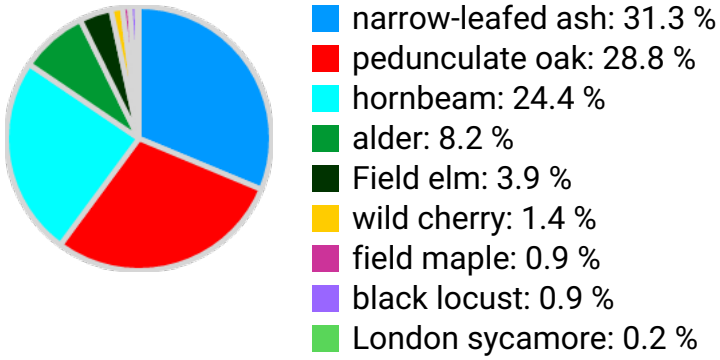
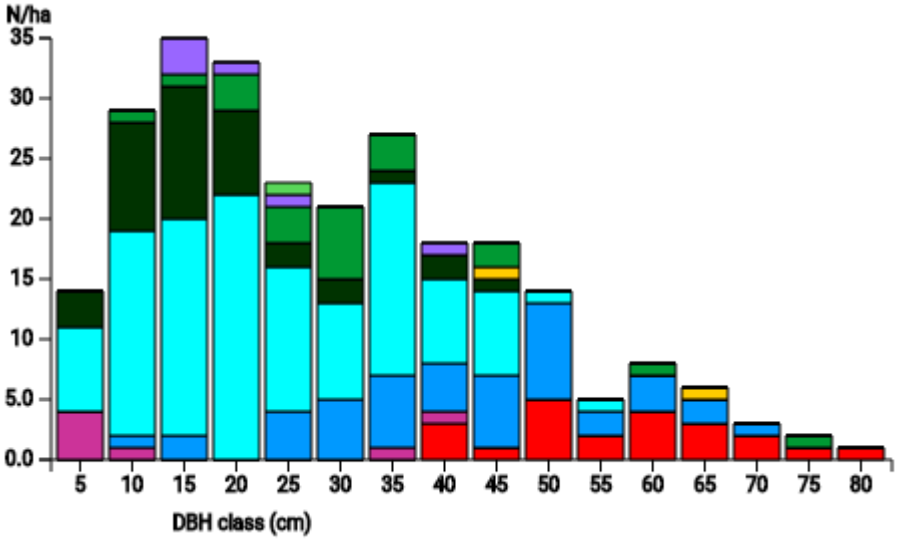
Site conditions

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 %)



DBH distribution of the stand



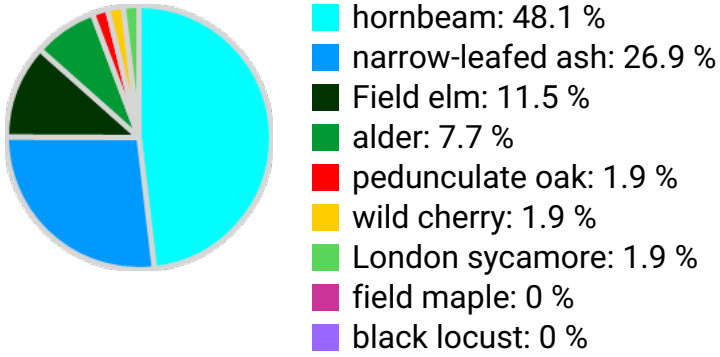
Initial stand (details by tree species)

Tree species	N/ha	Basal area (m²)	Volume (m³)	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
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

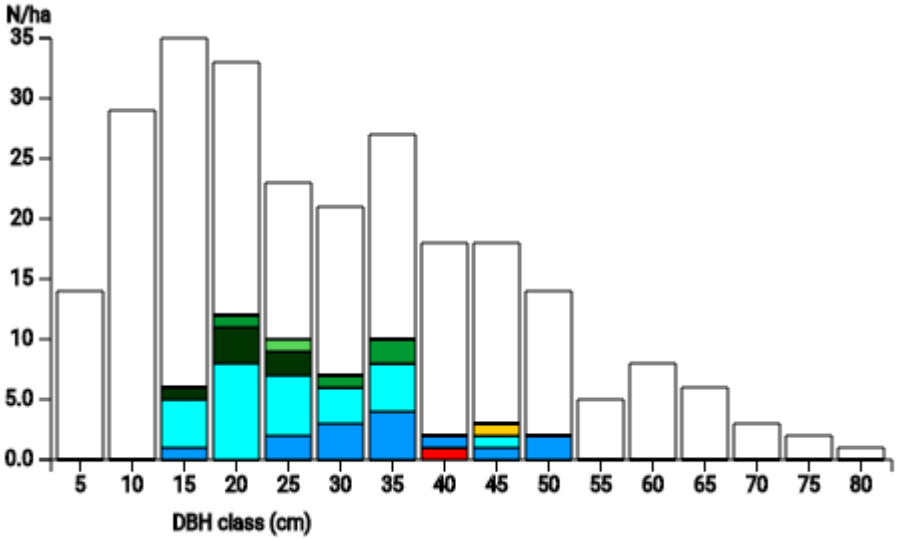
Removed trees

Volume: 51.5 m³
Basal area: 4.2 m²
Economic value: 5246 €
Habitat value: 1036 pts.

