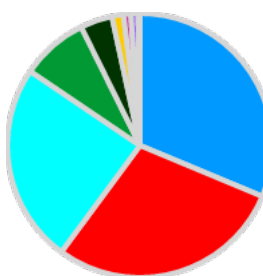


03/12/2021 Gr A Bdf

Site conditions

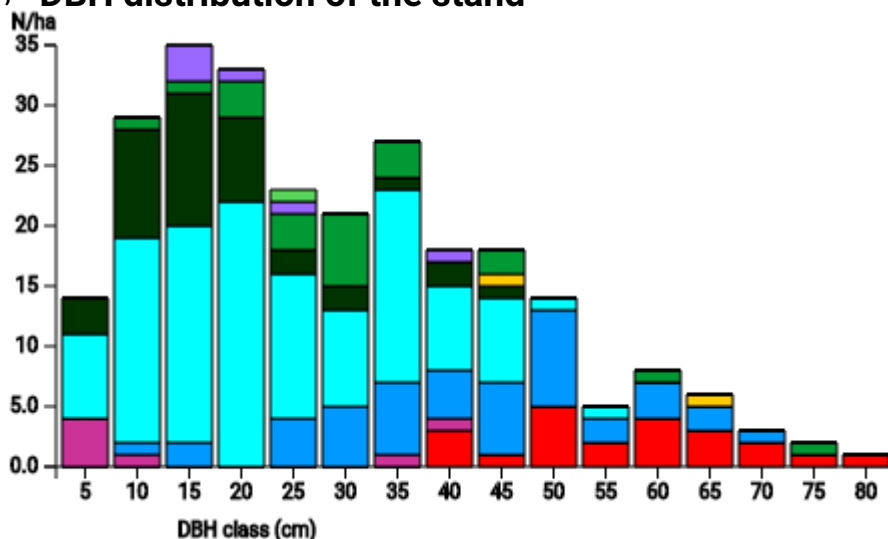
Altitude: 25 m.a.s.l.
 Forest ecological region:
 Lombardia
 Geology / Bedrock: Medium
 floodplain
 Soil type: Haplic luvisols and
 mollic gleysols
 Natural forest community: Illyrian
 oak-hornbeam forests
 (Erythronio-Carpinion)
 Mean annual temperature: 13.1 C;
 Mean annual precipitation: 603
 mm; Ownership: Carabinieri
 Corps; Establishment: 2020

Tree species distribution by volume (in %)



- narrow-leafed ash: 31.3 %
- pedunculate oak: 28.8 %
- hornbeam: 24.4 %
- black alder: 8.2 %
- Field elm: 3.9 %
- wild cherry: 1.4 %
- field maple: 0.9 %
- black locust: 0.9 %
- London sycamore: 0.2 %

DBH distribution of the stand



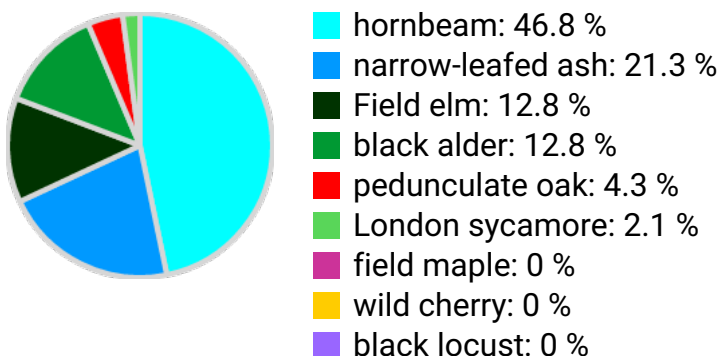
Initial stand (details by tree species)

Tree species	N/ha	Basal area (m ²)	Volume (m ³)	Economic value (€)	Habitat value (pts.)	Microhabitats (N)
Field elm	38	1.5	13.5	1276	756	49
London sycamore	1	0.1	0.7	70	24	1
black alder	21	2.2	28.2	2852	411	31
black locust	6	0.3	3	296	71	9
field maple	7	0.3	3	304	187	10
hornbeam	116	7.3	84.2	8312	3230	278
narrow-leafed ash	44	7.2	107.8	10961	1083	81
pedunculate oak	22	6.3	99.3	9868	557	49
wild cherry	2	0.5	4.7	473	127	7
Total	257	25.7	344.3	34412	6446	515

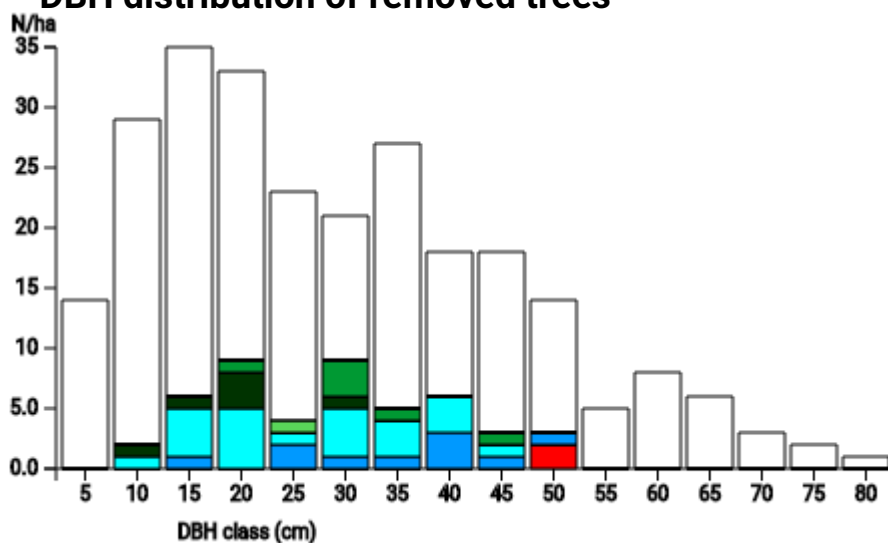
Removed trees

Volume: 51.9 m³
 Basal area: 3.9 m²
 Economic value: 5244 €
 Habitat value: 1007 pts.

