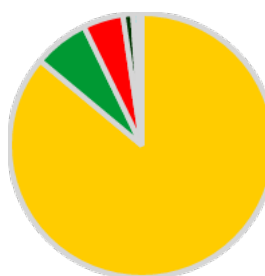
**Retention trees**Volume: 46.6 m<sup>3</sup>

Elite trees: 18

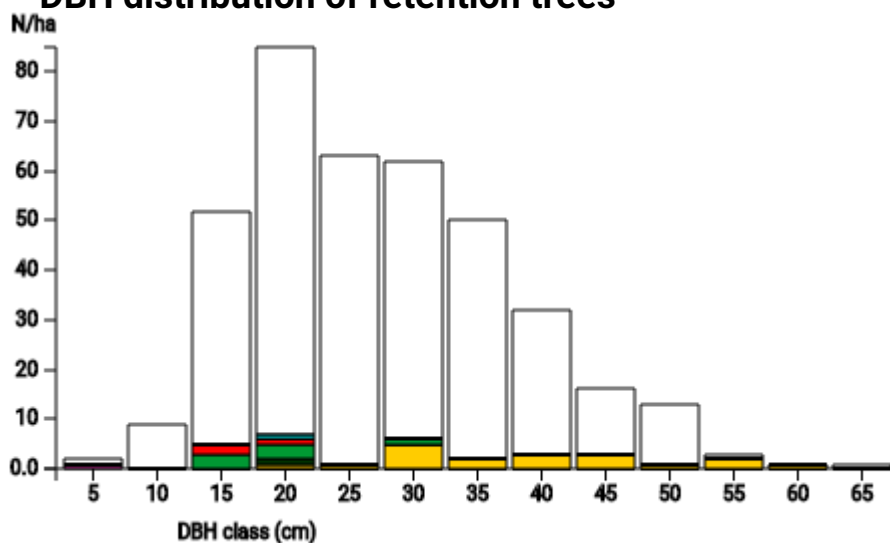
Habitat trees: 8

Economic value: 3564 €

Habitat value: 988 pts.

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

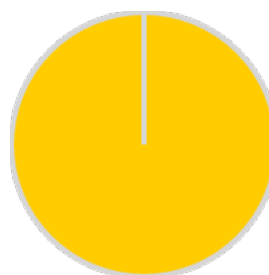
- Turkey oak: 86 %
- Italian maple: 6.7 %
- manna ash: 4.9 %
- field maple: 1.2 %
- European hop-hornbeam: 0.7 %
- common beech: 0.4 %
- downy oak: 0 %
- hornbeam: 0 %

**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	1	0	0.3	26	24	1
Italian maple	7	0.3	3.1	240	99	10
Turkey oak	19	2.6	40.1	3065	803	46
common beech	1	0	0.2	16	0	0
downy oak	0	0	0	0	0	0
field maple	1	0	0.6	42	24	1
hornbeam	0	0	0	0	0	0
manna ash	3	0.1	2.3	174	38	4
<b>Total</b>	<b>32</b>	<b>3.1</b>	<b>46.6</b>	<b>3564</b>	<b>988</b>	<b>62</b>

