

The Warburg Reserve, Oxfordshire: tree and shrub layer changes 1973-2009 (Dawkins Plots): Raw Data

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Studies of change in British woodland by K J Kirby

These data and the associated report form part of studies conducted over the course of my career with first the Nature Conservancy Council and then its successor bodies (English Nature and Natural England) and into my retirement as a visiting researcher with the Department of Plant Sciences.

The data are available for use by other researchers; while I live I would suggest that potential users contact me before conducting their research in case there are factors that they should consider that are not obvious from the data itself.

Any use of the data should be credited using the following format:

I/We acknowledge the use of data collected by K J Kirby and colleagues from Natural England and its predecessors.

Summary

Changes in the woodland extent over the last 200 years were assessed from old maps for a 100 ha woodland nature reserve in southern Britain. More detailed changes in the composition and structure of the tree and shrub layers were measured using data from 95 permanent vegetation plots (10 × 10 m) distributed across the reserve at the intersections of a 100 m grid. These were recorded in 1973, 1992 and 2009.

The woodland area has more than doubled since the 18th century, but whereas the pre-1800 woodland was mainly *Fagus sylvatica* the more recent woodland was initially predominantly conifer plantation. These plantations have since developed into mainly broadleaved high forest of *Fraxinus excelsior* and *Acer pseudoplatanus*.

Changes on the site are the combination of active interventions through management and natural processes (differential species growth, death from disease, windthrow, herbivore damage). Further changes are likely in future in particular from ash dieback (*Hymenoscyphus fraxineus*) and climate change impacts.

Many of the changes seen on this reserve are mirrored in woods elsewhere in Britain and Europe. Over periods of a few decades and at the whole-reserve scale the woods can be considered to be relatively stable; at the plot level, or over time-scales of centuries they are very dynamic. Whether woods are judged to be resilient must include definition of the temporal and spatial scales.

Methods

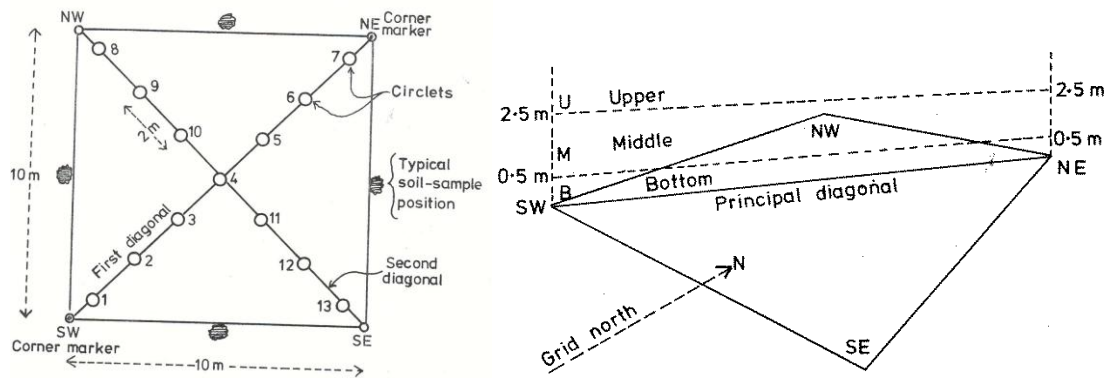
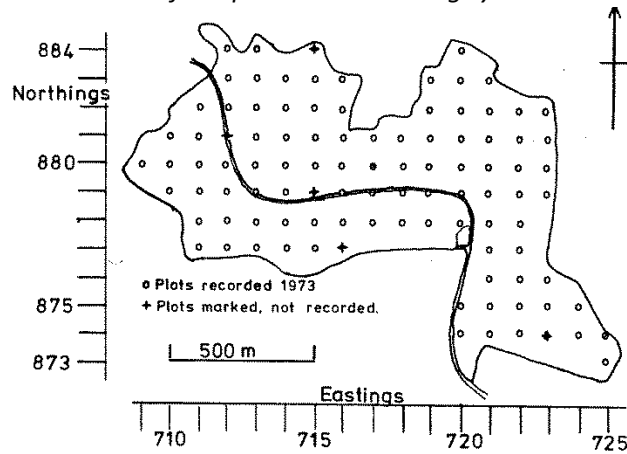
In 1973 a 100 m grid was marked out on the reserve and a 10 × 10 m vegetation plot recorded at the intersection points, with metal markers put in at the plot corners to aid relocation (Dawkins & Field 1978). In 1992 (Kirby & Thomas 2000) and between 2008 and 2010 the plots were re-recorded using the same methods as used in 1973. The 2008–2010 recording is hereafter referred to as the 2009 record. There are 102 plots, but 6 plots, for unknown reasons, were not recorded in the 1973 survey (although they have been since) and 1 plot was not recorded in 2009 because it was in the middle of exceedingly dense scrub. Consequently only the 95 plots for which there are three sets of data are used in this analysis.

Within each plot the following estimates or measurements were made:

- The occurrence of all woody species in the plot was noted;
- The DBH - diameter at breast height (1.3 m) - was measured for the four largest trees in the plot, regardless of their species;
- 'Overstorey' cover (at >2.5 m), split by species and 'understorey' cover (all species) (0.5–2.5 m) were estimated across the north-west/south-east diagonal of the plot using a percentage scale;
- Regeneration (the presence of seedlings, saplings, or vegetative regrowth such as root-suckers, up to 1 m tall) was recorded in thirteen 0.1 m² circlets positioned evenly along the two diagonals of the plot.
- The mean basal area of the trees at the plot location was estimated by relascope sweeps from the plot corners. Relascope sweeps are a form of angle gauge sampling. All visible tree stems (not just those in the plot) are viewed through the relascope and their apparent diameter compared with a scale band; trees that appear equal to or wider than the scale band are counted in a 360° sweep. A large tree will thus count at a greater distance than a small tree. The number of trees that count on a sweep is multiplied by a conversion factor,

depending on the particular scale band used, to give the mean basal area per hectare at that point (Bitterlich 1984; Wikipedia 2008).

Distribution of the plots and recording system



Related publications

Kirby, K. J., Goldberg, E. A., Isted, R., Perry, S. C. & Thomas, R. C. (2016). Long-term changes in the tree and shrub layers of a British nature reserve and their relevance for woodland conservation management. *Journal for Nature Conservation*, **31**, 51-60.

<http://www.sciencedirect.com/science/article/pii/S1617138116300188>

Kirby, K. & Thomas, R. (2000). A comparison of the structure and composition of the Warburg Reserve between 1973 and 1992. *English Nature Research Report 445*. Peterborough: English Nature.

<http://publications.naturalengland.org.uk/publication/62035>

Species abbreviations used in the tables

Ace cam	Acer campestre
Acer pse	Acer pseudoplatanus
Aln spp	Alnus spp (probably cordata)
Bet spp	Betula spp (mainly pendula)
Car bet	Carpinus betulus
Cas sat	Castanea sativa
Cor ave	Corylus avellana
Cra spp	Crataegus spp (mainly mongyna)
Euo eur	Euonymus europaeus
Fag syl	Fagus sylvatica
Fra exc	Fraxinus excelsior
Ile aqu	Ilex aquifolium
Lar spp	Larix spp
Lig vul	Ligustrum vulgare
Mal syl	Malus sylvestris
Oth con	Other conifer (mainly pines Pinus nigra, P. sylvestris, Douglas fir Pseudotsuga menzesii)
Pic abi	Picea abies
Pop spp	Mainly hybrid poplars
Pru spi	Prunus spinosa
Que cer	Quercus cerris
Que rob	Quercus robur
Rha car	Rhamnus catharticus
Sal spp	Salix caprea/S.cinerea
Sam nig	Sambucus nigra
Sor ari	Sorbus aria
Sor auc	Sorbus aucuparia
Tax bac	Taxus baccata
The san	Thelycrania sanguinea
Til spp	Tilia vulgaris
Ulm spp	Ulmus spp
Vib lan	Viburnum lantana
Vib opu	Viburnum opulus

Tree and shrub species presence in the plot

Plot reference – six figure grid reference; NR means not recorded in that recording
 Presence of trees and shrubs indicated in the relevant column: values 1-13 indicate that the species was picked up in up to thirteen 0.1 m² subplots (circlets) across diagonals: much of this was regeneration.

A value of 0.5 means the species present in plot but not picked up in subplots.

The three recording times are listed separately.

1973 RECORDING

Plot	73 Ace can	73 Ace pse	73 Aln sdp	73 Bet sdp	73 Car bet	73 Cas sat	73 Cor ave	73 Cra sdp	73 Euo eur	73 Fag svl	73 Fra exc	73 Ile auu	73 Lar sdp	73 Lie vul	73 Mal svl	73 Oth con	73 Pic abi	73 Pop sdp	73 Pru spi	73 Que cer	73 Que rob	73 Rha car	73 Sal sdp	73 Sam nig	73 Sor ari	73 Sor auc	73 Tax bac	73 The san	73 Til sdp	73 Ulm sdp	73 Vib lan	73 Vib opu					
709880											1									1																	
710879											1																										
710880	1	1					1	1		1	1									1	1																
710881				1			1			1	1																										
711877	1	1					1					1		1																							
711878		1			1			1																													
713882	1	1					1							1																							
711879				1						1		11								1	1																
711880			1	1								2						3																			
711881				1			1	2												1	1		1														
711882				1			1	1				2																									
712877	1	1		1						1	1																										
712878	1	1					1	1			1									1	1																
712879	1			1				1		1	1																										
712880	1			1			1				1																										
712882							1				1				1										1												
712883							1				1				1								1		1												
712884							1	1			1						1		1					1													

713877	1	1		1	1	1	7	1			1		1	1	1
713878			1		1	1					1			2	
713879	1				1	1					1	1		1	
713880	1	1			1	1	1		1	1				2	1
713881					1			1	1		1			1	
713883			1				2		1		1			4	
713884		1			1	1			1	1	1		1	1	
714877	1						1		1				1	1	
714878	1		1		1		2				1			1	
714879	1	1	1		1		1							1	
714880	1	1	1		1	1			1		1		1	5	
714881		1	1		2		1	1	1		1			6	
714882		1	1		1	1		1			1			6	
714883					1		1	1	1		1			1	1
715877	1				1	1		1							
715878	2		2		1	1	1	1		1		1		1	
715880	1	1	1		1	1	1				1	1		1	
715881		1	1		4			1			1			1	
715882		3			1	1		1						5	
715883		1			1	1		1	1					1	
716878							1	2						1	
716879	1				1	1		1							
716880	1	1			1	1	1	2					1	1	1
716881	2	1	1		1	3	1		1	3		1	1	1	2
716882	1	1			1	2			1	1		1	1	3	4
716883		1			1								1	1	
717878	1				1		1	1					1	1	
717879		1			1	2	1	1			1			1	
717880	1		2		1			1	1		1			1	1
717881			1		1				1		1			3	1

718878	1	1	1	1	1	1	1	1	3	1
718879	1	2	1	3			1	1	1	1
718880			1			1	1	1	5	1
718881		1	1			1			5	
719878	1	1	1	1	1	1		1	1	1
719879	1	1	3	1	2			1	1	1
719880			1			1	1	1	3	
719881			1			1		1	5	1
719882	1	1	1						2	2
719883		1	1	1	1					
720874			1	1	1	1		1		
720875	1		1	1	1	1			1	
720878	3		1	1	1	1		1	1	1
720879		2	1						1	1
720880		1	3			1	1	1	7	2
720881	1	1	6	1		1	1	1	4	7
720882	1	1	1	1	1			1	1	3
720883	1	1	2	3	1		1	1	4	1
720884				1	1			1	1	1
721874			1	1		1			1	1
721875				1	1	1			1	1
721876	1			1	2			1		
721877	1	1	2	1	3					
721878			1		1			1		
721879	1		1		1		4	1		
721880			1	1	1					
721881	1		1	4		4		1	1	2
721882	1	1							1	1
721883				1	2	1		1	1	
722875				4			1		3	

714882	7	1	1	3		1		1		2	
714883	1		1			1	1		1	1	
715877			1	12							
715878	1	1	1	1	1	2		1		1	1
715880	1	3	1	1				1		1	
715881	1	1	1							1	
715882	1	1	1				1	1		1	
715883	1		1				1			1	
716878	1			1	5						
716879	1	1	1	1	1						
716880	1	5	1	1	1			1		1	
716881	3	3	1	2	1	1	1	2	1	1	1
716882	1		1	1	1		1			1	1
716883	1		1		1						
717878	1	4	1	1	3				1		1
717879	1	2	1	3	2	1			1		1
717880	1	1	1	1					1		1
717881	1	1	1	1			1		1	3	1
718878	1	1	1	1	1	1		1		3	1
718879	1	1	2	2	1	1	1		1	1	1
718880		1	1				1			1	
718881		1	1						1		1
719878	7	1	1	2			1	1	1	1	1
719879	1	1	1	4	1			1	1		1
719880		1	1		1	1			1		1
719881	1	1	1	1	3		1	1	1	3	1
719882	5										
719883	1	1	1	1	3						
720874			1	1	1					1	
720875	1		2	1	1	1			1		

723874

1

1 10

1

1

Percentage cover estimated across the plot diagonal by species for the top (canopy layer)

Columns 2-4 represent % cover across the diagonal for less than 0.5m, 0.5-2.5, and greater than 2.5 m.

