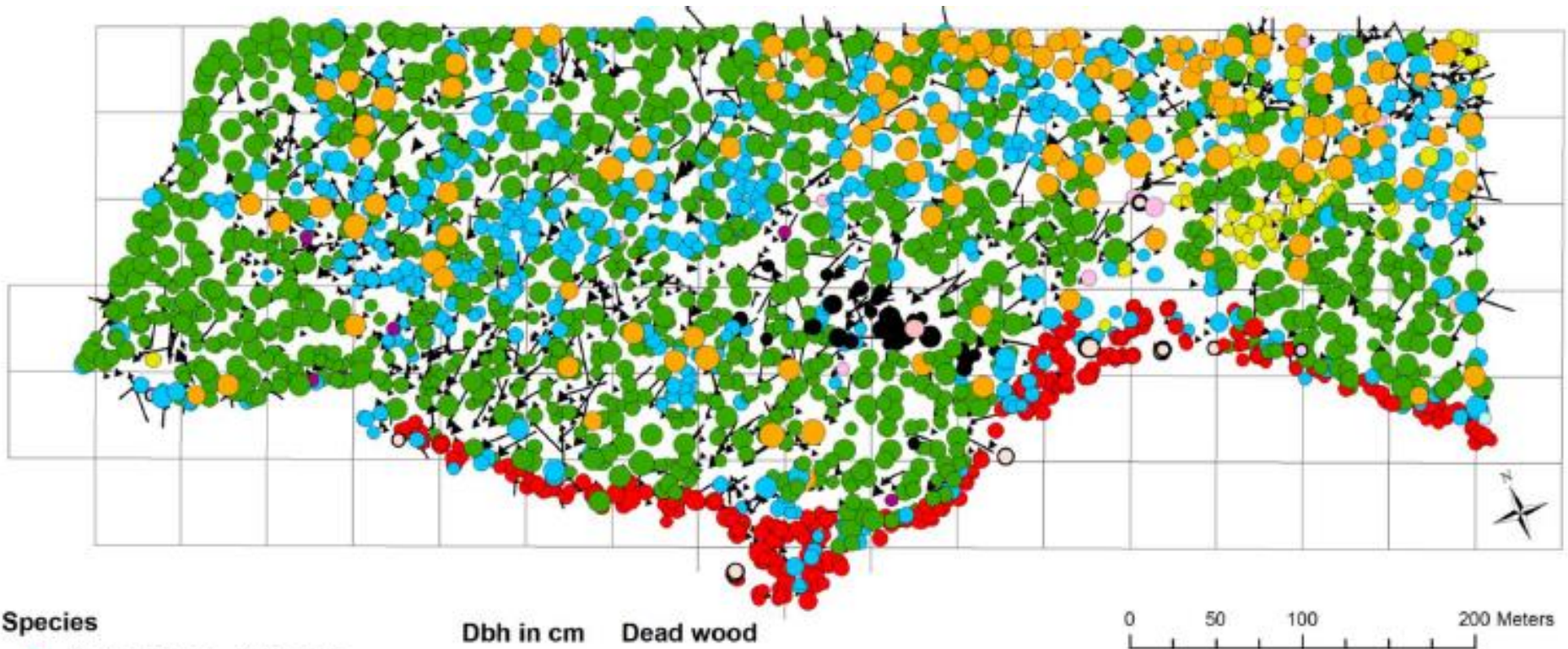


Suserup Forest - 20 years of research

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Species

- *Alnus glutinosa* - Black alder
- *Acer pseudoplatanus* - Sycamore maple
- *Fraxinus excelsior* - Ash
- *Fagus sylvestris* - Beech
- *Quercus robur* - Oak
- *Tilia platyphyllos* - Large-leaved lime
- *Ulmus glabra* - Wych elm