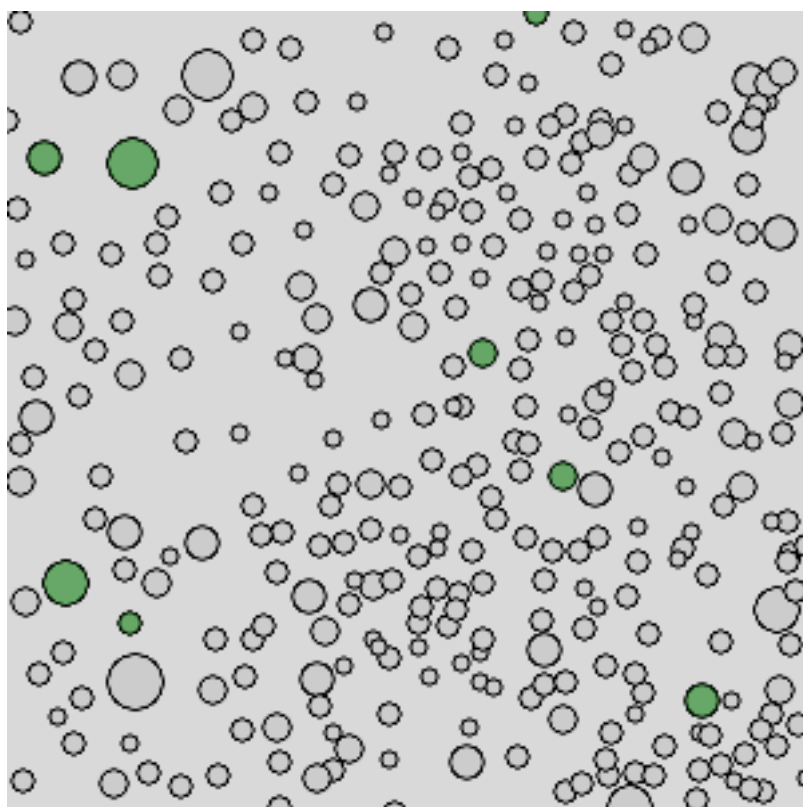
Number of habitat trees	[N]	8
Habitat value	pts.	561
	[% of total]	5.3
Economic value	[€]	1758
	[% of total]	5.6
Number of microhabitats	[N]	34
	[% of total]	5.9

