Annexes

Annex I-1
Climatic regions

The **Boreal** region comprises Finland, the central and northern parts of Sweden, Estonia except the coastal regions and some plots in northern and central Norway. The climate is mainly cold with a short vegetation period. In the northernmost parts the climate changes to arctic conditions. The Boreal region is dominated by *Picea abies* and *Pinus sylvestris*. In 2003, 15.8% of the plots of the European survey were located in the Boreal region.

The **Boreal (Temperate)** region covers most parts of southern Sweden and Norway, the whole of the Baltic countries Latvia and Lithuania, the coastal regions of Estonia and the whole of Belarus. This region contains a higher proportion of deciduous tree species, compared to the colder Boreal region. 14.4% of the assessed trees were in the Boreal (Temperate) region.

The **Atlantic (North)** region comprises the United Kingdom, Ireland, Denmark, the Netherlands, the southern coasts of Sweden and Norway, north-west Germany, northern Belgium and France. The climate is characterised by mild winters, a relatively uniform distribution of precipitation over the year and long transitional seasons. The forests consist of *Picea abies, Pinus sylvestris, Picea sitchensis, Quercus robur* and *Fagus sylvatica*. 5.8% of the plots were situated in this region.

The **Atlantic (South)** region comprises central and south-western France, the atlantic coast of Spain and the northern parts of Portugal. The climate is warm, with high precipitation in winter, but very little frost and snow. There is a higher proportion of oak species, dependent on warmer summers, than in the Atlantic (North) region. Also frequent are *Castanea sativa, Pinus pinaster, Pinus radiata* and *Pinis sylvestris.* 4.4% of the plots were located in this region.

The plots of the **Sub-Atlantic** region are located in Poland, the Czech Republic, the western parts of Slovakia, northern Austria and Switzerland, eastern and southern Germany, southern Belgium, central-eastern France, and the whole of Luxembourg. The climate is typically temperate and characterised by large temperature differences between summer and winter, with a gradient from the western parts to the eastern parts. If the whole region is considered, the forests are very heterogeneous, dominated by *Picea abies, Pinus sylvestris* and *Fagus sylvatica*. In this region 22.3% of all plots were located.

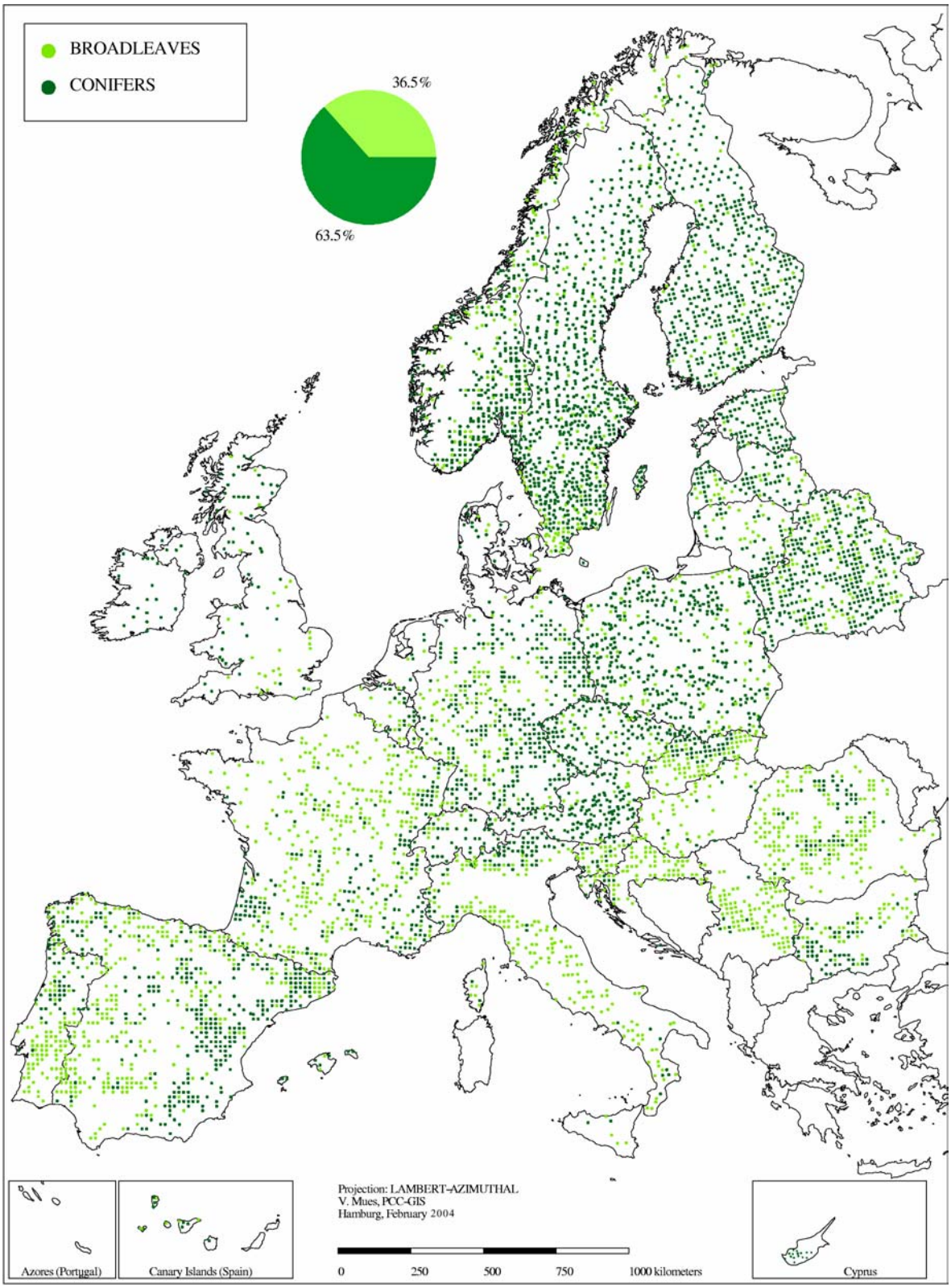
The **Continental** region consists of the Republic of Moldova, large parts of Romania, eastern and northern Bulgaria and nearly all Hungary. The climate is typically continental with warm and dry summers, and low temperatures in winter. The forests are characterised by oak species, *Fagus sylvatica, Robinia pseudoacacia, Carpinus betulus, Picea abies* and *Abies alba.* In 2003, 5.3% of the sample plots were located in this region.