Column 5 – open sky (not recorded in 1973) is the extent of sky not occluded by shrubs or trees combined, i.e what might be experienced by the field layer.

The cover in the top layer (>2.5 m) has then been split by species, column 6 onward, arranged alphabetically by abbreviations as in other tables.

1973 Records	73 Bottom	73 Middle	73 Top	73 Open Sky NR	73 Ace cam	73 Ace pse	73 Aln spp	73 Bet spp	73 Car bet	73 Cas sat	73 Cor ave	73 Cra spp	73 Euo eur	73 Fag syl	73 Fra exc	73 Ile aqu	73 Lar spp	73 Lig vul	73 Oth con	73 Pic abi	73 Pop spp	73 Pru avi	73 Pru spi	73 Que cer	73 Que rob	73 Rha car	73 Sal spp	73 Sam nig	73 Sor ari	73 Tax bac	73 The san	73 Ulm spp	73 Vib lan
Plot																																	
709880	90	5	95												90						5												
710879	0	0	100											100																			
710880	50	40	90											10	80																		
710881	80	30	80								40				20															20			
711877	100	30	95			95									5																		
711878	75	0	100			100																											
713882	80	20	100		10										70		30																
711879	100	80	50												50																		
711880	95	40	90				15														80												
711881	50	80	80					15			10												15	15						40			
711882	35	20	80					10			50				20																		
712877	85	55	75			20									50																5		
712878	70	100	80											40	40																		
712879	10	50	100											100	5																		
712880	90	10	100								15				90									5									
712882	95	20	100								50			20	80																		
712883	90	5	100								10				100											10							
712884	100	80	100												80																		
713877	75	5	100												10										100								

713878	100	65	15			10					5
713879	25	10	20			15		10			
713880	100	90	100	10				10		30	50
713881	70	30	100			5		10	60	10	30
713883	25	25	100	10	20			90			
713884	50	5	100	95				10			10
714877	100	50	65					65			
714878	85	55	35					35			
714879	100	35	90	5	5			85			
714880	100	50	25		25						
714881	95	85	30						30		
714882	50	55	60	60				40			
714883	90	40	85					35	50		
715877	40	0	100					100	45		
715878	50	50	60		10			60	5		
715880	95	25	100	60	45						
715881	85	35	75	30	10			35			
715882	85	35	55	40				10		5	5
715883	40	55	95					35	65		
716878	0	20	100					100	30		
716879	40	20	40			30	10				
716880	45	25	70			70					
716881	65	35	100		15	50		35			
716882	40	70	35					15		20	
716883	40	40	100	100							5
717878	5	0	100					100			
717879	100	25	80	40		30	5		5		
717880	50	10	100		60					30	30
717881	100	40	55		15					35	
718878	60	65	70	10				60			

718879	95	40	40		15	10					15		5
718880	85	45	50		10					40			
718881	100	40	90		30					40		20	
719878	95	70	80	30	10	25	10						5
719879	75	25	10								10		
719880	15	0	100		30					70			
719881	100	40	35						35				
719882	30	0	100	100									
719883	50	5	100		5	20	30	40			15		
720874	5	5	100					100					
720875	60	10	100			100							
720878	90	10	100	100									
720879	100	10	0										
720880	100	45	20		15					5			
720881	20	10	100	30		10			90				5
720882	20	20	100		5							70	10
720883	100	40	90	30	40	30							
720884	40	0	100				40	50		20	60		
721874	100	100	40			10			10			5	5
721875	100	20	0										
721876	90	10	100			10		100					
721877	80	20	100			80		10	30				
721878	100	10	100			50			90				
721879	80	25	90			70				10	10		
721880	2	0	100					100					
721881	90	10	10					10					
721882	20	5	100	100	20								
721883	0	0	100					100					
722875	100	85	20						20				
722876	40	30	100					80	20			10	

709880	100	5	85					25	75										
710879	1	0	100					100											
710880	80	10	95					50	70										
710881	80	10	95				60		50										
711877	100	25	100		90				20										
711878	100	5	100		100				5										
713882	100	20	100						100	10									
711879	70	10	90	10			20	20	80										
711880	100	0	90		30				40		30								
711881	85	40	90	10		40		50											
711882	40	20	95				60		40			30							
712877	100	40	80	20	50		30		40										
712878	30	60	70	30			10	40	40										
712879	10	10	100						100										
712880	100	0	100				35		70										
712882	100	30	90				20		90										
712883	100	5	80	20					80										
712884	80	70	40						40									10	
713877	100	50	30	70	5						30								
713878	95	15	70	30			30		50										
713879	25	10	60	40	20		10		30									10	
713880	100	30	90		20		30		10		60								5
713881	100	0	60				20		30		20								
713883	100	35	95						95										
713884	100	0	100		90				20										
714877	100	50	70	30					70									10	
714878	100	30	80	25					75										10
714879	100	40	80	20				5	80										
714880	100	60	40	40	20		20		10										
714881	100	0	0	100															

714882	100	20	80		60				30	
714883	100	35	85		5	5			30	50
715877	65	0	95	5				90	20	
715878	30	25	85	15	5			70	20	
715880	100	10	100		90	20				
715881	100	20	30	70	30	5				
715882	100	20	70	30	70				10	
715883	100	20	40	60	10				10	20
716878	1	5	100					100	5	
716879	50	30	100			20		40	60	
716880	60	0	35	65	30		5			
716881	100	40	40	60		15	20			10
716882	75	40	20	60			5	20	5	
716883	95	5	100		100					
717878	30	5	100					100		
717879	95	45	50	50	5		35	20		
717880	100	10	60	40		60				5
717881	100	10	25	75		20				10
718878	100	20	5	80				5		
718879	100	5	100			10	80			30
718880	100	5	5	95		5				
718881	100	5	50	50		30				30
719878	90	40	60	40		20	10	30		10
719879	70	60	40	60			40			30
719880	90	10	70	30		50			20	
719881	60	50	0	100						
719882	70	10	0	100						
719883	100	5	100				20	60	40	
720874	25	5	100					100		
720875	100	60	60	20		50	5			10

721878	100	30	80	20			5		80		10	
721879	70	40	90	10			80		20			
721880	60	80	40			10			30			
721881	100	5	5	95							5	
721882	80	0	95			40			60			
721883	5	0	100						100			
722875	90	5	80	20					80			
722876	15	0	95	5					95			
722877	15	5	90	10					90			10
722878	0	1	100						100			
722879	30	50	90	10			30		20			60
722880	0	0	100						95		10	
722881	0	0	95						95	5	5	
722882	1	0	100				10		80		25	
723875	1	20	100		10				50	60		5
723876	30	40	95	5					40	10		40
723879	80	50	80	20		20		70				
723880	50	30	80	10			10		40			50
723881	20	30	80	20				50			70	
723882	10	40	100			10	40	60	10			
724874	100	0	0	100								
724875	15	30	95	5			10		30	70		20
725873	30	70	80	20	20			5		70		10
725874	50	5	90	10	10			20		80		5
722874	50	0	90	10					40	90		
715879	100	10	80	20		30		50	10			
715884	100	15	95	5		20				80	10	
716877	80	30	50	50			20	30	20		10	
712876	1	0	100				5			100		
712881	1	5	100					20		100	30	

723874 90 15 40 50

10

10 40

Basal Area (Relascope Scores)

Relascope sweeps were taken from corners 1,3 in 1973 and from all four corners in 1992 and 2009. A tally factor of 2 was used such that the mean Basal Area (m²/ha) estimate equals twice the mean corner score. Only trees were scored (so excluding hazel, hawthorn etc). The individual species totals are given in columns 7 onwards. Note that for 1973 these are based on two sweeps, but from 4 sweeps for 1992 and 2009: i.e. the species values for 1992 and 2009 should be divided by 2 to be comparable to those for 1973. Species abbreviations are as for other tables.

73 Records	73 corner 1	73 corner 2 NR	73 Corner 3	73 corner 4 NR	73 basal area	73 Ace cam	73 Ace pse	73 Aln spp	73 Bet spp	73 Car bet	73 Cas sat	73 Fag syl	73 Fra exc	73 Ile aqu	73 Lar spp	73 Mal syl	73 Oth con	73 Pic abi	73 Pop spp	73 Pru avi	73 Que cer	73 Que rob	73 Sal spp	73 Sor avi	73 Tax bac	92 Tll spp	73 Ulm spp
Plot																											
709880	20		10		30							2	26							2							
710879	7		9		16				1			13	2														
710880	6		9		15				1			6	8														
710881	0		4		4				4																		
711877	9		8		17		13						3		1												
711878	16		10		26		23						1										2				
713882	9		15		24	2	1						12		7		2										
711879	3		7		10							2	8														
711880	6		17		23			7	1				3						12								
711881	2		1		3				3																		
711882	0		1		1																						
712877	9		4		13		1						12														
712878	6		1		7		1					1	5														
712879	6		9		15							7	8														
712880	10		6		16							4	9	2								1					
712882	7		4		11							4	7														
712883	10		7		17							1	16														
712884	5		2		7							1	4						2								

713877	16	17	33	3		1	1	10		1	1	12	2	2
713878	2	2	4				1	3						
713879	3	0	3					3						
713880	10	9	19	3					14	2				
713881	9	16	25				2	3	11	5	3	1		
713883	7	8	15	2	1			12						
713884	7	8	15	6				4	1	3	1			
714877	3	5	8	1		1		3				3		
714878	3	2	5					5						
714879	4	5	9		3			6						
714880	6	4	10		10									
714881	4	7	11		2			8	1					
714882	6	8	14	2				12						
714883	14	20	34	11				19	4					
715877	15	13	28				13	15						
715878	4	6	10		2		5	3						
715880	6	10	16	4	7				2	2	1			
715881	12	8	20	1	2				15		2			
715882	7	12	19	8	1				5	3	2			
715883	14	11	25	4					19	1	1			
716878	8	7	15				11	4						
716879	6	3	9	2			1	6						
716880	2	0	2	1	1									
716881	3	7	10	1	1				5		2		1	
716882	6	5	11						8		3			
716883	6	12	18	14					2	2				
717878	10	8	18		1		16						1	
717879	6	3	9	7	2									
717880	11	8	19		14					5				
717881	3	9	12							12				

718878	4	6	10			2			8										
718879	5	2	7		2				2						1				2
718880	4	7	11			1			1		9								
718881	9	13	22			5					17								
719878	5	4	9		4	3			2										
719879	1	0	1			1													
719880	12	8	20			4					16								
719881	4	0	4						4										
719882	10	10	20		15						2							3	
719883	8	4	12				1		1	4			1					5	
720874	10	10	20						20										
720875	0	1	1		1														
720878	11	5	16		10					1									5
720879	0	0	0																
720880	6	7	13				7						6						
720881	6	10	16		2						14								
720882	5	5	10					1			1		2					6	
720883	4	5	9				2						4					3	
720884	12	15	27			1			4	8				7			6	1	
721874	1	0	1								1								
721875	1	1	2							1								1	
721876	12	4	16							13	3								
721877	9	5	14							6	8								
721878	7	5	12							1	8		1					2	
721879	2	1	3		1													2	
721880	8	7	15		1					14									
721881	6	0	6							5								1	
721882	8	8	16		2		2			5		7							
721883	15	12	27							22	1	4							
722875	0	0	0																