Removed trees (N in %)



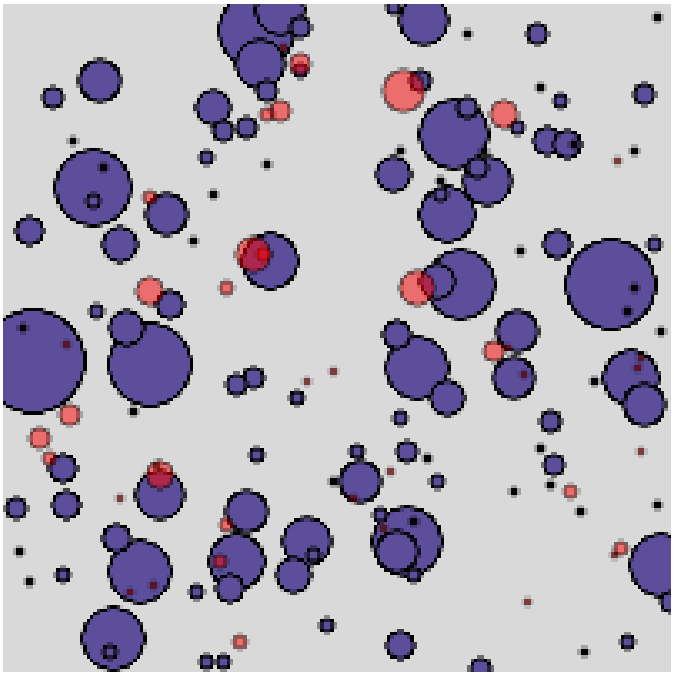
DBH distribution of removed trees



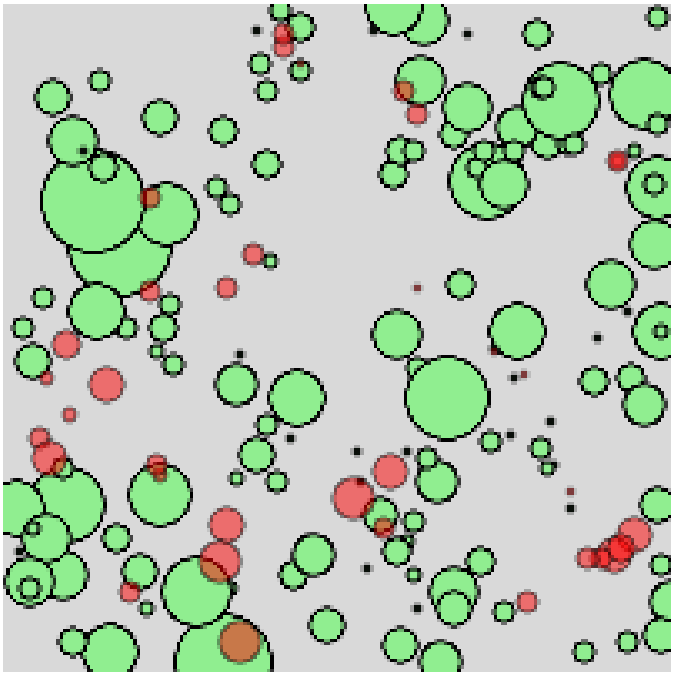
Removed trees (details by tree species)

Tree species	N/ha	Basal area (m²)	Volume (m³)	Economic value (€)	Habitat value (pts.)	Microhabitats (N)
Field elm	6	0.3	2.1	215	114	10
London sycamore	1	0.1	0.7	70	24	1
alder	4	0.3	3.7	373	94	5
black locust	0	0	0	0	0	0
field maple	0	0	0	0	0	0
hornbeam	25	1.6	18.7	1921	590	48
narrow-leafed ash	14	1.6	23.3	2375	136	17
pedunculate oak	1	0.1	2.2	216	28	2
wild cherry	1	0.2	0.8	76	50	2
Total	52	4.2	51.5	5246	1036	85

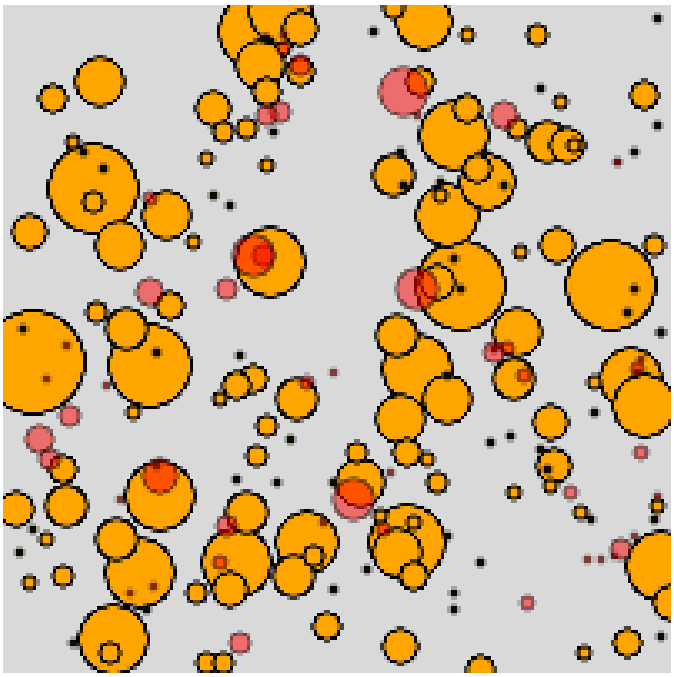
Economic value [EUR]



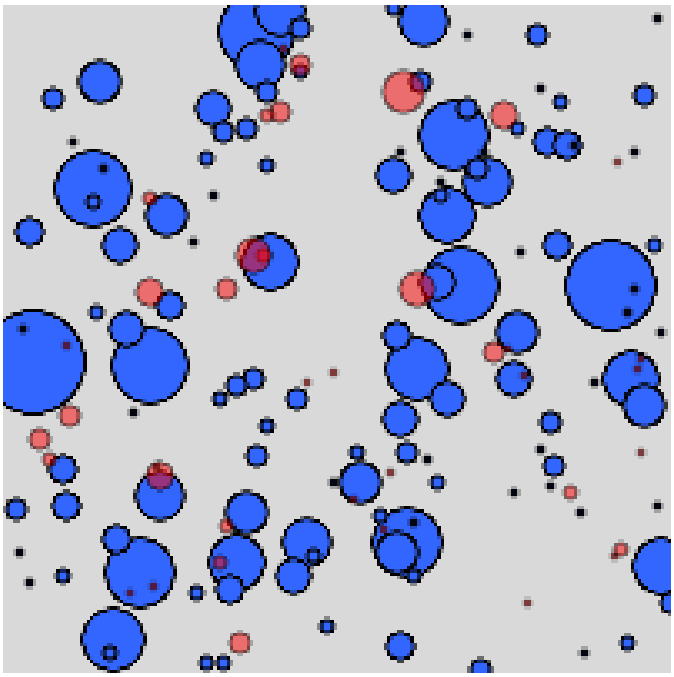
Habitat value



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.

