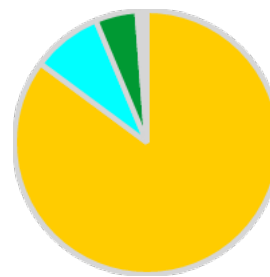


07/04/2021 Laz\_gr4\_prod

**Site conditions**

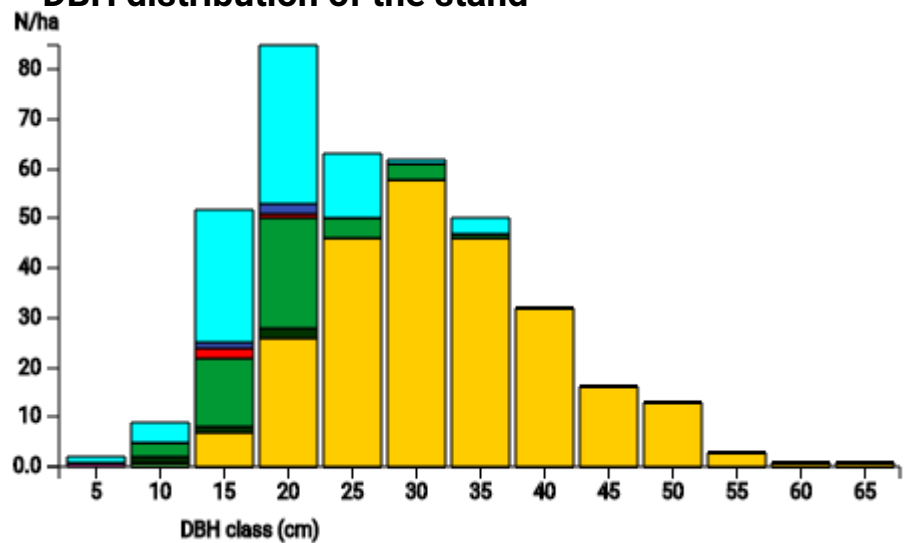
Altitude: 870 m.a.s.l.  
 Geology / Bedrock: Alluvial and mixed beds  
 Soil type: Cambisol – Leptosol with Luvisol of the Central Appenino Mountains.  
 Natural forest community: Aceri obtusati-Quercu cerridis sigmetum  
 Mean annual temperature: 12.4 C;  
 Mean annual precipitation: 1154 mm; Ownership: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



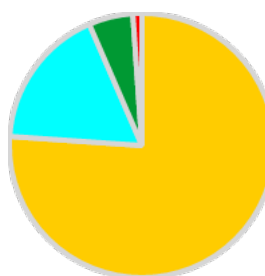
**Initial stand (details by tree species)**

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

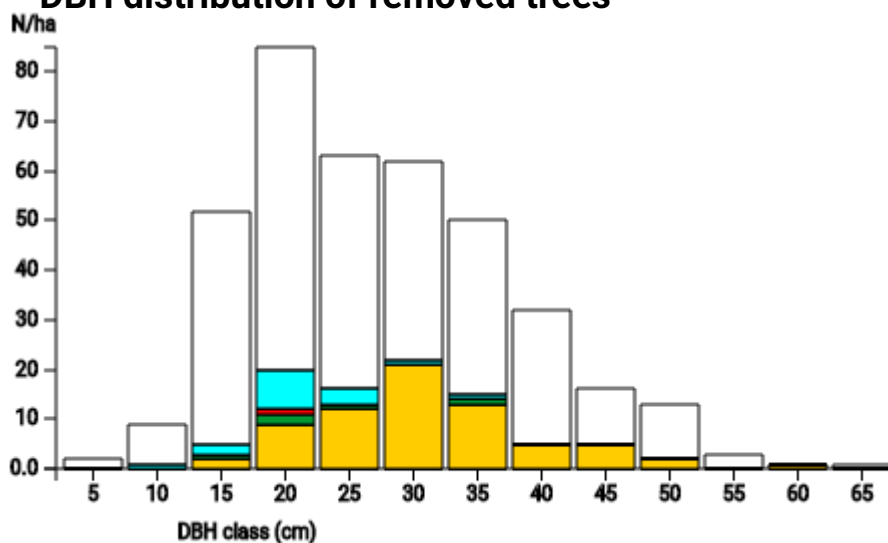
Volume: 99.9 m<sup>3</sup>  
 Basal area: 7.4 m<sup>2</sup>  
 Economic value: 7646 €  
 Habitat value: 2702 pts.

### Removed trees (N in %)



- Turkey oak: 76.1 %
- European hop-hornbeam: 17.4 %
- Italian maple: 5.4 %
- manna ash: 1.1 %
- common beech: 0 %
- downy oak: 0 %
- field maple: 0 %
- hornbeam: 0 %