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

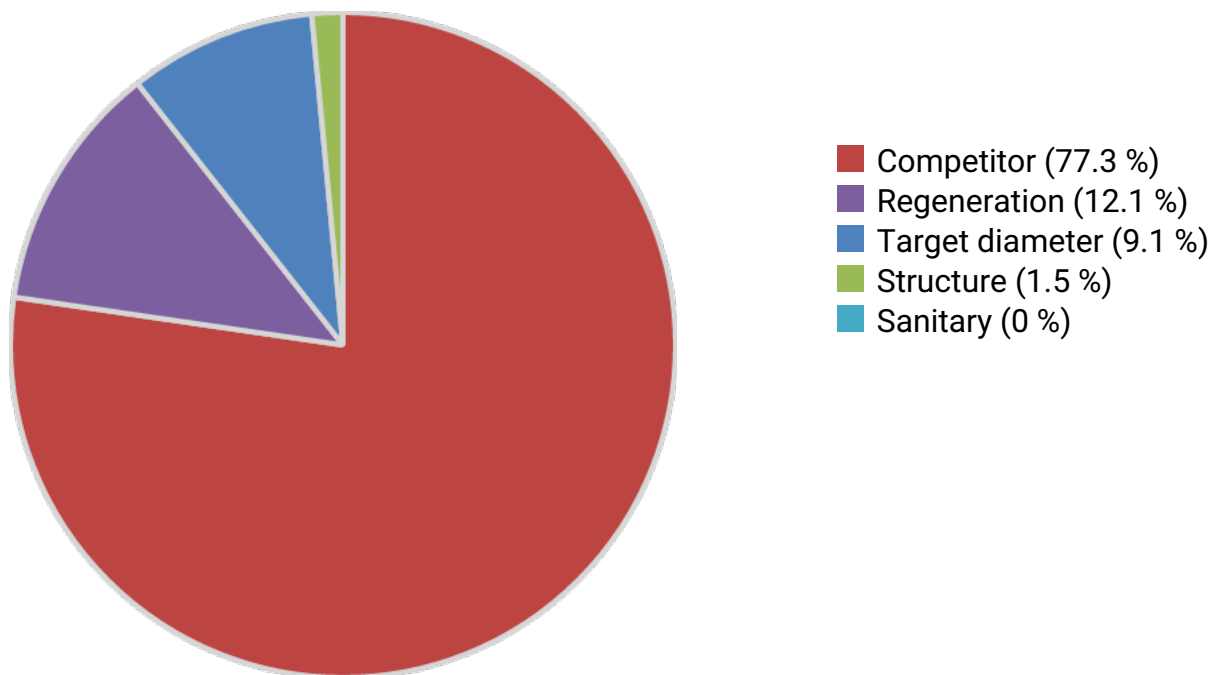


■ Turkey oak: 100 %
■ common beech: 0 %
■ downy oak: 0 %
■ field maple: 0 %
■ Italian maple: 0 %
■ manna ash: 0 %
■ hornbeam: 0 %
■ European hop-hornbeam: 0 %

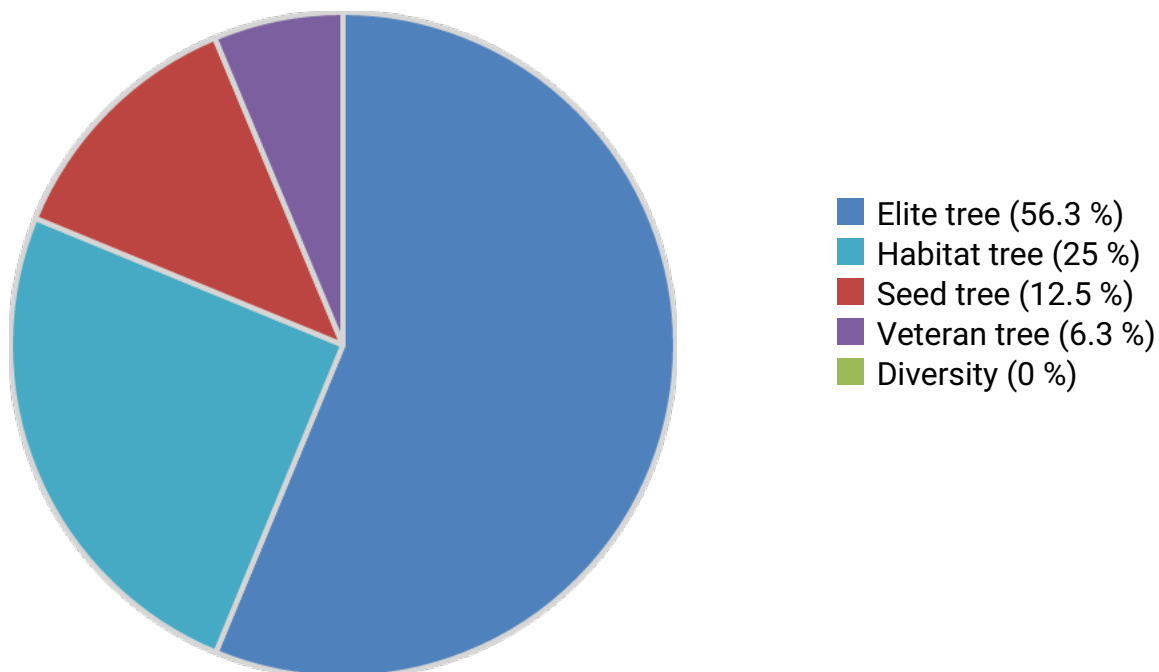
### Spatial distribution of habitat trees