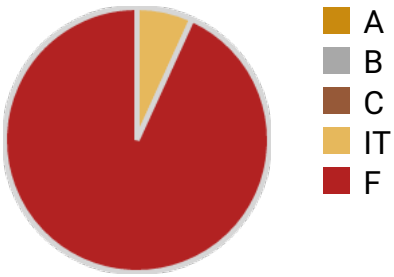
Economic values

Total value of removed trees: 5246 €
Percentage of total stand value: 15.2 %
Stand value after harvest: 29166 €

Economic value by tree species [€]

Tree species	Total	Per m³
pedunculate oak	216	100
field maple	0	0
narrow-leafed ash	2375	102
hornbeam	1921	103
Field elm	215	101
wild cherry	76	100
alder	373	101
black locust	0	0
London sycamore	70	100
Total	5246	102

Wood quality distribution (m³ in %)



Quality class	m³	%
A	0	0
B	0	0
C	0	0
Industrial Timber	3.5	6.8
Fuelwood	48.4	93.2

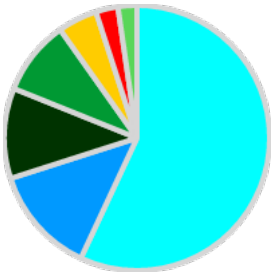
Habitat values

Total habitat value of removed trees: 1036 pts.
Percentage of total stand value: 16.1 %
Stand value after harvest: 5410 pts.

Habitat value by tree species [pts.]

Tree species	Total	Per m³	Microhabitats [N]
pedunculate oak	28	13	2
field maple	0	0	0
narrow-leafed ash	136	5.8	17
hornbeam	590	31.6	48
Field elm	114	53.6	10
wild cherry	50	66.1	2
alder	94	25.5	5
black locust	0	0	0
London sycamore	24	34.3	1
Total	1036	20.1	85

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

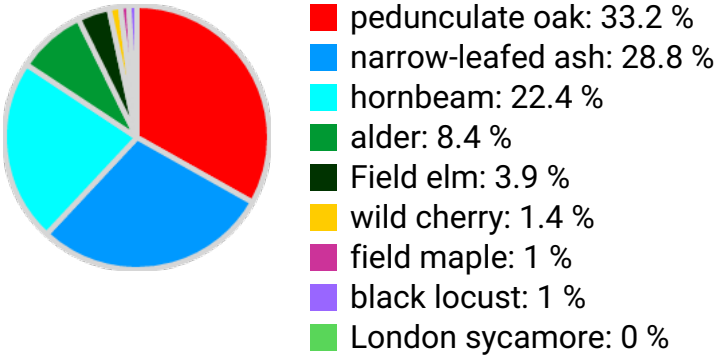


hornbeam (56.9 %)
narrow-leafed ash (13.1 %)
Field elm (11 %)
alder (9.1 %)
wild cherry (4.8 %)
pedunculate oak (2.7 %)
London sycamore (2.3 %)
field maple (0 %)
black locust (0 %)

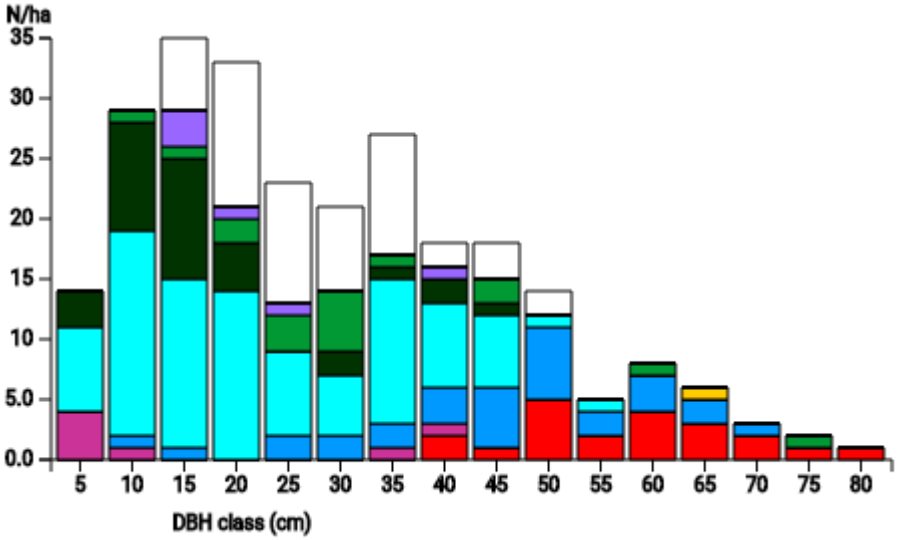
Remaining stand

Volume: 292.8 m³
Basal area: 21.5 m²
Economic value: 29166 €
Habitat value: 5410 pts.

