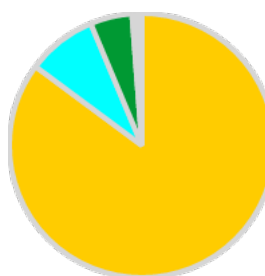


09/04/2021 Laz\_GrA\_prod Turno2

## Site conditions

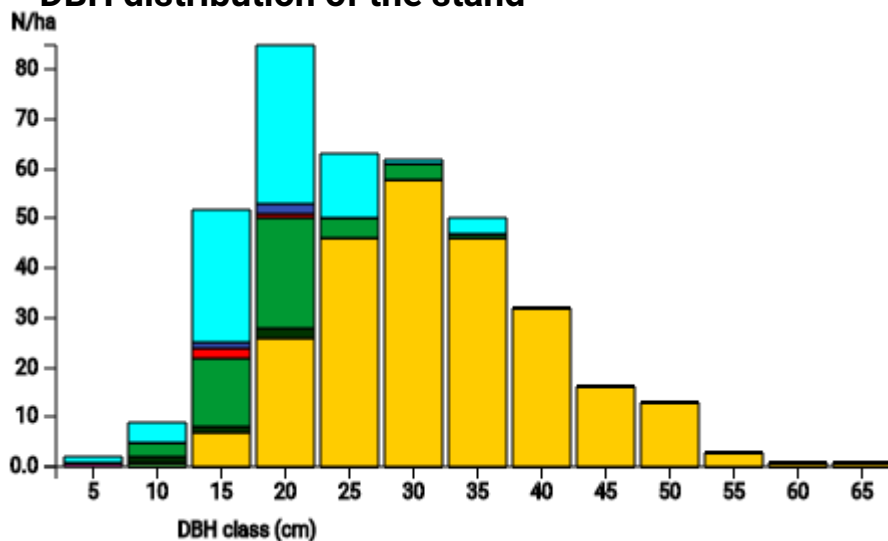
Altitude: 870 m.a.s.l.  
 Geology / Bedrock: Alluvial and mixed beds  
 Soil type: Cambisol – Leptosol with Luvisol of the Central Appenino Mountains.  
 Natural forest community: Aceri obtusati-Quercu cerridis sigmetum  
 Mean annual temperature: 12.4 C;  
 Mean annual precipitation: 1154 mm; Ownership: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



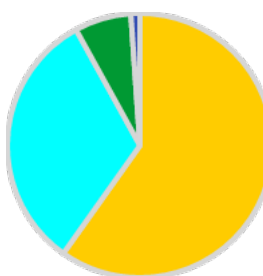
## Initial stand (details by tree species)

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

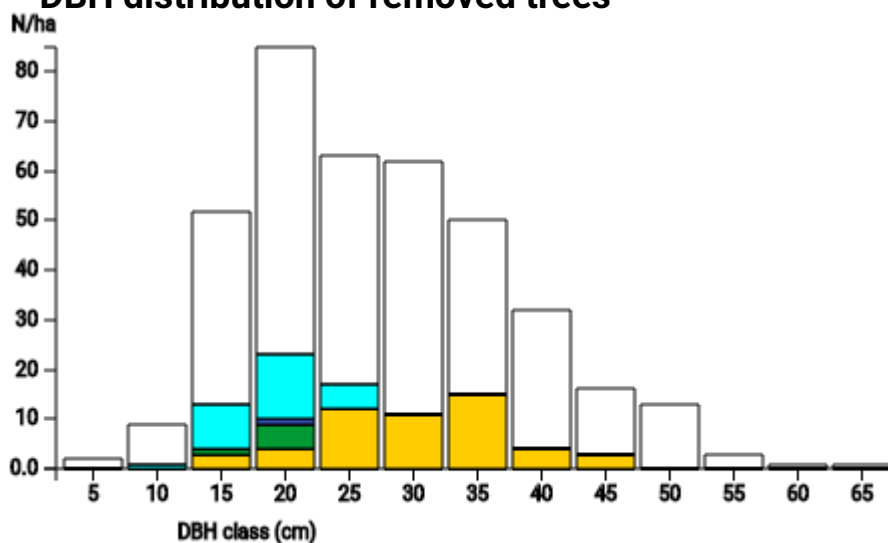
Volume: 76.5 m<sup>3</sup>  
 Basal area: 5.8 m<sup>2</sup>  
 Economic value: 5851 €  
 Habitat value: 2054 pts.

### Removed trees (N in %)



- Turkey oak: 59.8 %
- European hop-hornbeam: 32.2 %
- Italian maple: 6.9 %
- hornbeam: 1.1 %
- common beech: 0 %
- downy oak: 0 %
- field maple: 0 %
- manna ash: 0 %

