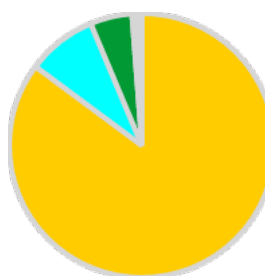


28/05/2021 GruppoB 28mag

### Site conditions

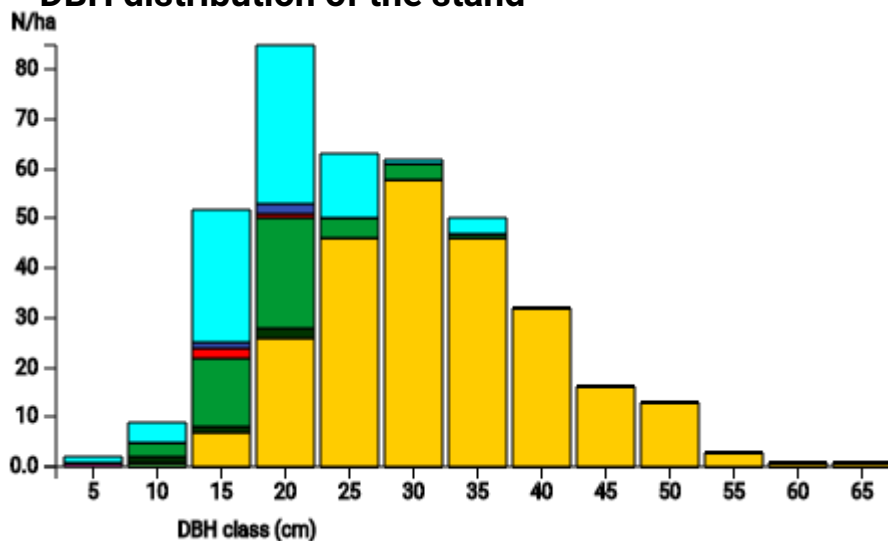
Altitude: 870 m.a.s.l.  
 Geology / Bedrock: Alluvial and mixed beds  
 Soil type: Cambisol – Leptosol with Luvisol of the Central Appenino Mountains.  
 Natural forest community: Aceri obtusati-Quercu cerridis sigmetum  
 Mean annual temperature: 12.4 C;  
 Mean annual precipitation: 1154 mm; Ownership: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



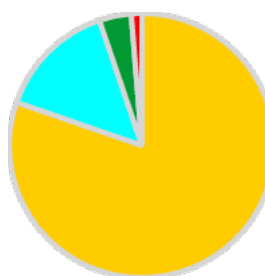
### Initial stand (details by tree species)

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

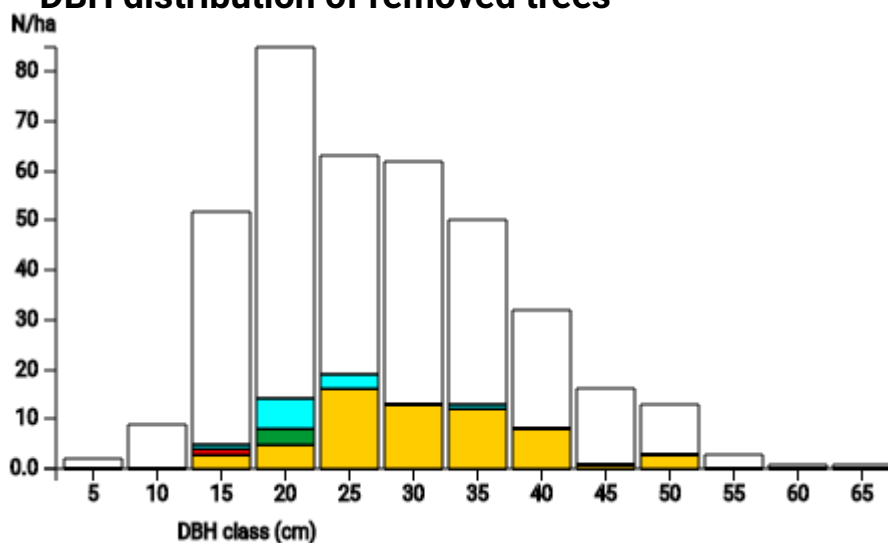
Volume: 82.9 m<sup>3</sup>  
 Basal area: 6 m<sup>2</sup>  
 Economic value: 6341 €  
 Habitat value: 1956 pts.

### Removed trees (N in %)



- Turkey oak: 80.3 %
- European hop-hornbeam: 14.5 %
- Italian maple: 3.9 %
- manna ash: 1.3 %
- common beech: 0 %
- downy oak: 0 %
- field maple: 0 %
- hornbeam: 0 %