Remaining trees by volume (m³ in %)



DBH distribution after removal



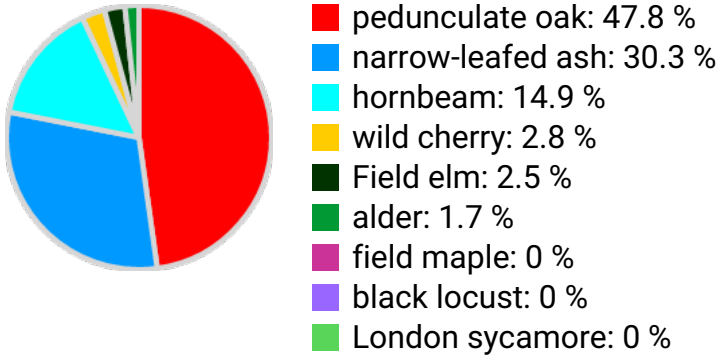
Remaining stand (details by tree species)

Tree species	N/ha	Basal area (m²)	Volume (m³)	Economic value (€)	Habitat value (pts.)	Microhabitats (N)
Field elm	32	1.2	11.4	1061	642	39
London sycamore	0	0	0	0	0	0
alder	17	1.9	24.5	2479	317	26
black locust	6	0.3	3	296	71	9
field maple	7	0.3	3	304	187	10
hornbeam	91	5.7	65.5	6391	2640	230
narrow-leafed ash	30	5.7	84.4	8586	947	64
pedunculate oak	21	6.1	97.1	9652	529	47
wild cherry	1	0.3	4	398	77	5
Total	205	21.5	292.9	29166	5410	430

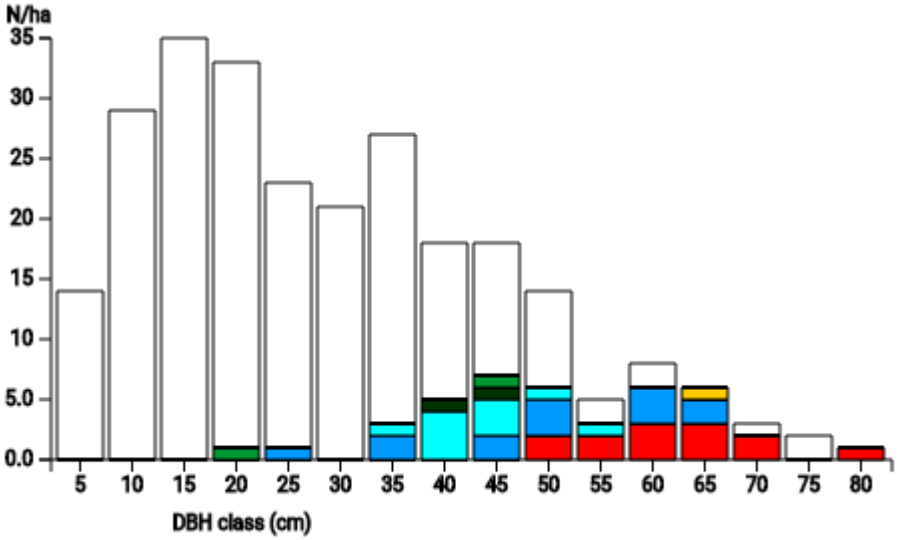
Retention trees

Volume: 141.2 m³
Elite trees: 0
Habitat trees: 13
Economic value: 14069 €
Habitat value: 1543 pts.

Retention trees by volume (m³ in %)



DBH distribution of retention trees



Retained trees (details by tree species)

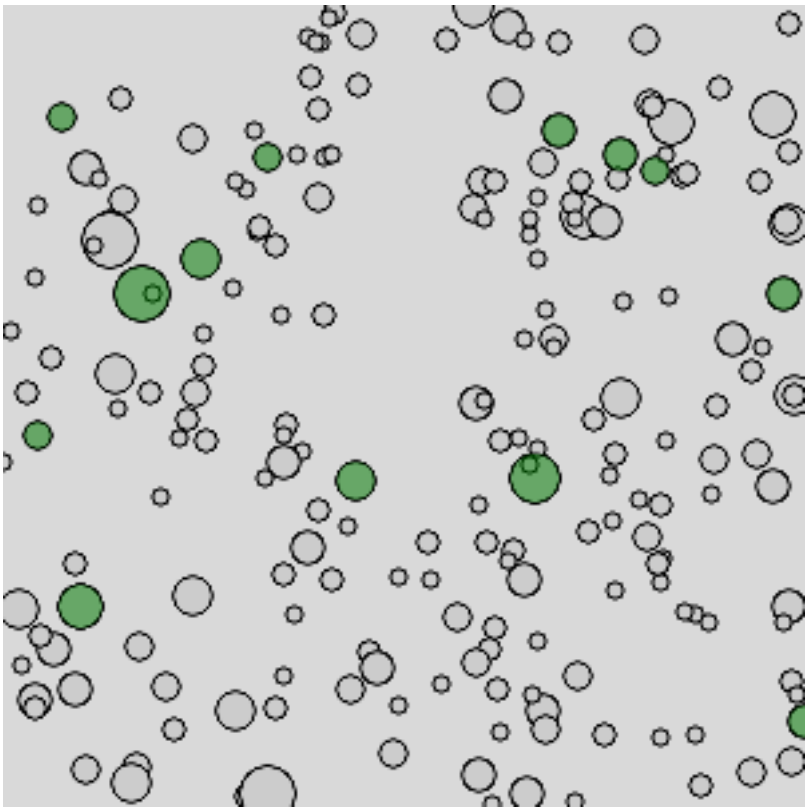
Tree species	N/ha	Basal area (m²)	Volume (m³)	Economic value (€)	Habitat value (pts.)	Microhabitats (N)
Field elm	2	0.3	3.5	354	16	3
London sycamore	0	0	0	0	0	0
alder	2	0.2	2.4	244	34	4
black locust	0	0	0	0	0	0
field maple	0	0	0	0	0	0
hornbeam	10	1.6	21.1	2033	592	40
narrow-leafed ash	13	2.9	42.7	4372	482	38
pedunculate oak	13	4.2	67.5	6669	342	30
wild cherry	1	0.3	4	398	77	5
Total	41	9.6	141.2	14069	1543	120