The **Mountainous (South)** region comprises plots on several mountain ridges. They share steep climatic gradients and consequently complex geobotanical structures, depending on altitude and exposition. They comprise the Alpine system (Pyrenees, Alps, Tatras, Carpathians and the Balkan), the Appenin, the Vosges, and in Germany the Black Forest and the Bavarian/Bohemian Forests. The dominant species are *Picea abies, Fagus sylvatica, Larix decidua, Pinus nigra, Pinus sylvestris* and *Abies alba*. This climatic region comprises 11.4% of all sample plots.

The **Mountainous (North)** region was introduced to account for the peculiarities of the mountainous climate in northernmost Europe in comparison to that in the other parts of Europe. This region is located only in Norway. It is characterised by large seasonal variations in climate, but with a generally shorter vegetation period. The plots at lower altitudes on the Atlantic coast are influenced by the Gulf stream and have a more temperate climate. The most frequently occurring species are *Betula pubescens, Picea abies* and *Pinus sylvestris.* 3.9% of the sample plots were located in the Mountainous (North) region.

The Mediterranean region as a whole is divided in the **Mediterranean (Higher)** and **Mediterranean (Lower)** regions. The higher areas (6.6% of the plots) are situated between 400 m and ca. 1000 m altitude in Portugal, Spain, southern France, Italy, Slovenia, Croatia, Romania and Greece with humid climate. The Mediterranean (Lower) regions (10.1% of the plots) cover Cyprus and lower parts of the countries mentioned above. The climate is characterised by hot and dry summers and frequent drought periods in summer. Both Mediterranean regions are dominated by *Pinus halepensis, Pinus nigra, Pinus pinaster, Quercus ilex, Quercus cerris* and *Quercus pubescens.*

Annex I-2
Braodleaves and conifers (2003)



Annex I-3
Species assessed (2003)