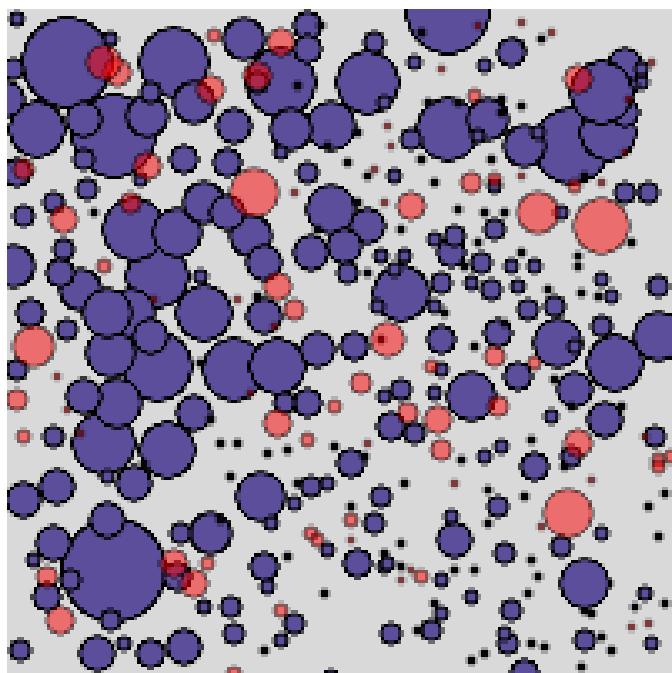
### DBH distribution of removed trees



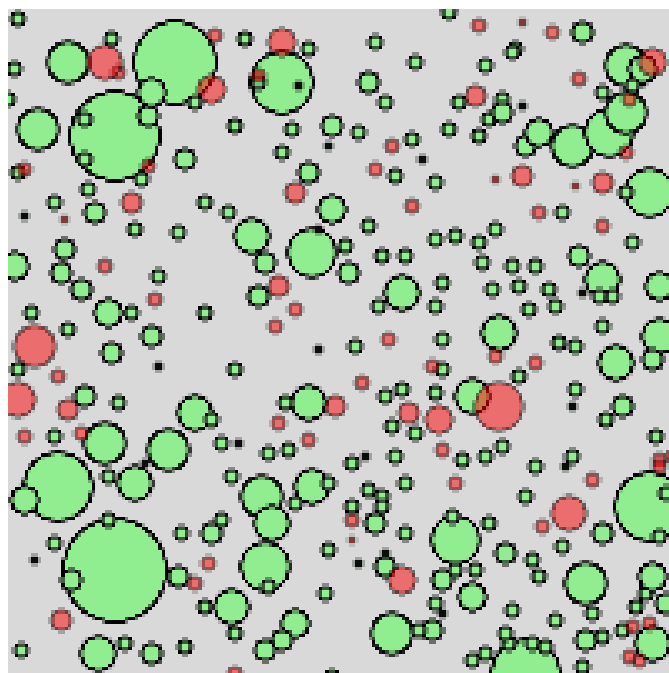
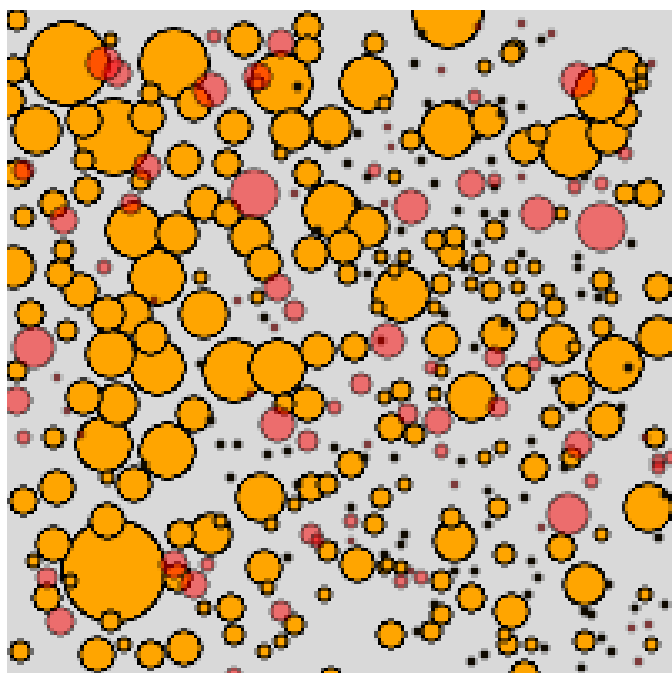
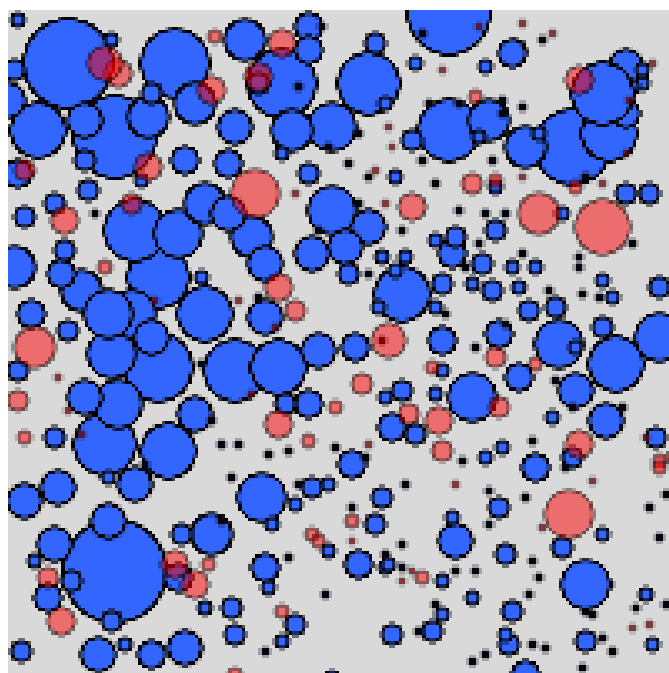
### Removed trees (details by tree species)

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	28	1	11.9	909	559	33
Italian maple	6	0.2	2.5	191	104	8
Turkey oak	52	4.5	61.6	4716	1367	66
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	35	24	1
manna ash	0	0	0	0	0	0
<b>Total</b>	<b>87</b>	<b>5.8</b>	<b>76.5</b>	<b>5851</b>	<b>2054</b>	<b>108</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.

