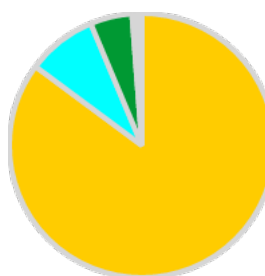


15/12/2021 Gruppo\_B\_lazio

### Site conditions

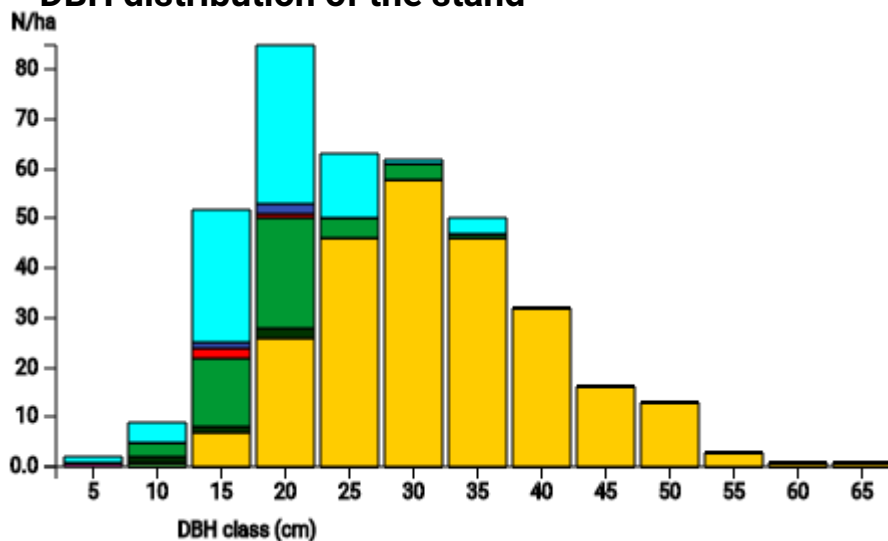
Altitude: 870 m.a.s.l.  
 Geology / Bedrock: Alluvial and mixed beds  
 Soil type: Cambisol – Leptosol with Luvisol of the Central Appenino Mountains.  
 Natural forest community: Aceri obtusati-Quercu cerridis sigmetum  
 Mean annual temperature: 12.4 C;  
 Mean annual precipitation: 1154 mm; Ownership: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



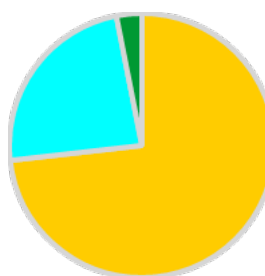
### Initial stand (details by tree species)

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

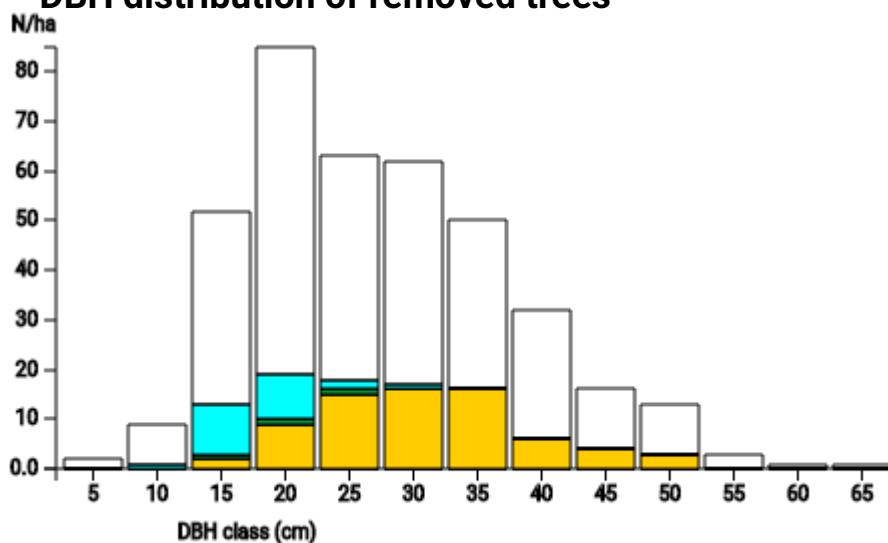
Volume: 97.1 m<sup>3</sup>  
 Basal area: 7.2 m<sup>2</sup>  
 Economic value: 7435 €  
 Habitat value: 2426 pts.

### Removed trees (N in %)



- Turkey oak: 73.2 %
- European hop-hornbeam: 23.7 %
- Italian maple: 3.1 %
- common beech: 0 %
- downy oak: 0 %
- field maple: 0 %
- manna ash: 0 %
- hornbeam: 0 %