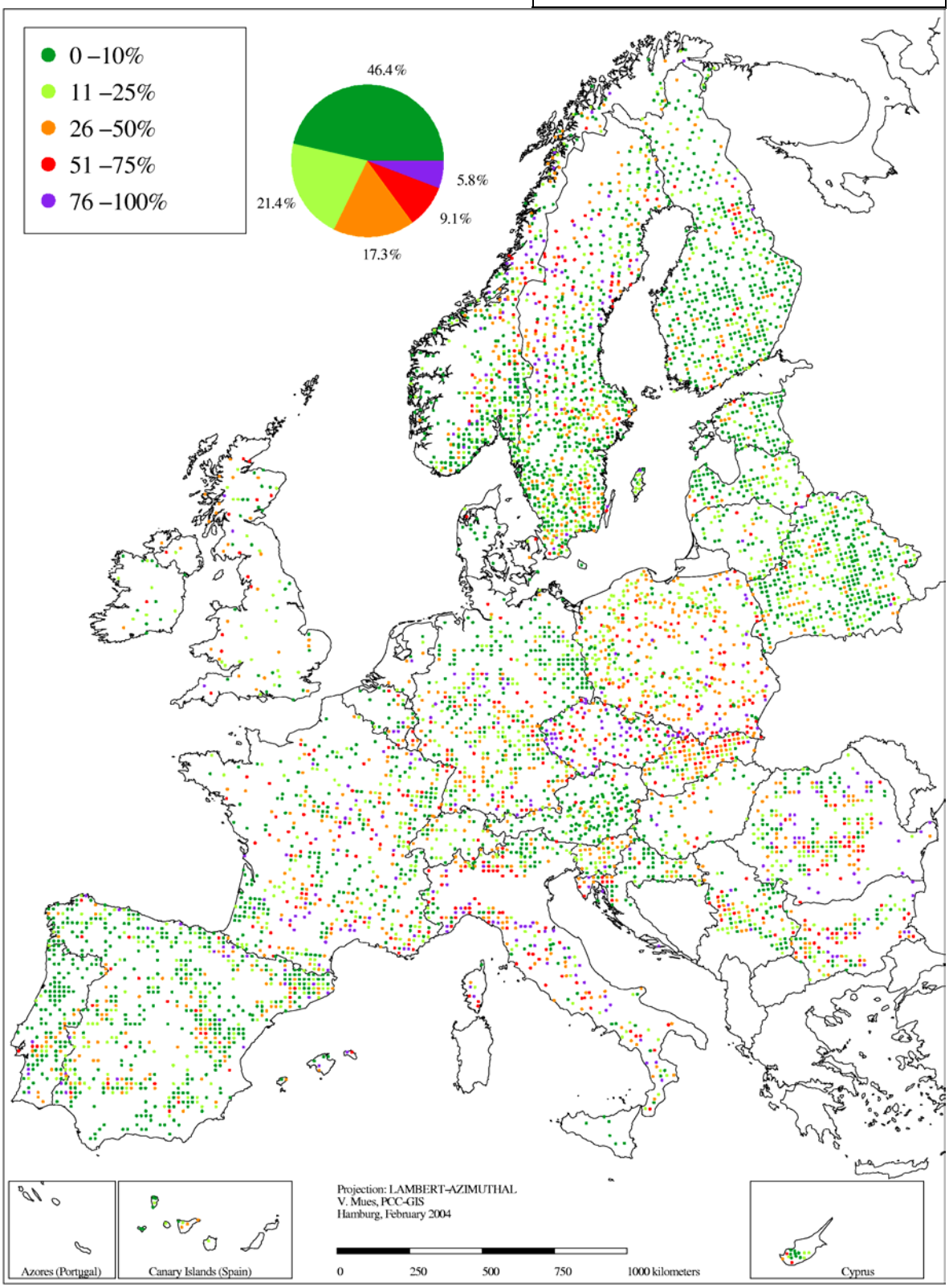
Species	Observed trees		Observed plots	
	Number	%	Number	%
Pinus sylvestris	35559	27.04	1824	17.73
Picea abies	26469	20.13	1478	14.37
Fagus sylvatica	11753	8.94	662	6.44
Quercus robur	4825	3.67	428	4.16
Betula pubescens	3861	2.94	634	6.16
Quercus ilex	3785	2.88	221	2.15
Betula pendula	3735	2.84	658	6.40
Pinus pinaster	3567	2.71	183	1.78
Quercus petraea	3437	2.61	358	3.48
Pinus nigra	2545	1.94	149	1.45
Pinus halepensis	2452	1.86	127	1.23
Abies alba	2104	1.60	202	1.96
Quercus cerris	2098	1.60	171	1.66
Carpinus betulus	1866	1.42	241	2.34
Quercus pubescens	1829	1.39	157	1.53
Quercus suber	1638	1.25	95	0.92
Eucalyptus spp.	1625	1.24	75	0.73
Castanea sativa	1324	1.01	151	1.47
Larix decidua	1258	0.96	185	1.80
Populus tremula	1114	0.85	262	2.55
Fraxinus excelsior	997	0.76	191	1.86
Quercus pyrenaica	973	0.74	56	0.54
Alnus glutinosa	966	0.73	133	1.29
Picea sitchensis	922	0.70	46	0.45
Quercus frainetto	921	0.70	67	0.65
Robinia pseudoacacia	873	0.66	77	0.75
Quercus rotundifolia	662	0.50	37	0.36
Fagus moesiaca	643	0.49	37	0.36
Pseudotsuga menziesii	573	0.44	50	0.49
Acer pseudoplatanus	519	0.39	156	1.52
Populus hybrides	472	0.36	22	0.21
Pinus pinea	444	0.34	36	0.35
Quercus faginea	397	0.30	50	0.49
Ostrya carpinifolia	388	0.30	61	0.59
Other broadleaves	355	0.27	77	0.75
Pinus radiata	325	0.25	17	0.17
Tilia cordata	309	0.23	70	0.68
Pinus brutia	300	0.23	14	0.14
Juniperus thurifera	279	0.21	22	0.21
Alnus incana	234	0.18	43	0.42
Prunus avium	232	0.18	109	1.06
Acer campestre	192	0.15	76	0.74
Pinus contorta	186	0.14	14	0.14
Olea europaea	179	0.14	20	0.19
Quercus rubra	163	0.12	23	0.22