Dbh in cm

- 29-39
- 40-59
- 60-79
- 80-139
- 140-209

Dead wood

- ▲ 0-39
- ▲ 40-59
- ▲ 60-79
- ▲ 80-139
- ▲ 140-210

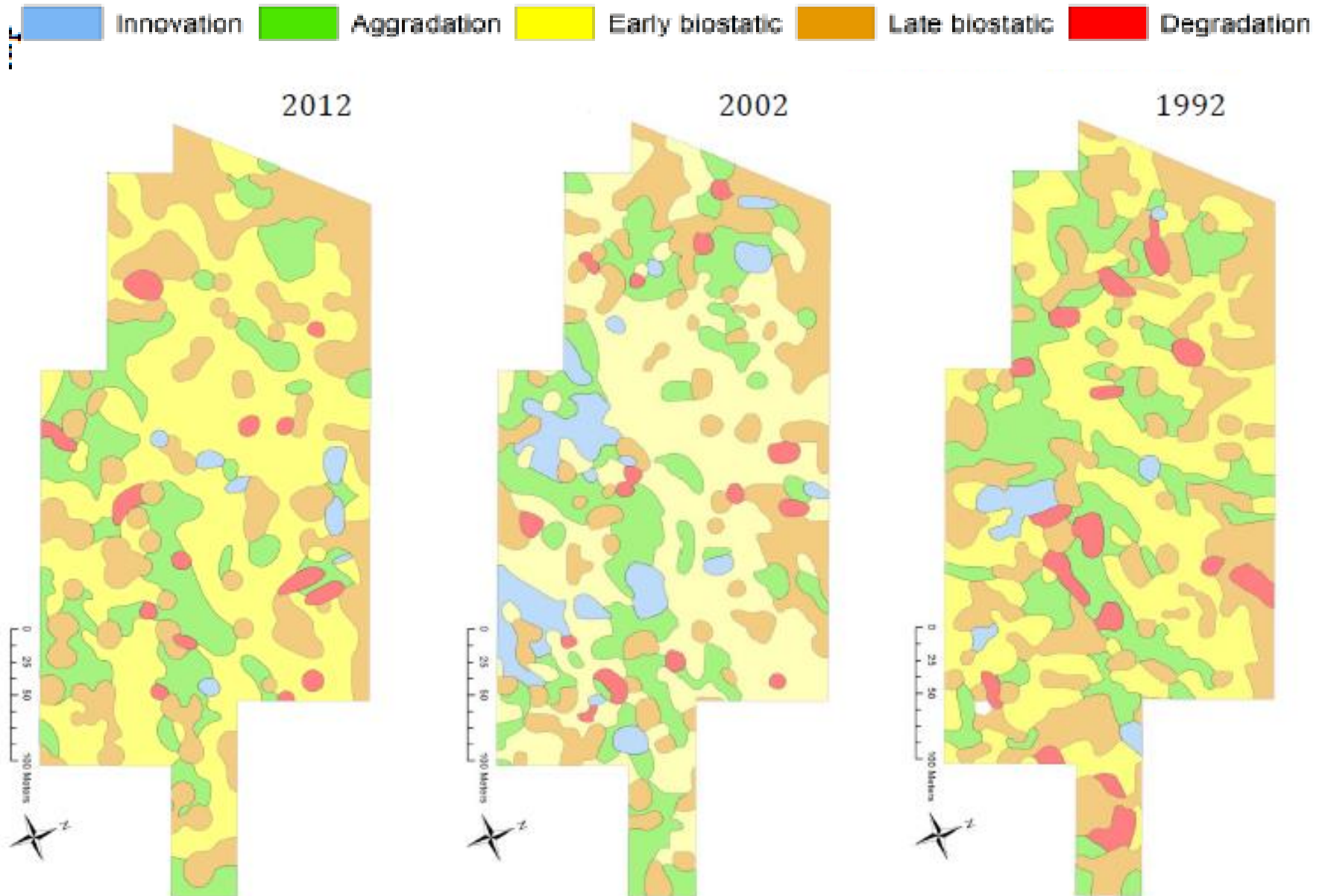
— Fallen stems

Density, basal area and volumen in 1092, 2002 and 2012

Tabel 1. Density, basal area and volume of living large trees (≥ 29 cm DBH) in the three forest parts recorded in Suserup Skov in 1992, 2002 and 2012.