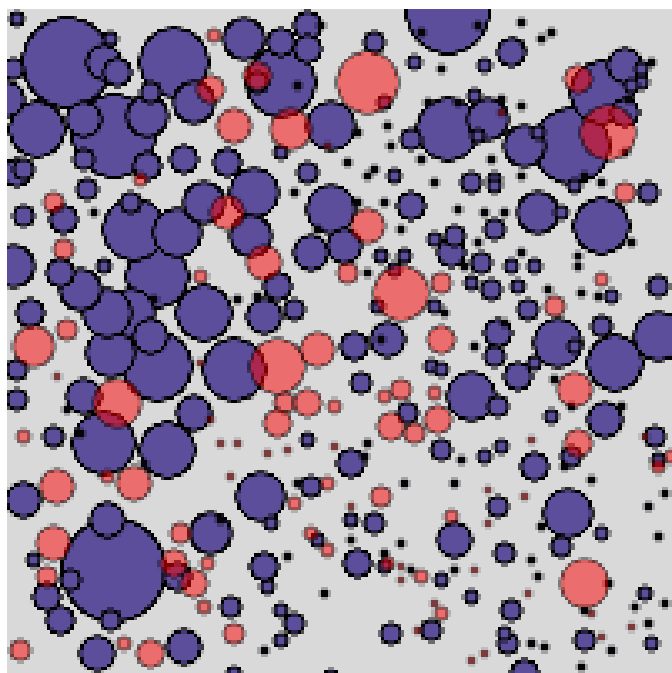
### DBH distribution of removed trees



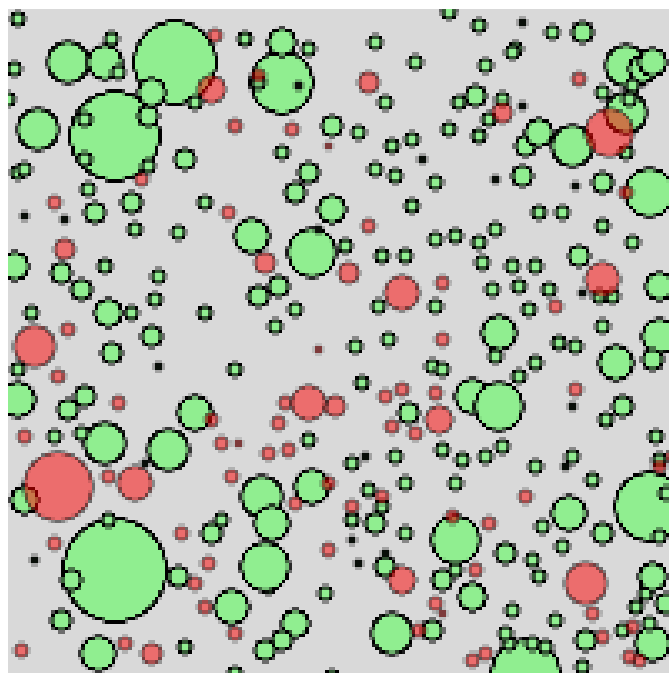
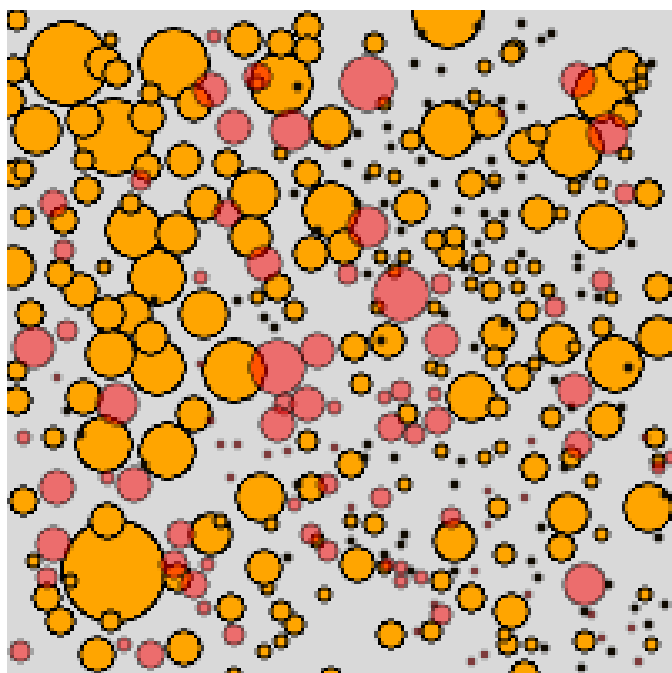
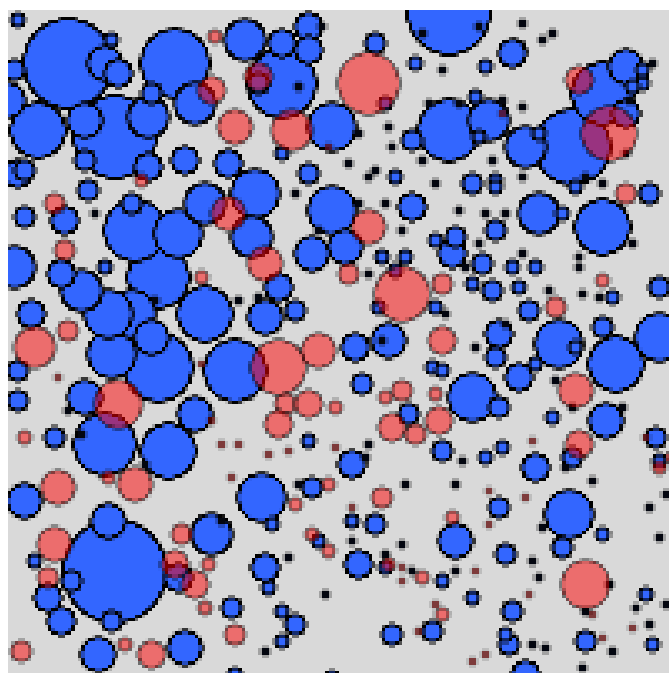
### Removed trees (details by tree species)

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	23	0.8	8.5	654	414	24
Italian maple	3	0.1	1.6	126	56	4
Turkey oak	71	6.3	87	6656	1956	97
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>97</b>	<b>7.2</b>	<b>97.2</b>	<b>7435</b>	<b>2426</b>	<b>125</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.