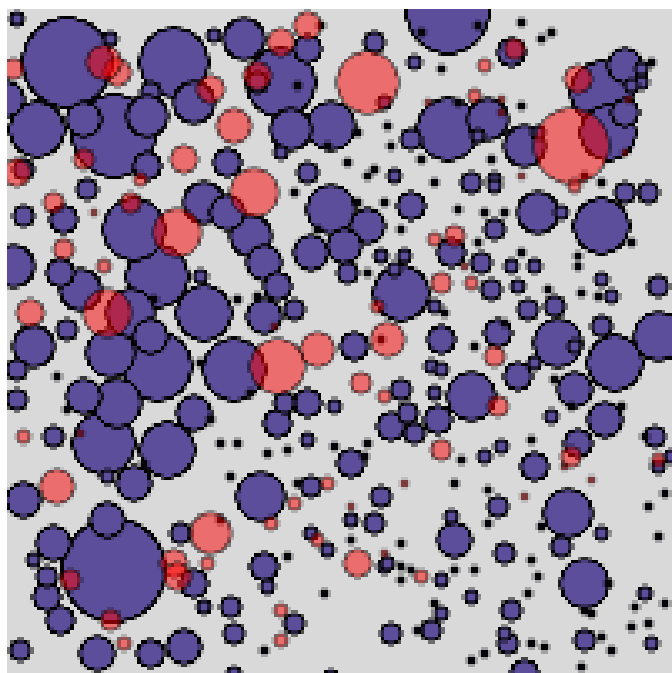
### DBH distribution of removed trees



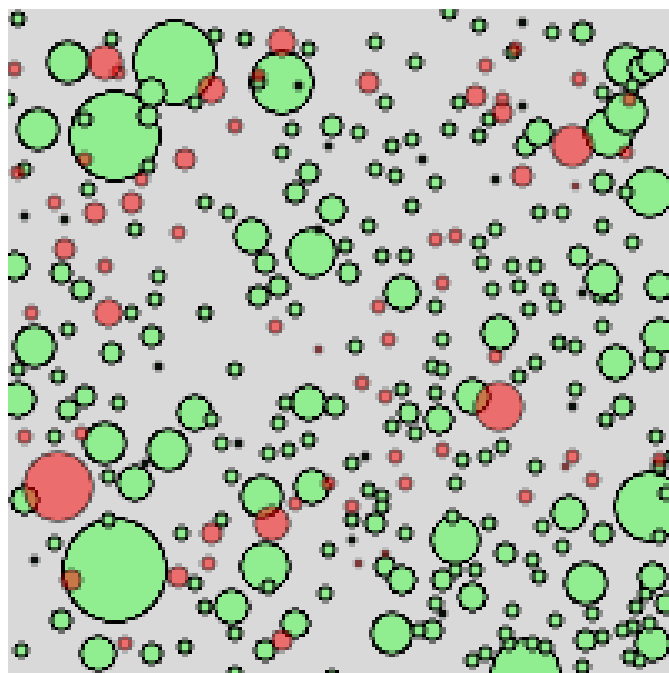
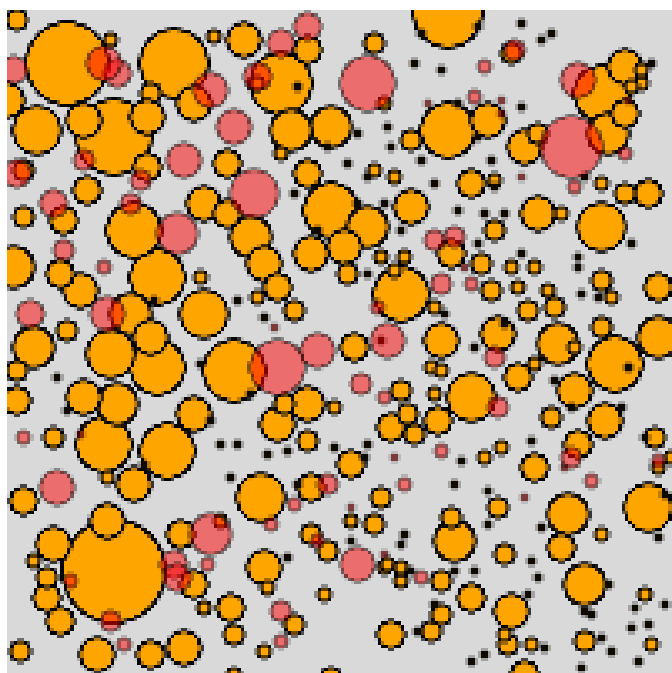
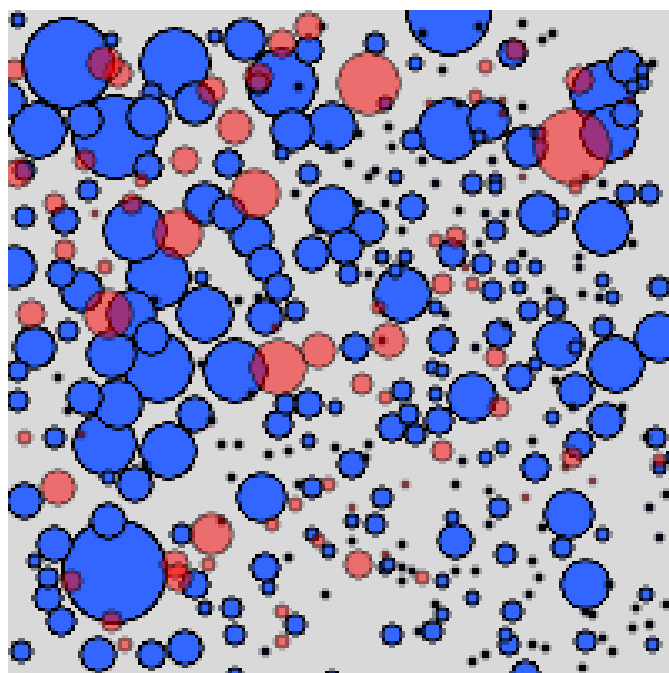
### Removed trees (details by tree species)

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	11	0.5	6.1	467	258	14
Italian maple	3	0.1	1.4	110	60	5
Turkey oak	61	5.4	75.1	5748	1608	82
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	1	0	0.2	16	30	2
<b>Total</b>	<b>76</b>	<b>6</b>	<b>82.9</b>	<b>6341</b>	<b>1956</b>	<b>103</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.