	No. of trees ha ⁻¹			Basal area m ² ha ⁻¹			Volume m ³ ha ⁻¹			Proportion of volume (%)		
	1992	2002	2012	1992	2002	2012	1992	2002	2012	1992	2002	2012
Part A (10,7 ha)												
<i>Fraxinus excelsior</i>	18.7	23.8	27.5	3.5	4.0	5.2	59.0	66.7	87.5	10.7	12.7	14.9
<i>Fagus sylvatica</i>	46.8	53.5	76.7	19.1	18.3	21.3	373.0	351.7	401.1	67.8	66.9	68.3
<i>Quercus robur</i>	5.5	4.7	4.1	5.6	4.8	4.5	102.4	87.2	82.5	18.6	16.6	14.0
<i>Tilia platyphyllos</i>	1.9	2.2	2.4	0.4	0.5	0.6	7.5	9.3	10.9	1.4	1.8	1.9
<i>Ulmus glabra</i>	2.6	3.7	0.8	0.3	0.4	0.1	4.7	6.3	1.3	0.9	1.2	0.2
Other species	1.2	1.2	1.3	0.2	0.2	0.2	3.5	4.3	4.3	0.6	0.8	0.7
Total	77	89	113	29	28	32	550	526	588	100	100	100
Part B (4,9 ha)												
<i>Fraxinus excelsior</i>	28.6	30.6	32.7	8.0	7.8	7.9	141.9	135.4	137.8	20	20.2	19.7
<i>Fagus sylvatica</i>	33.5	39.0	52.7	11.7	11.3	14.3	222.4	212.2	265.5	31.3	31.7	37.9
<i>Quercus robur</i>	21.0	19.6	17.1	16.2	15.2	13.8	292.4	275.6	251.3	41.1	41.2	35.9
<i>Tilia platyphyllos</i>	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.5	0	0	0.1
<i>Ulmus glabra</i>	10.4	8.6	0.8	1.6	0.9	0.1	31.3	16.8	2.5	4.4	2.5	0.4
Other species	10.4	11.4	17.1	1.2	1.6	2.3	22.8	29.4	42.8	3.2	4.4	6.1
Total	104	109	121	39	37	38	711	669	700	100	100	100
Part C (3,7 ha)												
<i>Fraxinus excelsior</i>	20.8	23.0	21.1	5.3	5.9	5.6	91.3	103.5	97.2	16.6	16.9	15.5
<i>Fagus sylvatica</i>	35.7	39.7	46.0	12.4	12.8	13.6	234.2	241.5	254.7	42.7	39.5	40.5
<i>Quercus robur</i>	3.2	2.4	1.9	2.0	1.5	1.5	35.7	26.4	26.8	6.5	4.3	4.3
<i>Tilia platyphyllos</i>	0.8	1.1	1.6	0.1	0.1	0.2	1.2	2.1	3.6	0.2	0.3	0.6
<i>Ulmus glabra</i>	4.3	4.9	0.0	0.5	0.5	0.0	8.4	10.0	0.0	1.5	1.6	0
Other species	75.7	82.7	81.1	9.5	12.0	12.8	177.8	228.3	246.1	32.4	37.3	39.2
Total	141	154	152	30	33	34	549	612	628	100	100	100