Number of habitat trees	[N]	13
Habitat value	pts.	876
	[% of total]	13.6
Economic value	[€]	3542
	[% of total]	10.3
Number of microhabitats	[N]	53
	[% of total]	10.3

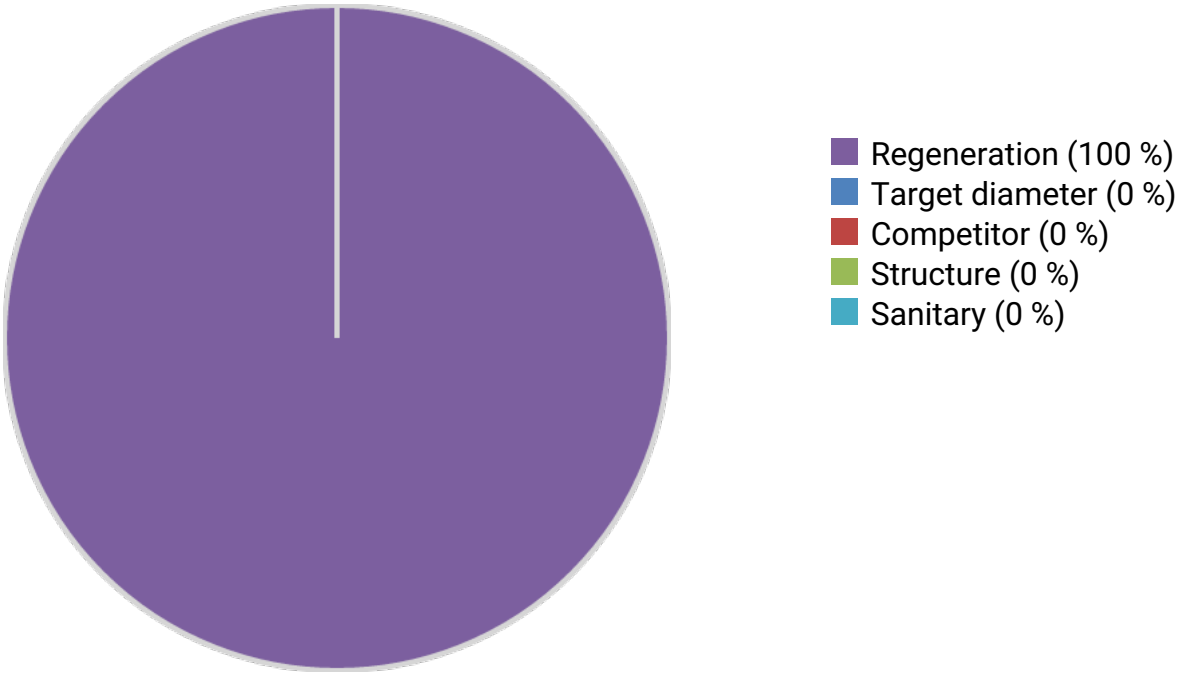
Habitat tree distribution by species (N in %)

- hornbeam: 53.8 %
- narrow-leafed ash: 30.8 %
- pedunculate oak: 15.4 %
- field maple: 0 %
- Field elm: 0 %
- wild cherry: 0 %
- alder: 0 %
- black locust: 0 %
- London sycamore: 0 %