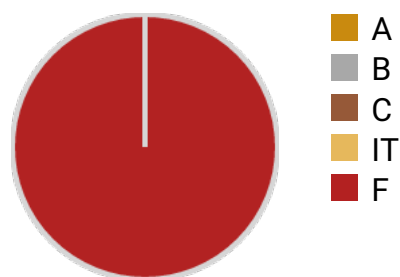
### Economic values

Total value of removed trees: 7435 €  
 Percentage of total stand value: 23.9 %  
 Stand value after harvest: 23705 €

### Economic value by tree species [€]

Tree species	Total	Per m <sup>3</sup>
common beech	0	0
downy oak	0	0
Turkey oak	6656	77
field maple	0	0
Italian maple	126	77
manna ash	0	0
hornbeam	0	0
European hop-hornbeam	654	77
Total	7435	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	97.2	100

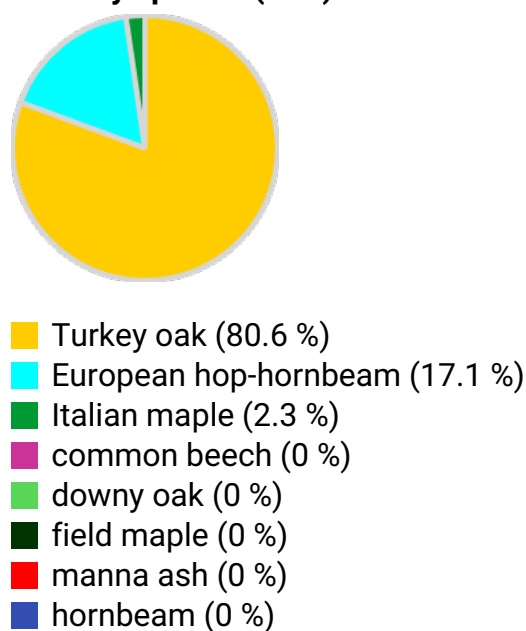
### Habitat values

Total habitat value of removed trees: 2426 pts.  
 Percentage of total stand value: 23 %  
 Stand value after harvest: 8144 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	1956	22.5	97
field maple	0	0	0
Italian maple	56	34	4
manna ash	0	0	0
hornbeam	0	0	0
European hop-hornbeam	414	48.5	24
Total	2426	25	125

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

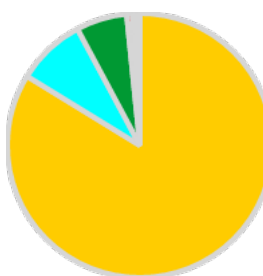




### Remaining stand

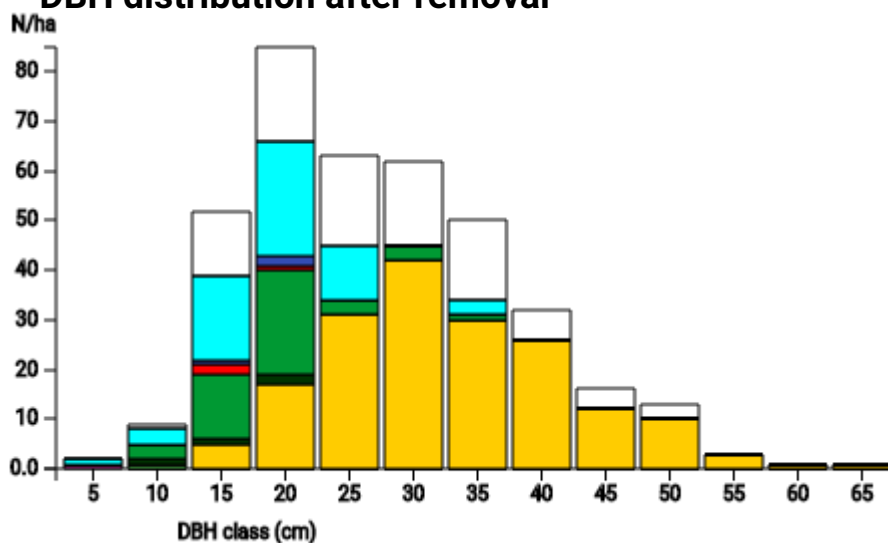
Volume: 310.1 m<sup>3</sup>  
 Basal area: 22.9 m<sup>2</sup>  
 Economic value: 23705 €  
 Habitat value: 8144 pts.

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



- Turkey oak: 83.7 %
- European hop-hornbeam: 8.4 %
- Italian maple: 6.2 %
- 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	58	2.2	26.1	1993	1255	77
Italian maple	44	1.7	19.1	1462	861	61
Turkey oak	178	18.4	259.4	19844	5851	304
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>292</b>	<b>22.6</b>	<b>309.9</b>	<b>23704</b>	<b>8144</b>	<b>453</b>

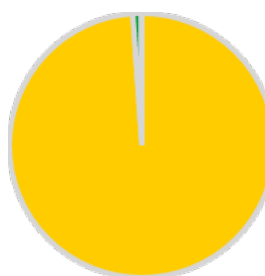
**Retention trees**Volume: 69 m<sup>3</sup>

Elite trees: 22

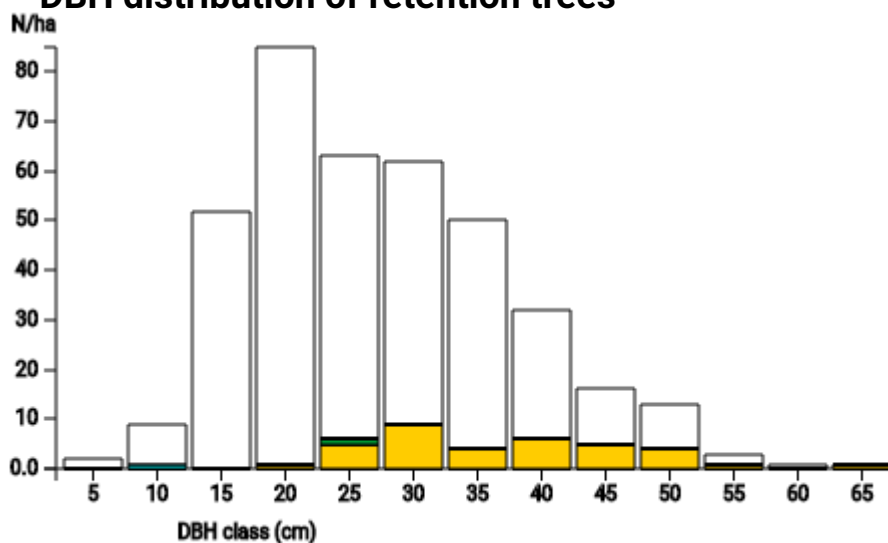
Habitat trees: 13

Economic value: 5279 €

Habitat value: 1607 pts.