Species	Observed trees		Observed plots	
	Number	**%**	**Number**	**%**
Pinus uncinata	146	0.11	13	0.13
Fraxinus angustifolia	135	0.10	16	0.16
Fraxinus ornus	133	0.10	48	0.47
Tilia platyphyllos	129	0.10	21	0.20
Populus nigra	120	0.09	12	0.12
Acer platanoides	119	0.09	42	0.41
Pinus cembra	96	0.07	10	0.10
Alnus cordata	88	0.07	5	0.05
Sorbus aucuparia	76	0.06	30	0.29
Larix kaempferi	68	0.05	8	0.08
Pinus strobus	65	0.05	9	0.09
Populus canescens	51	0.04	4	0.04
Sorbus aria	49	0.04	31	0.30
Juniperus oxycedrus	49	0.04	17	0.17
Ulmus glabra	48	0.04	23	0.22
Salix caprea	45	0.03	28	0.27
Arbutus unedo	45	0.03	7	0.07
Acer opalus	44	0.03	17	0.17
Juniperus communis	43	0.03	7	0.07
Populus alba	42	0.03	10	0.10
Salix spp.	41	0.03	10	0.10
Other conifers	41	0.03	9	0.09
Quercus trojana	34	0.03	2	0.02
Juniperus sabina	33	0.03	7	0.07
Acer monspessulanum	32	0.02	11	0.11
Cedrus atlantica	32	0.02	4	0.04
Cupressus sempervirens	32	0.02	3	0.03
Sorbus torminalis	28	0.02	23	0.22
Salix alba	27	0.02	4	0.04
Cedrus brevifolia	24	0.02	1	0.01
Ulmus minor	22	0.02	9	0.09
Juniperus phoenicea	22	0.02	9	0.09
Buxus sempervirens	21	0.02	3	0.03
Platanus orientalis	21	0.02	2	0.02
Corylus avellana	19	0.01	10	0.10
Quercus fruticosa	19	0.01	1	0.01
Pyrus communis	10	0.01	6	0.06
Sorbus domestica	10	0.01	9	0.09
Juglans regia	9	0.01	4	0.04
Ulmus laevis	9	0.01	4	0.04
Tsuga spp.	9	0.01	1	0.01
Ilex aquifolium	8	0.01	5	0.05
Ceratonia siliqua	8	0.01	3	0.03
Phillyrea latifolia	8	0.01	2	0.02
Cupressus lusitanica	8	0.01	1	0.01
Carpinus orientalis	6	0.00	1	0.01
Malus domestica	4	0.00	2	0.02
Cedrus deodara	4	0.00	1	0.01