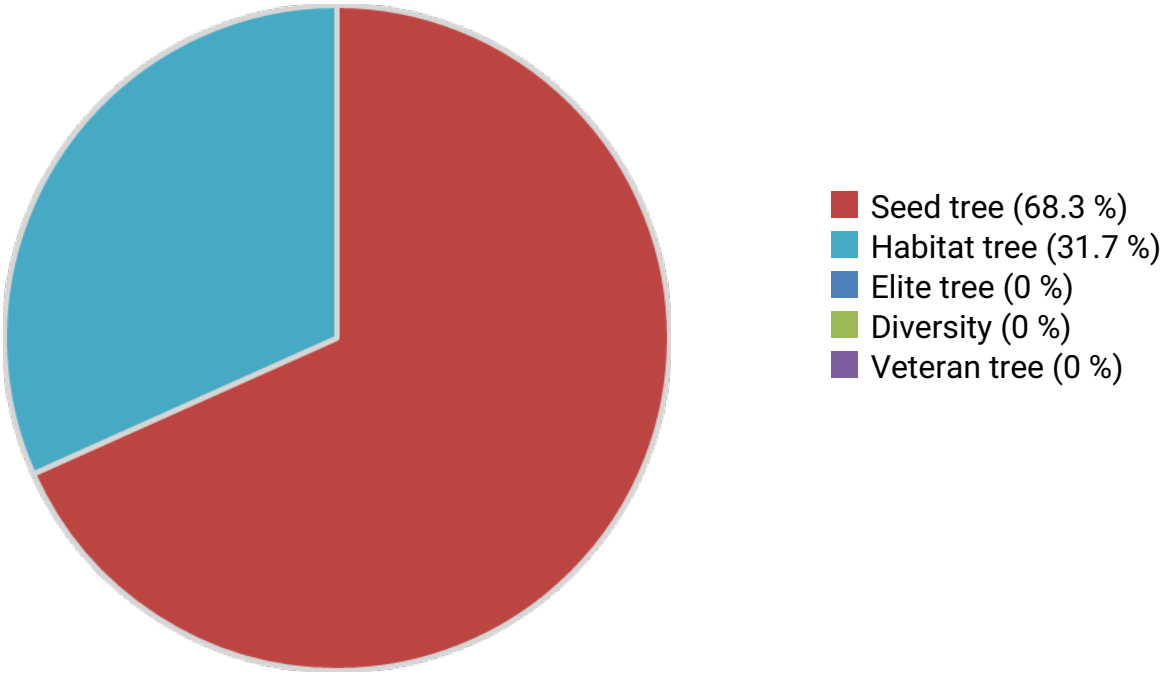
Spatial distribution of habitat trees



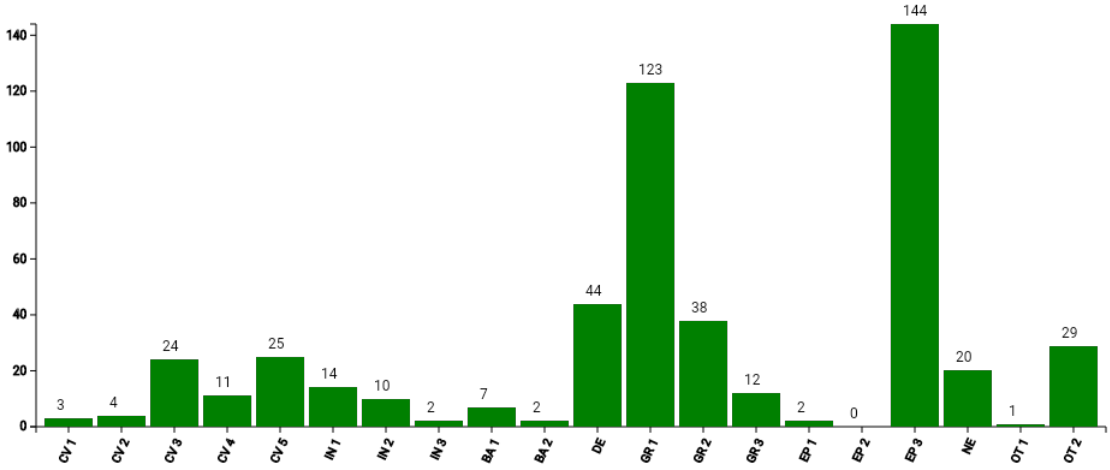
Reasons for removal



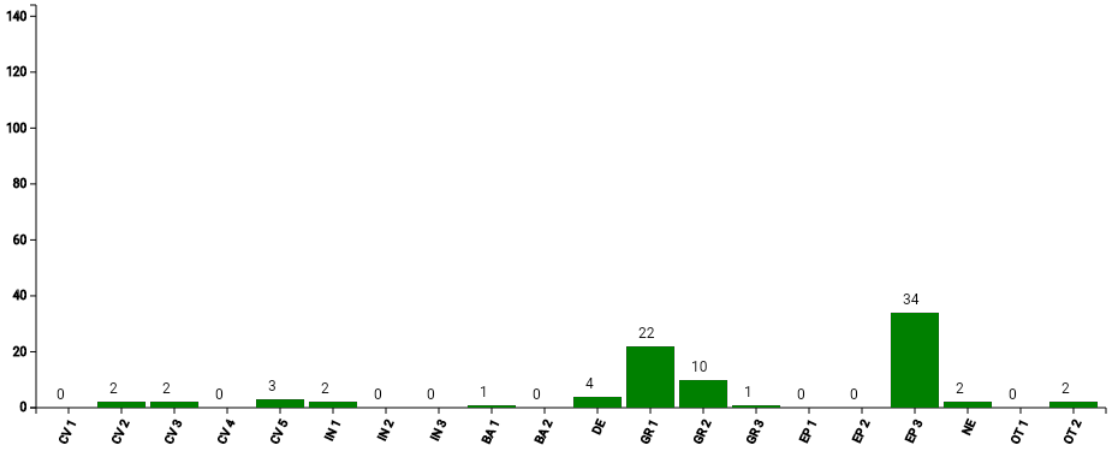
Reasons for retention



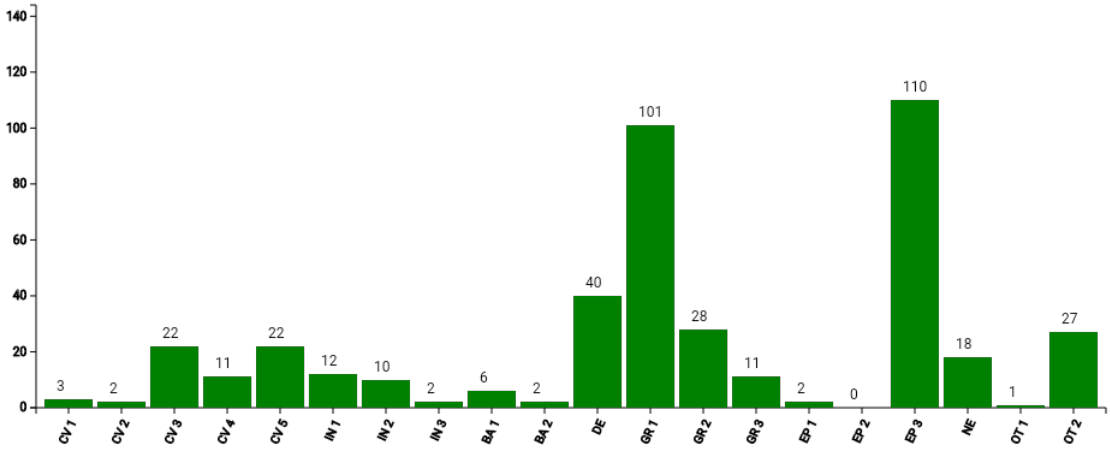
Distribution of tree microhabitats by code (N total)



Removed tree microhabitats by code (N removed)