Removed trees (N in %)



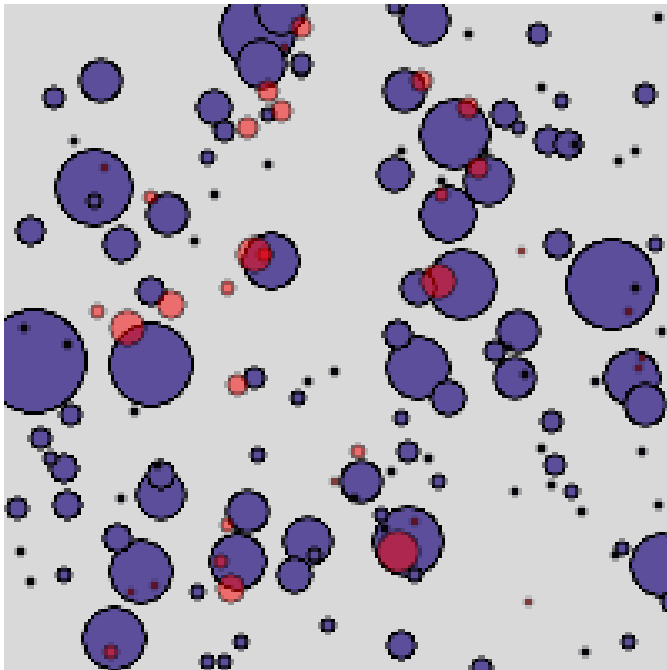
DBH distribution of removed trees



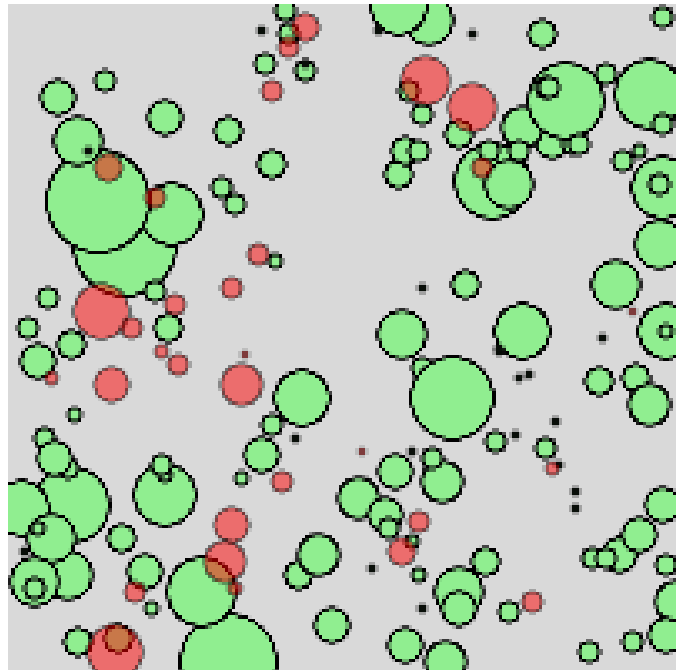
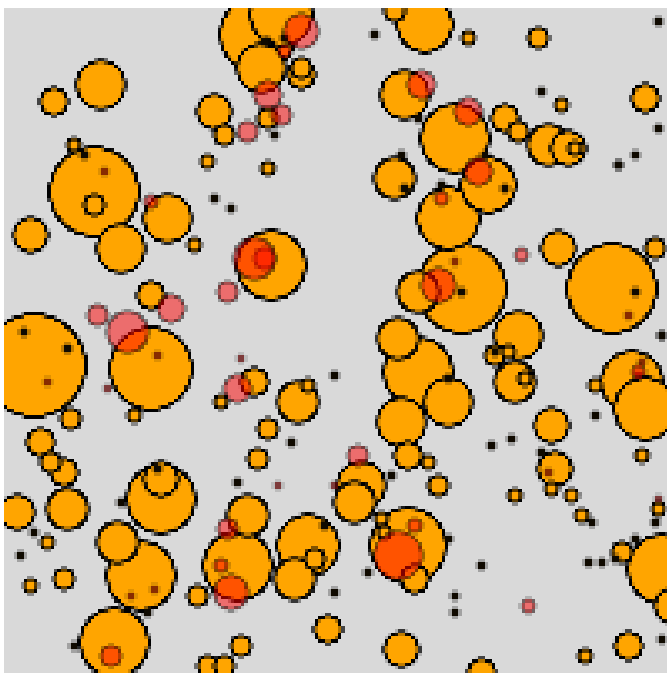
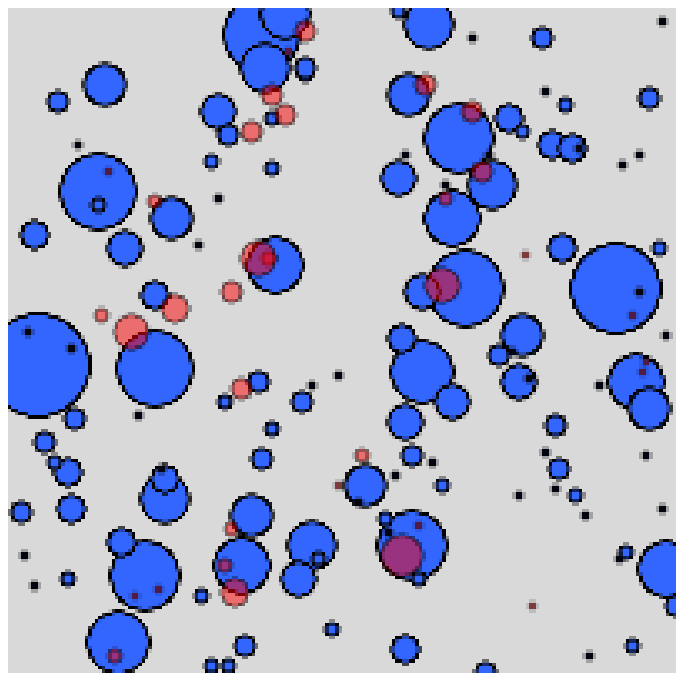
Removed trees (details by tree species)