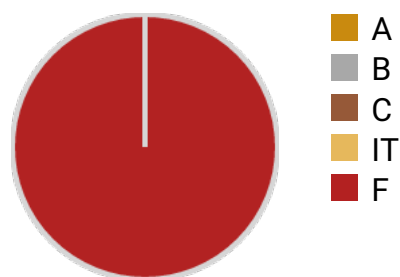
### Economic values

Total value of removed trees: 5851 €  
 Percentage of total stand value: 18.8 %  
 Stand value after harvest: 25289 €

### Economic value by tree species [€]

Tree species	Total	Per m <sup>3</sup>
common beech	0	0
downy oak	0	0
Turkey oak	4716	76
field maple	0	0
Italian maple	191	77
manna ash	0	0
hornbeam	35	77
European hop-hornbeam	909	77
Total	5851	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	76.5	100

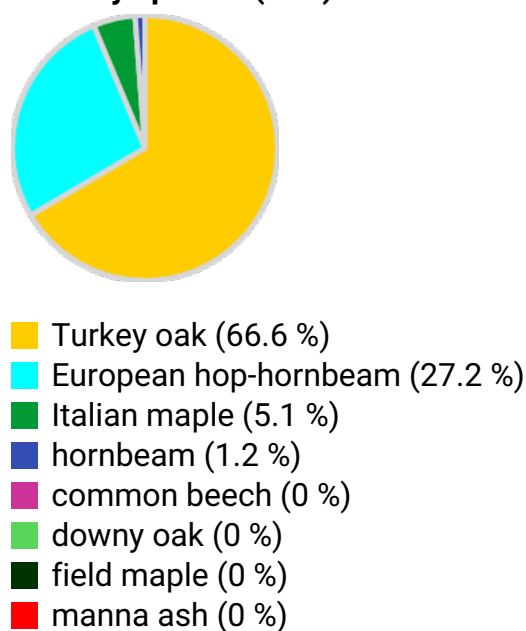
### Habitat values

Total habitat value of removed trees: 2054 pts.  
 Percentage of total stand value: 19.4 %  
 Stand value after harvest: 8516 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	1367	22.2	66
field maple	0	0	0
Italian maple	104	41.7	8
manna ash	0	0	0
hornbeam	24	51.8	1
European hop-hornbeam	559	47.1	33
Total	2054	26.9	108

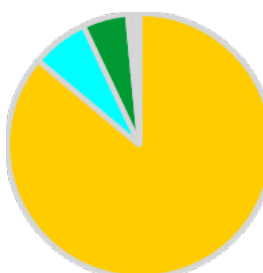
### Habitat value (points) of removed trees by species (in %)



### Remaining stand

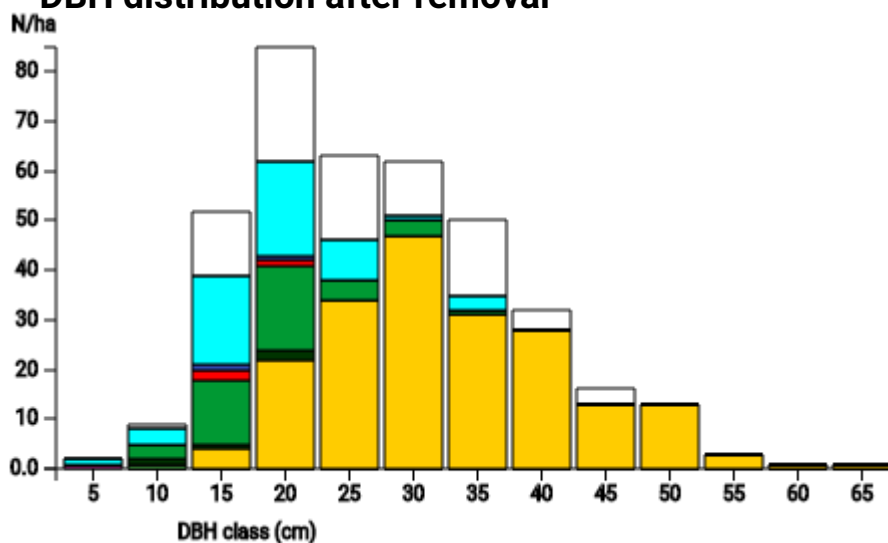
Volume: 330.7 m<sup>3</sup>  
 Basal area: 24.4 m<sup>2</sup>  
 Economic value: 25289 €  
 Habitat value: 8516 pts.

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



- Turkey oak: 86.1 %
- European hop-hornbeam: 6.9 %
- Italian maple: 5.5 %
- manna ash: 0.7 %
- field maple: 0.4 %
- hornbeam: 0.3 %
- 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	53	2	22.7	1738	1110	68
Italian maple	41	1.6	18.3	1397	813	57
Turkey oak	197	20.3	284.8	21784	6440	335
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	0.9	66	0	0
manna ash	3	0.1	2.3	174	38	4
<b>Total</b>	<b>302</b>	<b>24.1</b>	<b>330.6</b>	<b>25288</b>	<b>8516</b>	<b>470</b>

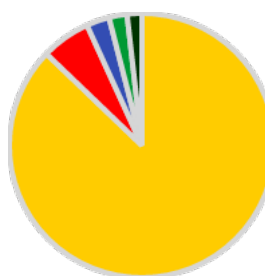
**Retention trees**Volume: 30.6 m<sup>3</sup>