709880	9	13	22	20	32				10	50				4					
710879	10	13	11	14	24			2	39	7									
710880	12	13	18	12	27.5	1	1	7	22	10			4	1	7	2			
710881	8	8	3	5	12			4		12					8				
711877	16	13	11	16	28	1	32			17	3						3		
711878	11	12	18	19	30		43			4	2				10			1	
713882	12	25	17	17	35.5	3	4	2		31	17	7	3					4	
711879	9	12	8	5	17			2		2	26			2		2			
711880	15	14	15	15	29.5		4	1		1	13		40						
711881	7	2	0	10	9.5			14			3			2					
711882	13	6	9	9	18.5			4			24				6	3			
712877	7	5	7	16	17.5	2	7				25					1			
712878	11	3	2	9	12.5		2	1		5	14			2		1			
712879	14	15	10	8	23.5			2		27	18								
712880	15	16	7	15	26.5			2		10	34	5				2			
712882	15	13	12	12	26					18	34								
712883	10	8	10	10	19						38								
712884	3	8	4	8	11.5						20			3					
713877	11	12	11	10	22	8			6		12			2	1	14		1	
713878	8	7	8	11	17	1		3		11	15					3	1		
713879	6	2	11	8	13.5	4					19	2				2			
713880	12	13	10	10	22.5	1	4				9	17	5	9					
713881	14	20	8	13	27.5	1		1		1	10	20	8	14					
713883	9	10	14	11	22		9	1			31			3					
713884	22	21	19	16	39		28			10	15	4	17	4					
714877	10	9	11	12	21	4				5	27				6				
714878	5	2	5	8	10					1	19								
714879	13	7	8	8	18		2	18			16								
714880	10	7	9	8	17	2	1	29				1			1				
714881	2	2	2	2	4			2					6						

714882	12	10	15	14	25.5	14	2			33	2								
714883	14	19	6	12	25.5	11				29	11								
715877	15	14	12	18	29.5				40	19									
715878	17	13	12	16	29			21	22	13								2	
715880	19	9	16	8	26	18		21		2	5	6							
715881	4	0	4	10	9	4		6			7							1	
715882	13	18	7	13	25.5	15					21	1	8	6					
715883	6	7	5	10	14	16					8		4						
716878	10	10	14	15	24.5				41	8									
716879	10	9	10	12	20.5	8			7	23			3						
716880	4	3	6	1	7	8	1	2		1								2	
716881	13	6	2	1	11	2		11		1	3		2						3
716882	6	4	8	9	13.5				1		23		2				1		
716883	11	15	10	13	24.5		37				1	9	2						
717878	17	14	16	19	33	1	2	3	51										9
717879	4	2	3	2	5.5	7		2		1									1
717880	16	5	5	12	19			33			2		3						
717881	2	6	8	1	8.5			1					16						
718878	1	0	1	0	1	1		1											
718879	4	9	7	3	11.5	3		10			7								3
718880	4	2	4	3	6.5			12					1						
718881	5	5	8	4	11			16					4					1	1
719878	1	6	9	2	9	9		4		1	3								1
719879	2	2	0	0	2			2											2
719880	10	6	11	7	17			14			7		13						
719881	0	1	2	1	2														4
719882	9	6	4	7	13	1	10						3						12
719883	21	7	17	12	28.5		16		10	1	20		2						8
720874	8	14	12	13	23.5	1				46									
720875	1	1	1	1	2	2				2									

716882	5	7	9	15	18	1	4			3		21		7					
716883	18	27	26	18	44.5		69	1			2	7		10					
717878	23	17	21	18	39.5	1		4		68	2							4	
717879	16	7	5	11	19.5		13	1			14			4		1	6		
717880	25	12	13	32	41		1	61				6	14						
717881	4	4	18	5	15.5	5		15				1	10						
718878	11	3	5	4	11.5		8	4		7	2	1		1					
718879	6	7	6	6	12.5			4				12					7		2
718880	1	5	6	10	11			16				4					2		
718881	2	5	11	7	12.5			11				3	6				2		3
719878	8	11	12	5	18		13	7		8		3			1	1	3		
719879	2	2	4	8	8	8	1	4									3		
719880	18	12	9	16	27.5			33				2	17				1		2
719881NR					0														
719882	4	9	8	7	14	5	4						1				18		
719883	34	30	31	32	63.5		28		19	11	46			4			19		
720874	18	24	23	16	40.5					81									
720875	3	1	9	6	9.5					8	11								
720878	3	6	15	8	16		29							3					
720879	2	1	5	2	5			3									5		2
720880	8	0	0	13	10.5		1	12					8						
720881	18	21	24	24	43.5	10		18				55				2		2	
720882	24	25	17	22	44	9	22	3	12	6		2		3			31		
720883	16	18	20	15	34.5	4		7		24				11			23		
720884	16	19	24	21	40		2			21	23				13	20		1	
721874	7	9	12	14	21					8	25	4						3	2
721875	25	26	27	32	55					17	54	8						14	17
721876	14	17	13	21	32.5	2				49	14								
721877	22	16	16	15	34.5					35	30							4	
721878	14	10	11	13	24					9	30					9			

721879	2	3	6	4	7.5	4			7	1			3						
721880	10	13	10	13	23	4		2	37	1			1	1					
721881	5	5	7	5	11				13	5			4						
721882	20	16	14	13	31.5		16		23		23								
721883	18	21	19	17	37.5				56	6	5	1	4	3					
722875	10	15	19	22	33			3	6	49								8	
722876	29	29	25	24	53.5				98	4								5	
722877	15	18	25	22	40				64				2				4	10	
722878	42	14	17	19	46				60	26				6					
722879	26	16	14	11	33.5				56	7									4
722880	26	23	33	27	54.5				59				2	46					2
722881	28	27	22	19	48	1			59					35					1
722882	14	13	12	11	25				33				4	6			3	4	
723875	28	18	26	17	44.5	1	1	10	31	42		1					3		
723876	17	7	22	18	32				15	37			2			1		8	1
723879	1	3	3	7	7	1		6		4						2			1
723880	11	14	10	8	21.5				10	4			2	22	1			4	
723881	20	15	12	11	29				2	11			2	43					
723882	8	14	3	5	15	1	2	15					6	4	2				
724874	0	1	1	0	1			2											
724875	20	12	20	17	34.5	4		12	1	46		1						5	
725873	13	7	7	3	15	3			1	16			5				3	2	
725874	17	20	18	9	32	2				56	2						1		3
722874	13	19	22	23	38.5			20	18	34				3	2				
712876	24	26	33	28	55.5			19	88					4					
712881	10	29	19	11	34.5				16	53									
715879	7	10	9	7	16.5		12	1	2	12		1		1	2			2	
715884	15	18	17	21	35.5		20		8	18		22					3		
716877	25	17	17	20	39.5			18	44	15				2					
723874	13	8	9	13	21.5			13	10	11			3				2	4	

Leading tree diameters

The four largest trees in the plot (which might be seedlings) were measured at each sampling time. Each line in the following table represents a different individual: not always the same four were measured if trees had died, outgrown others or because the plot boundaries differed just sufficiently to include or exclude a different tree.

The measurements were as follows.

Diameter at breast height (cm), DBH being taken as 1.3 m from the ground.

Crown class: 5 crown fully exposed, free of lateral competition; 4 crown fully exposed vertically but with adjacent to others of similar height; 3 crown partially overtopped but partially exposed vertically; 2 crown shaded vertically but some lateral side light; 1 crown completely shaded vertically and laterally.

Approximate coordinates for the tree based on distance from south-west corner of plot.

Height for the single largest tree (m) - this was not recorded in 1973.

plot	species	Diameter breast height (cm)			Crown class			Coordinates (metres from south-west corner of plot, approx.)						Height - largest tree only (m)		
		1973	1992	2009	1973	1992	2009	73- east	73- north	92- east	92- north	09- east	09- north	1973 NR	199	200
709880	Pru avi	26	28	32	4	4	4	10	4	9.7	3.1	9.5	4.3			
709880	Fra exc	24	34	47	4	5	4	3	5.8	3	3.7	2	3		30	35
709880	Fra exc	18	21	25	4	4	4	8	2.5	7.8	2	8.5	2			
709880	Fra exc	16			4			9.5	0.5							
709880	Fra exc		19	24		4	3			3.8	7.7	3	7.5			
710879	Fra exc	1			1			9.7	9							
710879	Fra exc	1			1			9.6	9							
710879	Fra exc	1			1			9.7	9							

710879	Fra exc		1			1				2	2				0.1		
710879	Fra exc		1			1				2	2.5						
710879	Fra exc		1			1				2	4						
710879	Fra exc		1			1				4	0.5						
710879	Fra exc			1			1					3	3		0.1		
710879	Fra exc			1			1					3	3				
710879	Fra exc			1			1					9	9				
710879	Fra exc			1													
710880	Fra exc	12	12	11		2	4	3	2.5	4	2.3	3.8	4	3		13	
710880	Fag syl	9				3			8	8							
710880	Fra exc	7				4			7.2	2.5							
710880	Ace cam	6				2			8.5	7							
710880	Ace pse		8	9			3	2			8.8	1.6	8.5	1.5			
710880	Bet spp		9				3				2.1	1.7					
710880	Que cer		3				2				3.2	7.4					
710880	Fra exc			1				1					9	3			
710880	Fra exc			1				1					9	3.5			
710881	Fra exc	5	18	30		4	4	4	9.5	2	9.8	1.7	9	1.5			
710881	Fra exc	6	22	38		5	4	4	2.8	7.7	1.8	6.8	1.5	7		12	26
710881	Fra exc	4	22	33		5	4	4	4.5	2.5	4.6	2.5	4.5	8			
710881	Fra exc	3				5			4	2							
710881	Fra exc		19	22			4	4			9.8	5.6	9	5.5			
711877	Ace pse	32	42	39		5	4	4	8	2	8.7	0.1	8	1.5		14	21
711877	Ace pse	29	36			2	4		1.5	8.4	1.6	7.3					
711877	Ace pse	8		9		2		2	6.5	4.6			5	3.5			
711877	Fra exc	8				3			0.4	4.5							
711877	Ace pse		27	28			3	3			1.5	8.7	1	9			

711877	Ulm spp		9	18		3	2		7.3	7.5	7.5	7			
711878	Ace pse	41	43	46	4	4	4	0.5	6.5	0.1	5.3	0.5	5.5	17	18
711878	Ace pse	19	22	26	4	4	4	6	4	6.2	3.8	7	4.5		
711878	Ace pse	19	24	27	3	4	4	4.8	6.5	4.1	7.1	4	7		
711878	Ace pse	16			4			3.8	0.3						
711878	Ace pse		23	26		3	3			0.1	5.5	0.5	6		
713882	Lar spp	28	30		4	4		9.5	9.8	9.5	9.7			17	
713882	Lar spp	25	26		4	3		8	5.7	7.9	5.6				
713882	Lar spp	25			4			7.3	2.2						
713882	Fra exc	16		24	4		4	0.4	3.9			1	4		
713882	Fra exc		17	35		4	4			5.7	9.1	6	9.5		27
713882	Fra exc		17			4				5	2.1				
713882	Fra exc			23			3					8	5.5		
713882	Fra exc			13			2					3	7.5		
711879	Bet spp	6	9		4	4		2.8	9	2.8	9.2				
711879	Fra exc	5		13	4		3	7.7	6.7			7.5	7		
711879	Fra exc	7	11	18	3	4	4	7.4	7.5	8	7	8	6.5	5	19
711879	Fra exc	5	8	11	4	4	3	5.8	8	6.2	8	6	7.5		
711879	Fra exc		8			4				3	4.5				
711879	Fra exc			11			3					6	4.5		
711880	Aln spp	14			4			1	7						
711880	Pop spp	7			4			5	3.5						
711880	Pop spp	8			4			5.5	0						
711880	Pop spp	8			3			6	4.5						
711880	Pop spp		21			4				1.1	0.4				