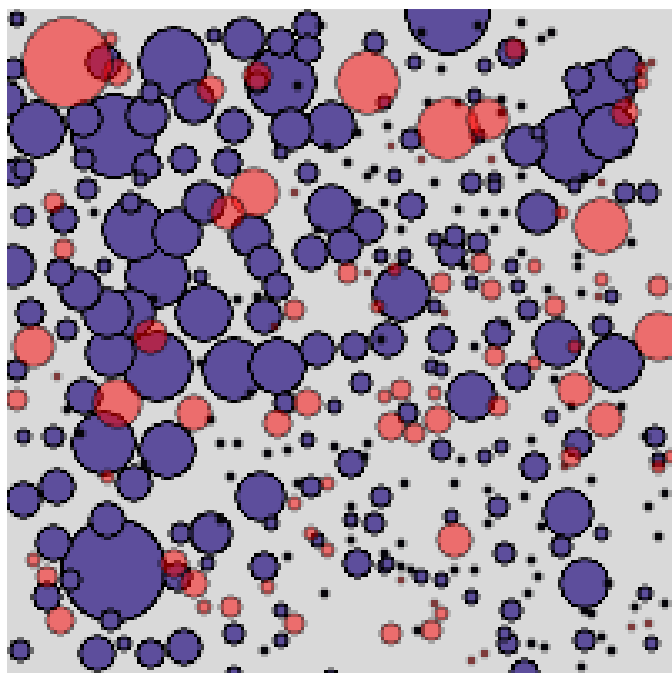
### DBH distribution of removed trees



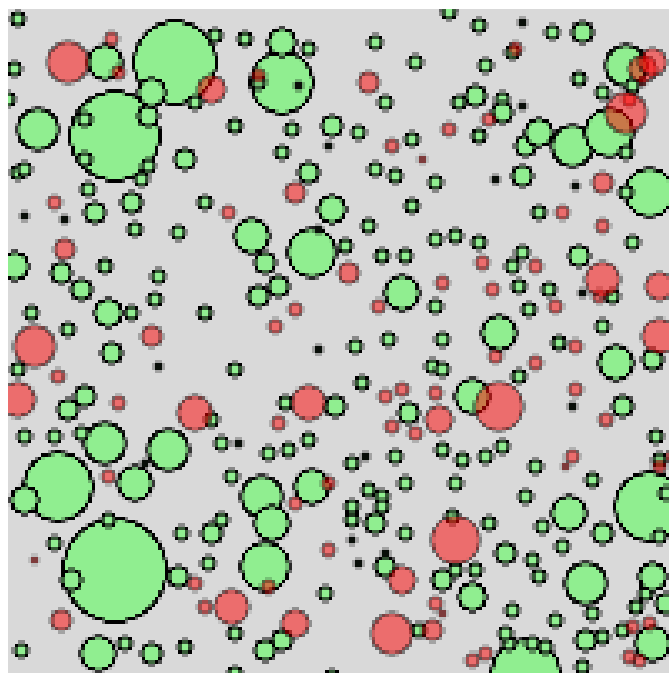
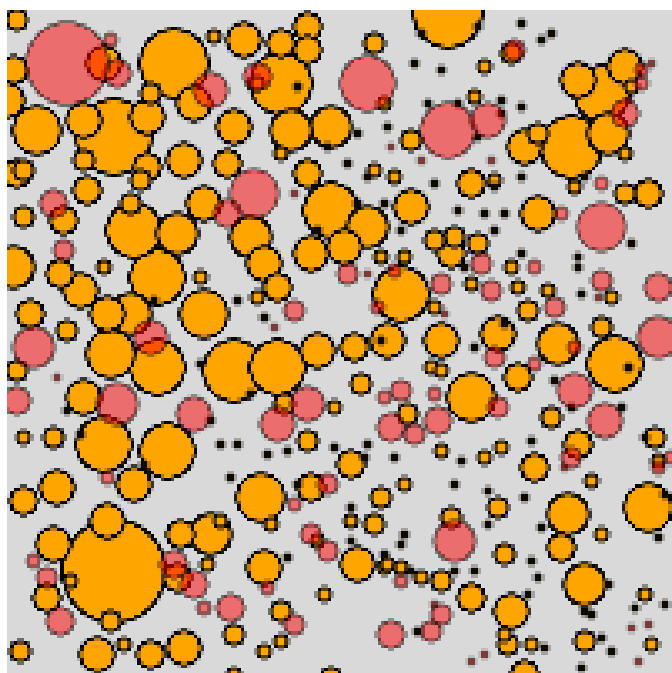
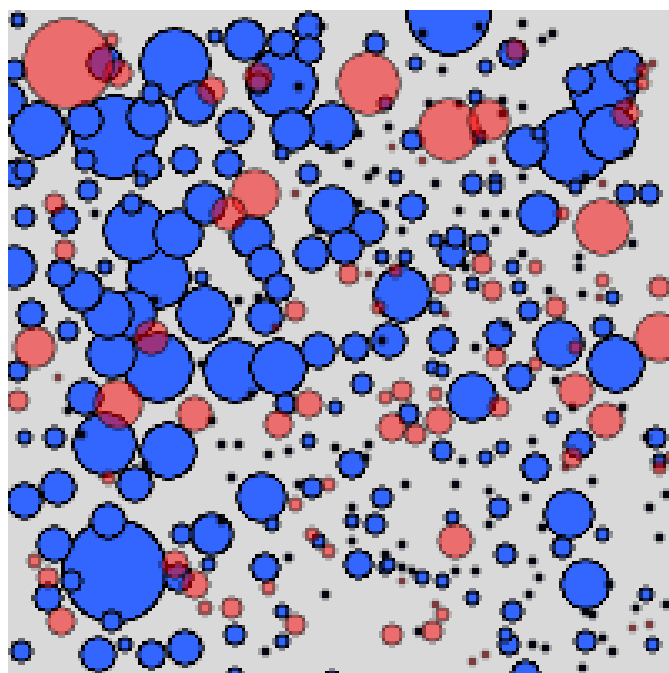
### Removed trees (details by tree species)

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	16	0.7	8.1	621	459	28
Italian maple	5	0.3	3.4	262	180	9
Turkey oak	70	6.4	88	6730	2059	99
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	0.4	34	4	1
<b>Total</b>	<b>92</b>	<b>7.4</b>	<b>99.9</b>	<b>7646</b>	<b>2702</b>	<b>137</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.