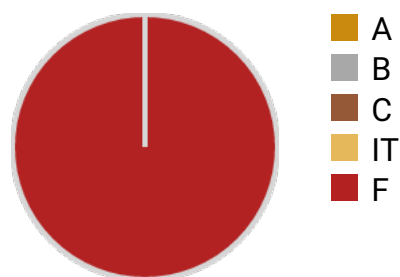
### Economic values

Total value of removed trees: 6341 €  
 Percentage of total stand value: 20.4 %  
 Stand value after harvest: 24799 €

### Economic value by tree species [€]

Tree species	Total	Per m <sup>3</sup>
common beech	0	0
downy oak	0	0
Turkey oak	5748	76
field maple	0	0
Italian maple	110	77
manna ash	16	77
hornbeam	0	0
European hop-hornbeam	467	77
Total	6341	76

### 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	82.9	100

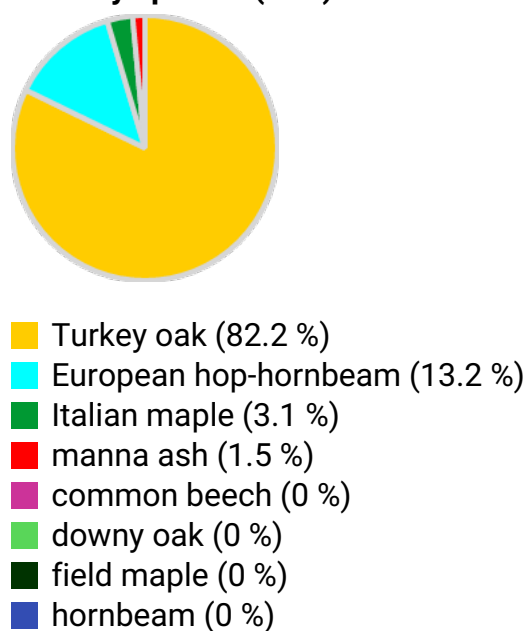
### Habitat values

Total habitat value of removed trees: 1956 pts.  
 Percentage of total stand value: 18.5 %  
 Stand value after harvest: 8614 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	1608	21.4	82
field maple	0	0	0
Italian maple	60	41.6	5
manna ash	30	147.7	2
hornbeam	0	0	0
European hop-hornbeam	258	42.2	14
Total	1956	23.6	103

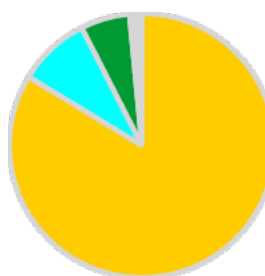
### Habitat value (points) of removed trees by species (in %)



### Remaining stand

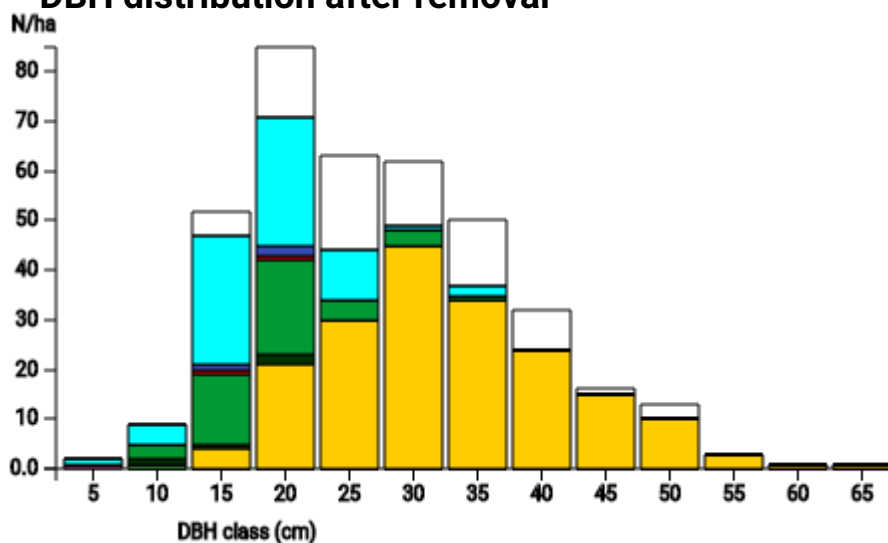
Volume: 324.1 m<sup>3</sup>  
 Basal area: 23.8 m<sup>2</sup>  
 Economic value: 24799 €  
 Habitat value: 8614 pts.

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



- Turkey oak: 83.7 %
- European hop-hornbeam: 8.8 %
- Italian maple: 6 %
- manna ash: 0.6 %
- 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	70	2.5	28.5	2180	1411	87
Italian maple	44	1.7	19.3	1477	857	60
Turkey oak	188	19.4	271.3	20752	6199	319
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	2	0.1	2.1	159	8	2
<b>Total</b>	<b>313</b>	<b>23.8</b>	<b>324.2</b>	<b>24799</b>	<b>8614</b>	<b>475</b>

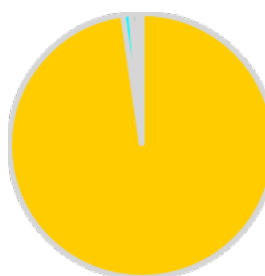
**Retention trees**Volume: 90.4 m<sup>3</sup>

Elite trees: 30

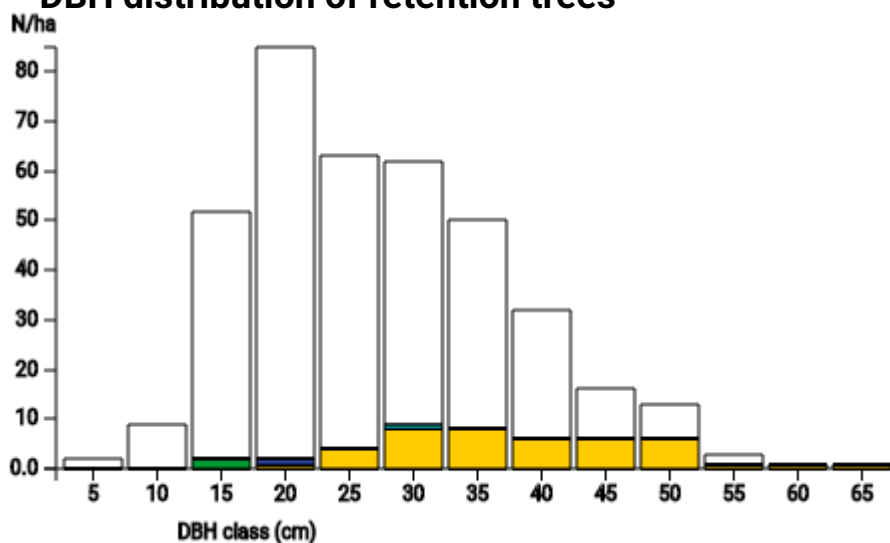
Habitat trees: 10

Economic value: 6917 €

Habitat value: 1791 pts.