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

- Turkey oak: 98.9 %
- Italian maple: 1 %
- European hop-hornbeam: 0.1 %
- common beech: 0 %
- downy oak: 0 %
- field maple: 0 %
- manna ash: 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	0.1	7	24	1
Italian maple	1	0.1	0.7	52	60	2
Turkey oak	36	4.6	68.2	5220	1523	92
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>38</b>	<b>4.7</b>	<b>69</b>	<b>5279</b>	<b>1607</b>	<b>95</b>

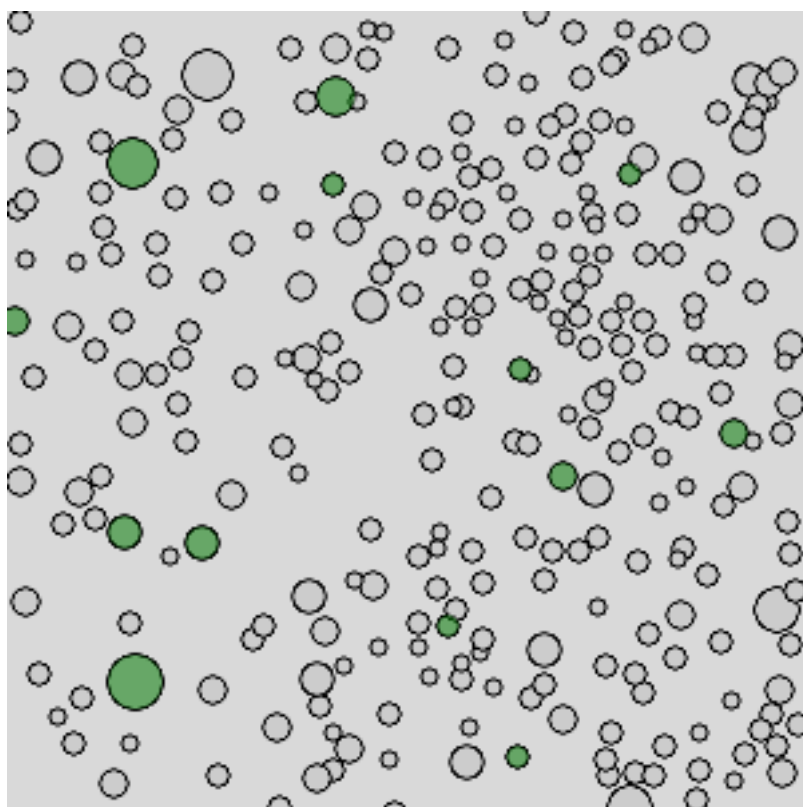
Number of habitat trees	[N]	13
Habitat value	pts.	879
	[% of total]	8.3
Economic value	[€]	2465
	[% of total]	7.9
Number of microhabitats	[N]	61
	[% of total]	10.6

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

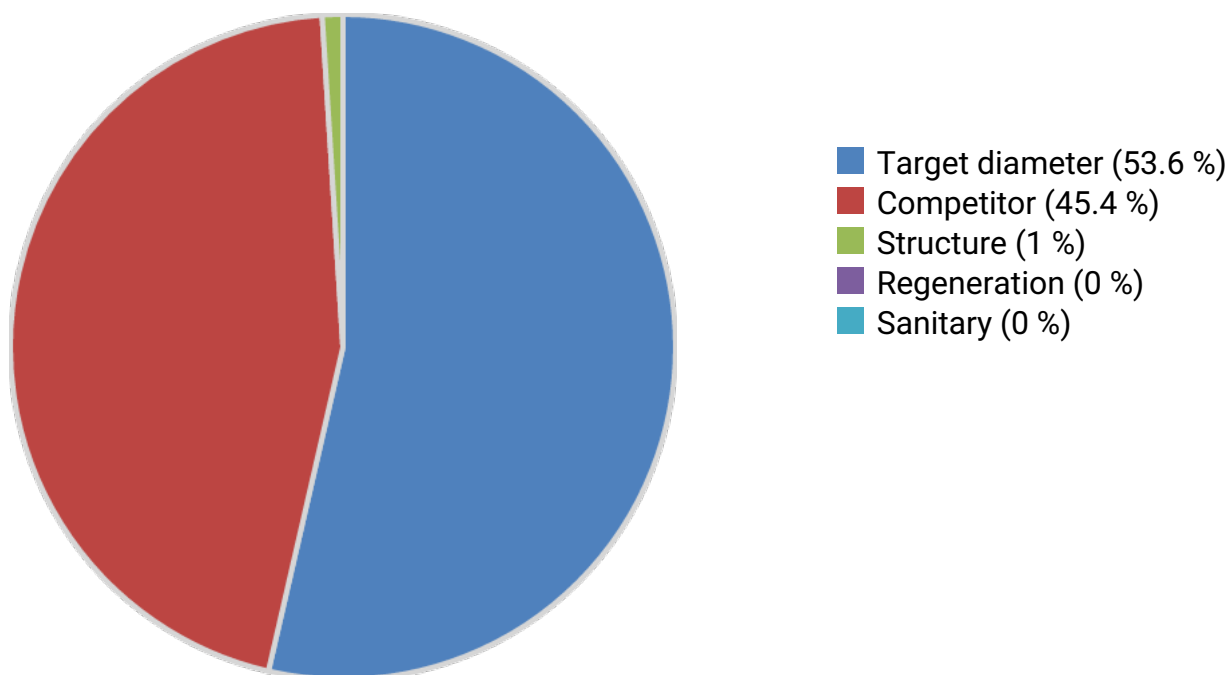


■ Turkey oak: 100 %
■ common beech: 0 %
■ downy oak: 0 %
■ field maple: 0 %
■ Italian maple: 0 %
■ manna ash: 0 %
■ hornbeam: 0 %
■ European hop-hornbeam: 0 %