Tree species	N/ha	Basal area (m ²)	Volume (m ³)	Economic value (€)	Habitat value (pts.)	Microhabitats (N)
Field elm	6	0.2	1.9	186	146	9
London sycamore	1	0.1	0.7	70	24	1
black alder	6	0.5	6.7	685	61	6
black locust	0	0	0	0	0	0
field maple	0	0	0	0	0	0
hornbeam	22	1.6	19.5	1963	567	52
narrow-leaved ash	10	1.1	16.4	1665	145	10
pedunculate oak	2	0.4	6.7	675	64	6
wild cherry	0	0	0	0	0	0
Total	47	3.9	51.9	5244	1007	84

Economic value [EUR]



Habitat value

Basal area [m²]Volume [m³]**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.

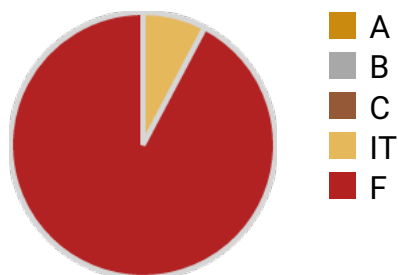
Economic values

Total value of removed trees: 5244 €
 Percentage of total stand value: 15.2 %
 Stand value after harvest: 29168 €

Economic value by tree species [€]

Tree species	Total	Per m ³
pedunculate oak	675	101
field maple	0	0
narrow-leafed ash	1665	101
hornbeam	1963	101
Field elm	186	100
wild cherry	0	0
black alder	685	102
black locust	0	0
London sycamore	70	100
Total	5244	101

Wood quality distribution (m³ in %)



Quality class	m ³	%
A	0	0
B	0	0
C	0	0
Industrial Timber	4	7.7
Fuelwood	47.9	92.3

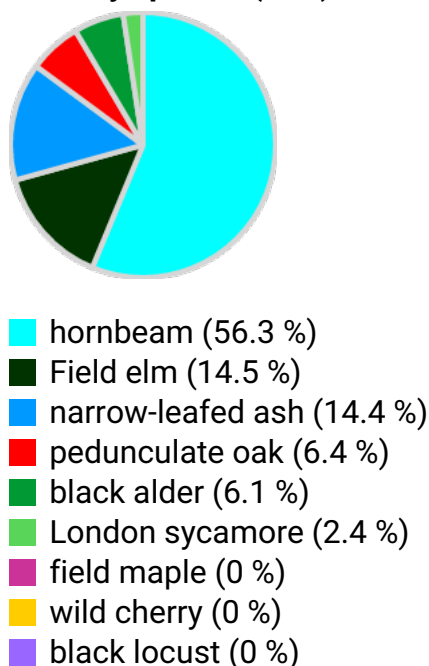
Habitat values

Total habitat value of removed trees: 1007 pts.
 Percentage of total stand value: 15.6 %
 Stand value after harvest: 5439 pts.

Habitat value by tree species [pts.]

Tree species	Total	Per m ³	Microhabitats [N]
pedunculate oak	64	9.6	6
field maple	0	0	0
narrow-leafed ash	145	8.8	10
hornbeam	567	29.1	52
Field elm	146	78.4	9
wild cherry	0	0	0
black alder	61	9.1	6
black locust	0	0	0
London sycamore	24	34.3	1
Total	1007	19.4	84

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



Remaining stand

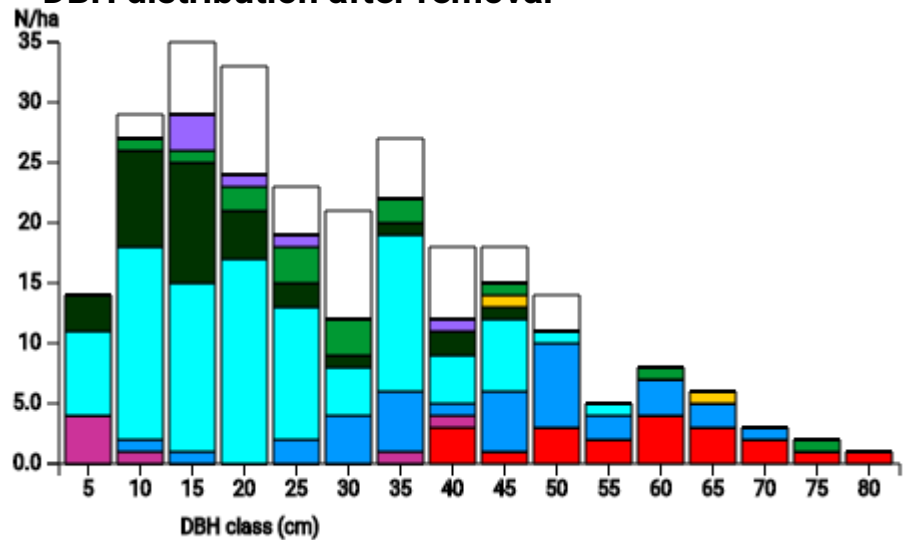
Volume: 292.4 m³
 Basal area: 21.7 m²
 Economic value: 29168 €
 Habitat value: 5439 pts.