### Reasons for removal

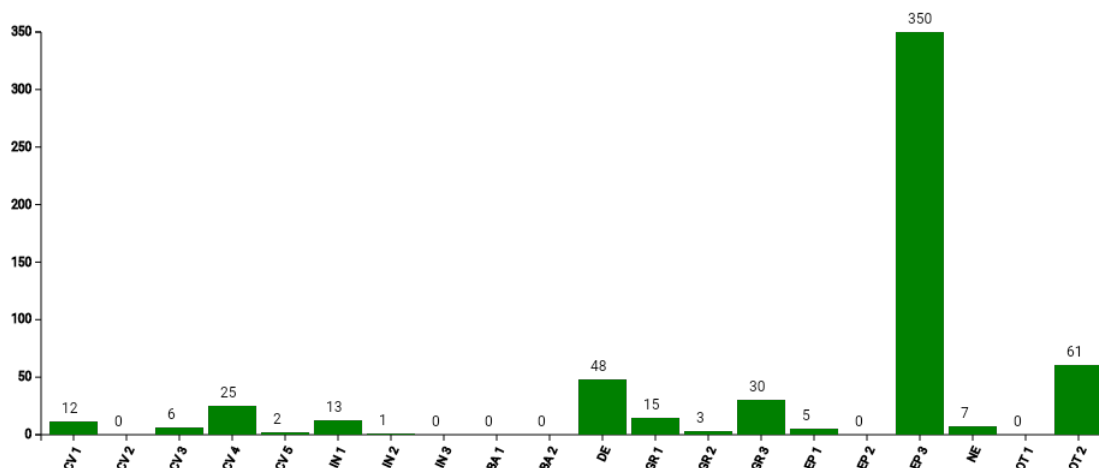


### Reasons for retention

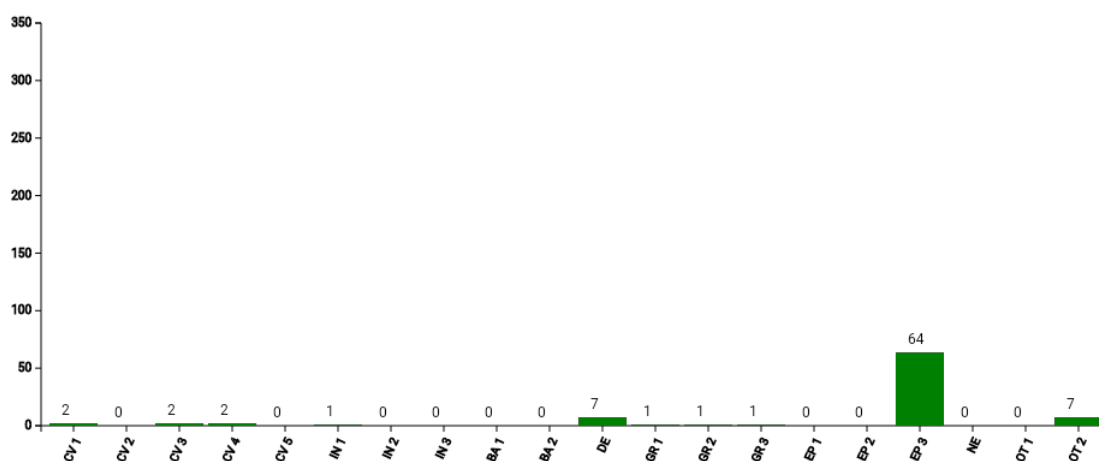




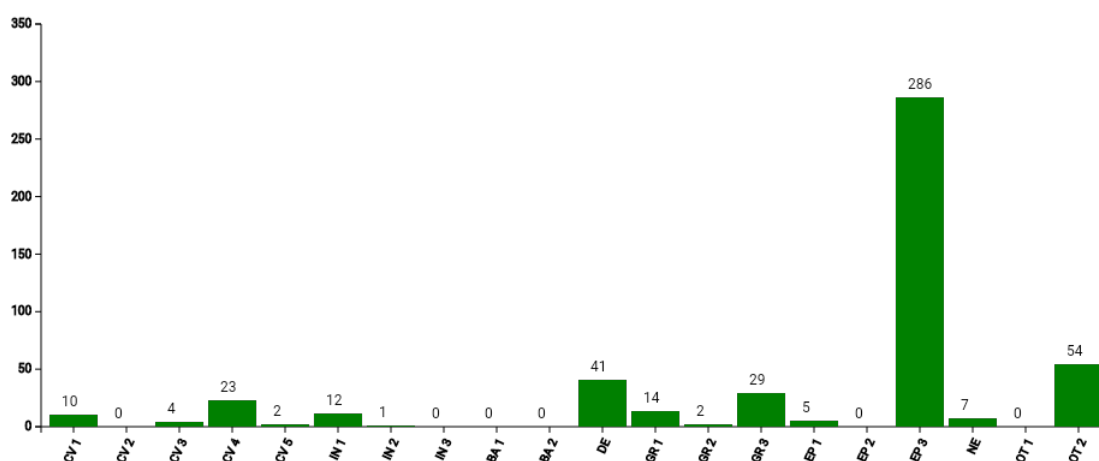
### Distribution of tree microhabitats by code (N total)