Elite trees: 27

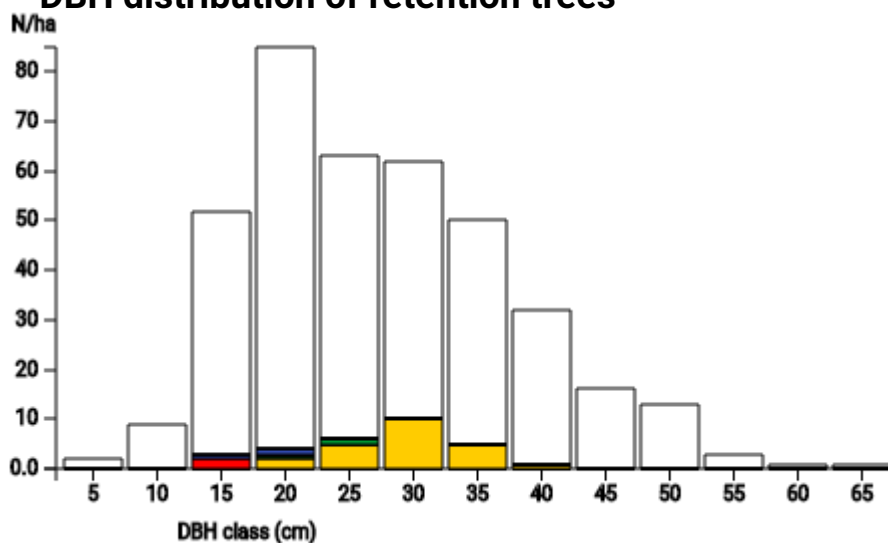
Habitat trees: 1

Economic value: 2342 €

Habitat value: 594 pts.

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

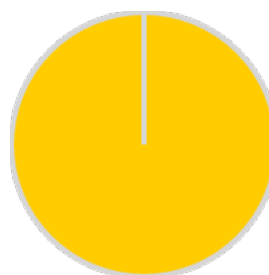
- Turkey oak: 87.2 %
- manna ash: 6 %
- hornbeam: 2.8 %
- Italian maple: 2.2 %
- field maple: 1.8 %
- common beech: 0 %
- downy oak: 0 %
- European hop-hornbeam: 0 %

**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	0	0	0	0	0	0
Italian maple	1	0.1	0.7	52	60	2
Turkey oak	23	1.9	26.7	2042	476	22
common beech	0	0	0	0	0	0
downy oak	0	0	0	0	0	0
field maple	1	0	0.6	42	24	1
hornbeam	2	0.1	0.9	66	0	0
manna ash	2	0	1.8	141	34	3
<b>Total</b>	<b>29</b>	<b>2.1</b>	<b>30.6</b>	<b>2342</b>	<b>594</b>	<b>28</b>

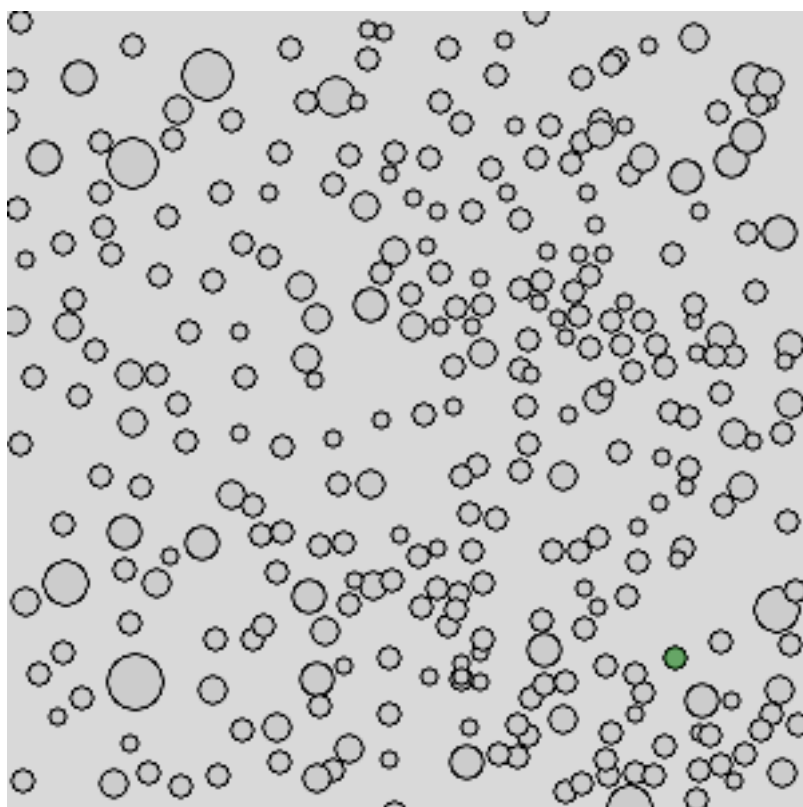
Number of habitat trees	[N]	1
Habitat value	pts.	24
	[% of total]	0.2
Economic value	[€]	94
	[% of total]	0.3
Number of microhabitats	[N]	1
	[% of total]	0.2