Remaining trees by volume (m³ in %)



- pedunculate oak: 31.7 %
- narrow-leaved ash: 31.2 %
- hornbeam: 22.1 %
- black alder: 7.3 %
- Field elm: 4 %
- wild cherry: 1.6 %
- field maple: 1 %
- black locust: 1 %
- London sycamore: 0 %

DBH distribution after removal



Remaining stand (details by tree species)

Tree species	N/ha	Basal area (m ²)	Volume (m ³)	Economic value (€)	Habitat value (pts.)	Microhabitats (N)
Field elm	32	1.3	11.6	1090	610	40
London sycamore	0	0	0	0	0	0
black alder	15	1.7	21.5	2167	350	25
black locust	6	0.3	3	296	71	9
field maple	7	0.3	3	304	187	10
hornbeam	94	5.7	64.7	6348	2663	226
narrow-leaved ash	34	6.1	91.4	9297	938	71
pedunculate oak	20	5.8	92.6	9193	493	43
wild cherry	2	0.5	4.7	473	127	7
Total	210	21.7	292.4	29168	5439	431

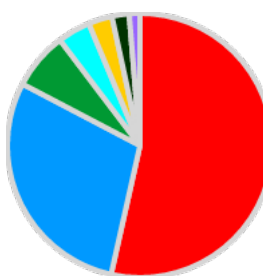
Retention treesVolume: 163.7 m³

Elite trees: 0

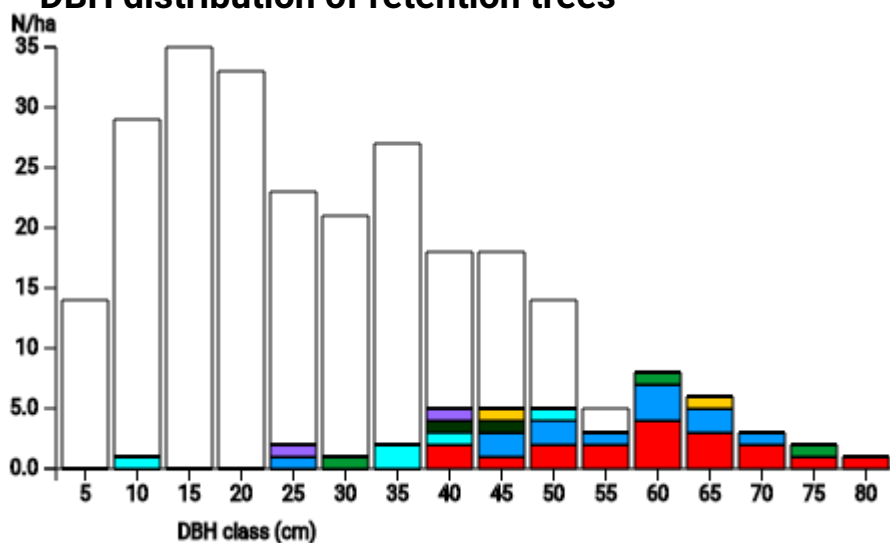
Habitat trees: 9

Economic value: 16409 €

Habitat value: 1540 pts.

Retention trees by volume (m³ in %)

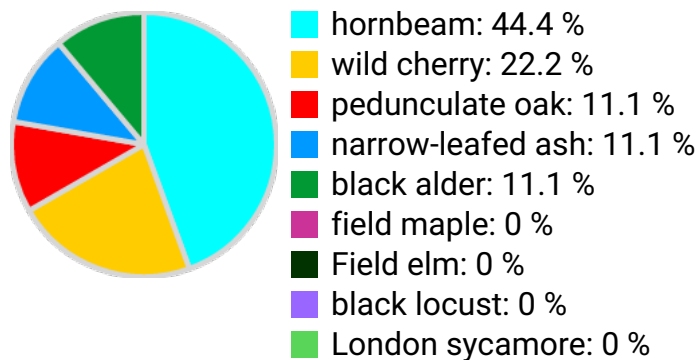
- pedunculate oak: 53.5 %
- narrow-leafed ash: 29.2 %
- black alder: 7 %
- hornbeam: 4 %
- wild cherry: 2.9 %
- Field elm: 2.1 %
- black locust: 1.3 %
- field maple: 0 %
- London sycamore: 0 %

DBH distribution of retention trees**Retained trees (details by tree species)**

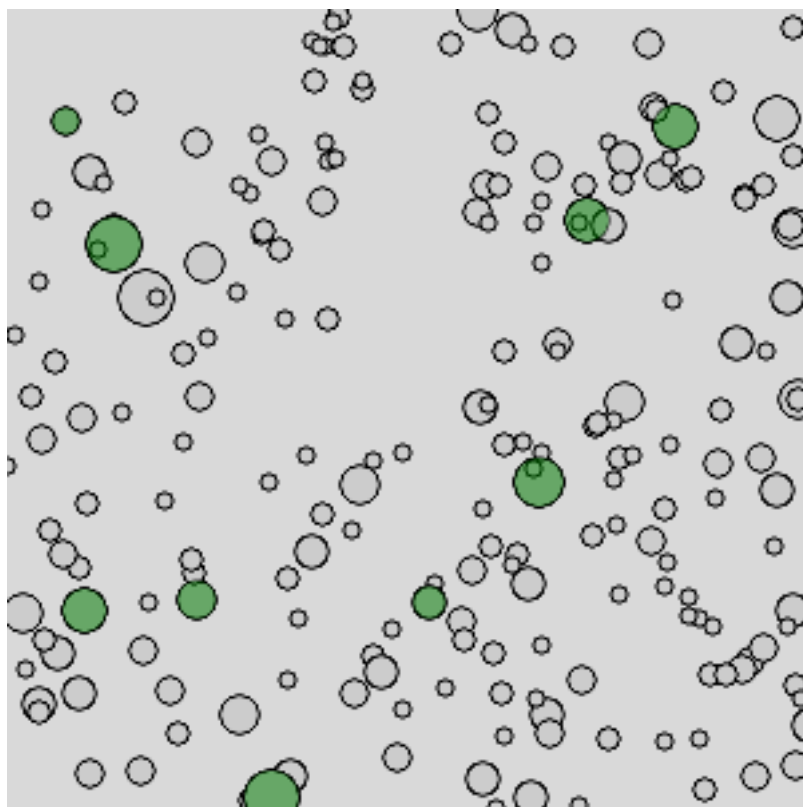
Tree species	N/ha	Basal area (m ²)	Volume (m ³)	Economic value (€)	Habitat value (pts.)	Microhabitats (N)
Field elm	2	0.3	3.5	354	16	3
London sycamore	0	0	0	0	0	0
black alder	3	0.8	11.4	1149	156	11
black locust	2	0.2	2.1	206	23	4
field maple	0	0	0	0	0	0
hornbeam	5	0.5	6.5	648	424	22
narrow-leafed ash	12	3.1	47.9	4878	347	30
pedunculate oak	18	5.5	87.7	8701	447	38
wild cherry	2	0.5	4.7	473	127	7
Total	44	11	163.7	16409	1540	115