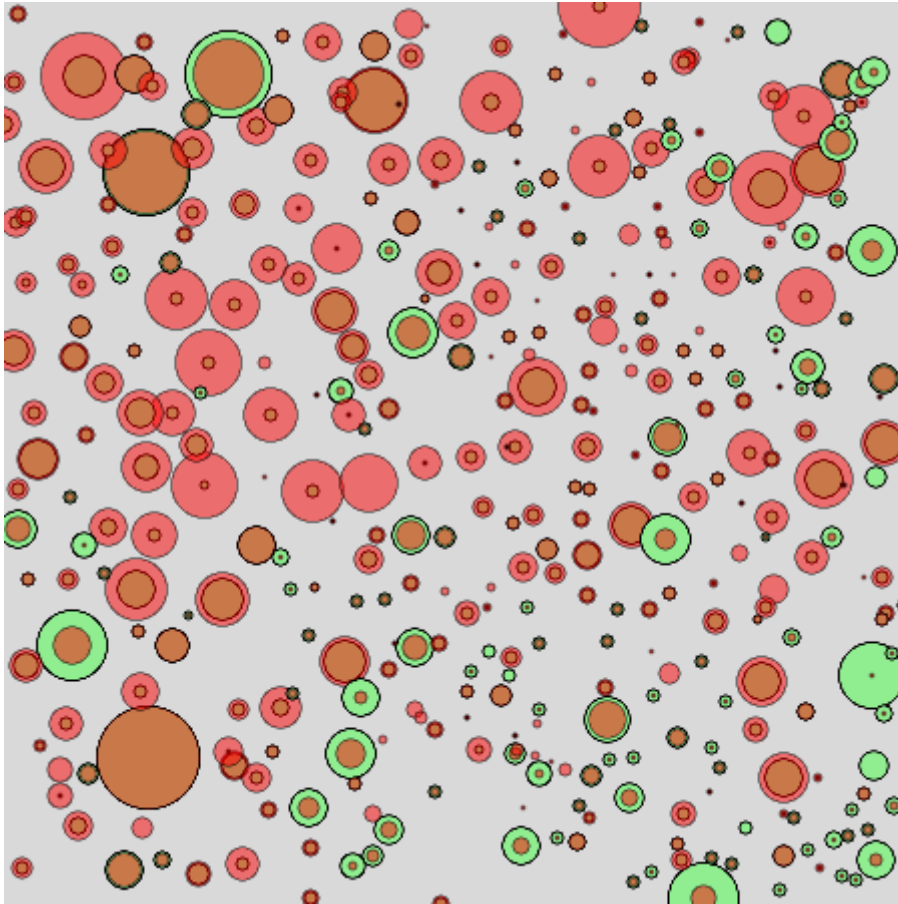
### Removed tree microhabitats by code (N removed)