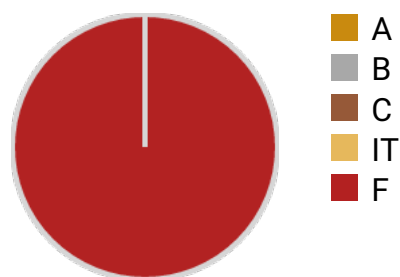
### Economic values

Total value of removed trees: 7646 €  
 Percentage of total stand value: 24.6 %  
 Stand value after harvest: 23494 €

### Economic value by tree species [€]

Tree species	Total	Per m <sup>3</sup>
common beech	0	0
downy oak	0	0
Turkey oak	6730	77
field maple	0	0
Italian maple	262	77
manna ash	34	77
hornbeam	0	0
European hop-hornbeam	621	77
Total	7646	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	100	100

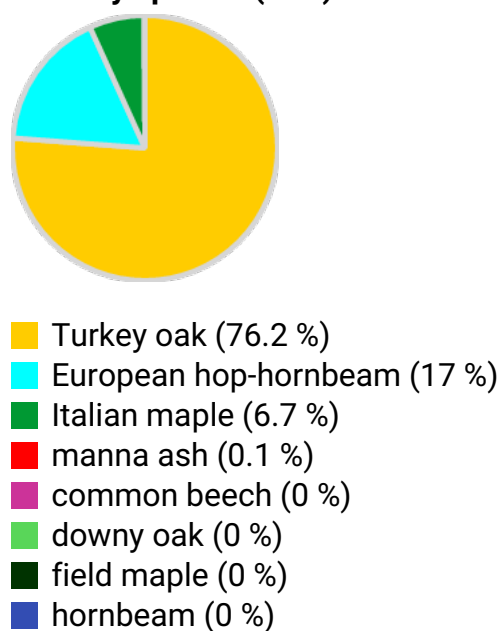
### Habitat values

Total habitat value of removed trees: 2702 pts.  
 Percentage of total stand value: 25.6 %  
 Stand value after harvest: 7868 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	2059	23.4	99
field maple	0	0	0
Italian maple	180	52.6	9
manna ash	4	9.1	1
hornbeam	0	0	0
European hop-hornbeam	459	56.6	28
Total	2702	27	137

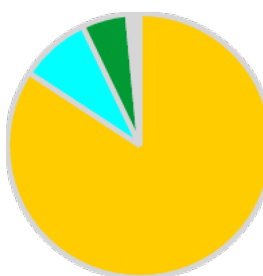
### Habitat value (points) of removed trees by species (in %)



### Remaining stand

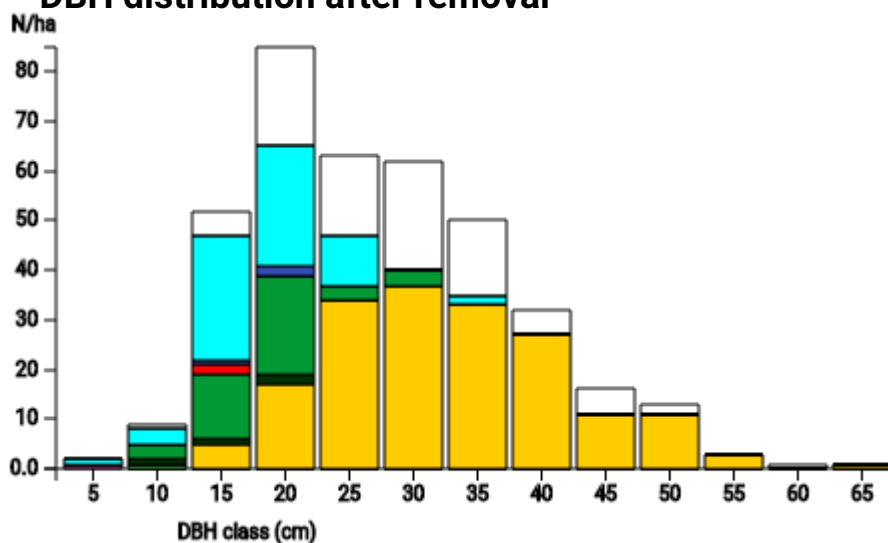
Volume: 307.1 m<sup>3</sup>  
 Basal area: 22.5 m<sup>2</sup>  
 Economic value: 23494 €  
 Habitat value: 7868 pts.

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



- Turkey oak: 84.1 %
- European hop-hornbeam: 8.6 %
- Italian maple: 5.6 %
- 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	65	2.3	26.5	2026	1210	73
Italian maple	42	1.6	17.3	1326	737	56
Turkey oak	179	18.3	258.4	19769	5748	302
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	1.8	141	34	3
<b>Total</b>	<b>297</b>	<b>22.5</b>	<b>307.1</b>	<b>23494</b>	<b>7868</b>	<b>441</b>

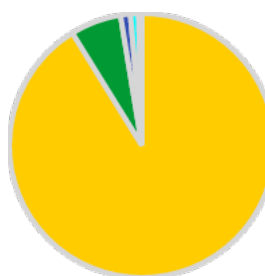
**Retention trees**Volume: 64.9 m<sup>3</sup>

Elite trees: 25

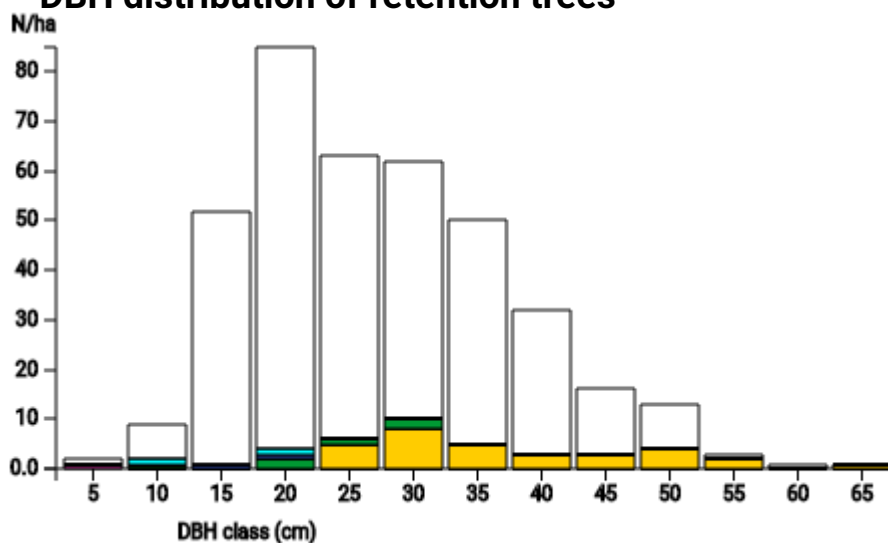
Habitat trees: 12

Economic value: 4966 €

Habitat value: 1601 pts.