Species	Observed trees		Observed plots	
	Number	**%**	**Number**	**%**
Quercus coccifera	3	0.00	3	0.03
Abies grandis	3	0.00	1	0.01
Pinus mugo	3	0.00	1	0.01
Thuya spp.	3	0.00	1	0.01
Juglans nigra	2	0.00	2	0.02
Prunus padus	2	0.00	2	0.02
Prunus serotina	2	0.00	1	0.01
Salix cinerea	1	0.00	1	0.01
Salix eleagnos	1	0.00	1	0.01
Salix fragilis	1	0.00	1	0.01
Picea omorika	1	0.00	1	0.01
Taxus baccata	1	0.00	1	0.01
All species	131503	100.00	10286	100.00

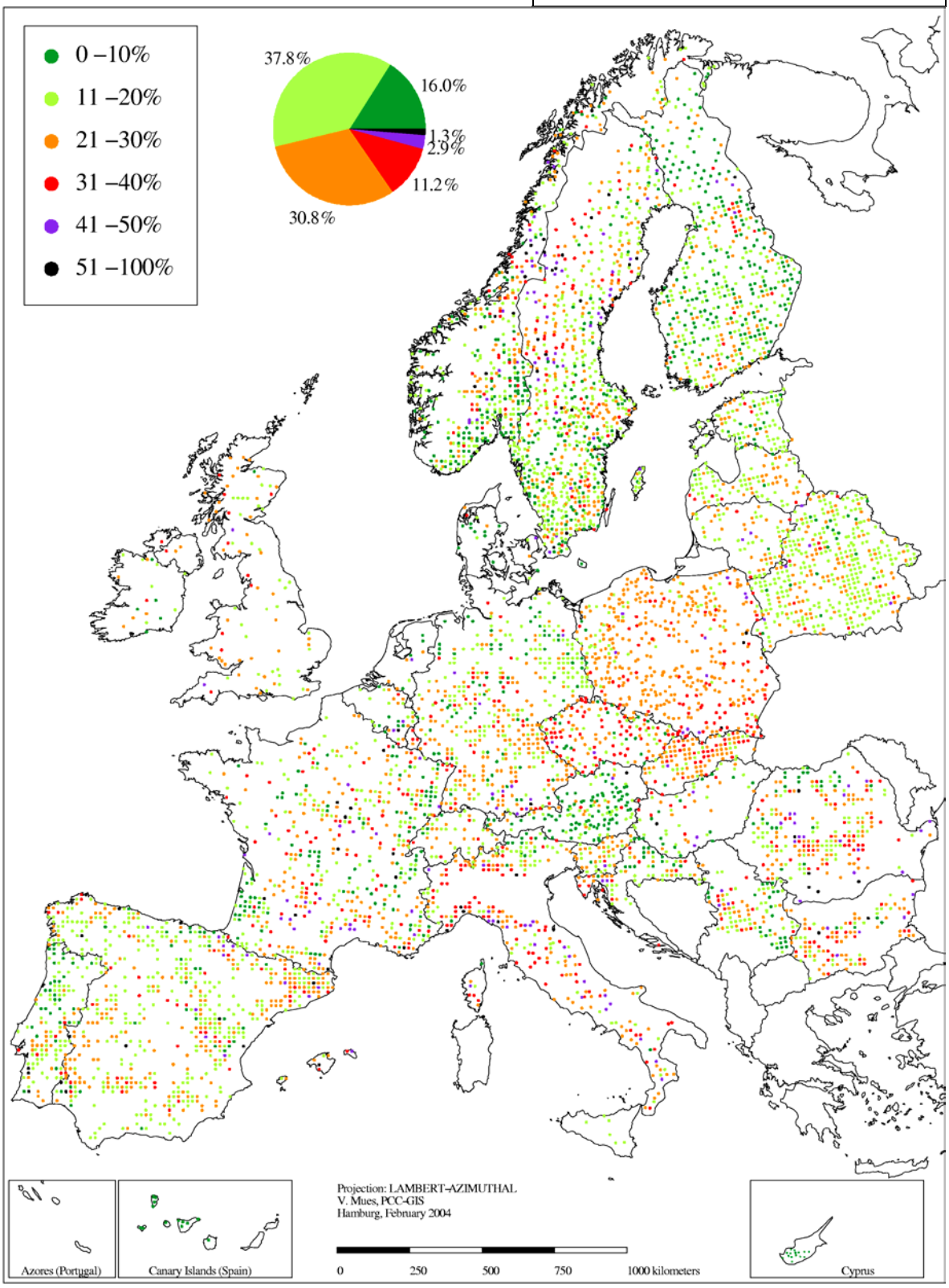
Annex I-4
Percentage of trees damaged (2003)

Note that some differences in the level of damage across national borders may be at least partly due to differences in standards used. This restriction however does not affect the reliability of the trends over time.