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

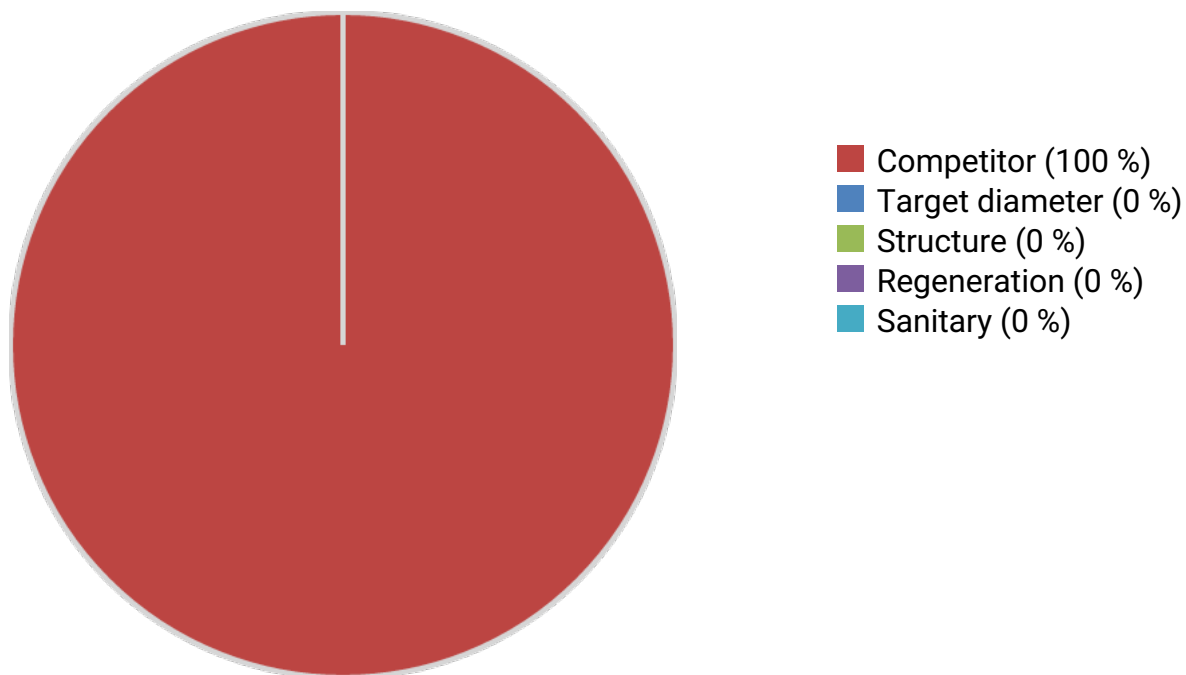


■ Turkey oak: 100 %
■ common beech: 0 %
■ downy oak: 0 %
■ field maple: 0 %
■ Italian maple: 0 %
■ manna ash: 0 %
■ hornbeam: 0 %
■ European hop-hornbeam: 0 %

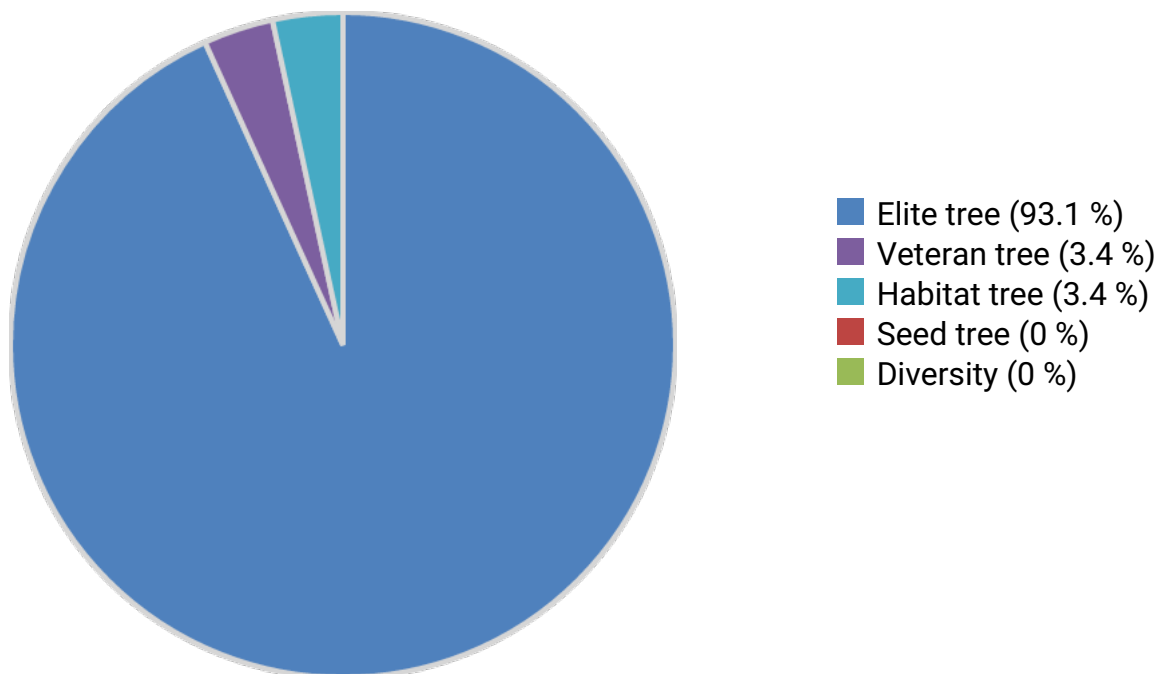
### Spatial distribution of habitat trees