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

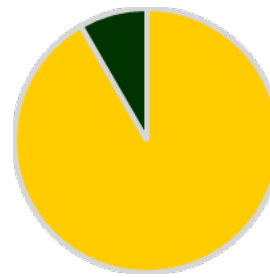
- Turkey oak: 91.3 %
- Italian maple: 6.2 %
- hornbeam: 1.2 %
- European hop-hornbeam: 1 %
- common beech: 0.3 %
- field maple: 0.1 %
- downy oak: 0 %
- manna ash: 0 %

**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	2	0.1	0.6	48	52	3
Italian maple	5	0.3	4	305	175	8
Turkey oak	31	4.1	59.2	4532	1310	78
common beech	1	0	0.2	16	0	0
downy oak	0	0	0	0	0	0
field maple	1	0	0.1	5	40	2
hornbeam	2	0.1	0.8	60	24	1
manna ash	0	0	0	0	0	0
<b>Total</b>	<b>42</b>	<b>4.6</b>	<b>64.9</b>	<b>4966</b>	<b>1601</b>	<b>92</b>

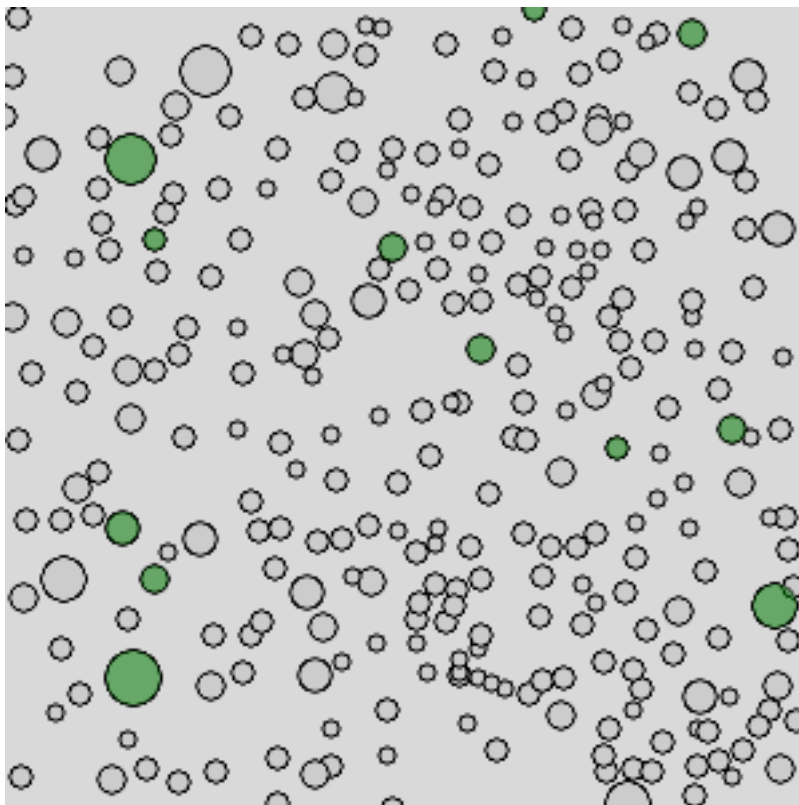
Number of habitat trees	[N]	12
Habitat value	pts.	838
	[% of total]	7.9
Economic value	[€]	2317
	[% of total]	7.4
Number of microhabitats	[N]	56
	[% of total]	9.7