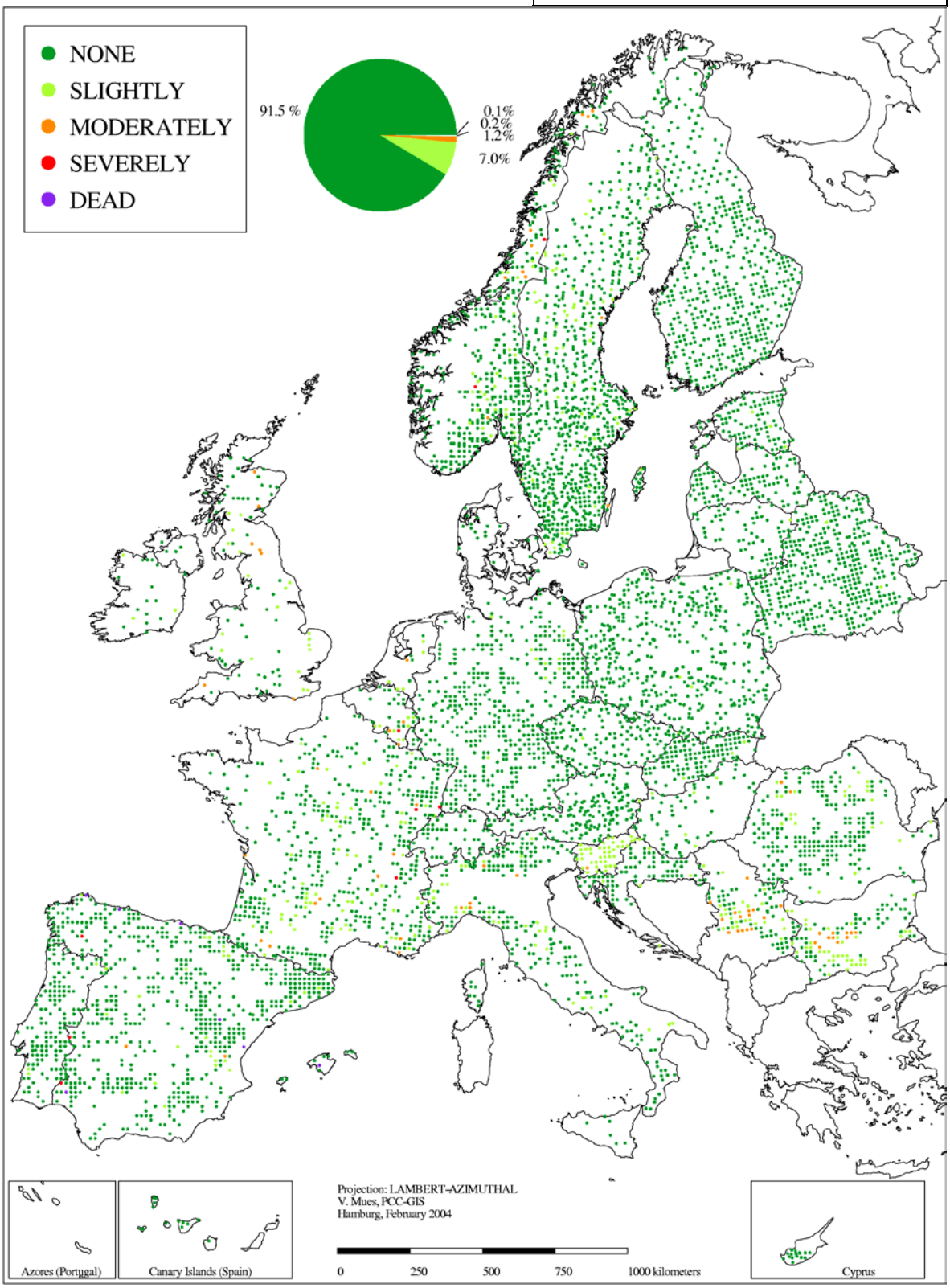
Annex I-5
Mean plot defoliation of all species (2003)

Note that some differences in the level of damage across national borders may be at least partly due to differences in standards used. This restriction however does not affect the reliability of the trends over time.