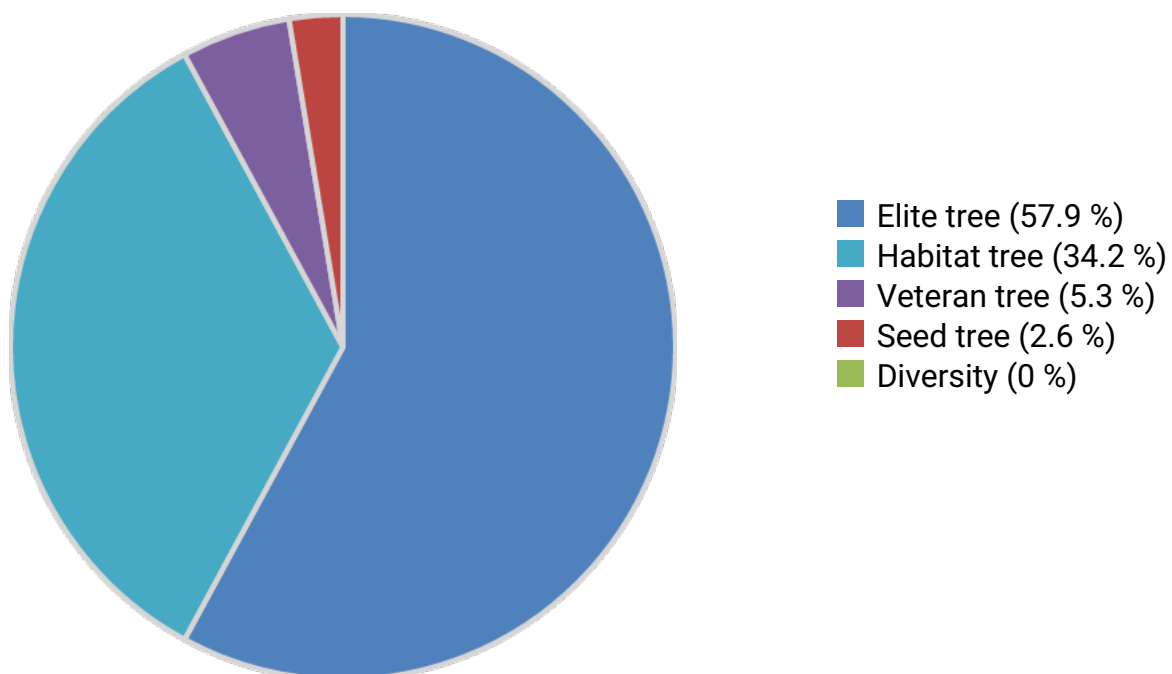
### Spatial distribution of habitat trees