### 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 (10) Quercus cerris	54	0.23	3.5	269	106	Competitor
Turkey oak (78) Quercus cerris	52	0.21	3.1	238	24	Competitor
Turkey oak (57) Quercus cerris	51	0.2	3.4	258	24	Target diameter
Turkey oak (298) Quercus cerris	50	0.2	3.3	252	30	Competitor
Turkey oak (70) Quercus cerris	48	0.18	2.7	210	24	Target diameter
Turkey oak (81) Quercus cerris	46	0.17	2.6	195	40	Competitor
Turkey oak (86) Quercus cerris	45	0.16	2.4	183	24	Competitor
Turkey oak (327) Quercus cerris	45	0.16	2.7	208	76	Target diameter
Turkey oak (212) Quercus cerris	44	0.15	2.5	189	60	Regeneration
Turkey oak (69) Quercus cerris	43	0.15	2.4	184	24	Competitor
Turkey oak (25) Quercus cerris	41.5	0.14	2.1	157	36	Competitor
Turkey oak (87) Quercus cerris	41	0.13	1.8	142	60	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 (305) Quercus cerris	38	0.11	1.6	123	24	Target diameter
Turkey oak (191) Quercus cerris	37.5	0.11	1.6	123	45	Competitor
Turkey oak (62) Quercus cerris	37.5	0.11	1.6	119	30	Regeneration
Turkey oak (130) Quercus cerris	37	0.11	1.6	119	24	Competitor
Turkey oak (46) Quercus cerris	36.5	0.11	1.7	132	24	Competitor
Turkey oak (38)	36	0.1	1.1	81	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 (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) Quercus cerris	35.5	0.1	1.3	98	24	Competitor
Turkey oak (14) Quercus cerris	35.5	0.1	1.6	122	24	Target diameter
Turkey oak (5) Quercus cerris	35.5	0.1	1.5	118	52	Competitor
Turkey oak (11) Quercus cerris	35	0.1	1.5	116	18	Competitor
Turkey oak (188) Quercus cerris	34.5	0.09	1.4	109	24	Competitor
Turkey oak (226) Quercus cerris	34.5	0.09	1.2	94	24	Regeneration
Turkey oak (17) Quercus cerris	34	0.09	1.2	90	24	Competitor
Turkey oak (42) Quercus cerris	34	0.09	1.3	98	12	Competitor
Turkey oak (293) Quercus cerris	33.5	0.09	1.2	89	24	Target diameter
Turkey oak (134) Quercus cerris	33	0.09	1.2	94	0	Competitor
Turkey oak (106) Quercus cerris	32	0.08	1.1	81	24	Regeneration
Turkey oak (29) Quercus cerris	32	0.08	1	79	24	Competitor
Turkey oak (181) Quercus cerris	31	0.08	0.9	68	0	Competitor
Turkey oak (380) Quercus cerris	31	0.08	1.2	92	24	Competitor
Turkey oak (73) Quercus cerris	30	0.07	1.1	85	28	Regeneration
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	Structure

Tree	DBH (cm)	Basal area (m <sup>2</sup> )	Volume (m <sup>3</sup> )	Economic value (€)	Habitat value (pts.)	Reason
Turkey oak (369) Quercus cerris	29.5	0.07	1	79	24	Competitor
Italian maple (267) Acer opalus	28	0.06	0.7	52	60	Competitor
Turkey oak (2) Quercus cerris	27.5	0.06	0.8	64	24	Competitor
Turkey oak (105) Quercus cerris	27	0.06	0.7	53	24	Regeneration
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
Turkey oak (254) Quercus cerris	26.5	0.06	0.6	47	0	Competitor
Turkey oak (261) Quercus cerris	26	0.05	0.6	43	0	Competitor
Turkey oak (295) Quercus cerris	26	0.05	0.7	52	24	Competitor
Turkey oak (365) Quercus cerris	24.5	0.05	0.6	46	0	Competitor
Turkey oak (366) Quercus cerris	24	0.05	0.6	46	24	Competitor
Italian maple (350) Acer opalus	24	0.05	0.5	42	28	Competitor
Turkey oak (260) Quercus cerris	24	0.05	0.5	41	44	Competitor
Turkey oak (84) Quercus cerris	23	0.04	0.5	36	24	Regeneration
hornbeam (332) Carpinus betulus	23	0.04	0.5	41	0	Competitor
European hop-hornbeam (48) Ostrya carpinifolia	22	0.04	0.5	35	38	Competitor
Turkey oak (275) Quercus cerris	22	0.04	0.4	27	24	Competitor
Turkey oak (368) Quercus cerris	22	0.04	0.4	34	0	Competitor
Turkey oak (386) Quercus cerris	21	0.04	0.4	29	4	Competitor
Turkey oak (277) Quercus cerris	21	0.04	0.3	21	24	Regeneration
European hop-hornbeam (248)	21	0.04	0.4	29	24	Competitor