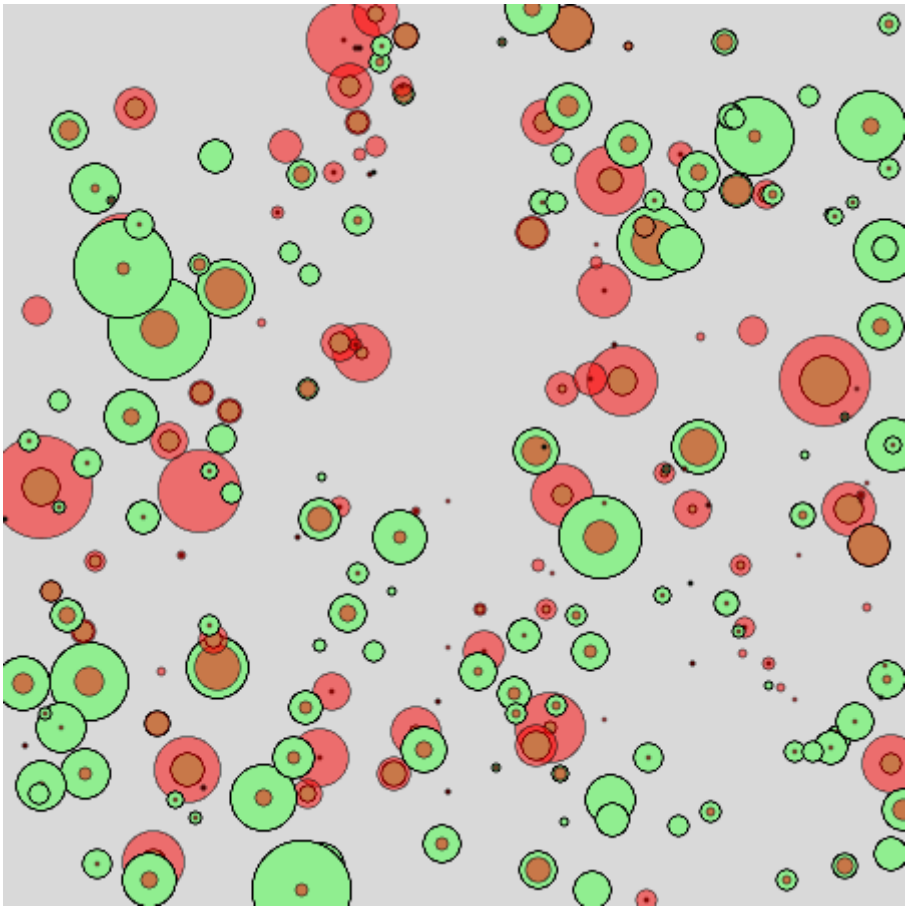


Remaining tree microhabitats by code (N after harvest)



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 (m²)	Volume (m³)	Economic value (€)	Habitat value (pts.)	Reason
narrow-leafed ash (21) Fraxinus angustifolia	54	0.23	3.8	384	27	Regeneration
narrow-leafed ash (96) Fraxinus angustifolia	50	0.2	3.1	319	28	Regeneration
narrow-leafed ash (95) Fraxinus angustifolia	49	0.19	2.8	287	10	Regeneration
wild cherry (192) [REPLACE_DEAD]Prunus avium	49	0.19	0.8	76	50	Regeneration
hornbeam (177) Carpinus betulus	48	0.18	2.7	268	21	Regeneration
narrow-leafed ash (48) Fraxinus angustifolia	43.5	0.15	2.3	238	4	Regeneration
pedunculate oak (111) Quercus robur	43.5	0.15	2.2	216	28	Regeneration
hornbeam (179) Carpinus betulus	39.5	0.12	1.8	180	28	Regeneration
narrow-leafed ash (129) Fraxinus angustifolia	39	0.12	1.7	170	12	Regeneration
hornbeam (148) Carpinus betulus	39	0.12	1.7	166	18	Regeneration
hornbeam (257) Carpinus betulus	39	0.12	1.5	151	56	Regeneration
narrow-leafed ash (23) Fraxinus angustifolia	38.5	0.12	2	200	7	Regeneration
alder (180) Alnus glutinosa	38.5	0.12	1.4	144	42	Regeneration
hornbeam (99) Carpinus betulus	37.5	0.11	1.5	152	28	Regeneration
narrow-leafed ash (208) Fraxinus angustifolia	37	0.11	1.4	139	34	Regeneration
alder (38) Alnus glutinosa	36	0.1	1.2	122	0	Regeneration
narrow-leafed ash (37) Fraxinus angustifolia	35.5	0.1	1.7	169	0	Regeneration
hornbeam (186) Carpinus betulus	34	0.09	1	100	42	Regeneration
narrow-leafed ash (97) Fraxinus angustifolia	33.5	0.09	1.3	127	4	Regeneration
narrow-leafed ash (198) Fraxinus angustifolia	33	0.09	1	100	6	Regeneration
hornbeam (74)	33	0.09	1	103	27	Regeneration

Tree	DBH (cm)	Basal area (m²)	Volume (m³)	Economic value (€)	Habitat value (pts.)	Reason
Carpinus betulus						
hornbeam (221) Carpinus betulus	30.5	0.07	1	97	53	Regeneration
narrow-leafed ash (163) Fraxinus angustifolia	30	0.07	0.9	87	0	Regeneration
alder (3) Alnus glutinosa	30	0.07	0.7	76	24	Regeneration
Field elm (125) Ulmus minor	29.5	0.07	0.5	54	7	Regeneration
London sycamore (244) Platanus hybrida	29.5	0.07	0.7	70	24	Regeneration
Field elm (127) Ulmus minor	28	0.06	0.5	51	4	Regeneration
hornbeam (191) Carpinus betulus	28	0.06	0.6	65	24	Regeneration
narrow-leafed ash (120) Fraxinus angustifolia	28	0.06	0.7	73	4	Regeneration
hornbeam (133) Carpinus betulus	27.5	0.06	0.8	77	3	Regeneration
hornbeam (233) Carpinus betulus	25.5	0.05	0.5	45	22	Regeneration
hornbeam (178) Carpinus betulus	25.5	0.05	0.5	54	27	Regeneration
narrow-leafed ash (119) Fraxinus angustifolia	25	0.05	0.5	53	0	Regeneration
hornbeam (51) Carpinus betulus	25	0.05	0.6	58	18	Regeneration
hornbeam (234) Carpinus betulus	24	0.05	0.5	47	4	Regeneration
hornbeam (134) Carpinus betulus	23	0.04	0.5	46	0	Regeneration
Field elm (168) Ulmus minor	23	0.04	0.3	34	42	Regeneration
hornbeam (209) Carpinus betulus	22	0.04	0.3	33	42	Regeneration
hornbeam (52) Carpinus betulus	22	0.04	0.3	29	22	Regeneration
Field elm (139) Ulmus minor	21.5	0.04	0.3	26	40	Regeneration
hornbeam (147) Carpinus betulus	21.5	0.04	0.4	37	36	Regeneration