Number of habitat trees	[N]	9
Habitat value	pts.	824
	[% of total]	12.8
Economic value	[€]	1949
	[% of total]	5.7
Number of microhabitats	[N]	43
	[% of total]	8.3

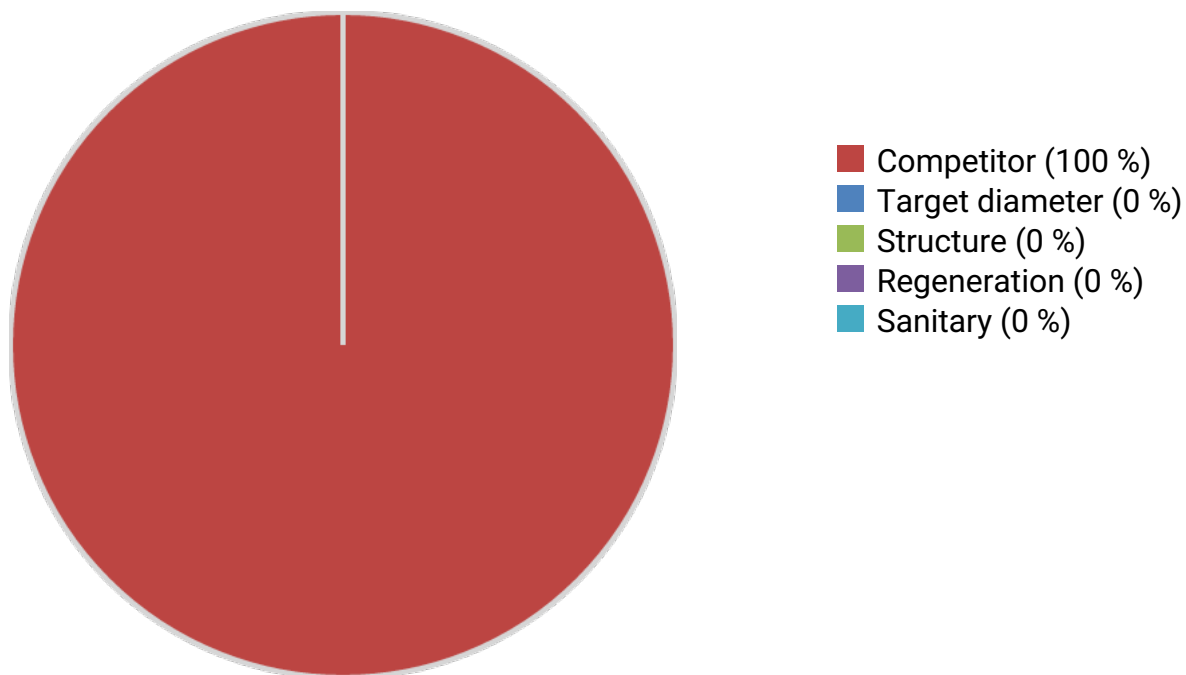
Habitat tree distribution by species (N in %)