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

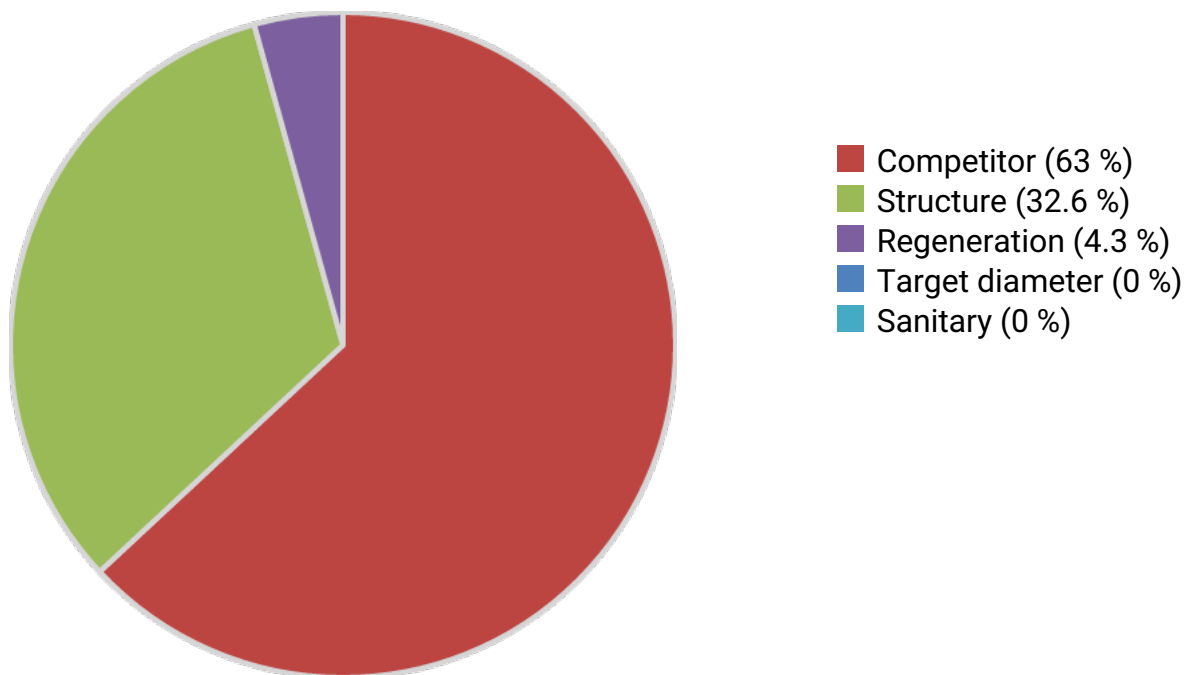


Turkey oak	91.7 %
field maple	8.3 %
common beech	0 %
downy oak	0 %
Italian maple	0 %
manna ash	0 %
hornbeam	0 %
European hop-hornbeam	0 %

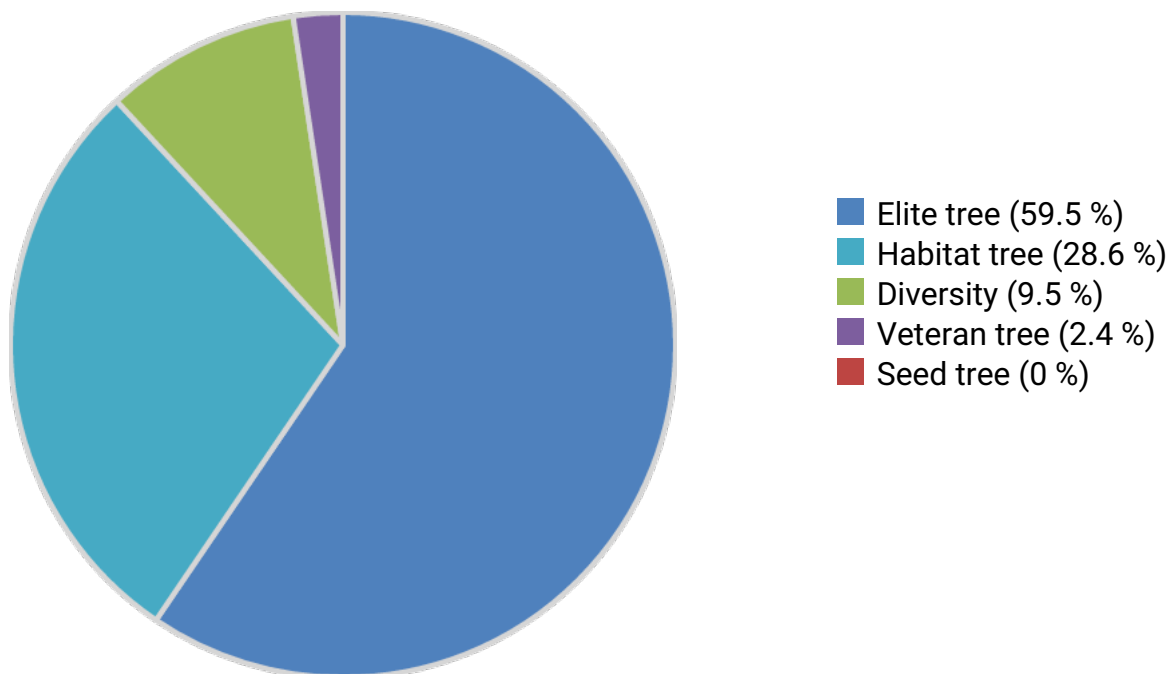
### Spatial distribution of habitat trees