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

Turkey oak: 97.8 %
European hop-hornbeam: 1 %
Italian maple: 0.7 %
hornbeam: 0.6 %
common beech: 0 %
downy oak: 0 %
field maple: 0 %
manna ash: 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	0.1	0.9	66	58	5
Italian maple	2	0.1	0.6	48	12	1
Turkey oak	42	5.8	88.4	6762	1721	102
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>46</b>	<b>6</b>	<b>90.4</b>	<b>6917</b>	<b>1791</b>	<b>108</b>

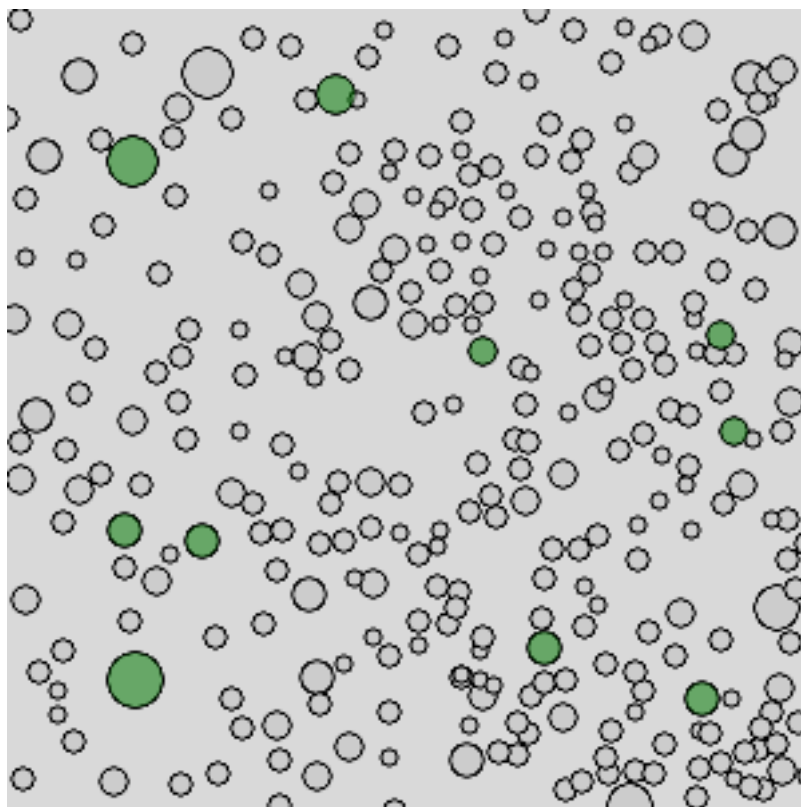
Number of habitat trees	[N]	10
Habitat value	pts.	883
	[% of total]	8.4
Economic value	[€]	2343
	[% of total]	7.5
Number of microhabitats	[N]	61
	[% of total]	10.6

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

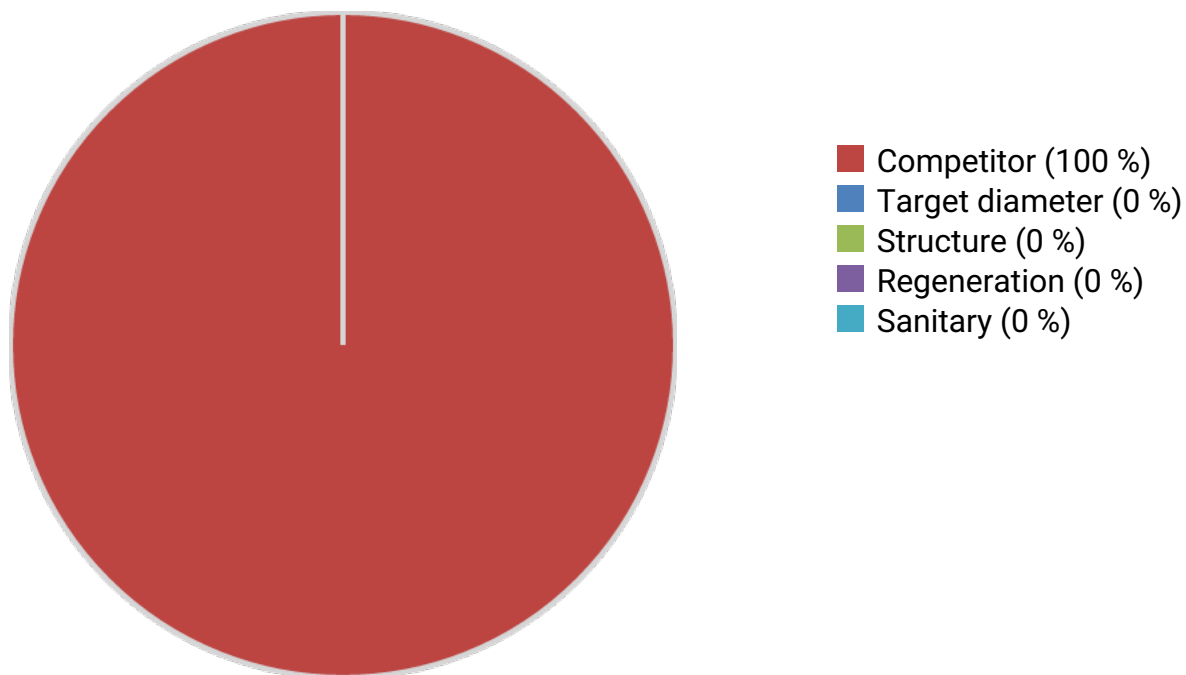


■ Turkey oak: 90 %
■ European hop-hornbeam: 10 %
■ common beech: 0 %
■ downy oak: 0 %
■ field maple: 0 %
■ Italian maple: 0 %
■ manna ash: 0 %
■ hornbeam: 0 %