Suserup Forest – development phases 2012, 2002 and 1992



Suserup Forest: Diameter/Volumen distribution over time

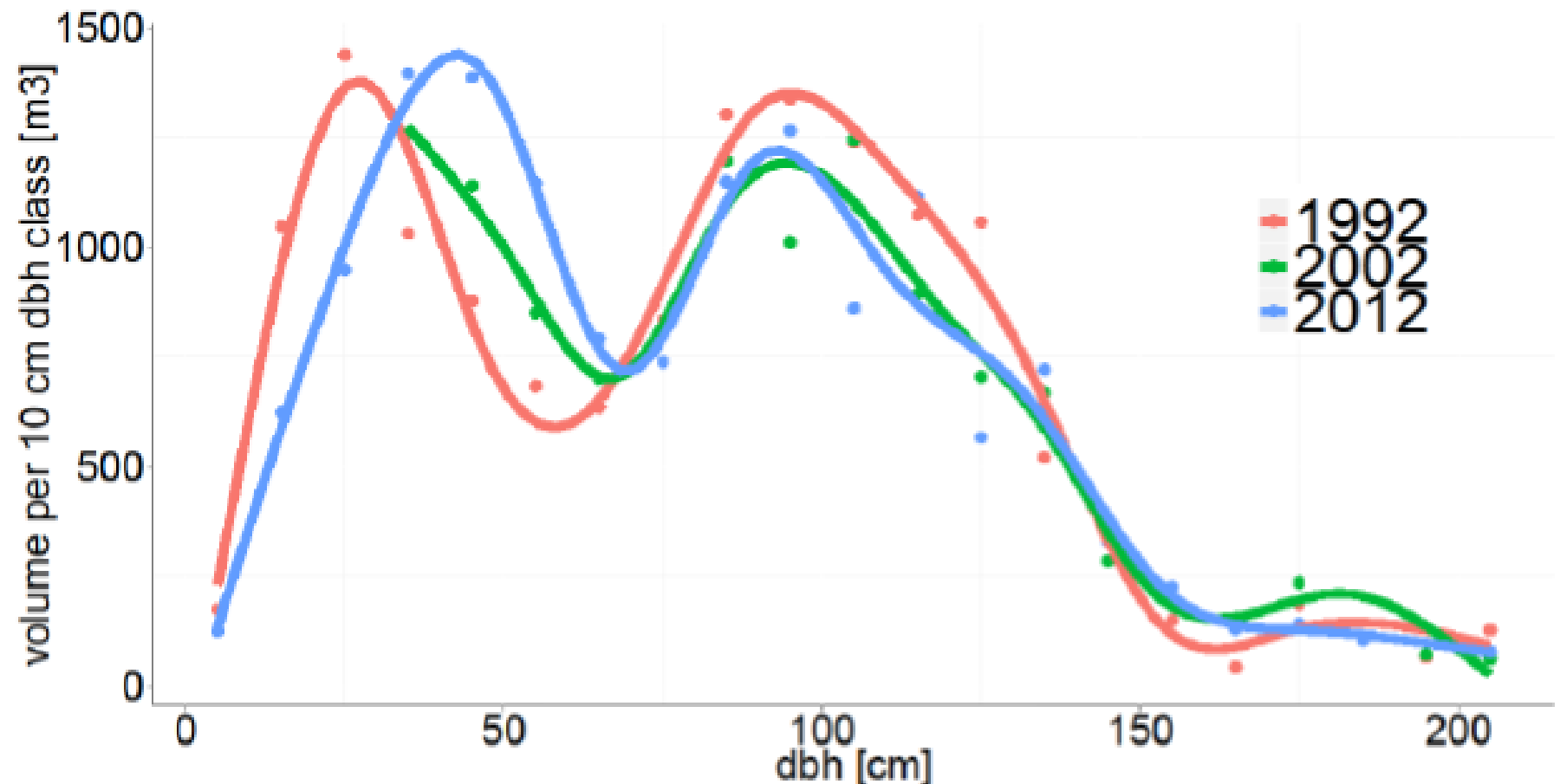


Figure 3. Calculated volume of living trees per 10 cm diameter class for the three inventories of Suserup forest (1992, 2002 and 2012). In 2002 there were only collected data for trees > 29 cm on full extent of the forest.