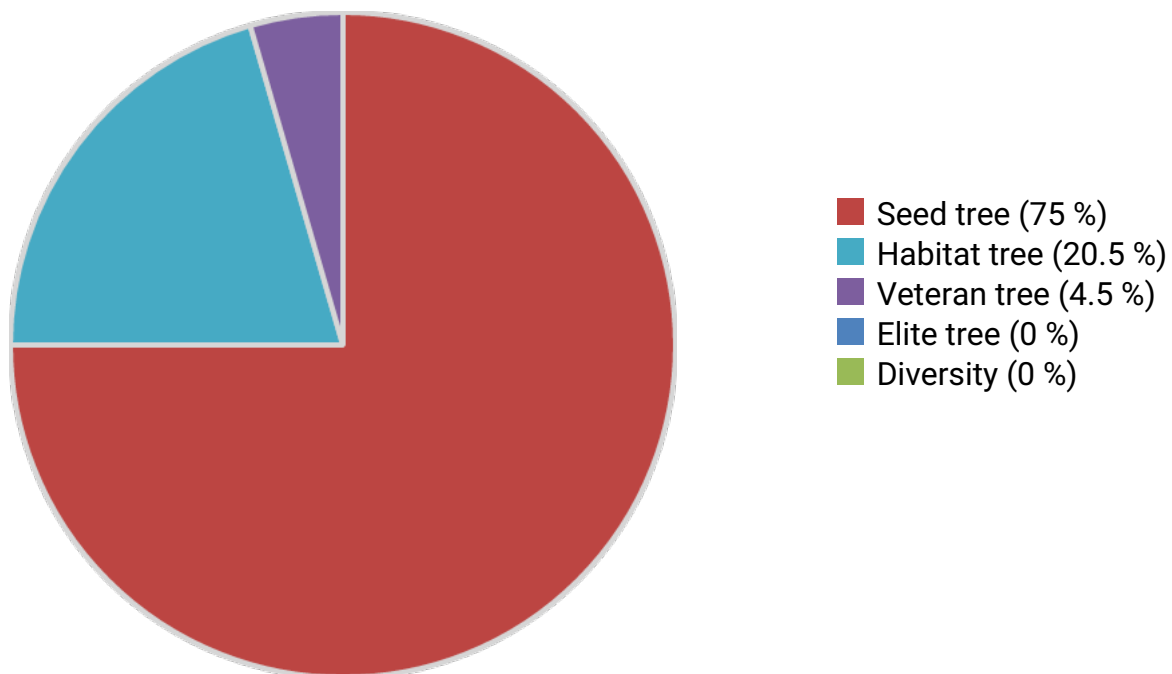
Spatial distribution of habitat trees



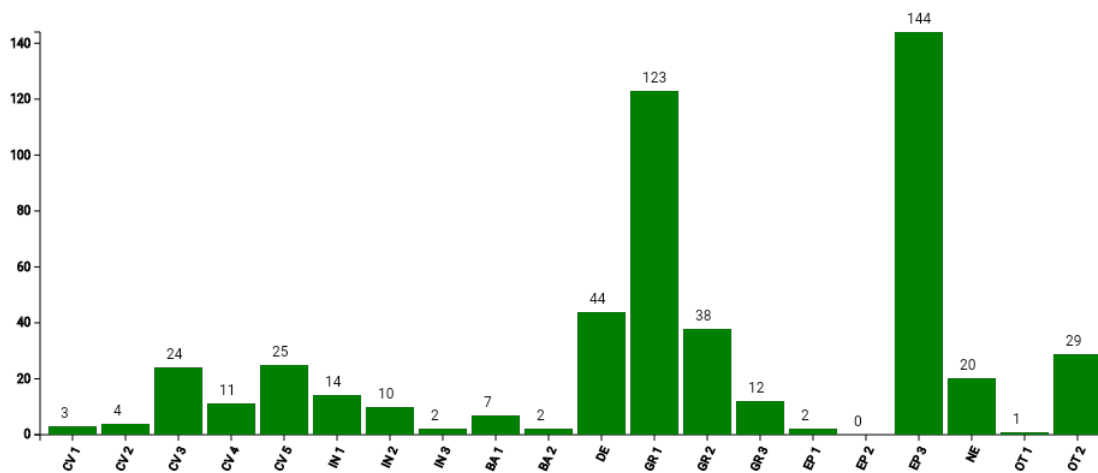
Reasons for removal



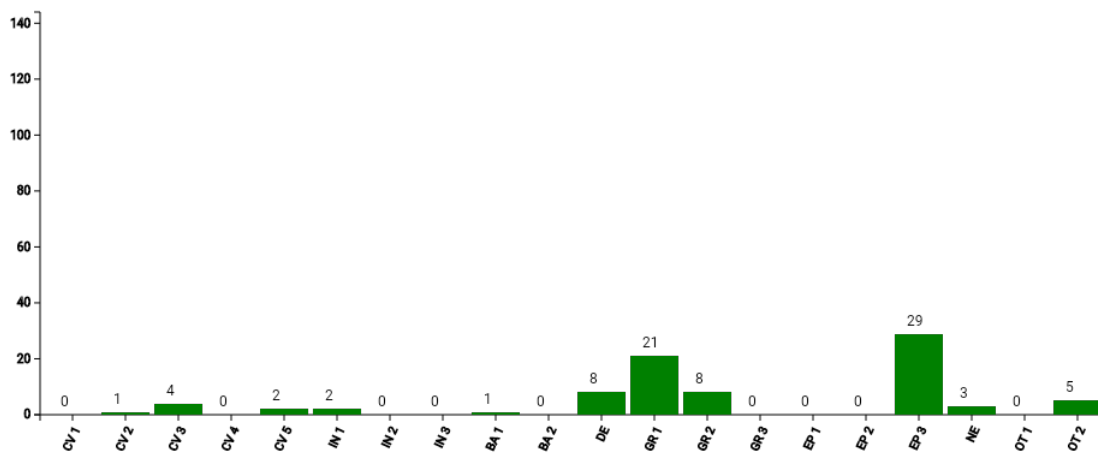
Reasons for retention



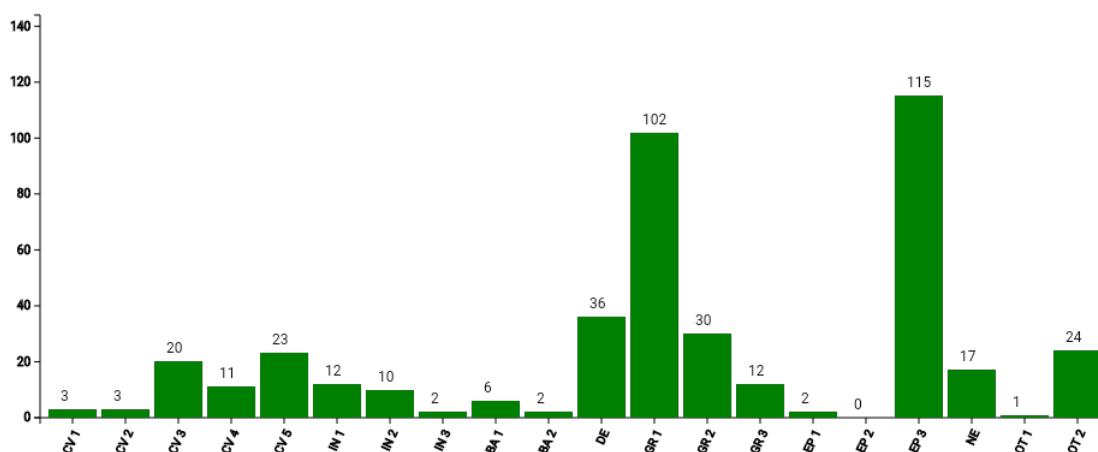
Distribution of tree microhabitats by code (N total)