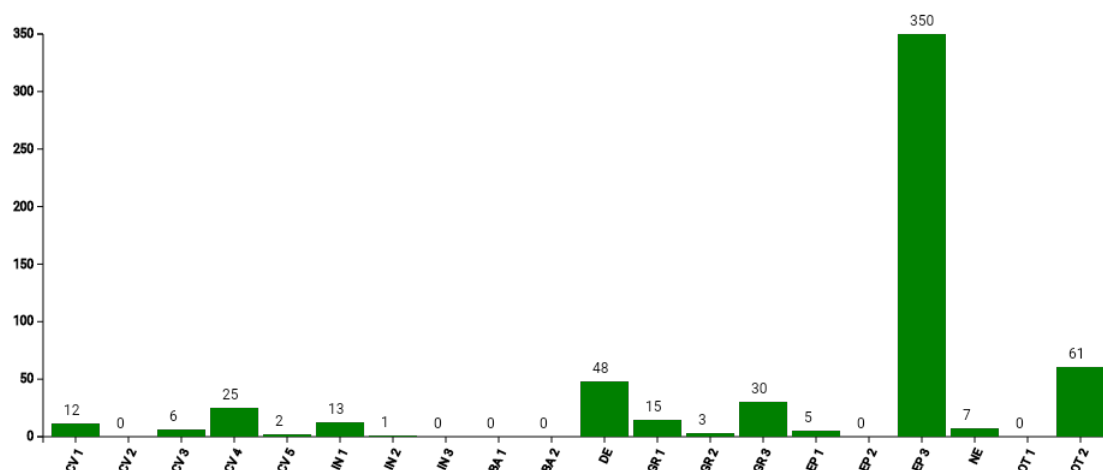
### Reasons for removal



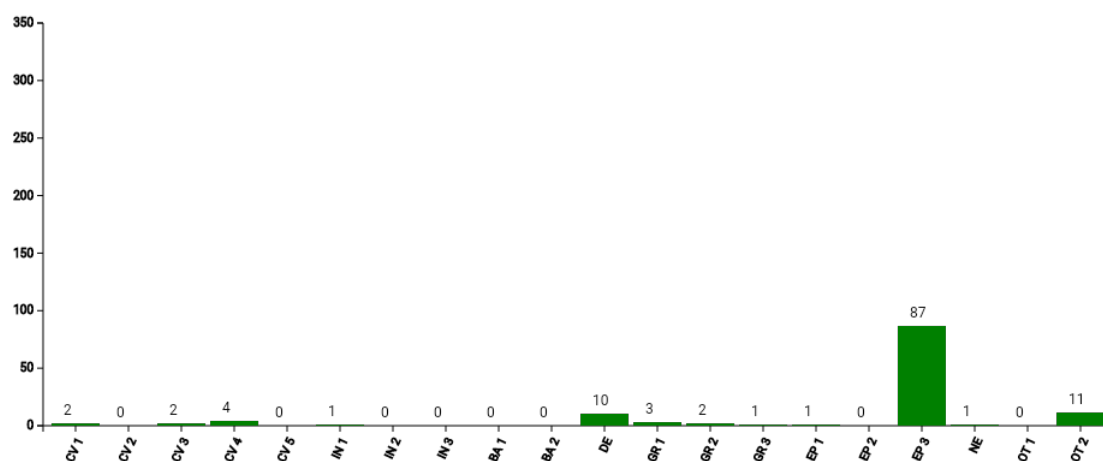
### Reasons for retention



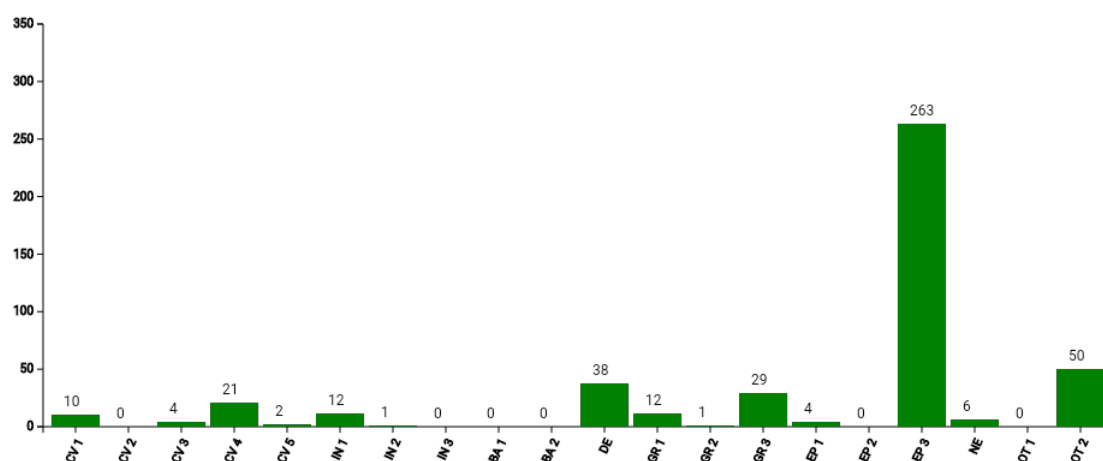
## Distribution of tree microhabitats by code (N total)



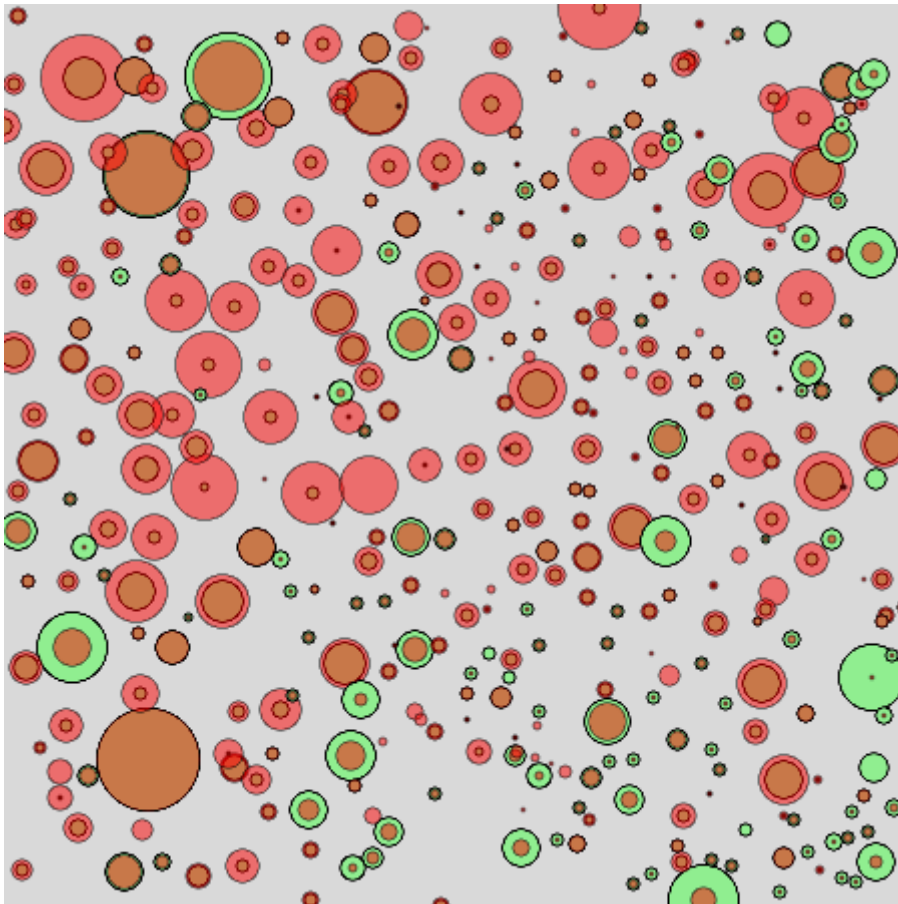
## Removed tree microhabitats by code (N removed)