Suserup Forest: Phase coverage over time

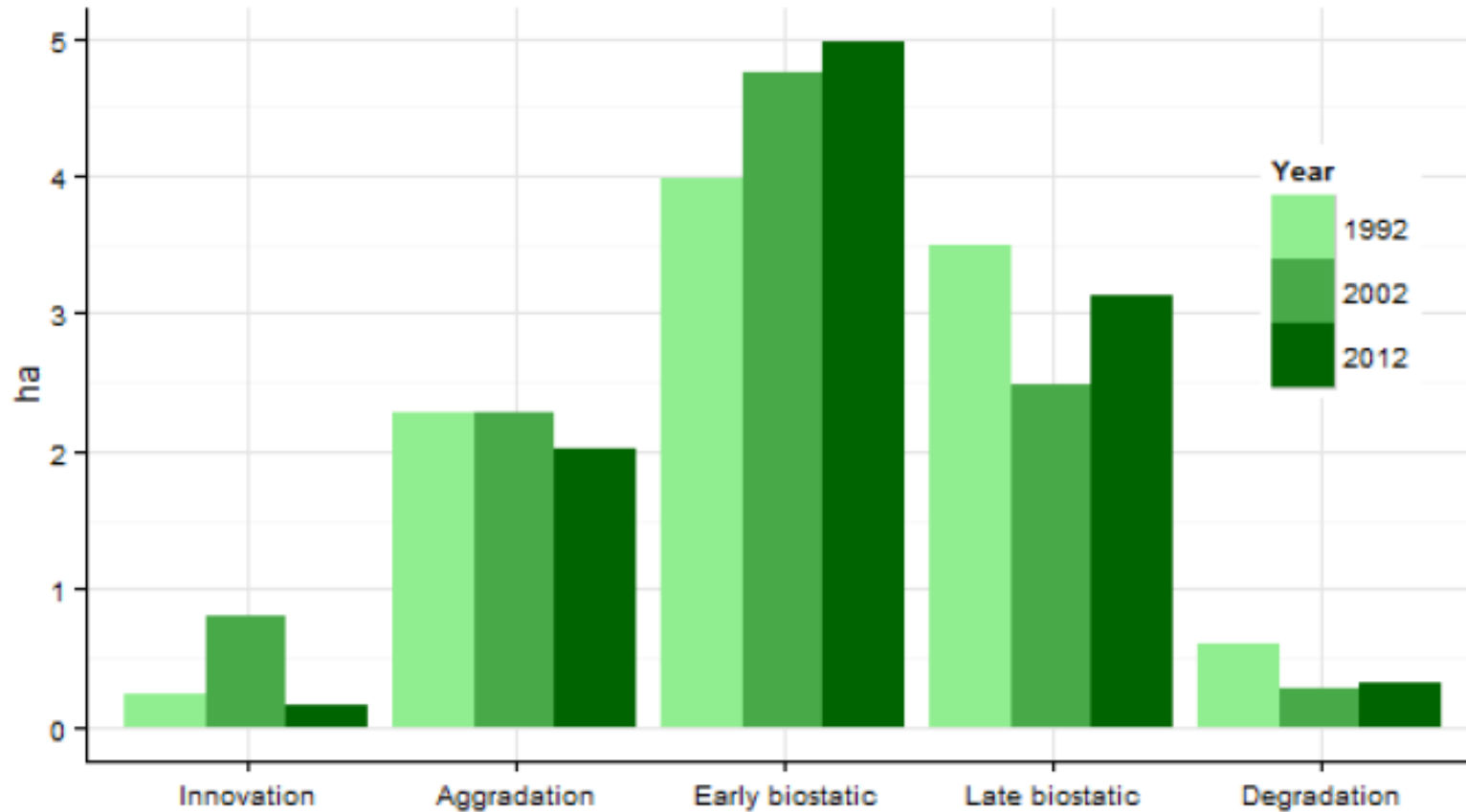
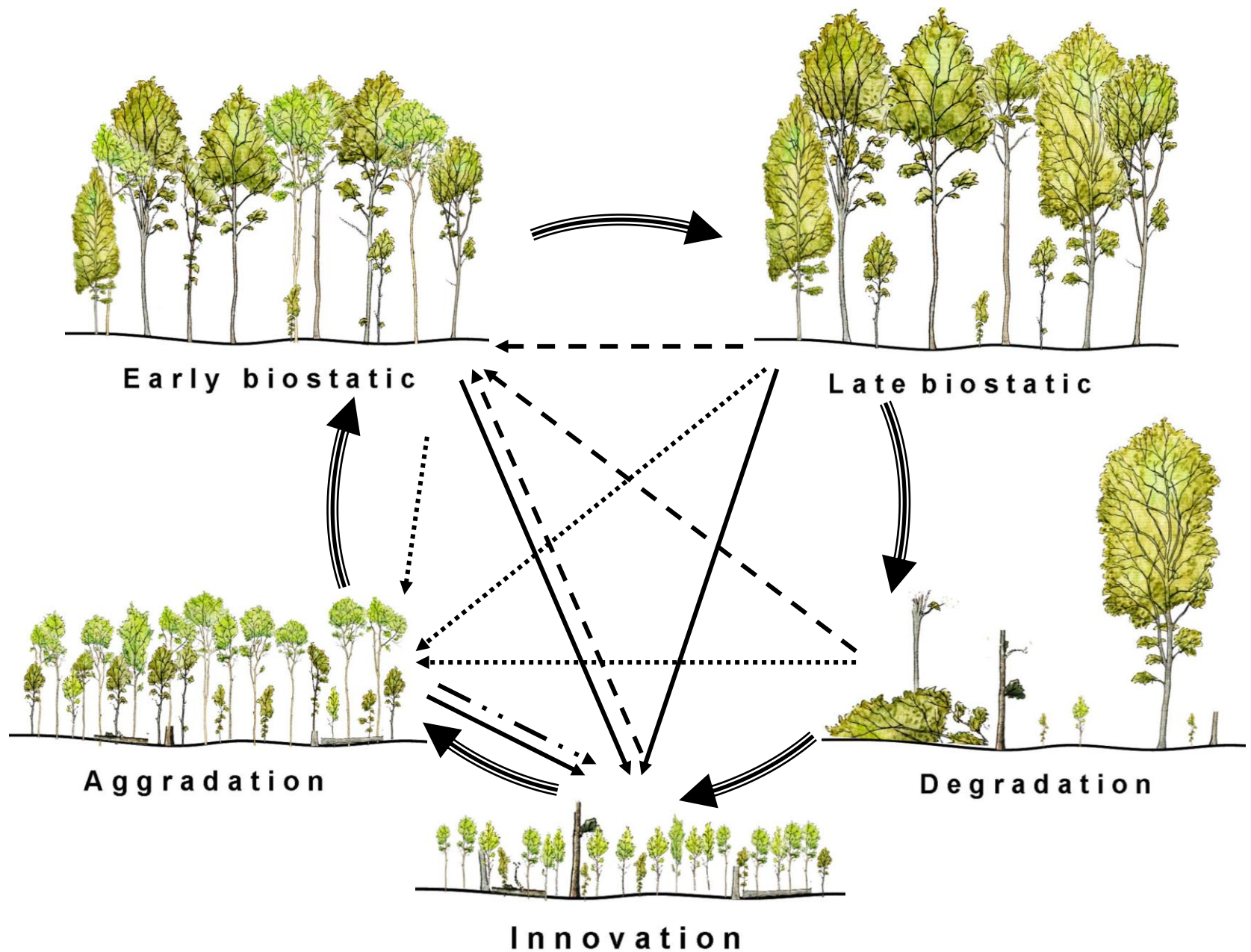