711880	Fra exc		20	31		4	4		4.6	9.7	4.6	9.5		
711880	Fra exc		23	41		4	4		2.5	9.5	2.5	9.5	23	22
711880	Fra exc		20	29		4	4		7.8	4.7	8.5	5		
711880	Fra exc			31			4				8.2	6.2		
711880	Fra exc													
711881	Que cer	8				5		2	2					
711881	Sal spp	7				4		4	2					
711881	Bet spp	6	10			4	4	7.7	0.5	7.1	0.9			
711881	Que cer	9				5		9.5	7					
711881	Bet spp		9				4			9.8	0.2			
711881	Bet spp		10				4			6.8	4.1		10	
711881	Bet spp		9				4			7.1	4.3			
711881	Fra exc			17				3				1	0	10
711881	Fra exc			1				1						
711881	Fra exc			1				1						
711881	Fra exc			1				1						
711882	Bet spp	8				5		4	6					
711882	Bet spp	6	12	15		4	3	3	0.5	7.5	7.4	2.5	8	1
711882	Bet spp	5				5			8	3				
711882	Fra exc	5	19	24		5	4	4	9	0.5	8.7	0.1	9.5	1
711882	Fra exc		12				3				9.8	3.9		
711882	Fra exc		12	18			4	4			3.4	6.6	2.5	7
711882	Fra exc			16				3					8	3
712877	Fra exc	20	22	24		4	4	4	2.5	0.6	2.2	0.8	2	1
712877	Fra exc	23	28	33		3	4	4	0.3	0.5	0.4	0.2	0.5	1
712877	Fra exc	15		19		1		4	2.4	0			2	0.5
712877	Ace pse	8	16	21		4	4	3	5	9	5.4	9.6	5	9.5

712877	Ace cam		7				2			0.4	6.7					
712878	Fra exc	7				4			5.5	4.4						
712878	Fra exc	6				4			5.7	4.5						
712878	Fra exc	7	13	22		4	4	3	6	1	6.3	1.1	5.5	1		15 16
712878	Ace pse	8	13			5	3		9.2	4.7	9.7	5				
712878	Fra exc		12				4				1.3	3.1				
712878	Fra exc		13				4				8.1	1.5				
712878	Fra exc			17				3					1	1.5		
712878	Fra exc			18				3					8	8		
712878	Fra exc			19				3					6	4		
712879	Fag syl	49	56	58		4	4	4	3	6	2.5	6.1	2	6		22 18
712879	Bet spp	12	13			3	4		7.5	5.5	8.5	5				
712879	Fra exc	8				1			3.8	2						
712879	Fra exc	4				1			5.2	1						
712879	Fra exc		1	5			1	1			9	6				
712879	Fra exc		1	5			1	1			8.8	9.2	8	8		
712879	Fra exc			5				1								
712880	Bet spp	8				4			4	9						
712880	Fra exc	8	13	21		4	4	4	2.5	9.5	2.4	9.6	3	9		20 24
712880	Fra exc	7		17		4		4	7	4			5.5	5		
712880	Fra exc	5	12	19		4	4	4	7.5	6	6.9	5.4	6.5	5		
712880	Fra exc		12	18			4	4			2.6	9.4	3	9		
712880	Fra exc		12				4				2.2	9.3				
712882	Fra exc	18	25	31		4	4	4	9.9	3	9.5	3.2	9.5	4		14 23
712882	Fra exc	15	20	23		4	4	3	4.8	4	4.9	4	5	5		
712882	Fra exc	14	18	22		3	4	4	7.4	9.5	6.4	9.9	9.5	7		

712882	Fra exc	11			4			0.2	4.1						
712882	Fra exc		18			4				4.9	4.1				
				20			4					9.5	6.5		
712883	Fra exc	36	39	41	4	5	4	7	4.6	7.6	2.7	5.5	3.5	18	17
712883	Fra exc	19	19	22	4	4	3	1.3	9	2.4	7.6	3	7		
712883	Fra exc	16	19	23	4	5	4	8.7	9.6	8.3	9.5	9	9		
712883	Fra exc	14	31	27	4	4	4	2.5	7.5	1.3	6.6	1.5	6.5		
712884	Pic abi	24			5			5.4	5.2						
712884	Pru avi	7			3			6	6						
712884	Fra exc	5	17	21	3	5	4	7	9.2	7.8	9	8.2	9.5	14	15
712884	Fra exc	5	16	20	3	4	3	3	7	2	6	3	6.5		
712884	Fra exc		13	20		4	3			1	9.1	2	9		
712884	Fra exc		11	18		4	3					2	7		
713877	Que rob	40	47	54	4	4	5	5	8	5.1	9	5	8.5	15	28
713877	Que rob	31			3			5.5	4.5						
713877	Que rob	28	31	41	3	3	4	7	0.8	7.3	0.8	8	1		
713877	Fra exc	12	13	16	2	3	3	1.5	7	1	7.1	1	8		
713877	Ace cam		3	10		4	3			2.7	2.7	4	4		
713878	Fra exc	12	15	20	5	4	4	5	1	5.2	1.7	6	2	13	6
713878	Fra exc	6	10	14	5	5	2	7.5	8	7.2	8.3	7	8		
713878	Fra exc	5	9	13	5	4	2	4.8	3.5	4.4	4.1	4	4		
713878	Fra exc	9		15	4		2	5	9			9	3		
713878	Bet spp		10			4				10	1.3				
713879	Ace cam	22	32	33	4	4	2	9.5	9.5	9.5	9.1	9.5	9.7	11	12
713879	Que rob	4	7		2	3		0	0.5	0.3	0.5				

713879	Que cer	3			2			2.5	2.5						
713879	Que cer	2			4			2.8	3						
713879	Ace cam		22	22		4	2			9.5	8.7	9.5	9.5		
713879	Ace cam		1	2		2	1			6.9	1	8	1		
713879	Que rob			8			1					0.2	0.6		
713880	Pic abi	43	51	60	4	4	5	7.5	8.5	7.3	8.4	8	9	24	27
713880	Lar spp	23			4			2.3	1.5						
713880	Lar spp	26			4			9	3.8						
713880	Fra exc	6			3			1.5	3						
713880	Lar spp		18	19		3	3			9.6	9	9.5	9		
713880	Fra exc		12	20		4	4			1.1	7.4	1	8		
713880	Fra exc		9	15		3	3			7	1.3	7	1		
713881	Pin nig	53	65	73	5	5	5	5.5	9	5.3	9	5	7	26	29
713881	Lar spp	22			3			2.5	7.3						
713881	Lar spp	20			4			2.8	2						
713881	Pic abi	19			3			5.5	3						
713881	Fra exc		21	19		3	1			0.6	5.9	1	6		
713881	Bet spp		1			1				2	6.4				
713881	Fra exc		1			1				4.8	4.8				
713883	Fra exc	10	19	27	4	4	4	4.7	3.8	4.2	4	5	5		27
713883	Bet spp	15		20	4		4	9.4	1.1			8	0.3		
713883	Bet spp	12			4			6.3	3.2						
713883	Fra exc	12	20	26	4	4	4	7.6	6	7.4	5.5	8	4	22	
713883	Fra exc		18			4				4	2.9				
713883	Fra exc		10			3				4.5	2.7				
713883	Fra exc			20			3					4.5	5.5		

713884	Ace pse	70			4			7.2	5						
713884	Fra exc	17			4			4.8	9.4						
713884	Fra exc	7			2			9.7	6.6						
713884	Que cer	7			3			5.4	0.6						
713884	Ace pse		48	54		4	4			5.2	5	4	5.5		
713884	Ace pse		38	45			3			5.2	4.9	3.5	6		
713884	Ace pse		54	63			4			5.2	5.1	3	5.5	21	25
713884	Ace pse		44	47			3			5.3	5.1	3	5		
714877	Fra exc	8	12	17	4		4	0.3	6.2	0.4	6.8	0.5	6		
714877	Fra exc	8		21	4		4	2	5.8			2	4.5		
714877	Fra exc	7	13	18	4	4	3	0.2	2.4	0.6	2	0.5	1.5		
714877	Fra exc	7			4			3.6	0.2						
714877	Fra exc		17	32		4	4			5	4.7	5.5	5	13	18
714877	Fra exc		13			4				2	2.3				
714878	Fra exc	5			5			0.5	7.3						
714878	Fra exc	5			4			0.7	4.3						
714878	Fra exc	4		13	3		3	2.5	4.4			2	3		13
714878	Fra exc	4		10	3		3	2.6	4.4			2.5	2		
714878	Fra exc		8	11		4	3			1.3	1	1.5	1	13	
714878	Fra exc		7			4				4	3.5				
714878	Fra exc		8			4				5.8	4.8				
714878	Fra exc		7	12		4	3			6.6	1	6	3		
714879	Fra exc	15	20	24	4	4		3.8	3.8	3	2.8	3.3	3.3		
714879	Fra exc	11			4			0.2	5.5						
714879	Bet spp	13	16		4	4		4.1	2.5	3.2	1.8				
714879	Fra exc	11			3			0.7	3.9						
714879	Fra exc		22	28		4	1			6.2	0.7	6	0.2	19	27

714879	Fra exc		19	27		4	1		6.3	1	6.5	0.2		
714879	Fra exc			20			1				6.5	7		
714880	Bet spp	18	19		5	5		2	6.3	0.6	6.3			
714880	Bet spp	20	20		5	5		6	1.5	6.2	1.9			15
714880	Bet spp	16	18	24	4	4	5	5.7	7.3	5.3	6.9	8	7	
714880	Bet spp	14	19	15	4	4	2	6	8.8	5.8	1.8	6.2	1	
714880	Bet spp			21			5					4.5	9.6	
714880	Ace cam			27			3					0.4	3	12
714881	Lar spp	20			4			3.5	4.8					
714881	Lar spp	18			4			2.3	5.6					
714881	Bet spp	33	33		4	5		3.3	0.4	3.4	0.5			
714881	Bet spp	16			4			9.8	7					
714881	Que cer		1	7		4	3			4.4	3.2	5	3	
714881	Que cer		1			5				3	3			
714881	Bet spp		1	8		5	4			5	7.8	3	8.5	
714881	Sal spp			8			3					8	0.5	
714881	Bet spp			12			5					2.5	0.5	11
714882	Ace pse	39	43	49	4	4	4	0.8	3	0.6	3.1	0.5	3	16
714882	Ace pse	21	24		4	3		9.8	1	9.7	1			18
714882	Lar spp	20			4			9.5	8.8					
714882	Lar spp	18	21		4	4		6	5.7	6.8	5.4			
714882	Ace pse		15			3				9.5	0.5			
714882	Lar spp			15			3					1	4	
714882	Bet spp			6			2					9	8.5	
714882	Ace pse			1			1					8	7	
714883	Pse men	41	58	75	5	4	5	2.9	7	2.7	7	4	8	28
														30

714883	Ace pse	20	21	28	2	3	3	4.2	9	4.1	9.2	5	9		
714883	Lar spp	22	24	24	4	4	3	3.3	2.5	3.6	2.6	3	2		
714883	Lar spp	20			4			7.5	5						
714883	Lar spp		26	28		4	4			5.6	1	5	1		
715877	Fra exc	13		20	3		3	5.4	8.8			6	8		
715877	Fra exc	13	20	28	4	4	3	8.8	0.9	8.8	1.6	8	1.5	18	18
715877	Fra exc	9		20	2		3	4.8	4.9			5	3		
715877	Fra exc	9		20	2		3	7.9	0.5			7	3		
715877	Fra exc		1			1				9	6				
715877	Fra exc		1			1				9	6				
715877	Fra exc		1			1				10	5				
715878	Fag syl	60	66	69	4	4	4	0.5	7	0.8	7.5	0.5	7	23	
715878	Bet spp	27	35		4	4		3.2	1.2	2.7	1				
715878	Bet spp	28			3			1.6	0.1						
715878	Bet spp	19	27	34	4	4	4	9.5	9.3	9.7	9.7	9.5	9.5		
715878	Fra exc		12	13		3	3			9.8	9.6	9	6		
715878	Ace cam			6			3					6	3.5		
715880	Bet spp	37	42	42	4	5	4	3	0.7	3.2	0.2	3	0.6	11	25
715880	Bet spp	27	31	37	4	4	4	6.8	9.5	6.4	9.5	7	9.6		
715880	Bet spp	24	24	24	3	4	2	7.5	6.8	6.9	6.1	7.8	8.6		
715880	Bet spp	11	16		3	3		2.6	9	3.4	6.7				
715880	Ace pse			24			3					7	8		
715881	Lar spp	26			4			2.6	6.8						
715881	Ace pse	28			3			1.4	8.6						
715881	Lar spp	18			3			6	9.5						
715881	Bet spp	10	11		4	4		8.7	9	8.7	8.8			13	