### Reasons for removal

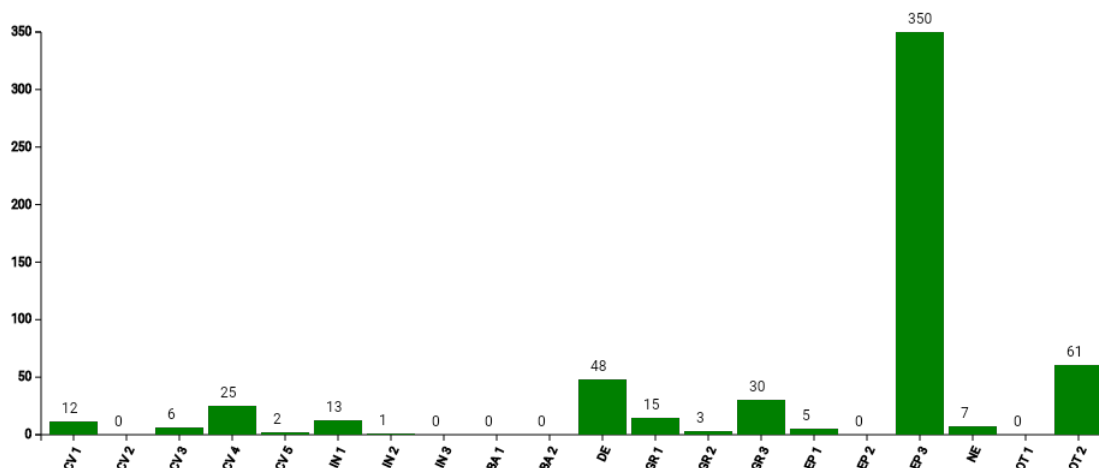


### Reasons for retention

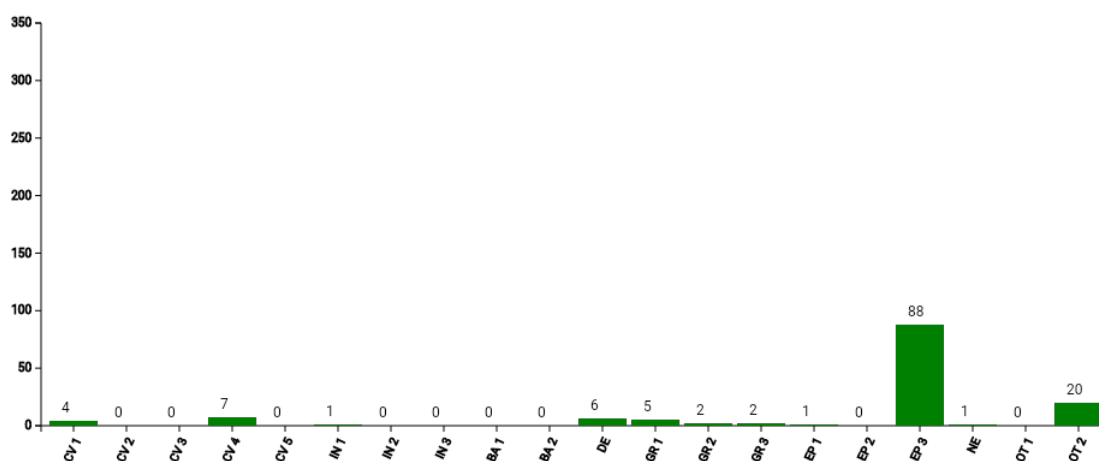




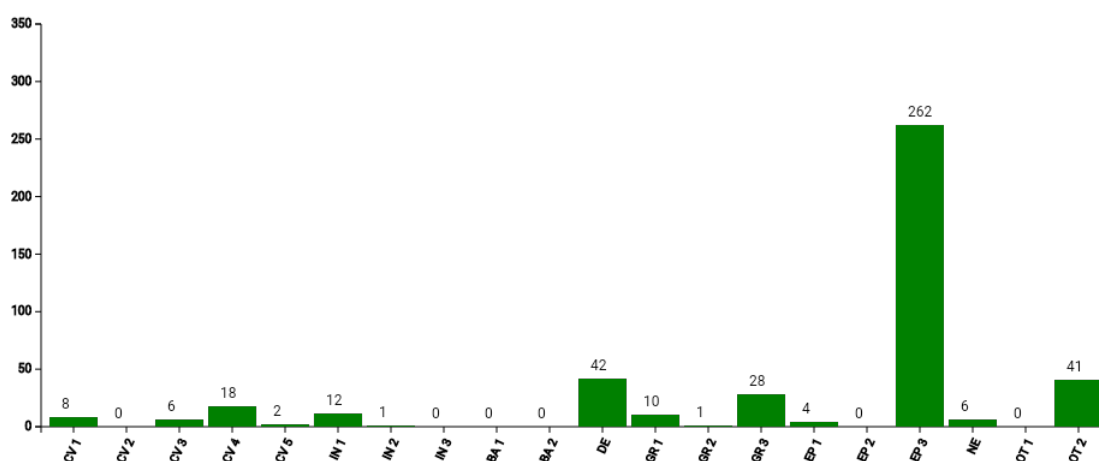
### Distribution of tree microhabitats by code (N total)



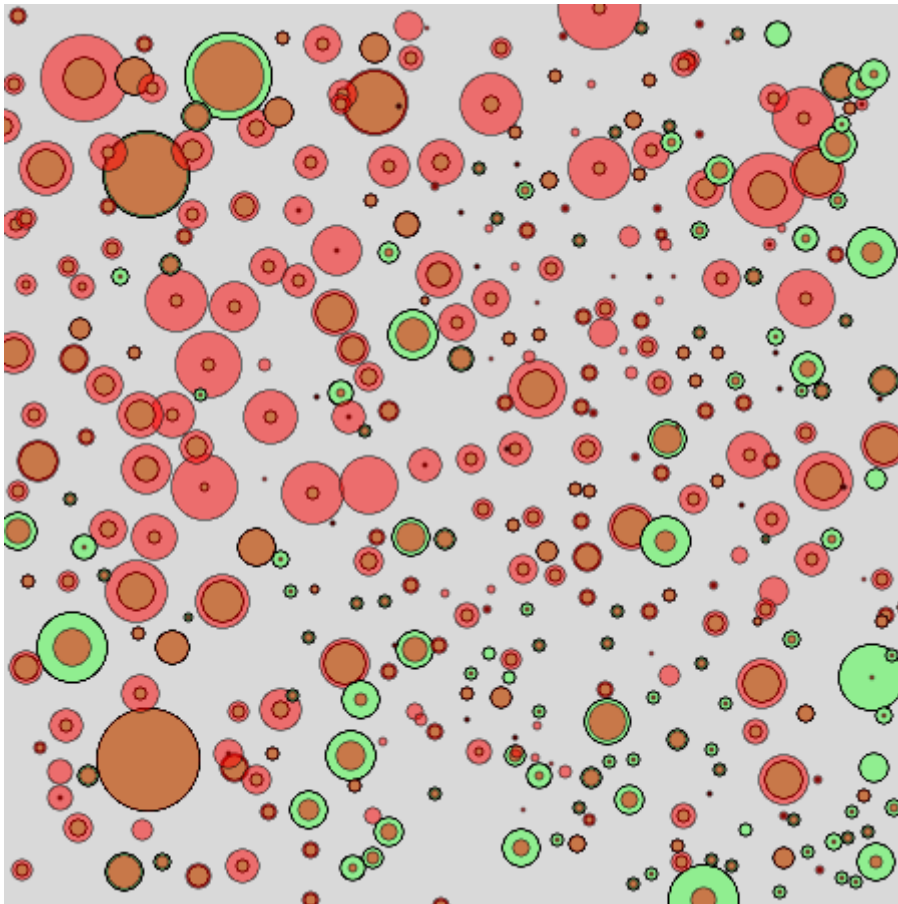
### Removed tree microhabitats by code (N removed)