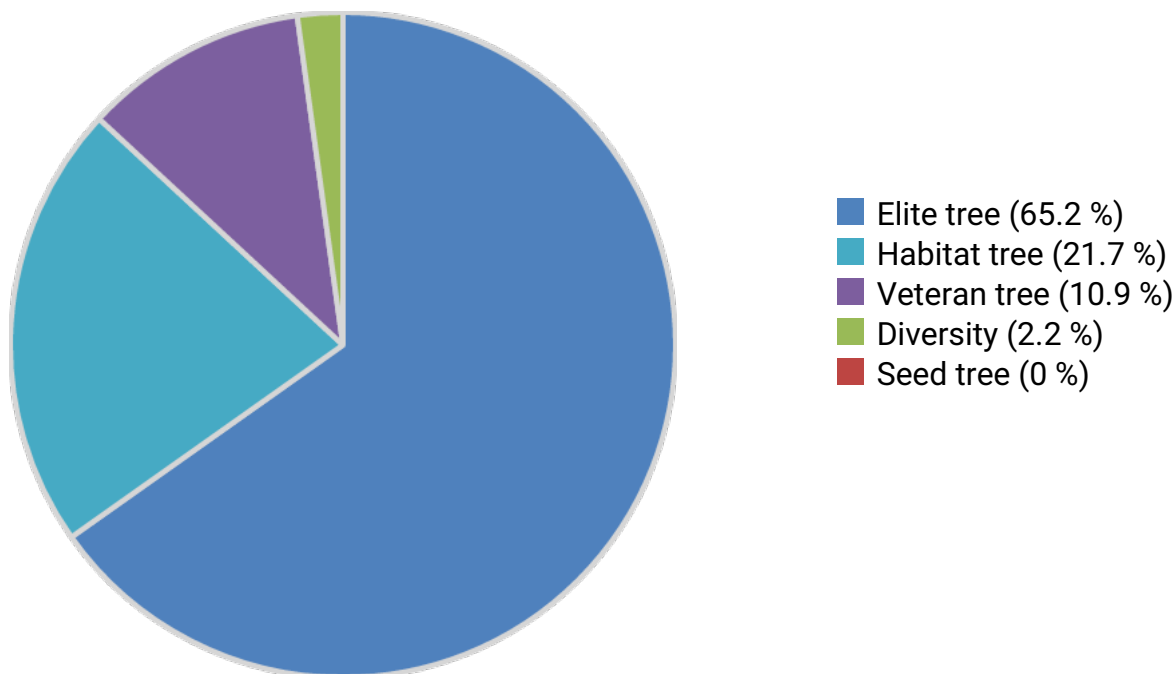
### Spatial distribution of habitat trees