715881	Ace pse		2			4			1.8	8.8							
715881	Bet spp		12			5			5	3.5							
715881	Ace pse		1			5			1.5	6.4							
715881	Ace cam			1			2					2	1				
715881	Ace pse			1			2					7	4				
715881	Ace pse			1			2					7	5				
715881	Ace pse			1			2					8	8			0.4	
715882	Lar spp	15	17	19		3	4	2	1.4	9.9	1.1	10	1	10		13	11
715882	Ace pse	6	7			4	4		7.2	4	7.5	4					
715882	Ace pse	5				4			8	6.3							
715882	Ace pse	4				4			3.5	9							
715882	Ace pse		1				3				0.4	6.8					
715882	Ace pse		7				3				7	4.1					
715882	Ace pse			1				1					2	9			
715882	Ace pse			1				5					8	1			
715882	Ace pse			1				5					9	2			
715883	Pin nig	60	66	68		5	5	5	6.8	4.3	6.3	4.9	8.5	4		26	25
715883	Lar spp	19				4			1.9	8							
715883	Lar spp	16				3			8.2	8.7							
715883	Lar spp	13				3			2.6	5.5							
715883	Ace pse		16	24			3	3			7.5	7.8	8.5	8			
715883	Ace pse		6				3				4.6	6.6					
715883	Ace pse		4				3				3.1	5.3					
716878	Fag syl	55	64	72		4	4	4	1.3	6.4	0.8	6.5	1	8		18	17
716878	Fag syl	55	43	48		4	4	3	8	7.8	8	8.7	8	8			
716878	Fra exc	13	15	19		4	4	2	5.8	2.2	6.5	1.5	6	3			
716878	Fra exc	5	8			4	3		7.1	4.9	7	6.5					

716879	Fra exc	18	27	39	4	4	4	5	1.5	4.4	1	5	3	25	28
716879	Fra exc	2			2			5	4						
716879	Ace cam	2			3			7.3	4.6						
716879	Ace cam	2			2			4.5	3.2						
716879	Ace pse		1				5			3	2.5				
716879	Ace cam		1				2			3.5	1.8				
716879	Ace cam		1				2			3.5	1.9				
716879	Ace cam			1				1				5	0.5		
716879	Fra exc			1				1							
716879	Fra exc			1				1							
716880	Sor ari	9			3			3.9	8						
716880	Fra exc	1			1			3	2.7						
716880	Fra exc	1			1			2.7	2						
716880	Ace cam	1			1			2.8	8						
716880	Ace cam		1				4			8	3			0.02	
716880	Ace cam		1				4			8	2.6				
716880	Ace pse		1				4			8.1	5				
716880	Ace cam		1				3			4.4	0.6				
716880	Fra exc			1				1				1	9		0.1
716880	Fra exc			1				1				3	7		
716880	Fra exc			1				1				8	4		
716880	Fra exc			1				1				3	3		
716881	Ace cam	19			5			8.5	2.7						
716881	Lar spp	18			4			1.5	6						
716881	Lar spp	35			5			0.8	9.9						
716881	Bet spp	13	17		4	5		3.6	0.1	3.4	0.2			15	
716881	Bet spp		13			4				1.5	5				

716881	Bet spp		13			4			2.1	3.6						
716881	Pru avi		14	18		4	2		7.9	6	8	4		10		
716881	Ace cam			5			2				6	1				
716881	Ace pse			1			1				1	9				
716881	Ace pse			1			1				1.5	0.3				
716882	Lar spp	19				4			7.5	7						
716882	Lar spp	17	22			4	4		6	9	6.2	8.5		17		
716882	Lar spp	14				3			5.9	7.5						
716882	Lar spp	16	22			5	4		7.1	1.5	7.4	1.1				
716882	Lar spp		12				3				9	9.7				
716882	Lar spp		6				3				1.6	9.9				
716882	Ace cam			9			4					10	3.5	8		
716882	Ace cam			6			5					10	3.4			
716882	Ace cam			5			5					10	3.3			
716882	Tax bac			1			1					1.5	1			
716883	Ace pse	34	39	42		4	4	3	6.3	7.2	6.3	7.7	6	8	12	16
716883	Ace pse	16	21	25		3	4	2	0.5	7	0.4	6.1	0.4	6		
716883	Ace pse	12				3			4	1.3						
716883	Ace pse	11	15	17		4	4	1	2.7	1	3	0.6	3	1.5		
716883	Ace pse		20	25			3	2			0.5	6	1	6		
717878	Fag syl	42	48	48		4	4	3	7.4	0.5	7.7	0.5	9	1		
717878	Fag syl	47	53	57		4	4	3	2	3.5	2	3.3	2	3	18	20
717878	Sor ari	15	15	15		3	2	1	5.8	4.5	5.1	4	5.5	4.5		
717878	Ace cam	18	18	18		3	3	1	6	5	6	5.6	5	9		
717879	Ace pse	25				4			1	4.5						
717879	Ace pse	16	22	23		4	4	4	7.5	7.5	7.8	8.2	1	1	12	

717879	Ace pse	14			3			6.5	2.5						
717879	Fra exc	9			4			5	6						
717879	Sal spp		11	21		4	4			4.8	6.1	1	6		
717879	Ace pse		1			3				8.1	7.1				
717879	Ace pse		12			4				7.9	8				
717879	Fra exc			1			1								
717879	Fra exc			1			1								
717880	Pin nig	17				4		1.4	8.2						
717880	Pin nig	15				4		1.4	3.8						
717880	Pin nig	13				4		9.7	3.5						
717880	Pin nig	14				4		9.6	8.4						
717880	Bet spp		18				4			7.7	7.7				16
717880	Bet spp		16	21			4	3		2.8	2.2	3	2.3		17
717880	Bet spp		14	20			4	2		6.9	3.8	7	4		
717880	Bet spp		15	12			4	1		1.1	0.3	1.3	0.5		
717880	Bet spp			13				1				5	1.3		
717881	Pin nig	15				4		2.5	3						
717881	Pin nig	14				4		4.4	3						
717881	Pin nig	14				4		1	3.5						
717881	Pin nig	13				4		4	3						
717881	Pin nig		30				4			9.2	8.8				17
717881	Bet spp		10	18			4	4		3.9	7.6	4.5	7		
717881	Bet spp		11	21			4	4		5.4	6.7	5.7	6.2		17
717881	Bet spp		14				5			3.8	0.2				
717882	Ace cam			14				3				6.5	10		
717882	Ace cam			11				3				5	6.2		
718878	Lar spp	30					5			9.7	2.4				

718878	Lar spp	28			4			4.5	4.5				
718878	Bet spp	18			4			3.5	1.2				
718878	Lar spp	19			4			4	3.5				
718878	Fag syl		4	14			4	2		1	4.8	1	4
718878	Bet spp		1				1			4.9	8.1		
718878	Bet spp		1				1			5.1	7.7		
718878	Fag syl			22				3				1	2
718878	Fag syl		2	16			5	2		2	8	1	8
718878	Fag syl			15				2				8	0.5
718879	Bet spp	9	11				5	4		6.8	4.5	6.4	4.1
718879	Sal spp	8	16				4	4		9	8	9.2	8
718879	Bet spp	7	15				4	4		6	8.5	6	8.4
718879	Bet spp	5					4			9	5.2		
719879	Bet spp		12					4				3.4	7.8
719879	Fra exc			1									1
719879	Fra exc			1									1
719879	Fra exc			1									1
719879	Fra exc			1									1
718880	Pin nig	13					4			4	8		
718880	Pin nig	13					4			2.3	10		
718880	Pin nig	16					5			2	1.5		
718880	Pin nig	14					5			3.9	5.8		
718880	Bet spp		9					4				2.4	0.6
718880	Bet spp		10					4				3.8	2.4
718880	Bet spp		7	18			4	4		4.2	2.2	4	2
718880	Bet spp		6	11			4	4		4	2.8	4	2.5
718880	Ace pse			1				5				5	1

718881	Pin nig	14			5			2.5	6.8								
718881	Pin nig	12			4			1.1	4								
718881	Pin nig	13			4			8	2								
718881	Pin nig	14			5			6	4								
718881	Bet spp		14			4				2.2	4.8						
718881	Bet spp		17			4				1.7	4.8						
718881	Bet spp		20			4				5	9.8			14			
718881	Sal spp		19			4				6.9	6.1						
718881	Bet spp			21			4					8.5	9.8		17		
718881	Bet spp			12				2				8.7	6				
718881	Bet spp			10					2			8.5	5.8				
719878	Ace pse	12				5				6.5	2						
719878	Bet spp	8	21	25		5	4	4		4.3	9.8	4.2	9.7	5	9.5	14	20
719878	Bet spp	6	15	21		5	4	4		4.2	4.8	4	4.5	4.5	5		
719878	Ace pse	2	6			4	2			2	6	1.5	4				
719878	Sor ari		14	23			4	4				0.7	9.9	0.5	9.5		
719878	Que rob			7					3					0	6.5		
719879	Sal spp	7	16			5	5			4	4	3.8	3.2			3.3	
719879	Ace cam	1				1				3.5	4.2						
719879	Que cer	1				4				2.3	2.4						
719879	Ace cam	1				4				1.5	0.2						
719879	Ace cam		1				4					1.8	1.9				
719879	Ace cam		1				4					1.9	1.9				
719879	Ace cam		1				4					0.1	4.3				
719879	Ace cam			1				1						6	0.5		
719879	Ace cam			1				1						710	0.5		
719879	Sal spp			12				4						10	0		11

719882	Ace pse			2			4					8	2		
719882	Ace pse			2			4					10	2		
719882	Ace pse			1			1					8	2		
719883	Fag syl	24	25	29		4	3	5	7.8	8.3	8.7	8.3	8	8	18
719883	Car bet	16	18			3	3		2.3	2.5	2.9	2.8			
719883	Fra exc	14	22			4	4		7.7	0.6	6.9	0.6			
719883	Fra exc	12	24	29		3	5	5	5.3	2.2	7.2	2	7	1	
719883	Fra exc			32				5					2	8	18
719883	Fra exc			22				5				5.5	3		
720874	Fag syl	48	49	50		4	4	4	6	4.7	5.5	5	6	5	
720874	Fag syl	42	51	56		4	4	5	2.8	7.5	2	8	2	7.5	31
720874	Fag syl	45	49	52		4	4	3	1.4	6	1	5.7	1	4	28
720874	Fra exc		1				1				8.5	6.4			
720875	Ace cam	2				1			6	2					
720875	Fra exc	1				1			7	3					
720875	Tax bac	1				1			6	4					
720875	Ace cam	1				1			4	7					
720875	Ace cam		1				1				2.2	2		0.1	
720875	Fra exc		1				1				1	3.2			
720875	Fra exc		1				1				1.1	1.1			
720875	Fra exc			1				1							
720875	Fra exc			1											
720875	Fra exc			1											
720875	Fra exc			1											
720878	Ace pse	28				3			6.5	2					
720878	Ace pse	8				3			2.5	6.5					