Tree	DBH (cm)	Basal area (m <sup>2</sup> )	Volume (m <sup>3</sup> )	Economic value (€)	Habitat value (pts.)	Reason
Ostrya carpinifolia						
Italian maple (377) Acer opalus	20	0.03	0.3	25	7	Competitor
European hop-hornbeam (72) Ostrya carpinifolia	20	0.03	0.4	27	24	Competitor
Turkey oak (363) Quercus cerris	18.5	0.03	0.3	25	0	Competitor
Turkey oak (103) Quercus cerris	18	0.03	0.3	22	40	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 (16) Quercus cerris	60	0.28	4.6	351	72	Veteran 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 (384) Quercus cerris	51	0.2	3	229	60	Habitat tree
Turkey oak (28) Quercus cerris	46.5	0.17	2.7	205	66	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 (117) Quercus cerris	41	0.13	1.9	147	121	Habitat tree
Turkey oak (85) Quercus cerris	40	0.13	1.8	141	30	Elite tree
Turkey oak (116) Quercus cerris	39	0.12	1.9	146	18	Habitat tree
Turkey oak (131) Quercus cerris	37	0.11	1.5	116	40	Elite tree
Italian maple (36) Acer opalus	34.5	0.09	1.2	93	40	Elite tree
Turkey oak (136) Quercus cerris	34	0.09	1.3	103	4	Elite tree
Turkey oak (337) Quercus cerris	34	0.09	1.1	87	0	Veteran tree
Turkey oak (252) Quercus cerris	32	0.08	0.9	66	36	Elite tree
Turkey oak (138) Quercus cerris	31.5	0.08	1.1	86	0	Elite tree
Turkey oak (189) Quercus cerris	31.5	0.08	1.1	81	36	Elite tree
Turkey oak (381) Quercus cerris	26	0.05	0.7	55	0	Elite tree
Turkey oak (259) Quercus cerris	23.5	0.04	0.5	40	0	Elite tree
Italian maple (333)	23.5	0.04	0.6	42	8	Elite tree

Tree	DBH (cm)	Basal area (m <sup>2</sup> )	Volume (m <sup>3</sup> )	Economic value (€)	Habitat value (pts.)	Reason
Acer opalus						
field maple (297) Acer campestre	22.5	0.04	0.6	42	24	Seed tree
Italian maple (89) Acer opalus	22	0.04	0.3	23	4	Elite tree
Italian maple (65) Acer opalus	21	0.04	0.3	24	24	Elite tree
mannan ash (323) Fraxinus ornus	20.5	0.03	0.4	34	4	Seed tree
European hop-hornbeam (247) Ostrya carpinifolia	20	0.03	0.3	26	24	Elite tree
Italian maple (180) Acer opalus	18.5	0.03	0.3	22	12	Elite tree
Italian maple (372) Acer opalus	17.5	0.02	0.3	21	4	Elite tree
mannan ash (71) Fraxinus ornus	17	0.02	1.6	125	4	Seed tree
Italian maple (9) Acer opalus	17	0.02	0.2	15	7	Elite tree
mannan ash (43) Fraxinus ornus	15	0.02	0.2	16	30	Seed tree
common beech (7) Fagus sylvatica	9	0.01	0.2	16	0	Elite tree