## 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 (384) Quercus cerris	51	0.2	3	229	60	Competitor
Turkey oak (77) Quercus cerris	50	0.2	3	232	0	Target diameter
Turkey oak (298) Quercus cerris	50	0.2	3.3	252	30	Competitor
Turkey oak (86) Quercus cerris	45	0.16	2.4	183	24	Target diameter
Turkey oak (232) Quercus cerris	45	0.16	2.5	192	64	Target diameter
Turkey oak (327) Quercus cerris	45	0.16	2.7	208	76	Competitor
Turkey oak (82) Quercus cerris	45	0.16	2.2	169	64	Target diameter
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 (117) Quercus cerris	41	0.13	1.9	147	121	Target diameter
Turkey oak (92) Quercus cerris	41	0.13	1.6	122	60	Competitor
Turkey oak (76) Quercus cerris	40	0.13	1.8	134	6	Target diameter
Turkey oak (119) Quercus cerris	40	0.13	1.6	126	24	Target diameter
Turkey oak (108) Quercus cerris	39.5	0.12	1.8	134	54	Target diameter
Turkey oak (90) Quercus cerris	39	0.12	1.6	121	28	Target diameter
Turkey oak (175) Quercus cerris	38.5	0.12	1.7	127	24	Competitor
Turkey oak (60) Quercus cerris	38.5	0.12	1.6	126	40	Competitor
Turkey oak (23) Quercus cerris	38	0.11	1.8	140	24	Competitor
Turkey oak (159) Quercus cerris	38	0.11	1.5	117	27	Competitor
Turkey oak (305) Quercus cerris	38	0.11	1.6	123	24	Competitor
Turkey oak (20)	38	0.11	1.6	123	50	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 (191) Quercus cerris	37.5	0.11	1.6	123	45	Competitor
Turkey oak (130) Quercus cerris	37	0.11	1.6	119	24	Target diameter
Turkey oak (46) Quercus cerris	36.5	0.11	1.7	132	24	Competitor
Turkey oak (132) Quercus cerris	36	0.1	1.5	111	4	Target diameter
Turkey oak (120) Quercus cerris	35.5	0.1	1.1	87	24	Target diameter
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 (195) Quercus cerris	35	0.1	1.4	109	0	Target diameter
Turkey oak (188) Quercus cerris	34.5	0.09	1.4	109	24	Competitor
Turkey oak (149) Quercus cerris	34	0.09	1.4	106	36	Target diameter
Turkey oak (362) Quercus cerris	33.5	0.09	1.1	87	40	Competitor
Turkey oak (134) Quercus cerris	33	0.09	1.2	94	0	Target diameter
Turkey oak (53) Quercus cerris	32.5	0.08	1.1	81	36	Competitor
Turkey oak (151) Quercus cerris	32	0.08	1.2	89	24	Target diameter
Turkey oak (74) Quercus cerris	32	0.08	1	73	24	Target diameter
Turkey oak (223) Quercus cerris	32	0.08	1	79	24	Target diameter
European hop-hornbeam (373) Ostrya carpinifolia	32	0.08	0.9	66	58	Competitor
Turkey oak (124) Quercus cerris	31.5	0.08	0.9	65	0	Target diameter
Turkey oak (185) Quercus cerris	31	0.08	1	75	24	Competitor
Turkey oak (126) Quercus cerris	30.5	0.07	0.8	60	24	Target diameter



Tree	DBH (cm)	Basal area (m <sup>2</sup> )	Volume (m <sup>3</sup> )	Economic value (€)	Habitat value (pts.)	Reason
Turkey oak (274) Quercus cerris	30	0.07	0.7	55	16	Target diameter
Turkey oak (382) Quercus cerris	30	0.07	0.9	70	24	Competitor
Turkey oak (147) Quercus cerris	30	0.07	0.9	71	24	Target diameter
Turkey oak (190) Quercus cerris	30	0.07	1	78	24	Competitor
Turkey oak (388) Quercus cerris	30	0.07	0.9	73	24	Competitor
Turkey oak (111) Quercus cerris	29.5	0.07	0.8	63	24	Target diameter
Turkey oak (224) Quercus cerris	29.5	0.07	0.8	63	24	Target diameter
Italian maple (330) Acer opalus	29.5	0.07	1	73	24	Competitor
Turkey oak (91) Quercus cerris	29	0.07	1	74	24	Target diameter
Turkey oak (37) Quercus cerris	29	0.07	0.9	65	24	Competitor
Turkey oak (114) Quercus cerris	28	0.06	0.9	66	19	Competitor
Turkey oak (184) Quercus cerris	28	0.06	0.8	64	24	Competitor
Turkey oak (93) Quercus cerris	27	0.06	0.8	60	36	Target diameter
Turkey oak (141) Quercus cerris	27	0.06	0.8	59	24	Target diameter
Turkey oak (129) Quercus cerris	27	0.06	0.7	52	24	Target diameter
Turkey oak (105) Quercus cerris	27	0.06	0.7	53	24	Target diameter
Turkey oak (254) Quercus cerris	26.5	0.06	0.6	47	0	Target diameter
European hop-hornbeam (58) Ostrya carpinifolia	26	0.05	0.6	45	0	Competitor
Turkey oak (261) Quercus cerris	26	0.05	0.6	43	0	Target diameter
Turkey oak (3) Quercus cerris	25	0.05	0.6	49	24	Competitor
Turkey oak (186)	25	0.05	0.6	46	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 (107) Quercus cerris	25	0.05	0.6	47	24	Target diameter
European hop-hornbeam (198) Ostrya carpinifolia	25	0.05	0.7	51	24	Competitor
Turkey oak (139) Quercus cerris	24	0.05	0.6	46	28	Target diameter
Turkey oak (260) Quercus cerris	24	0.05	0.5	41	44	Target diameter
European hop-hornbeam (200) Ostrya carpinifolia	24	0.05	0.7	51	24	Competitor
Turkey oak (259) Quercus cerris	23.5	0.04	0.5	40	0	Target diameter
Turkey oak (96) Quercus cerris	23	0.04	0.5	39	24	Target diameter
Turkey oak (84) Quercus cerris	23	0.04	0.5	36	24	Target diameter
Turkey oak (275) Quercus cerris	22	0.04	0.4	27	24	Target diameter
Turkey oak (283) Quercus cerris	22	0.04	0.4	32	24	Target diameter
Italian maple (193) Acer opalus	21.5	0.04	0.4	29	4	Competitor
European hop-hornbeam (246) Ostrya carpinifolia	21.5	0.04	0.5	35	24	Competitor
European hop-hornbeam (35) Ostrya carpinifolia	21.5	0.04	0.5	41	6	Competitor
European hop-hornbeam (211) Ostrya carpinifolia	21	0.04	0.3	26	24	Competitor
Turkey oak (277) Quercus cerris	21	0.04	0.3	21	24	Target diameter
European hop-hornbeam (110) Ostrya carpinifolia	21	0.04	0.5	35	24	Target diameter
European hop-hornbeam (248) Ostrya carpinifolia	21	0.04	0.4	29	24	Target diameter
European hop-hornbeam (314) Ostrya carpinifolia	20.5	0.03	0.3	26	38	Competitor
European hop-hornbeam (94) Ostrya carpinifolia	20.5	0.03	0.3	26	0	Target diameter
Turkey oak (280) Quercus cerris	20.5	0.03	0.3	24	24	Target diameter