720878	Ulm spp	1		1		5	1						
720878	Fra exc	1		1		9	2						
720878	Til spp		1		3			8.7	6.4				
720878	Ace pse		1		4			8	30				
720878	Fra exc		1		3			8.5	2.1			2.4	
720878	Fra exc		1		3			4.9	9.7				
720878	Ace pse			5		3				2.5	6		4.5
720878	Ace pse			4		2				2.5	6		
720878	Ace pse			1		1				6.5	3		
720878	Ace pse			1		1				6.5	3		
720879	Bet spp	1			5		0.5	5					
720879	Bet spp	1			5		4	7					
720879	Bet spp	1			5		9.5	0.5					
720879	Bet spp	1			5		2	2					
720879	Bet spp		1		5				4.1	9.1			1.6
720879	Bet spp		1		5				3.9	8.7			
720879	Bet spp		1		5				0.9	9.7			
720879	Bet spp		1		4				4.3	7			
720879	Bet spp			8		5					1.5	4	11
720879	Bet spp			6		4					1.5	4	
720879	Bet spp			5		3					1	4.3	
720879	Bet spp			4		3					1	4	
720880	Bet spp	11			4		6.5	0.3					
720880	Bet spp	10	16		5	4	4.9	4.5	5.1	3.9			
720880	Bet spp	9			5		8.2	4.5					
720880	Bet spp	7			4		9.8	4.8					
720880	Pin nig		20		4				8.7	9.5			15
720880	Pin nig		16		4				0.1	7.4			

720880	Pin nig		16			4			0.2	8.9						
720880	Bet spp			17			3				6.5	0.8			18	
720880	Bet spp			17			3				8	1				
720880	Bet spp			16			3				7	1.5				
720880	Fag syl			2			1				4	3				
720881	Lar spp	27	36	44		4	4	5	0.5	5.5	0.6	5.7	4	1	22	25
720881	Lar spp	24				4			7	6						
720881	Lar spp	21	27	32		3	4	4	1.5	5	1.8	5	4.5	2		
720881	Lar spp	15	20			3	4		3	1	2.9	0.8				
720881	Ace pse		19				4				4.7	8.4				
720881	Ace pse			24				3					5	3		
720881	Car bet			25				3					3.5	9		
720882	Que rob	17	21	24		4	3	4	4.5	0	4.1	0	4	0.5	16	16
720882	Bet spp	7				4			8	2						
720882	Ace pse	9	13			3	2		1	3	1.2	3				
720882	Bet spp	7				4			0.5	9						
720882	Bet spp		13				4				4.4	1.2				
720882	Bet spp		14	22			4	4			6.2	9.8	6	10		
720882	Bet spp			21				4					4	8		
720882	Bet spp			22				4					7	9		
720883	Pin syl	44				5			6.5	9						
720883	Pin syl	35	44	47		5	5	5	1.5	0.5	1.3	0.5	1	1	15	20
720883	Ace pse	14		17		3		3	5	5			5	5		
720883	Que rob	11	16			2	3		0.5	1	5	4.9				
720883	Fag syl		26	35			4	4			9.8	9.5	9	9		
720883	Car bet		13								1.6	9.4				
720883	Que rob			15				4					0.4	2		

720884	Que rob	28	33	37		3	4	4		3.6	6	3.8	5.9	3.5	6.5		28	18
720884	Pru avi	28				3				2.8	9							
720884	Fag syl	22	27	30		2	3	3		6.8	8	7	7.1	9	7			
720884	Fag syl	18	22	25		3	3	4		3	6	2.7	5.9	2.7	6.5			
720884	Fag syl		12	14			1	2				8.3	6	8	8			
721874	Fra exc	9	30	43		5	3	5		7.5	2.5	6.8	2.6	7	2.5		22	22
721874	Fra exc	7	14	26		4	3	4		6	9.7	5	9.3	4	9.5			
721874	Fra exc	4	15	23		4	3	4		10	4.5	9.5	3.4					
721874	Fra exc		1				1					9.6	2.4					
721874	Fra exc			1				1						3.5	3.5			
721875	Sor ari	25	29	31		5	4	4		0	2	0	2	0.5	2		13	10
721875	Ile aqu	21	26	28		5	4	3		8	7	9.1	6.7	9	6			
721875	Fra exc	3				5				6	0.5							
721875	Fra exc	3				5				8	4							
721875	Sor ari		21				3					0.7	3.3					
721875	Fra exc		10				4					5.6	9.1					
721875	Sor ari			31				4						2	0.5			
721875	Sor ari			26				3						2	0.5			
721876	Fag syl	29	29	32		3	3	4		8.7	6.7	9	6.7	9	6.5		16	15
721876	Ace cam	2				1				3.7	7							
721876	Fra exc	1				1				2.8	8							
721876	Fra exc	1				1				4.7	6.7							
721876	Fra exc		1				1					6	0.4					
721876	Fra exc		1				1					7	0.8					
721876	Fra exc		1				1					8	0.8					
721876	Fra exc			1				1						0.5	9			

721876	Fra exc			1			1					0.5	4			
721876	Fra exc			1			1					0.5	8			
721877	Fra exc	20	42		5	5		1	3.2	0	3.2				17	
721877	Fra exc	16			4			7	8.8							
721877	Fra exc	16			3			9.8	2							
721877	Fra exc	14			3			7.5	0.5							
721877	Fag syl			38			4					0.5	1		16	
721877	Fra exc		20	23			4			4.6	5.1	4.5	6			
721877	Fra exc		1				1			5.4	5.1					
721877	Fra exc		1				1			5.5	5.2					
721877	Fag syl			21			3					0.5	1			
721877	Fra exc			1			1					6	6			
721878	Fra exc	41	58	64	5	5	4	5.5	7	4.8	6.6	5.5	6.5		26	28
721878	Fra exc	31	37	39	3	3	4	3.5	1.5	4.8	1.3	4.8	1.3			
721878	Fra exc			29			3					4.8	1.3			
721879	Que rob	54	70		4	5		9.3	9	10	10				23	
721879	Ace cam	12			1			9	2							
721879	Fra exc	8			1			5.3	4							
721879	Ace cam		12			2				8.5	6.1					
721879	Fra exc		1			1				7	9					
721879	Fra exc		1			1				8	9					
721879	Ace cam			1			1					9.9	8			1.5
721879	Fra exc			1			1					9.5	9			
721879	Fra exc			1			1					9.5	9			
721879	Fra exc			1			1					5	6			
721880	Fag syl	27	30	45	4	4	3	3.5	9.2	4.5	8	4	8.5		16	6.5

721880	Fag syl	12	20	45	3	4	3	3.5	8.5	4.5	8	4	8.5	
721880	Fag syl	1			1			0.5	5					
721880	Fag syl		15			4				4.5	8			
721880	Fag syl		10			4				4.5	8			
721880	Bet spp			7			3							
721880	Ace cam			8			2					1	9.5	
721881	Ace cam	2			1			7.2	3.5					
721881	Bet spp		1			4				5.6	3.2			2.5
721881	Bet spp		1			4				6.2	3.2			
721881	Bet spp		1			4				8.6	0.7			
721881	Bet spp		1			4				8.4	0.7			
721881	Fra exc			1			4					5	9	
721881	Ace cam			1			3					9	2	
721881	Bet spp			1			2					9.5	0.5	
721881	Ace cam			1			4					2	9	0.7
721882	Ace pse	30		43	1		4	6.4	1.7			6.5	1.7	
721882	Car bet	26	27		1	3		5.3	4.2	8.8	5			
721882	Lar spp		45			4				2.9	1.5			22
721882	Fag syl		19			2				0	4.5			
721882	Fra exc		1			1				8	0.5			
721882	Ace pse			19			3					6.3	1.7	
721883	Fag syl	48	50	52	3	4	4	9.5	7	9.7	2.2	9.6	2.6	26
721883	Fag syl	34	66	74	4	5	2	7	2.5	6.7	2.2	6.5	2	23
721883	Fag syl	34	41	49	3		4	5.5	9.8	5.5	9.9	5.5	9.6	
721883	Fag syl	27	34	36	3	3	3	5.7	2.6	5.6	3			
722874	Fra exc	4			5			7.5	7.5					

722874	Fra exc	3	10		4	2		4	6	4.3	5				
722874	Fra exc	3			5			6	5						
722874	Fra exc	3			5			5	3						
722874	Fra exc		12			2				8.9	5.5			8	
722874	Fra exc		10	33		3	4			8.7	4.8	9	4		
722874	Fra exc		10	24		2	4			8	4.3	7	3		
722874	Fag syl			64			5					0.5	4		24
722874	Fra exc			34			4					8	9.5		
722875	Fra exc	5			4			7	5.5						
722875	Fra exc	4	11	17	4	4	4	8	2	9.9	2.3	9.5	2		
722875	Fra exc	4			5			8	0.5						
722875	Fra exc	4	7	14	4	4	4	2.5	9	2.3	9.7	2.5	9.8		
722875	Fra exc		8			3				9.5	6.1				
722875	Fra exc		13	20		4	4			7.1	9.1	7	9	12	16
722875	Fra exc			12			4					7	5.5		
722876	Fra exc	13	23	29	4	4	4	6.5	8	6.7	6.7	2.5	6.5	24	20
722876	Fra exc	13			3			4.3	10						
722876	Fra exc	1			1			5	4.8						
722876	Fra exc	1			4			1.5	0.1						
722876	Fra exc		1			1				0.4	9.4				
722876	Fra exc		1			1				0.6	9.4				
722876	Fra exc		1			1				0.4	8.8				
722876	Fra exc			1			1								
722876	Fra exc			1			1								
722876	Fra exc			1			1								
722877	Fag syl	16			4			0.1	4						
722877	Sor ari	12	16	18	3	2	3	6	4.5	4.7	3.6	5	4.2		

722877	Fag syl	14			4			9.5	9.5						
722877	Fag syl	13			3			3	2.3						
722877	Fag syl		24	31		4	4			3.9	9.5	4	10	10	18
722877	Pru avi		1			1				1	6				
722877	Pru avi		1			1				9.7	8.4				
722877	Sor ari			9			3					5	4.3		
722877	Fra exc			1			1								
722878	Fag syl	20			4			9.8	1.8						
722878	Fag syl	19	25	27	4	4	4	7	5.5	6.4	3	7	5.5	15	14
722878	Fag syl	13			4			8	8						
722878	Fag syl		11	25		3	4			6	2.6	9.5	2		
722878	Fag syl		9			2				6	2.8				
722878	Fra exc		1			1				6	1.4				
722878	Fag syl			11			2					7.5	5.5		
722878	Fag syl			12			3					9	9.5		
722879	Fra exc	22			5			2	7						
722879	Fra exc	19			2			2	8						
722879	Fra exc	11	32	25	5	3	3	7	9.3	2	8	0.5	7	18	10
722879	Fra exc	14			3			0.2	0.3						
722879	Fra exc		1	9		4	2			6.8	9.7	5	9.5		
722879	Tax bac		1			1				5.3	4.7				
722879	Fra exc			1			1					0.5	9.5		
722879	Fra exc			1			1					1.2	2.4		
722880	Fag syl	20			4			4.4	3						
722880	Que rob	17	34	41	4	4	4	6.5	7.5	8.1	6.6	7.8	6.6	19	24
722880	Que rob	17	22	32	4	4	5	0.5	7	3.4	8.1	2.3	9.5		
722880	Fag syl	19	22		4	4		7.5	1.5	2.3	1.7				

722880	Fag syl		22	23		4	2		7.4	5.5	6.9	5.5			
720880	Que rob			23			3				9.6	9.8			
722881	Que rob	10			2			7.9	6.4						
722881	Fag syl	1			1			5.6	9						
722881	Fag syl	1			1			9.1	9.8						
722881	Fag syl		1			1				5.1	8.9		0.04		
722881	Ace pse		1			1				8.5	9.7				
722881	Fag syl		1			1				9.5	9.5				
722881	Fag syl					1				9.2	0.2				
722881	Fag syl			36			4					7.9	9.8	12	
722881	Fra exc			1			1					4	3.5		
722881	Fag syl			1			1					4.8	8.5		
722881	Fag syl			29			3								
722882	Que rob	16	25	32	5	4	4	9.2	6.6	9.2	5.6	8.5	6	12	16
722882	Fag syl	13	19	21	4	4	4	8	7	7.8	7	8	7.3		
722882	Fag syl	13			3			3.3	0.7						
722882	Fag syl	3	14	19	2	4	3	6.5	2	8.6	6	8	7		
722882	Que rob		1			1				9.3	5.5				
722822	Fag syl			5			1					8	7.2		
723875	Fra exc	4		18	4		4	0.5	1			0.5	0.5		
723875	Fra exc	4			5			1	8.3						
723875	Fra exc	4			5			5	0.5						
723875	Bet spp	4			5			9	1						
723875	Fag syl		12	20		4	3			7.8	1.2	8.5	1.5		
723875	Fag syl		13			3				8.8	2				
723875	Fra exc		14	21		4	4			8.8	7.2	9.7		13	14
723875	Fag syl		8	16		3	4			10	4	8.5	3		