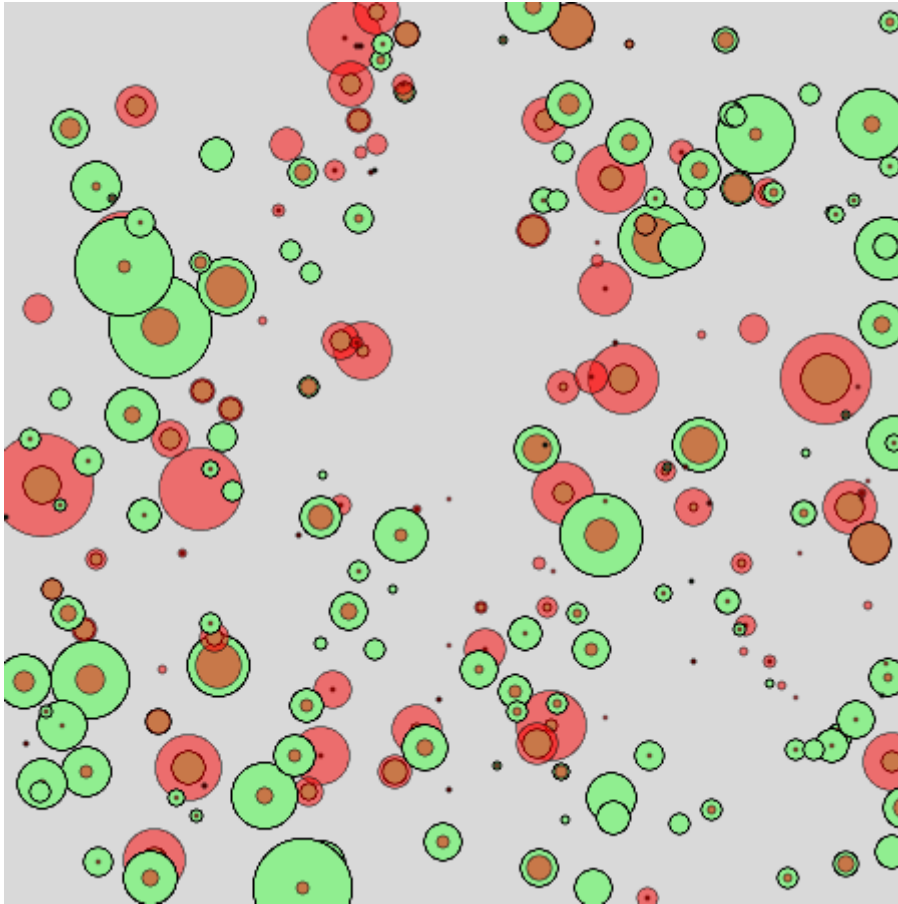
Removed tree microhabitats by code (N removed)



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 ²)	Volume (m ³)	Economic value (€)	Habitat value (pts.)	Reason
pedunculate oak (215) Quercus robur	54.5	0.23	3.5	357	36	Competitor
pedunculate oak (110) Quercus robur	51	0.2	3.2	318	28	Competitor
narrow-leafed ash (96) Fraxinus angustifolia	50	0.2	3.1	319	28	Competitor
narrow-leafed ash (94) Fraxinus angustifolia	48	0.18	2.9	287	3	Competitor
hornbeam (236) Carpinus betulus	46	0.17	2.6	259	20	Competitor
black alder (2) Alnus glutinosa	45	0.16	2.1	213	31	Competitor
hornbeam (109) Carpinus betulus	44	0.15	2.2	219	28	Competitor
narrow-leafed ash (26) Fraxinus angustifolia	42.5	0.14	2.1	214	24	Competitor
hornbeam (135) Carpinus betulus	42	0.14	2	203	55	Competitor
narrow-leafed ash (66) Fraxinus angustifolia	41	0.13	1.9	197	24	Competitor
hornbeam (42) Carpinus betulus	41	0.13	1.6	160	60	Competitor
narrow-leafed ash (22) Fraxinus angustifolia	40	0.13	2	199	58	Competitor
black alder (32) Alnus glutinosa	38	0.11	1.7	177	3	Competitor
hornbeam (99) Carpinus betulus	37.5	0.11	1.5	152	28	Competitor
hornbeam (107) Carpinus betulus	36.5	0.11	1.3	130	67	Competitor
narrow-leafed ash (37) Fraxinus angustifolia	35.5	0.1	1.7	169	0	Competitor
hornbeam (258) Carpinus betulus	35	0.1	1.3	133	66	Competitor
hornbeam (186) Carpinus betulus	34	0.09	1	100	42	Competitor
hornbeam (173) Carpinus betulus	33.5	0.09	1	105	12	Competitor
narrow-leafed ash (97) Fraxinus angustifolia	33.5	0.09	1.3	127	4	Competitor
hornbeam (74)	33	0.09	1	103	27	Competitor

Tree	DBH (cm)	Basal area (m ²)	Volume (m ³)	Economic value (€)	Habitat value (pts.)	Reason
Carpinus betulus						
Field elm (194) Ulmus minor	32	0.08	0.7	73	28	Competitor
black alder (84) Alnus glutinosa	32	0.08	0.9	96	0	Competitor
black alder (90) Alnus glutinosa	31	0.08	0.9	91	0	Competitor
hornbeam (221) Carpinus betulus	30.5	0.07	1	97	53	Competitor
black alder (3) Alnus glutinosa	30	0.07	0.7	76	24	Competitor
London sycamore (244) Platanus hybrida	29.5	0.07	0.7	70	24	Competitor
narrow-leaved ash (120) Fraxinus angustifolia	28	0.06	0.7	73	4	Competitor
hornbeam (233) Carpinus betulus	25.5	0.05	0.5	45	22	Competitor
narrow-leaved ash (119) Fraxinus angustifolia	25	0.05	0.5	53	0	Competitor
hornbeam (234) Carpinus betulus	24	0.05	0.5	47	4	Competitor
hornbeam (117) Carpinus betulus	22	0.04	0.4	37	11	Competitor
Field elm (73) Ulmus minor	22	0.04	0.4	35	36	Competitor
Field elm (139) Ulmus minor	21.5	0.04	0.3	26	40	Competitor
hornbeam (172) Carpinus betulus	21	0.04	0.3	34	0	Competitor
hornbeam (121) Carpinus betulus	21	0.04	0.3	31	0	Competitor
Field elm (145) Ulmus minor	21	0.04	0.3	27	18	Competitor
black alder (92) Alnus glutinosa	20.5	0.03	0.3	31	3	Competitor
hornbeam (138) Carpinus betulus	20	0.03	0.2	16	10	Competitor
hornbeam (165) Carpinus betulus	19	0.03	0.2	21	18	Competitor
hornbeam (142) Carpinus betulus	18	0.03	0.2	22	20	Competitor