Tree	DBH (cm)	Basal area (m <sup>2</sup> )	Volume (m <sup>3</sup> )	Economic value (€)	Habitat value (pts.)	Reason
European hop-hornbeam (225) Ostrya carpinifolia	20	0.03	0.3	24	24	Competitor
Italian maple (88) Acer opalus	19	0.03	0.3	24	28	Target diameter
European hop-hornbeam (99) Ostrya carpinifolia	19	0.03	0.3	24	24	Target diameter
European hop-hornbeam (79) Ostrya carpinifolia	19	0.03	0.3	25	0	Target diameter
Turkey oak (97) Quercus cerris	19	0.03	0.3	25	24	Target diameter
Turkey oak (238) Quercus cerris	19	0.03	0.2	18	24	Target diameter
European hop-hornbeam (245) Ostrya carpinifolia	18.5	0.03	0.3	19	4	Target diameter
European hop-hornbeam (98) Ostrya carpinifolia	18	0.03	0.3	25	16	Target diameter
European hop-hornbeam (244) Ostrya carpinifolia	18	0.03	0.2	18	24	Target diameter
European hop-hornbeam (196) Ostrya carpinifolia	17	0.02	0.3	20	0	Competitor
European hop-hornbeam (269) Ostrya carpinifolia	17	0.02	0.2	14	24	Competitor
European hop-hornbeam (265) Ostrya carpinifolia	17	0.02	0.2	19	24	Competitor
European hop-hornbeam (210) Ostrya carpinifolia	16	0.02	0.2	15	0	Competitor
European hop-hornbeam (270) Ostrya carpinifolia	15	0.02	0.1	10	24	Structure
European hop-hornbeam (268) Ostrya carpinifolia	13.5	0.01	0.1	9	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 (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 (101) Quercus cerris	51	0.2	3.3	253	66	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 (115) Quercus cerris	48	0.18	2.7	205	70	Elite tree
Turkey oak (351) Quercus cerris	47	0.17	2.9	224	24	Elite tree
Turkey oak (183) Quercus cerris	46	0.17	2.3	179	60	Habitat tree
Turkey oak (59) Quercus cerris	45	0.16	2.3	174	60	Elite tree
Turkey oak (54) Quercus cerris	44	0.15	2.1	160	46	Habitat tree
Turkey oak (167) Quercus cerris	43.5	0.15	2.4	181	24	Elite tree
Turkey oak (21) Quercus cerris	43	0.15	2.3	179	30	Elite tree
Turkey oak (361) Quercus cerris	40	0.13	1.9	147	24	Elite tree
Turkey oak (324) Quercus cerris	40	0.13	2	151	36	Habitat tree
Turkey oak (24) Quercus cerris	40	0.13	2	153	28	Elite tree
Turkey oak (75) Quercus cerris	39.5	0.12	1.7	131	36	Elite tree
Turkey oak (4) Quercus cerris	38.5	0.12	2	155	24	Elite tree
Turkey oak (131) Quercus cerris	37	0.11	1.5	116	40	Elite tree
Turkey oak (67)	35.5	0.1	1.4	106	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 (42) Quercus cerris	34	0.09	1.3	98	12	Elite tree
Turkey oak (278) Quercus cerris	33	0.09	0.9	70	30	Habitat tree
Turkey oak (218) Quercus cerris	33	0.09	1.1	86	0	Elite tree
Turkey oak (197) Quercus cerris	32	0.08	1.2	90	24	Elite tree
Turkey oak (264) Quercus cerris	31.5	0.08	1.1	80	36	Elite tree
Turkey oak (189) Quercus cerris	31.5	0.08	1.1	81	36	Elite tree
Turkey oak (240) Quercus cerris	31.5	0.08	1	78	36	Habitat tree
Turkey oak (181) Quercus cerris	31	0.08	0.9	68	0	Elite tree
Turkey oak (1) Quercus cerris	31	0.08	0.8	60	24	Elite tree
Turkey oak (95) Quercus cerris	29	0.07	0.9	68	24	Elite tree
Italian maple (267) Acer opalus	28	0.06	0.7	52	60	Elite tree
Turkey oak (385) Quercus cerris	28	0.06	0.8	62	24	Habitat tree
Turkey oak (258) Quercus cerris	27	0.06	0.6	48	36	Seed tree
Turkey oak (153) [REPLACE_DEAD]Quercus cerris	25.5	0.05	0.4	29	40	Veteran tree
Turkey oak (34) Quercus cerris	25	0.05	0.7	53	24	Habitat tree
Turkey oak (386) Quercus cerris	21	0.04	0.4	29	4	Elite tree
European hop-hornbeam (222) Ostrya carpinifolia	13	0.01	0.1	7	24	Veteran tree