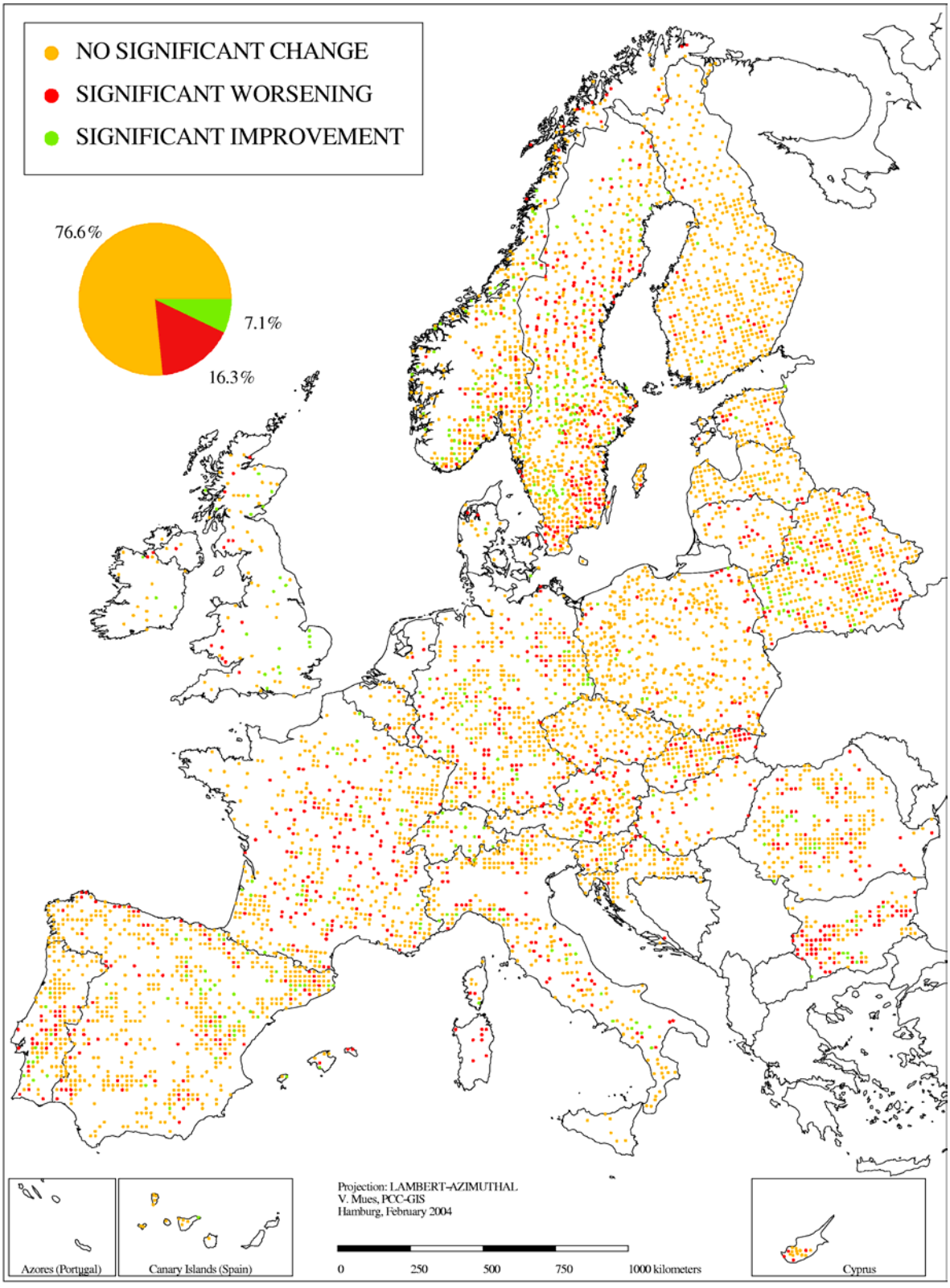


Annex I-6
Plot discolouration (2003)

Note that some differences in the level of damage across national borders may be at least partly due to differences in standards used. This restriction however does not affect the reliability of the trends over time.



Annex I-7
Changes in mean plot defoliation (2002-2003)



Annex I-8
Development of defoliation of most common species (1990-2003).