### Reasons for removal

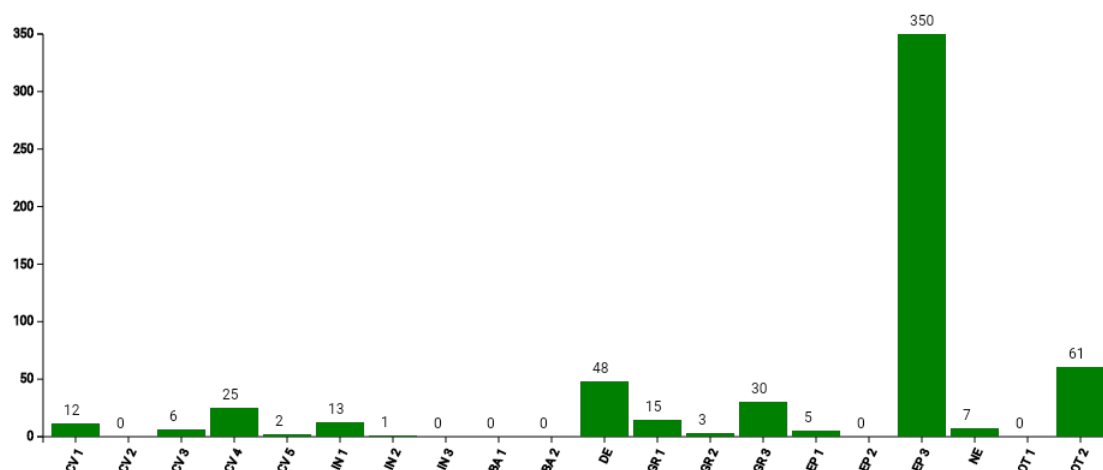


### Reasons for retention

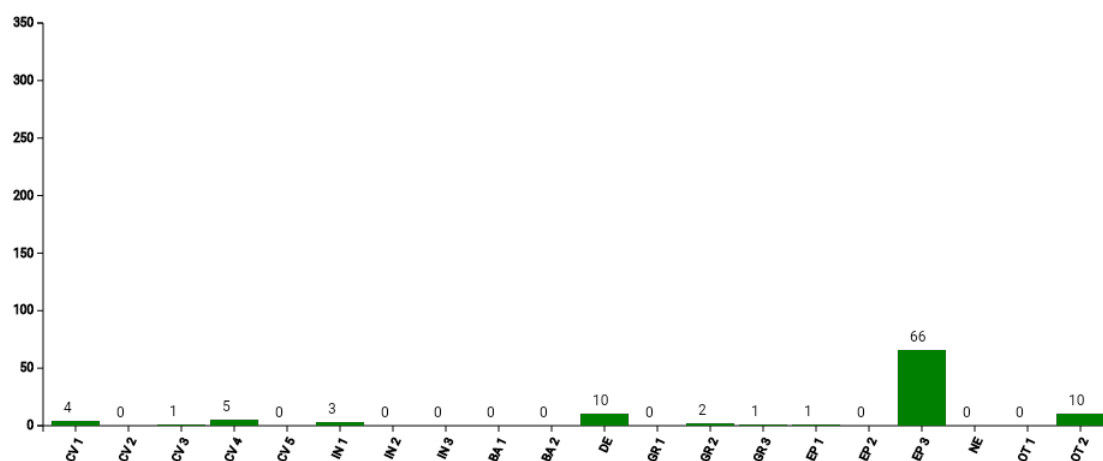




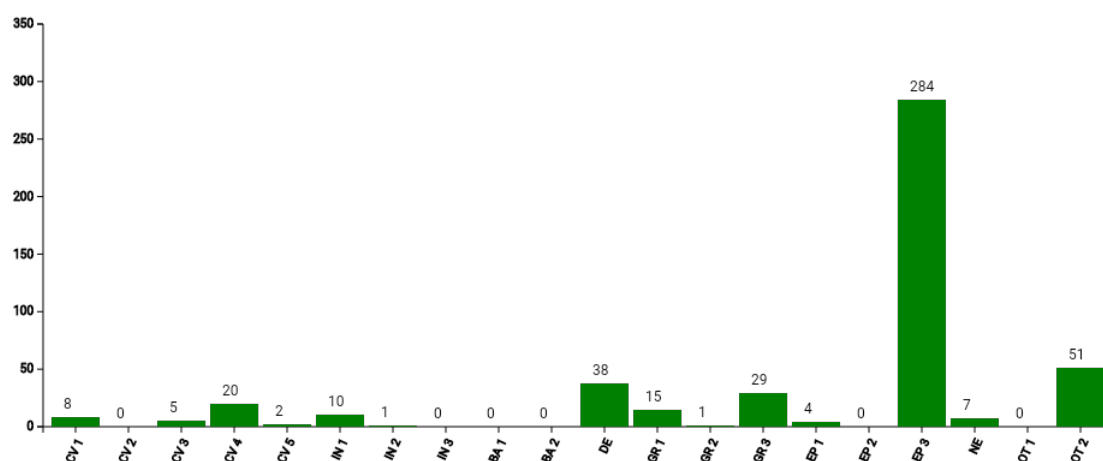
## Distribution of tree microhabitats by code (N total)



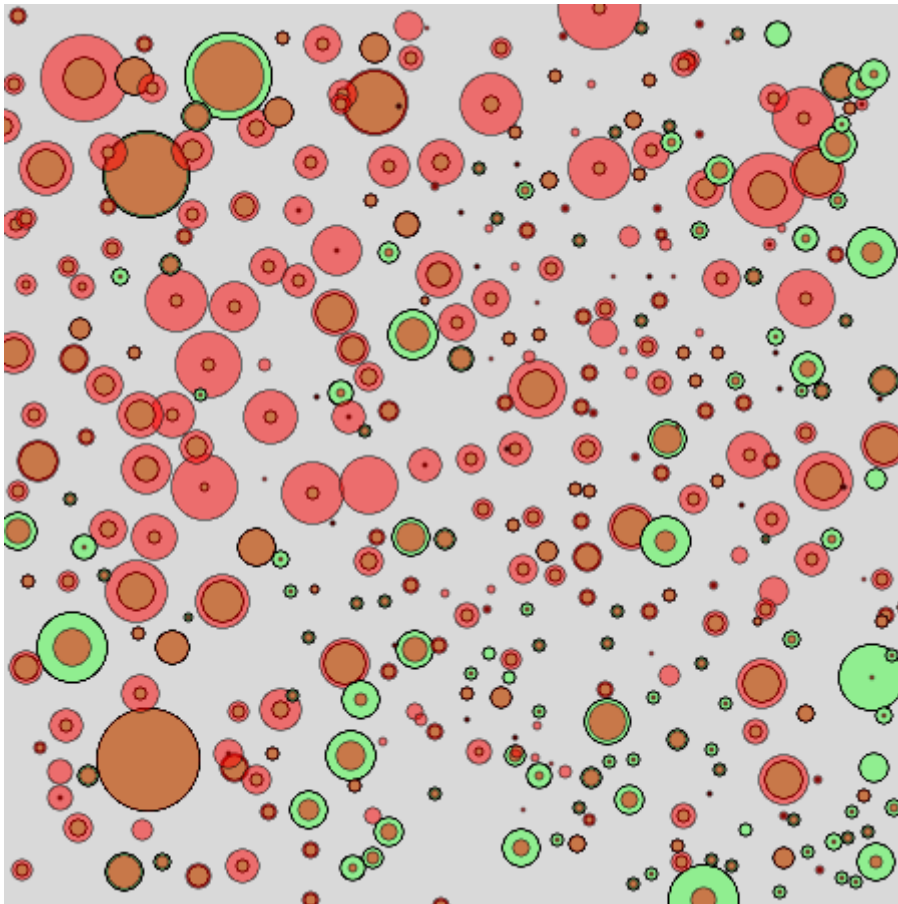
## Removed tree microhabitats by code (N removed)