723876	Tax bac	39	45	49	5	4	4	4	1	5.5	1.7	4.5	1.5	12	13
723876	Fra exc	5		7.5	4		4	8.3	9			9	7.5		
723876	Fra exc	5			4			10	8.9						
723876	Fra exc	5	7	11	4	1	3	9.9	8.2	9	8.5	8.5	9		
723876	Ulm spp		8			4				0.5	10				
723876	Ulm spp		8	15		4	4			0.5	7.1	0			
723879	Sal spp	14			4			4.5	9						
723879	Sal spp	9			3			1.7	4.2						
723879	Sal spp	8			4			8.3	8						
723879	Fra exc	3			2			7	5.3						
723879	Bet spp		42	48		5	5			5.8	0.2	4.3	0.2	16	17
723879	Ace cam		8	8		2	2			5	10	4.7	9		
723879	Ace cam			1			1					6.5	0.5		
723879	Fra exc			1			1					8	5		
723880	Ace cam	5	6		5	2		4.3	7	4.9	7				
723880	Ace cam	6	7		4	2		3.8	3.3	3.9	3.9			3	
723880	Fag syl	4			3			3	1						
723880	Fag syl	4			3			0.7	1						
723880	Ace cam		1			1				3	3				
723880	Pru avi		1			1				7.5	2				
723880	Fra exc			1			1					3	7		0.05
723881	Que rob	28	34	45	4	4	4	7	0.2	7.3	0.5	7.2	0.6	14	18
723881	Fra exc	6			5			7.8	10						
723881	Bet spp	5			4			7.5	7.3						
723881	Fra exc	4			4			9.1	6.5						
723881	Que rob		18	27		4	4			9	5.6	9.6	5.5		

723881	Fra exc		1	10		1	1		8.4	8.6	9	9	
723881	Fra exc		1			1			4.6	9			
723881	Fra exc			1			1				5.5	2.5	
723882	Que rob	1			1			3	4.5				
723882	Bet spp		2.5	9		4	5		3.2	2	1.5	4.5	
723882	Sal spp		2.5			4			6	6			
723882	Bet spp		3.5			4			6.5	7			
723882	Bet spp		4			4			5	7.5			4
723882	Sal spp			12			4				7	1.5	
723882	Bet spp			11			4				2	8	
723882	Bet spp			12			5				0.5	9.7	15
724874	Fag syl	2			5			9.7	5				
724874	Fra exc	1			4			2.5	7				
724874	Pin syl	1	8		5	3		6.3	1	7	0.1		
724874	Que cer	2	7		4	3		5.8	3.5	6	3.1		
724874	Pin syl		15			5				8.3	1.9		9
724874	Pin syl		14			4				4.2	1.8		
724874	Fra exc			1			1				9.5	0.5	
724874	Fra exc			1			2				3	6	
724874	Fra exc			1			1						
724874	Fra exc			1			1						
724875	Fra exc	2		14	5		4	5.3	8		5	6	
724875	Fra exc	2		17	5		4	1.5	0.2		0	2	13
724875	Fra exc	2	8	15	4	4	3	3.5	1.5	2.9	1.4	3.5	1.5
724875	Fra exc	2		14	4		4	8.2	9.8			9	10
724875	Ace cam		12			4				9.2	1.1		9
724875	Ace cam		11			3				4	1		

724875	Fra exc		10			4			0	2.1				
725873	Fag syl	49				4		4	5.5					
725873	Fag syl	28				3		1	6.5					
725873	Pru avi	1	5	14		1	4	4	1.1	8.6	0.5	8.9	0.5	8
725873	Ace cam	2	3			1	4		1	8	0.8	8.5		
725873	Pru avi		2	17			5	4			0.5	1	1	0.5
725873	Sor ari		1	14			5	4			1.5	0.2	1	2.9
725873	Fra exc			12				3					4	6
725874	Fra exc	2	13			5	4		8	7	8.5	8.5		
725874	Fra exc	2	18	26		5	4	4	4.5	4	4	3.8	4	3
725874	Ace cam	2				5			5	1.2				
725874	Fra exc	2				4			0.7	0.8				
725874	Fra exc		12	19			4	4			1.1	5.5	1	5
725874	Fra exc		13				4				2.2	9.4		
725874	Fra exc			19				4					8.5	8.5
725874	Fra exc			23				4					8	9.5
712876	Bet spp	NR	42			4					7.5	6		
712876	Bet spp	NR	17	17		4	4				4	6	5	6
712876	Bet spp	NR	31	31		3	4				1	5.5	1	5
712876	Ace pse	NR	1			1					2.5	1		
712881	Fag syl	NR	31	38		4	4				5	6	6	6
712881	Fra exc	NR	20	20		4	4				6.2	6.2	7	5.5
712881	Fra exc	NR	17	19		4	4				7.5	5.4	7.5	5
712881	Fra exc	NR	17	18		4	4				5	7.7	6	5
715879	Sal spp	NR	20			4					6.5	4		

715879	Que rob	NR	6		3		2.5	5					
715879	Ace pse	NR	2	7	3	1	2.3	1.7	2.8	0.7			8
715879	Ace pse	NR	2	5	3	1	2	2	2	2.5			
715879	Fra exc	NR		5		1			9	9			
715879	Fra exc	NR		1		1			5	5			
715884	Fra exc	NR	19	35	4	1	5.1	1	6	1			
715884	Fra exc	NR	17	28	4	1	4.2	8.1	4	8			
715884	Pic abi	NR	36	45	5	2	4	9.5	4	9		19	22
715884	Fra exc	NR	11	18		4	2	6.6	2	5			
716877	Bet spp	NR	37		4		4.4	1				15	
716877	Fra exc	NR	1		1		0.4	0.6					
716877	Fra exc	NR	1		1		0.4	2.7					
716877	Fra exc	NR	1		1		2.5	2.5					
716877	Sor auc	NR		1		1			7	1			
716877	Fra exc	NR		1		1			6	0.5			
716877	Fra exc	NR		1		1			8	1			
716877	Fag syl	NR		1		1			7	0.5			0.25
723874	Bet spp	NR	15	27	3	3	8.6	2.1	8.5	1.5			12
723874	Bet spp	NR	14		4		6.3	4.9					
723874	Bet spp	NR	15		3		7.6	8.6					
723874	Bet spp	NR	16	23	3	4	7.9	4.4	6.5	6		12	
723874	Fag syl	NR		23		3			1	8			
723874	Fra exc	NR		26		4			5.5	5.5			

Brief descriptions of the plots

Plot	Recording date 1973	1973 description	Recording date 1992	1992 description	Recording date '2009'	2009 description
709880	29/08/1973	ash-cherry high forest; fern mercury floor	23/06/1992	ash beech, fallen cherry across s.e. corner	19/05/2009	Bank across southeast corner
710879	29/08/1973	beechwood, clean floor	23/06/1992	beech	19/05/2009	
710880	29/08/1973	high canopy ash, beech, edge of wood	23/06/1992	beech, small dead ash	19/05/2009	
710881	29/08/1973	clearfelled c1948; dogwood hazel, ash scrub	24/06/1992	ash-hazel, dogs mercury	19/05/2009	collapsed oak east west across plot
711877	31/07/1973	high forest ash, sycamore	23/06/1992	sycamore ash over sycamore dogs mercury	19/05/2009	
711878	01/08/1973	coppiced sycamore	23/06/1992	sycamore over bramble; ash seedlings	19/05/2009	remnants of ash saplings, cut stumps
711879	01/08/1973	young ash poles	23/06/1992	ash thicket	19/05/2009	young ash thicket
711880	01/08/1973	alder-poplar; willowherb, nettle, mercury floor	23/06/1992	alder poplar plantation	02/08/2010	mercury dominant; fallen dead poplar; ash poles occasional alder
711881	29/08/1973	felled 1948, mixed scrub, hazel, dogwood, birch, turkey oak, old stump	24/06/1992	hawthorn, dogwood; old stump	02/08/2010	thorn clump and glade
711882	29/08/1973	clearfelled c1948; birch hazel ash scrub. Old stump	24/06/1992	ash-hazel, derelict coppice; ride across s.w. corner	18/05/2009	ash grove; largish oak close to north-west corner
712876			23/07/1992	beech	02/08/2010	beech with scattered birch; large dead beech eastern quadrant
712877	31/07/1973	clearing in ash, much willowherb	23/06/1992	ash-sycamore, field maple	07/07/2009	collapsed trees eastwest across plot; fox earth southwest corner
712878	01/08/1973	scrub, rabbit activity	23/06/1992	Under large beech, plus ash	07/07/2009	
712879	01/08/1973	beech, pollarded in past; ground flora at edge	23/06/1992	large beech	07/07/2009	large beech in western quadrant

712880	01/08/1973	ash regeneration	23/06/1992	ash/hazel coppice	06/07/2009	
712881			24/06/1992	beech ash over hazel	02/08/2010	approx only markers not found
712882	14/08/1973	ash over mercury; badger path	24/06/1992	ash stand, hazel; badger path across s.w. corner	18/05/2009	on slope
712883	14/08/1973	ash over mercury	24/06/1992	ash-hazel mixed coppice	18/05/2009	
712884	14/08/1973	thicket from degenerating spruce/beech canopy; boundary fence across n.e. corner	24/06/1992	ash elder scrub at wood-edge; fallen cherry and conifer in east half	18/05/2009	dead stump (former conifer?)
713877	31/07/1973	mixed high forest; floor dominated by rubus	23/06/1992	oak/young ash, some spruce; root plate in and near plot	19/05/2009	big rootplate just to east of plot
713878	31/07/1973	scrub with ash	23/06/1992	ash-hazel coppice	07/07/2009	thicket to pole stage ash
713879	31/07/1973	hazel scrub recently cleared; track and brash pile	23/06/1992	ash-maple over hawthorn/hazel across path (west east)	28/05/2010	east-west ride, mainly north half of plot
713880	07/08/1973	broken old conifer with young hardwood mixture; rabbit hole	24/06/1992		06/07/2009	
713881	07/08/1973	larch plantation; some corsican and spruce; fallen tree	24/06/1992	larch, dog's mercury;fallen spruce	06/07/2009	collapsed tree along northwest/southeast diagonal; dead conifers
713882	07/08/1973	larch plantation with ash, mercury sward	25/06/1992	larch-ash plantation	18/05/2009	dying larch
713883	07/08/1973	ash poles, dogwood thicket, mossy floor with mercury, stump	25/06/1992	ash-sycamore, dead birch present	18/05/2009	young ash mossy mercury
713884	07/08/1973	sycamore shade with dogwood, much bare ground	25/06/1992	ash-sycamore; wood edge; acer pollard	18/05/2009	massive sycamore in plot centre
714877	08/08/1973	ash scrub in beech and ash wood; large stump	22/06/1992	cherry/maple over bramble-mercury glade; logs, fallen sorbus aria	19/05/2009	
714878	08/08/1973	small ash poles	22/06/1992	ash thicket	07/07/2009	ash poles over mercury