### Reasons for removal

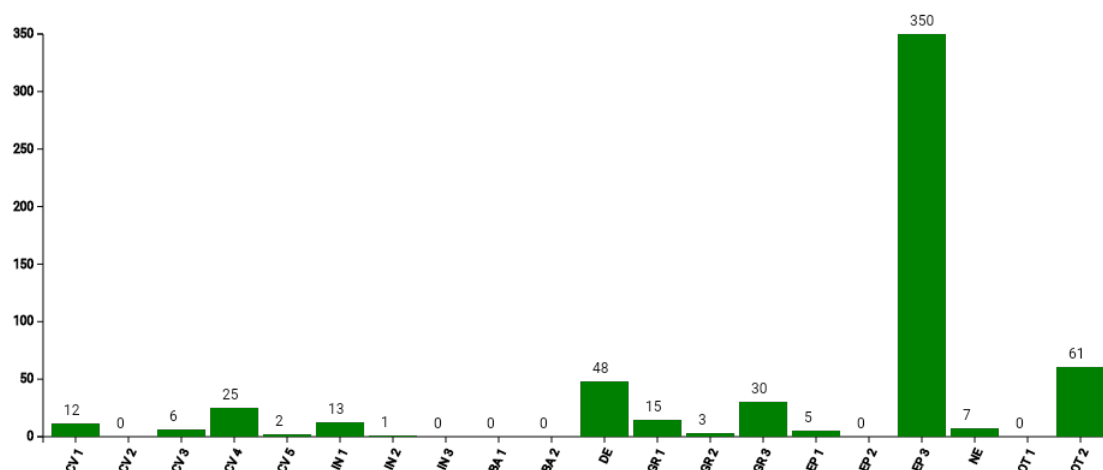


### Reasons for retention

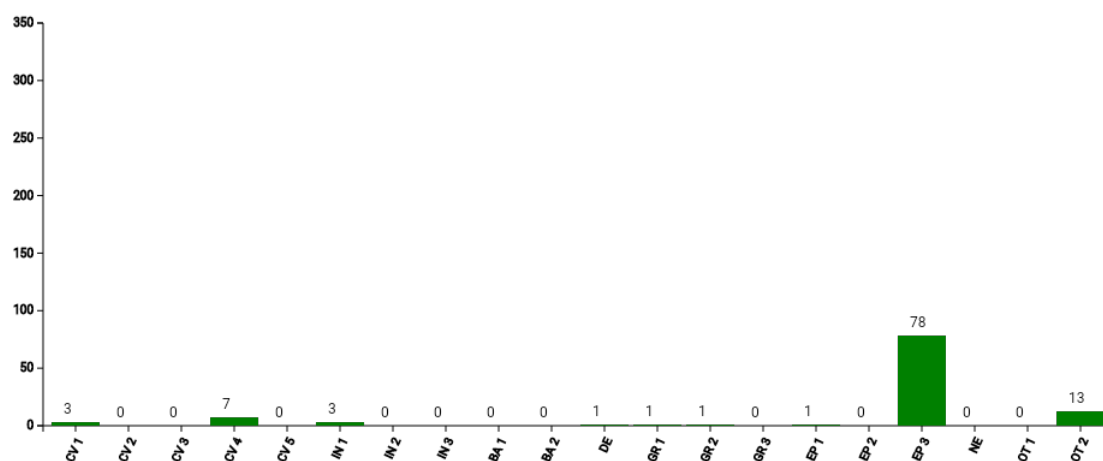




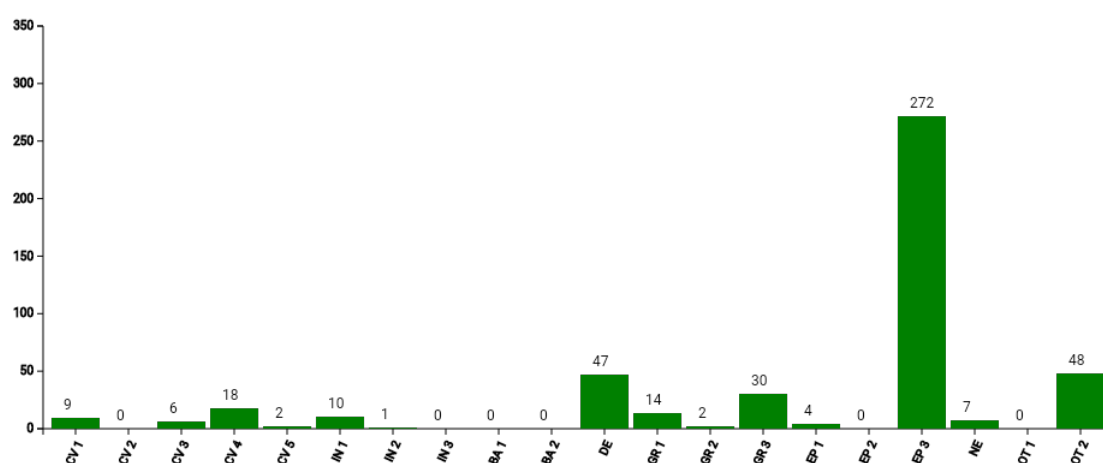
## Distribution of tree microhabitats by code (N total)



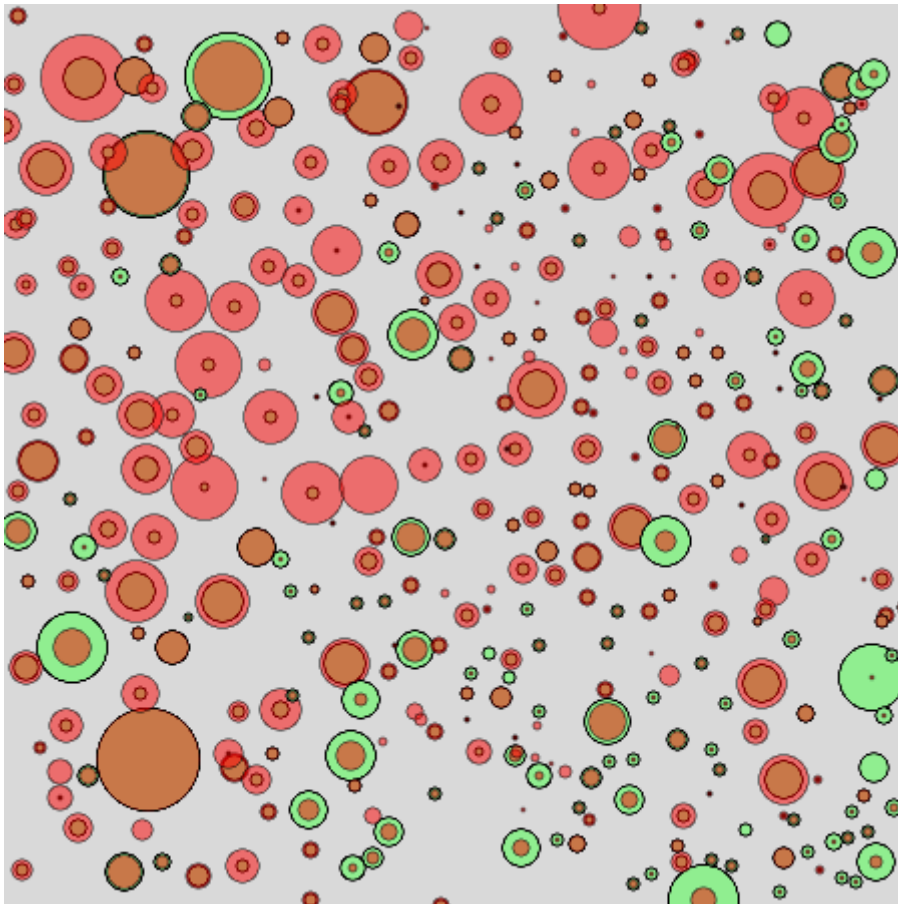
## Removed tree microhabitats by code (N removed)