Tree	DBH (cm)	Basal area (m²)	Volume (m³)	Economic value (€)	Habitat value (pts.)	Reason
hornbeam (211) Carpinus betulus	21.3	0.04	0.3	27	24	Regeneration
alder (4) Alnus glutinosa	21	0.04	0.3	31	28	Regeneration
hornbeam (121) Carpinus betulus	21	0.04	0.3	31	0	Regeneration
hornbeam (185) Carpinus betulus	21	0.04	0.3	76	0	Regeneration
Field elm (145) Ulmus minor	21	0.04	0.3	27	18	Regeneration
hornbeam (207) Carpinus betulus	19	0.03	0.2	22	47	Regeneration
Field elm (190) Ulmus minor	19	0.03	0.2	24	3	Regeneration
hornbeam (41) Carpinus betulus	18	0.03	0.2	17	24	Regeneration
narrow-leafed ash (205) Fraxinus angustifolia	18	0.03	0.3	28	0	Regeneration
hornbeam (210) Carpinus betulus	17	0.02	0.2	15	24	Regeneration
hornbeam (154) Carpinus betulus	16	0.02	0.2	23	0	Regeneration

Retention trees

Tree	DBH (cm)	Basal area (m²)	Volume (m³)	Economic value (€)	Habitat value (pts.)	Reason
pedunculate oak (146) Quercus robur	80	0.5	8.9	913	46	Habitat 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
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	Seed tree
narrow-leafed ash (130) Fraxinus angustifolia	66	0.34	5.3	551	27	Seed tree
narrow-leafed 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
narrow-leafed ash (122) Fraxinus angustifolia	63	0.31	4.8	483	36	Seed tree
narrow-leafed ash (161) Fraxinus angustifolia	62	0.3	3.7	379	52	Seed tree
narrow-leafed ash (85) Fraxinus angustifolia	61	0.29	4.5	464	4	Seed tree
pedunculate oak (220) Quercus robur	60.5	0.29	4.3	440	16	Seed tree
pedunculate oak (189) Quercus robur	55	0.24	3.4	348	6	Seed tree
hornbeam (101) Carpinus betulus	55	0.24	3.3	329	132	Habitat tree
pedunculate oak (155) [REPLACE_DEAD]Quercus robur	55	0.24	3.1	309	104	Habitat tree
narrow-leafed ash (81) Fraxinus angustifolia	54.5	0.23	3.6	360	76	Habitat tree
narrow-leafed ash (114) Fraxinus angustifolia	53.5	0.23	3.3	340	68	Seed tree

Tree	DBH (cm)	Basal area (m²)	Volume (m³)	Economic value (€)	Habitat value (pts.)	Reason
pedunculate oak (153) Quercus robur	53	0.22	3.3	114	0	Seed tree
narrow-leafed ash (124) Fraxinus angustifolia	51.5	0.21	3.2	344	10	Seed tree
pedunculate oak (110) Quercus robur	51	0.2	3.2	318	28	Seed tree
hornbeam (182) Carpinus betulus	50	0.2	2.5	252	98	Habitat tree
hornbeam (152) Carpinus betulus	49	0.19	2.1	128	69	Habitat tree
narrow-leafed ash (45) Fraxinus angustifolia	49	0.19	2.5	254	40	Habitat tree
hornbeam (247) Carpinus betulus	47.5	0.18	2	201	54	Habitat tree
narrow-leafed ash (39) Fraxinus angustifolia	47	0.17	3	305	0	Seed tree
Field elm (164) Ulmus minor	46.5	0.17	1.8	178	6	Seed tree
hornbeam (236) Carpinus betulus	46	0.17	2.6	259	20	Seed tree
alder (2) Alnus glutinosa	45	0.16	2.1	213	31	Seed tree
Field elm (158) Ulmus minor	44.5	0.16	1.7	176	10	Seed tree
hornbeam (109) Carpinus betulus	44	0.15	2.2	219	28	Seed tree
hornbeam (42) Carpinus betulus	41	0.13	1.6	160	60	Habitat tree
hornbeam (29) Carpinus betulus	41	0.13	1.9	194	47	Habitat tree
hornbeam (249) Carpinus betulus	40	0.13	1.5	146	30	Seed tree
hornbeam (47) Carpinus betulus	38.9	0.12	1.4	145	54	Habitat tree
narrow-leafed ash (33) [REPLACE_DEAD]Fraxinus angustifolia	37.5	0.11	1.6	159	38	Habitat tree
narrow-leafed ash (87) Fraxinus angustifolia	36.8	0.11	1.4	138	58	Habitat tree
narrow-leafed ash (204) Fraxinus angustifolia	29.9	0.07	0.8	77	48	Seed tree

Tree	DBH (cm)	Basal area (m²)	Volume (m³)	Economic value (€)	Habitat value (pts.)	Reason
alder (92) Alnus glutinosa	20.5	0.03	0.3	31	3	Seed tree