### 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 (16) Quercus cerris	60	0.28	4.6	351	72	Competitor
Turkey oak (317) Quercus cerris	51	0.2	3.2	249	24	Structure
Turkey oak (298) Quercus cerris	50	0.2	3.3	252	30	Structure
Turkey oak (47) Quercus cerris	48.5	0.19	2.5	189	4	Competitor
Turkey oak (351) Quercus cerris	47	0.17	2.9	224	24	Structure
Turkey oak (86) Quercus cerris	45	0.16	2.4	183	24	Competitor
Turkey oak (164) Quercus cerris	45	0.16	2.4	182	60	Competitor
Turkey oak (82) Quercus cerris	45	0.16	2.2	169	64	Competitor
Turkey oak (236) Quercus cerris	43	0.15	1.9	143	78	Competitor
Turkey oak (179) Quercus cerris	41.5	0.14	1.7	131	24	Structure
Turkey oak (315) Quercus cerris	41	0.13	2	152	24	Structure
Turkey oak (87) Quercus cerris	41	0.13	1.8	142	60	Competitor
Turkey oak (92) Quercus cerris	41	0.13	1.6	122	60	Competitor
Turkey oak (75) Quercus cerris	39.5	0.12	1.7	131	36	Competitor
Turkey oak (90) Quercus cerris	39	0.12	1.6	121	28	Competitor
Turkey oak (175) Quercus cerris	38.5	0.12	1.7	127	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 (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 (104)	36.5	0.11	1.2	94	60	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 (132) Quercus cerris	36	0.1	1.5	111	4	Competitor
Turkey oak (14) Quercus cerris	35.5	0.1	1.6	122	24	Competitor
Turkey oak (137) Quercus cerris	35.5	0.1	1.4	111	30	Competitor
Turkey oak (11) Quercus cerris	35	0.1	1.5	116	18	Competitor
European hop-hornbeam (374) Ostrya carpinifolia	35	0.1	1.2	94	51	Structure
Turkey oak (39) Quercus cerris	35	0.1	1	78	18	Competitor
Italian maple (313) Acer opalus	35	0.1	1.3	101	64	Competitor
Turkey oak (188) Quercus cerris	34.5	0.09	1.4	109	24	Competitor
Turkey oak (284) Quercus cerris	34.5	0.09	1	73	66	Regeneration
Turkey oak (142) Quercus cerris	34	0.09	1.2	90	60	Competitor
Turkey oak (146) Quercus cerris	33.5	0.09	0.9	72	48	Competitor
Turkey oak (182) Quercus cerris	33.5	0.09	1.2	90	81	Competitor
Turkey oak (362) Quercus cerris	33.5	0.09	1.1	87	40	Competitor
Turkey oak (293) Quercus cerris	33.5	0.09	1.2	89	24	Structure
Turkey oak (134) Quercus cerris	33	0.09	1.2	94	0	Competitor
Turkey oak (278) Quercus cerris	33	0.09	0.9	70	30	Competitor
Turkey oak (53) Quercus cerris	32.5	0.08	1.1	81	36	Competitor
European hop-hornbeam (373) Ostrya carpinifolia	32	0.08	0.9	66	58	Structure
Turkey oak (124) Quercus cerris	31.5	0.08	0.9	65	0	Competitor
Turkey oak (380) Quercus cerris	31	0.08	1.2	92	24	Structure

Tree	DBH (cm)	Basal area (m <sup>2</sup> )	Volume (m <sup>3</sup> )	Economic value (€)	Habitat value (pts.)	Reason
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	Competitor
Turkey oak (73) Quercus cerris	30	0.07	1.1	85	28	Structure
Turkey oak (168) Quercus cerris	30	0.07	1	74	24	Competitor
Turkey oak (274) Quercus cerris	30	0.07	0.7	55	16	Regeneration
Turkey oak (382) Quercus cerris	30	0.07	0.9	70	24	Structure
Turkey oak (194) Quercus cerris	30	0.07	1.1	82	24	Structure
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	Competitor
Turkey oak (369) Quercus cerris	29.5	0.07	1	79	24	Structure
Italian maple (166) Acer opalus	28	0.06	0.8	60	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 (2) Quercus cerris	27.5	0.06	0.8	64	24	Competitor
Turkey oak (383) Quercus cerris	27.5	0.06	0.8	60	24	Structure
Turkey oak (371) Quercus cerris	27	0.06	0.7	56	24	Competitor
Turkey oak (143) Quercus cerris	27	0.06	0.6	48	24	Competitor
Turkey oak (141) Quercus cerris	27	0.06	0.8	59	24	Competitor
Turkey oak (135) Quercus cerris	26	0.05	0.7	53	14	Competitor