Tree	DBH (cm)	Basal area (m ²)	Volume (m ³)	Economic value (€)	Habitat value (pts.)	Reason
narrow-leaved ash (205) Fraxinus angustifolia	18	0.03	0.3	28	0	Competitor
Field elm (188) Ulmus minor	16.5	0.02	0.2	16	24	Competitor
hornbeam (154) Carpinus betulus	16	0.02	0.2	23	0	Competitor
hornbeam (141) Carpinus betulus	16	0.02	0.2	18	24	Competitor
Field elm (159) Ulmus minor	14	0.02	0.1	9	0	Competitor
hornbeam (137) Carpinus betulus	14	0.02	0.1	8	0	Competitor

Retention trees

Tree	DBH (cm)	Basal area (m ²)	Volume (m ³)	Economic value (€)	Habitat value (pts.)	Reason
pedunculate oak (146) Quercus robur	80	0.5	8.9	913	46	Seed tree
black alder (91) Alnus glutinosa	75.8	0.45	6.4	639	36	Seed tree
pedunculate oak (88) Quercus robur	75.5	0.45	8	801	63	Seed tree
pedunculate oak (75) Quercus robur	74	0.43	6.7	667	30	Seed tree
pedunculate oak (140) Quercus robur	71.5	0.4	6.6	736	0	Seed tree
narrow-leaved ash (7) Fraxinus angustifolia	70	0.39	6.3	641	6	Seed tree
pedunculate oak (216) Quercus robur	69	0.37	6.3	631	15	Seed tree
pedunculate oak (40) Quercus robur	67	0.35	6.1	613	34	Seed tree
wild cherry (184) Prunus avium	66	0.34	4	398	77	Habitat tree
narrow-leaved ash (130) Fraxinus angustifolia	66	0.34	5.3	551	27	Seed tree
narrow-leaved ash (206) Fraxinus angustifolia	65	0.33	5	519	25	Seed tree
pedunculate oak (98) Quercus robur	65	0.33	5	499	17	Seed tree
pedunculate oak (222) Quercus robur	64.5	0.33	5	508	4	Seed tree
pedunculate oak (224) Quercus robur	64	0.32	5.7	574	42	Seed tree
pedunculate oak (259) Quercus robur	64	0.32	5.6	560	34	Seed tree
narrow-leaved ash (122) Fraxinus angustifolia	63	0.31	4.8	483	36	Seed tree
narrow-leaved ash (161) Fraxinus angustifolia	62	0.3	3.7	379	52	Seed tree
narrow-leaved ash (85) Fraxinus angustifolia	61	0.29	4.5	464	4	Seed tree
black alder (8) Alnus glutinosa	61	0.29	3.9	399	22	Seed tree
pedunculate oak (220) Quercus robur	60.5	0.29	4.3	440	16	Seed tree
narrow-leaved ash (56)	59	0.27	4.1	412	95	Habitat tree

Tree	DBH (cm)	Basal area (m ²)	Volume (m ³)	Economic value (€)	Habitat value (pts.)	Reason
Fraxinus angustifolia						
pedunculate oak (189) Quercus robur	55	0.24	3.4	348	6	Seed tree
pedunculate oak (155) [REPLACE_DEAD]Quercus robur	55	0.24	3.1	309	104	Habitat tree
narrow-leafed ash (25) Fraxinus angustifolia	54.5	0.23	4	401	27	Seed tree
narrow-leafed ash (21) Fraxinus angustifolia	54	0.23	3.8	384	27	Seed tree
pedunculate oak (153) Quercus robur	53	0.22	3.3	114	0	Seed tree
pedunculate oak (187) Quercus robur	51	0.2	3.4	343	4	Seed tree
hornbeam (182) Carpinus betulus	50	0.2	2.5	252	98	Habitat tree
wild cherry (192) [REPLACE_DEAD]Prunus avium	49	0.19	0.8	76	50	Habitat tree
narrow-leafed ash (39) Fraxinus angustifolia	47	0.17	3	305	0	Seed tree
narrow-leafed ash (89) Fraxinus angustifolia	47	0.17	2.6	263	0	Seed tree
Field elm (164) Ulmus minor	46.5	0.17	1.8	178	6	Seed tree
pedunculate oak (78) Quercus robur	46.5	0.17	2.5	259	0	Seed tree
Field elm (158) Ulmus minor	44.5	0.16	1.7	176	10	Seed tree
pedunculate oak (111) Quercus robur	43.5	0.15	2.2	216	28	Seed tree
pedunculate oak (136) Quercus robur	43	0.15	1.7	171	4	Seed tree
hornbeam (29) Carpinus betulus	41	0.13	1.9	194	47	Habitat tree
black locust (213) Robinia pseudoacacia	40	0.13	1.3	128	19	Veteran tree
hornbeam (261) [REPLACE_DEAD]Carpinus betulus	35	0.1	1	100	127	Habitat tree
hornbeam (79) Carpinus betulus	35	0.1	1	97	128	Habitat tree
black alder (49) [REPLACE_DEAD]Alnus glutinosa	33	0.09	1.1	111	98	Habitat tree

Tree	DBH (cm)	Basal area (m ²)	Volume (m ³)	Economic value (€)	Habitat value (pts.)	Reason
narrow-leaved ash (204) <i>Fraxinus angustifolia</i>	29.9	0.07	0.8	77	48	Seed tree
black locust (149) <i>Robinia pseudoacacia</i>	28.5	0.06	0.8	78	4	Veteran tree
hornbeam (58) <i>Carpinus betulus</i>	10.5	0.01	0	5	24	Seed tree