714879	08/08/1973	edge of wood; young mostly ash, some birch, much brachypodium; edge path	22/06/1979	ash-sycamore young stand	28/05/2010	path along southern edge
714880	08/08/1973	birch, bramble and dogwood floor	24/06/1992	birch-maple dogwood scrub; west edge path; fallen birch	28/05/2010	fallen birch; north south path about 2 m to west
714881	08/08/1973	larch and birch with dogwood; stumps, rabbit scrape	24/06/1992	scrub edge to chalk grassland	06/07/2009	Fence across south-west corner; cleared cuts northwest corner; most of plot dense regrowth
714882	08/08/1973	larch and sycamore over dogwood	25/06/1992	larch sycamore; larch dying	18/05/2009	dying larch; badger set southeast corner; path across nw/se diagonal
714883	24/08/1973	larch, fir and sycamore; small fallen larch; rabbit holes	25/06/1992	spruce, larch, sycamore; root plate northeast corner; dead larch	18/05/2009	old douglas fir; mercury carpet, dying larch
715877	14/08/1973	beech and ash high canopy; sparse bramble; old sawpit	22/06/1992	beech coppice and stds at rideside; bramble in south-east corner	07/07/2009	pit close to southwest corner
715878	14/08/1973	beechwood-ash scrub boundary	22/06/1992	beech and young ash	07/07/2009	fallen birch from close to southwest corner
715879			22/06/1992	rideside; hazel hawthorn, sycamore; nettle glades	28/05/2010	footpath along west side; main path along south side
715880	21/08/1973	pheasant enclosure; birch and sycamore, some conifers	24/06/1992	birch/sycamore; large spruce just outside northeast corner	28/05/2010	large spruce on corner; old dying birch
715881	21/08/1973	larch, sycamore, birch; floor mostly bramble	24/06/1992	bramble-grassland at wood edge; log pile	06/07/2009	north west open grazed; southeast more scrubby
715882	21/08/1973	conifers with recent ride	25/06/1992	sycamore, mixed conifer	06/07/2009	fence east west through northern part of plot; south grazed coppice/paddock
715883	21/08/1973	conifers and sycamore mostly; light scrubby floor	25/06/1992	sycamore, pine, larch; larch mostly dead	06/07/2009	dying conifers
715884		NOT RECORDED	25/06/1992	ash and dead larch at woodedge	06/07/2009	dead snags; glade by northeast corner
716877		NOT RECORDED	22/06/1992	bracken glade; windblown birch	07/07/2009	fallen tree north-eastern half; bracken glade to southwest

716878	14/08/1973	dense beech canopy over clean floor	22/06/1992	old beech coppice/pollards	07/07/2009	large beech in western quadrant
716879	28/08/1973	hazel and hawthorn; intersection of rides	22/06/1992	ride intersection, hazel coppice	28/05/2010	ride intersection markers just into wood
716880	23/08/1973	hazel coppice with hatch lane	24/06/1992	maple, hazel coppice across ride (north-south)	06/07/2009	north -south ride in eastern half of plot
716881	23/08/1973	edge of hatch lane; scrubby hazel and maple; edge mixed conifer	25/06/1992	cleared; hedge along east edge; grassy	28/05/2010	dense scrub in centre; hedge fence and path down east edge marker outside hedge
716882	23/08/1973	open larch, spruce; thick scrub below; stumps	25/06/1992	larch plantation. Windblown tree; plate in northwest corner, lying to south-east. Vigorous undergrowth	06/07/2009	fallen conifers in western half
716883	23/08/1973	young sycamore with conifers, rabbits; cut wood	26/06/1992	sycamore stand	06/07/2009	
717878	09/08/1973	beech, clean floor	25/06/1992	beech	07/07/2009	cmpt boundary across north east corner; track close to northwest corner
717879	19/06/1973	hazel and sycamore; logs on ground	25/06/1992	path across south-east corner; hawthorn, hazel scrub and ride.	31/05/2010	no markers found; path across northern halfscrub.
717880	28/08/1973	cleared corsican plantation; some birch; a few larch; lot of dead wood	20/07/1992	larch birch plantation over bramble; log pile	05/08/2010	open across north-west corner; pit in western quadrant
717881	28/08/1973	corsican plantation; east half cleared;	20/07/1992	grass at wood-edge	28/05/2010	north east half mostly wood; southwest grassy, with scrub on west edge
718878	09/08/1973	larch, sycamore, birch; scrub understorey; dead birch	25/06/1992	clearing with beech/hazel regrowth; felled	07/07/2009	track across southeast corner; scrub with openness by northeast corner.
718879	28/08/1973	scrub, hazel and birch, footpath, laid hazel hedge	20/07/1992	hazel scrub	01/06/2010	no markers found; done relative to track
718880	24/08/1973	pine and birch; grassy track	20/07/1992	grassy glade with path north-south; fence across southern half	05/08/2010	gate by southeast corner; fence across southern part; mostly field

718881	24/08/1973	birch, corsican plantation 18 yrs old	20/07/1992	grassy under birch	05/08/2010	logpile and bramble clump in western quadrant; open
719878	09/08/1973	scrub, young birch and sycamore	21/07/1992	hazel, hawthorn scrub	07/07/2009	
719879	04/09/1973	across track, south half cleared; hazel hedges	20/07/1992	crosses ride east-west; scrubby grassy field at s.e. side	04/08/2010	east-west ride through plot; hedge to north field to south
719880	22/08/1973	dense conifer and birch; path on south edge	20/07/1992	pine/larch/birch plantation; path south-east corner	05/08/2010	sparse birch cover; path across south-east corner
719881	24/08/1973	mostly cleared conifer; edge of wide ride	20/07/1992	grassy; scrub edge of plantation; only half recorded as southwest too dense scrub		not recorded
719882	22/08/1973	young sycamore poles; old stumps; rather clear floor	21/07/1992	sycamore coppice; log piles	18/06/2008	fence north south in east side; log piles; western two thirds probably future grassland
719883	22/08/1973	mixed wood; old stumps; rabbit holes; rather bare floor	21/07/1992	ash-beech plantation	18/06/2008	
720874	16/08/1973	beech strip next to track and arable	22/07/1992	road to west edge; beech at road side	01/06/2010	done from tree coordinates; road along west edge
720875	30/08/1973	hazel coppice, nettles, edge of grassland	22/07/1992	hazel coppice at woodedge; grass field behind; road to west; north-east corner paddock gate	01/06/2010	done in relation to gate and road; gate post north east corner; fence close to northern edge
720878	12/06/1973	sycamore, edge of reserve	21/07/1992	scrub woodedge to grassland; garden at south-east corner; path across northwest corner	07/07/2008	fence at south-east corner; clearing
720879	12/06/1973	open grassland, fireweed with seedlings; path	21/07/1992	rosebay glade;	08/07/2009	mostly bracken glade; some scrub to west; wasp nest
720880	22/08/1973	scrubby birch, corsican	20/07/1992	birch/pine plantation with dogwood rose regrowth	05/08/2010	open , offset from broomstick; only northwest marker found
720881	05/06/1973	larch over grassy floor; path	20/07/1992	larch, sycamore, hornbeam across footpath	08/07/2009	fence roughly nw/se diagonal; track cuts across southeast just in from corner

720882	05/06/1973	old dogwood thicket	21/07/1992	birch, sweet chestnut, sycamore; collapsed dogwood east middle	20/06/2008	largely bare
720883	05/06/1973	pine with dense low shrubs	21/07/1992	pine, sycamore, hawthorn;	20/06/2008	dead conifer in northern quadrant; beech oak
720884	05/06/1973	mixed high canopy over bramble bluebells	21/07/1992	beech, cherry, oak; thin soil over flint; litter; dead leaning cherry	20/06/2008	done on sound; collapsed cherry
721874	29/05/1973	ash poles badger latrine; edge of reserve	22/07/1992	mixed scrub and clematis, ash stds; fence along southern edge	17/06/2008	southwest corner on field edge; post not found; clematis dense. Ahs scrub
721875	29/05/1973	mixed	22/07/1992	ash thicket and dogwood; yew and beech	08/07/2009	
721876	29/05/1973	mixed	21/07/1992	beech-ash, mercury	17/06/2008	windblow nearby; hazel near southwest corner
721877	29/05/1973	ash	21/07/1992	beech-mercury	17/06/2008	fallen tree in southeast corner with peg in it; beech ash
721878	29/05/1973	ash	21/07/1992	ash-hazel, mercury	08/07/2009	
721879	29/05/1973	mixed	26/06/1992	oak-hazel. Large oak, northeast corner. Fallen hazel north-west diagonal	08/07/2009	large dead oak northeast corner
721880	29/05/1973	coppiced and pollarded beech; path	26/06/1992	beech coppice; path north west corner; stool in south-east corner	08/07/2009	old beech stool towards northwest corner; barash pile in northeast
721881	21/05/1973	edge wood;ride recently slashed; rabbit hole	21/07/1992	dogwood scrub; path and fence across northeast corner and side	08/07/2009	fence down eastern edge; recently cut shrubs; grassy glade
721882	21/05/1973	mixed;rabbit signs;	21/07/1992	larch, sycamore, beech over mercury bramble; dead larch	01/06/2010	iron at base of beech and dead larch; dead hornbeam; southeast corner 9.4 m at 92 degrees true to massive beech
721883	21/05/1973	beech	21/07/1992	beech; bank east west just below middle	28/05/2010	bank across southern half east west; no broomstick
722874	21/05/1973	ash, fallen logs	22/07/1992	ash thicket, some beech; mercury; fallen trees	17/06/2008	fallen larch along diagonal; missing markers

722875	21/05/1973	1963 felling area	22/07/1992	ash thicket , grazing just starting; fence roughly northwest-southeast diagonal	01/06/2010	fence roughly along northwest/southeast diagonal; another fence across southeast corner.
722876	30/08/1973	beech, mostly clean floor, dogwood and bramble	22/07/1992	beech; windblow nearby	01/06/2010	
722877	05/06/1973	closed beech coppice with clean floor	21/07/1992	beech coppice and pollards; much fallen wood	01/06/2010	high seat just to north of plot;
722878	05/06/1973	beech coppice, dense canopy, clean floor	26/06/1992	beech coppice	17/06/2008	
722879	05/06/1973	dense beech and yew coppice; clean floor	26/06/1992	yew/beech coppice; collapsed ash	17/06/2008	fallen ash in northwest half; bare floor to southeast
722880	05/06/1973	dense beech coppice and oak; clean floor	26/06/1992	beech coppice some oak.	17/06/2008	south east marker not found
722881	18/07/1973	old beech coppice; clean floor	26/06/1992	beech/hazel coppice	20/06/2008	northeast marker not found
722882	18/07/1973	old coppice	26/06/1992	beech coppice; dead stool in south middle	20/06/2008	largely bare
723874			22/07/1992	thicket beech-ash and mixed scrub.; path south-west corner	01/06/2010	
723875	04/09/1973	cleared c1958; low scrub; planted, lines cleared, old stumps	22/07/1992	young beech stand; open edge south-east corner	01/06/2010	fence just beyond southeast corner
723876	30/08/1973	road through plot; ash thicket and yew; 1963 felling coupe	22/07/1992	crosses ridenorth south; yew and pole stage ash	01/06/2010	road through eastern part of plot. Fence clips southeast corner
723879	18/07/1973	shrub thicket, footpath	26/06/1992	hazel coppice; woodedge;mercury	02/08/2010	hazel coppice by path; only north west corner marker found
723880	18/07/1973	dense thicket in old clearing	26/06/1992	beech-hazel coppice; big yew northwest corner; dead beech southwest corner	02/08/2010	clematis tangle amongst hazel; beech by southeast corner; big yew northwest corner
723881	18/07/1973	dense hazel coppice with track through west half	26/06/1992	north-south track; bramble scrub either side of ride	20/06/2008	path in western part of plot, running north south

723882	18/07/1973	dense hazel coppice and road east edge	21/07/1992	dense scrub in west half of plot; path north south in east	20/06/2008	ride down eastern edge; dense hazel; some birch pine in north
724874	16/08/1973	low scrub some planted young pines and beech	22/07/1992	privet rose, hawthorn thicket	01/06/2010	grassland with some scrub
724875	16/08/1973	low scrub hornbeams planted	22/07/1992	ash-whitebeam scrub	01/06/2010	fence and path across southwest corner
725873	30/08/1973	tall beech canopy over low privet	22/07/1992	windblown beech, elm bramble	17/06/2008	disturbed by windthrow; southeast corner not found
725874	30/08/1973	dense thicket 2 m high after 1963 felling	22/07/1992	ash thicket and scrub	01/06/2010	fence across southeast corner