## 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 (47) Quercus cerris	48.5	0.19	2.5	189	4	Competitor
Turkey oak (351) Quercus cerris	47	0.17	2.9	224	24	Competitor
Turkey oak (82) Quercus cerris	45	0.16	2.2	169	64	Competitor
Turkey oak (212) Quercus cerris	44	0.15	2.5	189	60	Competitor
Turkey oak (15) Quercus cerris	41.5	0.14	1.9	142	60	Competitor
Turkey oak (349) Quercus cerris	40.5	0.13	2	154	24	Competitor
Turkey oak (158) Quercus cerris	40	0.13	1.7	126	24	Competitor
Turkey oak (90) Quercus cerris	39	0.12	1.6	121	28	Competitor
Turkey oak (345) Quercus cerris	38	0.11	1.3	101	24	Competitor
Turkey oak (305) Quercus cerris	38	0.11	1.6	123	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 (62) Quercus cerris	37.5	0.11	1.6	119	30	Competitor
Turkey oak (130) Quercus cerris	37	0.11	1.6	119	24	Competitor
Turkey oak (104) Quercus cerris	36.5	0.11	1.2	94	60	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 (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 (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

Tree	DBH (cm)	Basal area (m <sup>2</sup> )	Volume (m <sup>3</sup> )	Economic value (€)	Habitat value (pts.)	Reason
Quercus cerris						
Turkey oak (195) Quercus cerris	35	0.1	1.4	109	0	Competitor
Turkey oak (337) Quercus cerris	34	0.09	1.1	87	0	Competitor
Turkey oak (42) Quercus cerris	34	0.09	1.3	98	12	Competitor
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 (187) Quercus cerris	32.5	0.08	1	80	24	Competitor
Turkey oak (29) Quercus cerris	32	0.08	1	79	24	Competitor
Turkey oak (124) Quercus cerris	31.5	0.08	0.9	65	0	Competitor
Turkey oak (189) Quercus cerris	31.5	0.08	1.1	81	36	Competitor
Turkey oak (73) Quercus cerris	30	0.07	1.1	85	28	Competitor
Turkey oak (168) Quercus cerris	30	0.07	1	74	24	Competitor
Turkey oak (145) Quercus cerris	30	0.07	0.9	66	0	Competitor
Turkey oak (44) Quercus cerris	29	0.07	0.9	73	32	Competitor
Turkey oak (95) Quercus cerris	29	0.07	0.9	68	24	Competitor
Turkey oak (206) Quercus cerris	28.5	0.06	0.9	70	24	Competitor
European hop-hornbeam (56) Ostrya carpinifolia	28	0.06	0.7	56	24	Competitor
Turkey oak (152) Quercus cerris	28	0.06	0.9	68	24	Competitor
European hop-hornbeam (302) Ostrya carpinifolia	27.5	0.06	0.8	59	30	Competitor
Turkey oak (93) Quercus cerris	27	0.06	0.8	60	36	Competitor
Turkey oak (129) Quercus cerris	27	0.06	0.7	52	24	Competitor

Tree	DBH (cm)	Basal area (m <sup>2</sup> )	Volume (m <sup>3</sup> )	Economic value (€)	Habitat value (pts.)	Reason
Turkey oak (105) Quercus cerris	27	0.06	0.7	53	24	Competitor
European hop-hornbeam (336) Ostrya carpinifolia	26.5	0.06	0.6	47	14	Competitor
European hop-hornbeam (199) Ostrya carpinifolia	26.5	0.06	0.8	61	24	Competitor
Turkey oak (261) Quercus cerris	26	0.05	0.6	43	0	Competitor
Turkey oak (239) Quercus cerris	26	0.05	0.6	47	24	Competitor
Turkey oak (170) Quercus cerris	26	0.05	0.6	47	21	Competitor
Turkey oak (125) Quercus cerris	26	0.05	0.7	53	0	Competitor
Turkey oak (3) Quercus cerris	25	0.05	0.6	49	24	Competitor
European hop-hornbeam (198) Ostrya carpinifolia	25	0.05	0.7	51	24	Competitor
Italian maple (331) Acer opalus	24	0.05	0.5	39	40	Competitor
Turkey oak (173) Quercus cerris	24	0.05	0.6	44	24	Competitor
Italian maple (201) Acer opalus	24	0.05	0.5	37	28	Competitor
Turkey oak (260) Quercus cerris	24	0.05	0.5	41	44	Competitor
European hop-hornbeam (200) Ostrya carpinifolia	24	0.05	0.7	51	24	Competitor
European hop-hornbeam (328) Ostrya carpinifolia	24	0.05	0.5	40	28	Competitor
European hop-hornbeam (340) Ostrya carpinifolia	23.5	0.04	0.5	38	24	Competitor
Italian maple (333) Acer opalus	23.5	0.04	0.6	42	8	Competitor
Turkey oak (84) Quercus cerris	23	0.04	0.5	36	24	Competitor
European hop-hornbeam (207) Ostrya carpinifolia	23	0.04	0.4	33	3	Competitor
Turkey oak (102) Quercus cerris	23	0.04	0.5	38	24	Competitor
European hop-hornbeam (344)	22.5	0.04	0.4	33	0	Competitor