## 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 (326) <i>Quercus cerris</i>	53	0.22	3.9	299	66	Competitor
Turkey oak (77) <i>Quercus cerris</i>	50	0.2	3	232	0	Competitor
Turkey oak (298) <i>Quercus cerris</i>	50	0.2	3.3	252	30	Competitor
Turkey oak (47) <i>Quercus cerris</i>	48.5	0.19	2.5	189	4	Competitor
Turkey oak (51) <i>Quercus cerris</i>	44	0.15	2.5	191	24	Competitor
Turkey oak (121) <i>Quercus cerris</i>	43.5	0.15	2.1	158	30	Competitor
Turkey oak (15) <i>Quercus cerris</i>	41.5	0.14	1.9	142	60	Competitor
Turkey oak (117) <i>Quercus cerris</i>	41	0.13	1.9	147	121	Competitor
Turkey oak (68) <i>Quercus cerris</i>	40.5	0.13	2.3	178	52	Competitor
Turkey oak (158) <i>Quercus cerris</i>	40	0.13	1.7	126	24	Competitor
Turkey oak (76) <i>Quercus cerris</i>	40	0.13	1.8	134	6	Competitor
Turkey oak (32) <i>Quercus cerris</i>	40	0.13	1.4	110	36	Competitor
Turkey oak (23) <i>Quercus cerris</i>	38	0.11	1.8	140	24	Competitor
European hop-hornbeam (257) <i>Ostrya carpinifolia</i>	38	0.11	1.3	99	12	Competitor
Turkey oak (305) <i>Quercus cerris</i>	38	0.11	1.6	123	24	Competitor
Turkey oak (20) <i>Quercus cerris</i>	38	0.11	1.6	123	50	Competitor
Turkey oak (131) <i>Quercus cerris</i>	37	0.11	1.5	116	40	Competitor
Turkey oak (6) <i>Quercus cerris</i>	36	0.1	1.4	111	0	Competitor
Turkey oak (132) <i>Quercus cerris</i>	36	0.1	1.5	111	4	Competitor
Turkey oak (14) <i>Quercus cerris</i>	35.5	0.1	1.6	122	24	Competitor
Turkey oak (67)	35.5	0.1	1.4	106	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	Competitor
Turkey oak (11) Quercus cerris	35	0.1	1.5	116	18	Competitor
Turkey oak (39) Quercus cerris	35	0.1	1	78	18	Competitor
Turkey oak (40) Quercus cerris	35	0.1	1.5	114	24	Competitor
Turkey oak (17) Quercus cerris	34	0.09	1.2	90	24	Competitor
Turkey oak (182) Quercus cerris	33.5	0.09	1.2	90	81	Competitor
Turkey oak (357) Quercus cerris	33.5	0.09	1.1	86	24	Competitor
Turkey oak (293) Quercus cerris	33.5	0.09	1.2	89	24	Competitor
Turkey oak (53) Quercus cerris	32.5	0.08	1.1	81	36	Competitor
Turkey oak (187) Quercus cerris	32.5	0.08	1	80	24	Competitor
Turkey oak (138) Quercus cerris	31.5	0.08	1.1	86	0	Competitor
Turkey oak (358) Quercus cerris	30.5	0.07	0.8	63	24	Competitor
Turkey oak (168) Quercus cerris	30	0.07	1	74	24	Competitor
Turkey oak (382) Quercus cerris	30	0.07	0.9	70	24	Competitor
Turkey oak (194) Quercus cerris	30	0.07	1.1	82	24	Competitor
Turkey oak (145) Quercus cerris	30	0.07	0.9	66	0	Competitor
Turkey oak (30) Quercus cerris	30	0.07	0.9	69	24	Competitor
Turkey oak (111) Quercus cerris	29.5	0.07	0.8	63	24	Competitor
Turkey oak (44) Quercus cerris	29	0.07	0.9	73	32	Competitor
Turkey oak (37) Quercus cerris	29	0.07	0.9	65	24	Competitor

Tree	DBH (cm)	Basal area (m <sup>2</sup> )	Volume (m <sup>3</sup> )	Economic value (€)	Habitat value (pts.)	Reason
Turkey oak (206) Quercus cerris	28.5	0.06	0.9	70	24	Competitor
Turkey oak (140) Quercus cerris	28.5	0.06	1	74	35	Competitor
Turkey oak (123) Quercus cerris	28	0.06	0.7	57	60	Competitor
European hop-hornbeam (56) Ostrya carpinifolia	28	0.06	0.7	56	24	Competitor
Turkey oak (114) Quercus cerris	28	0.06	0.9	66	19	Competitor
European hop-hornbeam (302) Ostrya carpinifolia	27.5	0.06	0.8	59	30	Competitor
Turkey oak (383) Quercus cerris	27.5	0.06	0.8	60	24	Competitor
Turkey oak (129) Quercus cerris	27	0.06	0.7	52	24	Competitor
Turkey oak (154) Quercus cerris	27	0.06	0.6	49	36	Competitor
Turkey oak (105) Quercus cerris	27	0.06	0.7	53	24	Competitor
European hop-hornbeam (199) Ostrya carpinifolia	26.5	0.06	0.8	61	24	Competitor
Turkey oak (381) Quercus cerris	26	0.05	0.7	55	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 (125) Quercus cerris	26	0.05	0.7	53	0	Competitor
Turkey oak (186) Quercus cerris	25	0.05	0.6	46	24	Competitor
Turkey oak (219) Quercus cerris	24.5	0.05	0.5	41	24	Competitor
Italian maple (201) Acer opalus	24	0.05	0.5	37	28	Competitor
Turkey oak (139) Quercus cerris	24	0.05	0.6	46	28	Competitor
European hop-hornbeam (328) Ostrya carpinifolia	24	0.05	0.5	40	28	Competitor
Italian maple (333)	23.5	0.04	0.6	42	8	Competitor