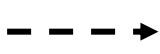
Figure 7. Aggregate area of the different growth phases observed in part A (10.6 ha) of Suserup forest (19.2 ha) in 1992, 2002 and 2012.



The “normal” cycle:



Crown expansion:



Storm:



Under storey take over:



Dutch elm disease:



Forest Development Type 12: Beech with ash and sycamore



Structure: Species rich, well structured forest with beech as dominating element mixed with ash and cherry and in south-eastern Denmark additionally with hornbeam and lime. The in-mixed species occur mainly in groups. The horizontal structures arise between groups of varying size and age. Where the light demanding species such as ash, sycamore and cherry dominate, vertical structures occur periodically with shade trees (beech, hornbeam, elm, and others) in sub-canopy strata.

Species: Beech. 40 – 60 %, ash and sycamore: 30 – 50 %, cherry, hornbeam, oak, lime, and others up to 20 %

Dynamics: Beech regenerates mainly in groups and smaller stands. Ash and sycamore as gap specialists regenerate in openings later followed by beech. Hornbeam belongs to the sub-canopy stratum and regenerates under shade, whereas the pioneer species (cherry and oak) only regenerate after larger openings and/or in relation to forest edges.

Functions: Productive: The forest development type has a high potential for production of hardwood in larger dimensions and of good quality.

Protective: In most parts of the country the beech dominated forest represents the potential natural vegetation; consequently, many indigenous species are connected to this forest development type. It has a great potential for conserving biodiversity connected to the NATURA 2000 habitat type 9139 and 9150.

Recreational: Through its mixture of (indigenous) species in combination with pronounced variation in size the forest development type gives a multitude of recreational experiences and intimacy.

Occurrence: The forest development type belongs on protected sites in the eastern and northern parts of Denmark on rich, well drained soils with good water supply as illustrated below.