Tree	DBH (cm)	Basal area (m <sup>2</sup> )	Volume (m <sup>3</sup> )	Economic value (€)	Habitat value (pts.)	Reason
Ostrya carpinifolia						
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	Competitor
European hop-hornbeam (334) Ostrya carpinifolia	22	0.04	0.4	34	30	Competitor
Italian maple (89) Acer opalus	22	0.04	0.3	23	4	Competitor
European hop-hornbeam (209) Ostrya carpinifolia	22	0.04	0.4	29	24	Competitor
hornbeam (291) Carpinus betulus	21.5	0.04	0.5	35	24	Competitor
European hop-hornbeam (248) Ostrya carpinifolia	21	0.04	0.4	29	24	Competitor
Italian maple (65) Acer opalus	21	0.04	0.3	24	24	Competitor
European hop-hornbeam (308) Ostrya carpinifolia	21	0.04	0.4	33	48	Competitor
European hop-hornbeam (247) Ostrya carpinifolia	20	0.03	0.3	26	24	Competitor
European hop-hornbeam (72) Ostrya carpinifolia	20	0.03	0.4	27	24	Competitor
European hop-hornbeam (289) Ostrya carpinifolia	19.5	0.03	0.4	30	10	Competitor
European hop-hornbeam (288) Ostrya carpinifolia	19.5	0.03	0.4	31	24	Competitor
Italian maple (296) Acer opalus	19	0.03	0.3	26	0	Competitor
Turkey oak (103) Quercus cerris	18	0.03	0.3	22	40	Competitor
European hop-hornbeam (319) Ostrya carpinifolia	18	0.03	0.3	25	4	Competitor
Turkey oak (312) Quercus cerris	18	0.03	0.2	19	28	Competitor
Turkey oak (253) Quercus cerris	18	0.03	0.2	17	0	Competitor
European hop-hornbeam (256) Ostrya carpinifolia	17.5	0.02	0.2	17	6	Competitor
European hop-hornbeam (196) Ostrya carpinifolia	17	0.02	0.3	20	0	Competitor

Tree	DBH (cm)	Basal area (m <sup>2</sup> )	Volume (m <sup>3</sup> )	Economic value (€)	Habitat value (pts.)	Reason
European hop-hornbeam (269) <i>Ostrya carpinifolia</i>	17	0.02	0.2	14	24	Competitor
European hop-hornbeam (217) <i>Ostrya carpinifolia</i>	17	0.02	0.3	19	24	Competitor
European hop-hornbeam (64) <i>Ostrya carpinifolia</i>	16	0.02	0.2	15	4	Competitor
European hop-hornbeam (270) <i>Ostrya carpinifolia</i>	15	0.02	0.1	10	24	Competitor
European hop-hornbeam (268) <i>Ostrya carpinifolia</i>	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 (69) Quercus cerris	43	0.15	2.4	184	24	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 (172) Quercus cerris	37	0.11	1.5	118	24	Elite tree
Turkey oak (169) Quercus cerris	35	0.1	1.6	122	24	Elite tree
Turkey oak (40) Quercus cerris	35	0.1	1.5	114	24	Elite tree
Turkey oak (226) Quercus cerris	34.5	0.09	1.2	94	24	Habitat tree
Turkey oak (136) Quercus cerris	34	0.09	1.3	103	4	Elite tree
Turkey oak (218) Quercus cerris	33	0.09	1.1	86	0	Veteran tree
Turkey oak (83) Quercus cerris	32	0.08	1.1	87	24	Elite tree
Turkey oak (106) Quercus cerris	32	0.08	1.1	81	24	Elite tree
Turkey oak (197) Quercus cerris	32	0.08	1.2	90	24	Elite tree
Turkey oak (126) Quercus cerris	30.5	0.07	0.8	60	24	Elite tree
Turkey oak (194) Quercus cerris	30	0.07	1.1	82	24	Elite tree
Turkey oak (147) Quercus cerris	30	0.07	0.9	71	24	Elite tree
Turkey oak (190) Quercus cerris	30	0.07	1	78	24	Elite tree
Turkey oak (91) Quercus cerris	29	0.07	1	74	24	Elite tree
Turkey oak (37) Quercus cerris	29	0.07	0.9	65	24	Elite tree
Turkey oak (339) Quercus cerris	28	0.06	0.8	60	24	Elite tree
Italian maple (267) Acer opalus	28	0.06	0.7	52	60	Elite tree
Turkey oak (2)	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
Quercus cerris						
Turkey oak (34) Quercus cerris	25	0.05	0.7	53	24	Elite tree
Turkey oak (259) Quercus cerris	23.5	0.04	0.5	40	0	Elite tree
hornbeam (332) Carpinus betulus	23	0.04	0.5	41	0	Elite tree
Turkey oak (335) Quercus cerris	23	0.04	0.6	44	0	Elite tree
field maple (297) Acer campestre	22.5	0.04	0.6	42	24	Elite tree
hornbeam (292) Carpinus betulus	17.5	0.02	0.3	25	0	Elite tree
mannan ash (71) Fraxinus ornus	17	0.02	1.6	125	4	Elite tree
mannan ash (43) Fraxinus ornus	15	0.02	0.2	16	30	Elite tree