Tree	DBH (cm)	Basal area (m <sup>2</sup> )	Volume (m <sup>3</sup> )	Economic value (€)	Habitat value (pts.)	Reason
Ostrya carpinifolia						
Turkey oak (186) Quercus cerris	25	0.05	0.6	46	24	Competitor
European hop-hornbeam (309) Ostrya carpinifolia	25	0.05	0.7	53	51	Competitor
Turkey oak (107) Quercus cerris	25	0.05	0.6	47	24	Competitor
European hop-hornbeam (198) Ostrya carpinifolia	25	0.05	0.7	51	24	Competitor
Turkey oak (365) Quercus cerris	24.5	0.05	0.6	46	0	Structure
Italian maple (331) Acer opalus	24	0.05	0.5	39	40	Structure
Turkey oak (173) Quercus cerris	24	0.05	0.6	44	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	Regeneration
European hop-hornbeam (200) Ostrya carpinifolia	24	0.05	0.7	51	24	Competitor
Turkey oak (84) Quercus cerris	23	0.04	0.5	36	24	Competitor
Turkey oak (202) Quercus cerris	22.5	0.04	0.5	41	12	Structure
European hop-hornbeam (48) Ostrya carpinifolia	22	0.04	0.5	35	38	Competitor
European hop-hornbeam (321) Ostrya carpinifolia	22	0.04	0.4	34	28	Structure
European hop-hornbeam (322) Ostrya carpinifolia	22	0.04	0.5	38	6	Competitor
Turkey oak (275) Quercus cerris	22	0.04	0.4	27	24	Regeneration
Turkey oak (283) Quercus cerris	22	0.04	0.4	32	24	Competitor
Turkey oak (386) Quercus cerris	21	0.04	0.4	29	4	Structure
European hop-hornbeam (248) Ostrya carpinifolia	21	0.04	0.4	29	24	Structure
European hop-hornbeam (308) Ostrya carpinifolia	21	0.04	0.4	33	48	Competitor

Tree	DBH (cm)	Basal area (m <sup>2</sup> )	Volume (m <sup>3</sup> )	Economic value (€)	Habitat value (pts.)	Reason
Turkey oak (280) Quercus cerris	20.5	0.03	0.3	24	24	Structure
mannan ash (323) Fraxinus ornus	20.5	0.03	0.4	34	4	Structure
European hop-hornbeam (247) Ostrya carpinifolia	20	0.03	0.3	26	24	Structure
European hop-hornbeam (72) Ostrya carpinifolia	20	0.03	0.4	27	24	Structure
Turkey oak (363) Quercus cerris	18.5	0.03	0.3	25	0	Structure
Turkey oak (312) Quercus cerris	18	0.03	0.2	19	28	Structure
Italian maple (376) Acer opalus	17.5	0.02	0.3	20	24	Structure
European hop-hornbeam (269) Ostrya carpinifolia	17	0.02	0.2	14	24	Structure
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	Structure

## 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 (287) Quercus cerris	57	0.26	4.3	330	24	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 (49) Quercus cerris	51	0.2	2.4	183	42	Habitat tree
Turkey oak (176) Quercus cerris	49	0.19	3	232	60	Habitat tree
Turkey oak (213) [REPLACE_DEAD]Quercus cerris	47.5	0.18	0.3	22	114	Habitat tree
Turkey oak (232) Quercus cerris	45	0.16	2.5	192	64	Veteran tree
Turkey oak (15) Quercus cerris	41.5	0.14	1.9	142	60	Elite tree
Turkey oak (18) Quercus cerris	41	0.13	1.7	132	28	Elite tree
Turkey oak (361) Quercus cerris	40	0.13	1.9	147	24	Elite tree
Turkey oak (108) Quercus cerris	39.5	0.12	1.8	134	54	Habitat tree
Turkey oak (45) Quercus cerris	39	0.12	2	151	24	Elite tree
Turkey oak (131) Quercus cerris	37	0.11	1.5	116	40	Elite tree
Turkey oak (172) Quercus cerris	37	0.11	1.5	118	24	Habitat tree
Turkey oak (195) Quercus cerris	35	0.1	1.4	109	0	Elite tree
Italian maple (36) Acer opalus	34.5	0.09	1.2	93	40	Elite tree
Turkey oak (112) Quercus cerris	34.5	0.09	1.2	95	60	Elite tree
Turkey oak (136)	34	0.09	1.3	103	4	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 (281) Quercus cerris	32.5	0.08	1	75	24	Elite tree
Turkey oak (83) Quercus cerris	32	0.08	1.1	87	24	Elite tree
Turkey oak (189) Quercus cerris	31.5	0.08	1.1	81	36	Elite tree
Turkey oak (285) Quercus cerris	31	0.08	1.2	89	24	Elite tree
Turkey oak (145) Quercus cerris	30	0.07	0.9	66	0	Elite tree
Italian maple (318) Acer opalus	30	0.07	0.9	71	27	Elite tree
Turkey oak (224) Quercus cerris	29.5	0.07	0.8	63	24	Elite tree
Turkey oak (91) Quercus cerris	29	0.07	1	74	24	Elite tree
Turkey oak (44) Quercus cerris	29	0.07	0.9	73	32	Habitat tree
Italian maple (267) Acer opalus	28	0.06	0.7	52	60	Elite tree
Turkey oak (12) Quercus cerris	27.5	0.06	1	80	24	Elite tree
Turkey oak (381) Quercus cerris	26	0.05	0.7	55	0	Elite tree
Italian maple (311) Acer opalus	24	0.05	0.6	45	24	Elite tree
European hop-hornbeam (378) Ostrya carpinifolia	24	0.05	0.5	41	28	Elite tree
Italian maple (316) Acer opalus	23	0.04	0.6	45	24	Elite tree
hornbeam (291) Carpinus betulus	21.5	0.04	0.5	35	24	Diversity
hornbeam (292) Carpinus betulus	17.5	0.02	0.3	25	0	Diversity
field maple (290) [REPLACE_DEAD]Acer campestre	13	0.01	0.1	5	40	Habitat tree
European hop-hornbeam (250) Ostrya carpinifolia	12	0.01	0.1	6	24	Diversity

Tree	DBH (cm)	Basal area (m <sup>2</sup> )	Volume (m <sup>3</sup> )	Economic value (€)	Habitat value (pts.)	Reason
common beech (7) Fagus sylvatica	9	0.01	0.2	16	0	Diversity