Tree	DBH (cm)	Basal area (m <sup>2</sup> )	Volume (m <sup>3</sup> )	Economic value (€)	Habitat value (pts.)	Reason
Acer opalus						
Turkey oak (102) Quercus cerris	23	0.04	0.5	38	24	Competitor
Turkey oak (202) Quercus cerris	22.5	0.04	0.5	41	12	Competitor
European hop-hornbeam (334) Ostrya carpinifolia	22	0.04	0.4	34	30	Competitor
Turkey oak (368) Quercus cerris	22	0.04	0.4	34	0	Competitor
European hop-hornbeam (211) Ostrya carpinifolia	21	0.04	0.3	26	24	Competitor
Italian maple (303) Acer opalus	21	0.04	0.4	31	24	Competitor
European hop-hornbeam (314) Ostrya carpinifolia	20.5	0.03	0.3	26	38	Competitor
European hop-hornbeam (300) Ostrya carpinifolia	20	0.03	0.3	26	0	Competitor
European hop-hornbeam (72) Ostrya carpinifolia	20	0.03	0.4	27	24	Competitor
Turkey oak (255) Quercus cerris	19.5	0.03	0.3	20	6	Competitor
Turkey oak (238) Quercus cerris	19	0.03	0.2	18	24	Competitor
Turkey oak (312) Quercus cerris	18	0.03	0.2	19	28	Competitor
European hop-hornbeam (208) Ostrya carpinifolia	16.5	0.02	0.2	14	24	Competitor
mannan ash (43) Fraxinus ornus	15	0.02	0.2	16	30	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	Veteran tree
Turkey oak (26) Quercus cerris	57.5	0.26	4.3	329	148	Habitat tree
Turkey oak (10) Quercus cerris	54	0.23	3.5	269	106	Habitat tree
Turkey oak (80) Quercus cerris	51.5	0.21	3.5	266	16	Elite tree
Turkey oak (101) Quercus cerris	51	0.2	3.3	253	66	Habitat tree
Turkey oak (384) Quercus cerris	51	0.2	3	229	60	Habitat tree
Turkey oak (306) Quercus cerris	50	0.2	3.2	246	24	Elite tree
Turkey oak (100) Quercus cerris	50	0.2	2.9	219	69	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	Elite tree
Turkey oak (115) Quercus cerris	48	0.18	2.7	205	70	Elite tree
Turkey oak (70) Quercus cerris	48	0.18	2.7	210	24	Elite tree
Turkey oak (351) Quercus cerris	47	0.17	2.9	224	24	Veteran tree
Turkey oak (232) Quercus cerris	45	0.16	2.5	192	64	Habitat tree
Turkey oak (54) Quercus cerris	44	0.15	2.1	160	46	Elite tree
Turkey oak (212) Quercus cerris	44	0.15	2.5	189	60	Veteran tree
Turkey oak (236) Quercus cerris	43	0.15	1.9	143	78	Habitat tree
Turkey oak (25) Quercus cerris	41.5	0.14	2.1	157	36	Veteran tree
Turkey oak (349) Quercus cerris	40.5	0.13	2	154	24	Diversity
Turkey oak (27) Quercus cerris	40	0.13	1.9	145	24	Elite 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 (148) Quercus cerris	39	0.12	1.8	137	24	Elite tree
Turkey oak (4) Quercus cerris	38.5	0.12	2	155	24	Elite tree
Turkey oak (172) Quercus cerris	37	0.11	1.5	118	24	Elite tree
Turkey oak (33) Quercus cerris	36	0.1	1.6	122	4	Elite tree
Turkey oak (221) Quercus cerris	36	0.1	1.3	103	24	Elite tree
Turkey oak (367) Quercus cerris	36	0.1	1.5	113	0	Elite tree
Turkey oak (120) Quercus cerris	35.5	0.1	1.1	87	24	Elite tree
Turkey oak (169) Quercus cerris	35	0.1	1.6	122	24	Elite tree
Turkey oak (226) Quercus cerris	34.5	0.09	1.2	94	24	Elite tree
Turkey oak (42) Quercus cerris	34	0.09	1.3	98	12	Elite tree
Turkey oak (106) Quercus cerris	32	0.08	1.1	81	24	Elite tree
Turkey oak (29) Quercus cerris	32	0.08	1	79	24	Elite tree
Turkey oak (197) Quercus cerris	32	0.08	1.2	90	24	Elite tree
European hop-hornbeam (373) Ostrya carpinifolia	32	0.08	0.9	66	58	Habitat tree
Turkey oak (285) Quercus cerris	31	0.08	1.2	89	24	Elite tree
Turkey oak (73) Quercus cerris	30	0.07	1.1	85	28	Elite tree
Turkey oak (190) Quercus cerris	30	0.07	1	78	24	Elite tree
Turkey oak (355) Quercus cerris	29.5	0.07	0.9	72	24	Veteran tree
Turkey oak (204) Quercus cerris	28	0.06	0.8	58	24	Elite tree
Turkey oak (2) Quercus cerris	27.5	0.06	0.8	64	24	Elite tree



Tree	DBH (cm)	Basal area (m <sup>2</sup> )	Volume (m <sup>3</sup> )	Economic value (€)	Habitat value (pts.)	Reason
Turkey oak (143) Quercus cerris	27	0.06	0.6	48	24	Elite tree
Turkey oak (144) Quercus cerris	24.5	0.05	0.5	41	24	Elite tree
hornbeam (332) Carpinus betulus	23	0.04	0.5	41	0	Elite tree
Italian maple (296) Acer opalus	19	0.03	0.3	26	0	Elite tree
Italian maple (180) Acer opalus	18.5	0.03	0.3	22	12	Elite tree