Picea abies

ATLANTIC (NORTH)	Number of trees	0-10%	>10-25%	>25%
1990	526	52.3	28.3	19.4
1991	524	54.8	22.7	22.5
1992	525	49.5	30.7	19.8
1993	521	47.8	21.7	30.5
1994	522	39.7	26.2	34.1
1995	503	42.6	28.6	28.8
1996	495	49.5	30.1	20.4
1997	475	51.6	26.3	22.1
1998	497	52.3	27.6	20.1
1999	507	56.0	24.7	19.3
2000	489	53.1	26.0	20.9
2001	490	61.9	21.6	16.5
2002	466	64.0	22.3	13.7
2003	466	61.8	21.9	16.3

SUB-ATLANTIC	Number of trees	0-10%	>10-25%	>25%
1990	3822	27.4	39.5	33.1
1991	3767	25.5	39.1	35.4
1992	3826	24.6	40.7	34.7
1993	3781	24.6	37.2	38.2
1994	3778	21.1	37.8	41.1
1995	3833	25.9	34.0	40.1
1996	3835	31.0	36.4	32.6
1997	3855	25.1	40.4	34.5
1998	4674	27.6	39.9	32.5
1999	4651	26.7	40.9	32.4
2000	4651	22.9	43.6	33.5
2001	4444	21.9	44.8	33.3
2002	4509	21.3	42.1	36.6
2003	4563	21.0	44.5	34.5

BOREAL (TEMP.)	Number of trees	0-10%	>10-25%	>25%
1990	405	35.6	41.2	23.2
1991	599	32.4	46.6	21.0
1992	595	30.1	50.9	19.0
1993	594	29.0	54.0	17.0
1994	531	37.1	47.5	15.4
1995	547	39.5	45.5	15.0
1996	585	30.4	52.0	17.6
1997	545	32.5	48.1	19.4
1998	551	36.5	47.5	16.0
1999	552	32.8	49.6	17.6
2000	549	24.8	51.3	23.9
2001	540	25.7	53.2	21.1
2002	540	23.1	60.8	16.1
2003	522	24.3	58.8	16.9

MOUNTAIN-OUS (SOUTH)	Number of trees	0-10%	>10-25%	>25%
1990	1715	29.6	37.3	33.1
1991	1727	22.4	44.5	33.1
1992	1697	15.4	45.5	39.1
1993	1674	18.2	44.2	37.6
1994	1708	17.1	42.3	40.6
1995	1803	21.1	44.3	34.6
1996	1778	25.2	42.9	31.9
1997	1726	23.0	44.2	32.8
1998	2151	25.8	43.2	31.0
1999	2131	29.1	43.1	27.8
2000	2075	24.0	47.2	28.8
2001	2015	20.1	50.7	29.2
2002	1994	16.2	55.0	28.8
2003	2012	13.2	58.1	28.7

ALL REGIONS	Number of trees	0-10%	>10-25%	>25%
1990	6485	30.7	38.0	31.3
1991	6634	27.8	39.8	32.4
1992	6660	24.9	41.9	33.2
1993	6584	25.4	39.2	35.4
1994	6553	23.0	38.8	38.2
1995	6700	27.1	37.2	35.7
1996	6707	30.9	39.0	30.1
1997	6615	27.2	40.9	31.9
1998	7887	29.4	40.5	30.1
1999	7855	29.8	41.0	29.2
2000	7778	25.3	44.0	30.7
2001	7503	24.4	45.5	30.1
2002	7523	22.7	45.6	31.7
2003	7569	21.7	47.7	30.6

Pinus sylvestris

ATLANTIC (NORTH)	Number of trees	0-10%	>10-25%	>25%
1990	588	50.2	41.8	8.0
1991	591	51.3	37.2	11.5
1992	581	55.1	32.7	12.2
1993	592	50.0	39.4	10.6
1994	591	45.7	42.5	11.8
1995	576	44.3	45.8	9.9
1996	577	38.1	51.0	10.9
1997	573	47.5	46.2	6.3
1998	573	54.1	39.4	6.5
1999	647	46.4	43.7	9.9
2000	643	44.0	45.6	10.4
2001	648	42.4	48.5	9.1
2002	648	46.5	43.8	9.7
2003	647	48.8	41.6	9.6

MEDITERR. (HIGHER)	Number of trees	0-10%	>10-25%	>25%
1990	541	85.9	12.8	1.3
1991	541	72.8	21.3	5.9
1992	564	67.4	23.0	9.6
1993	564	56.6	26.6	16.8
1994	540	51.5	31.3	17.2
1995	549	45.2	39.9	14.9
1996	541	47.4	43.4	9.2
1997	540	45.0	44.3	10.7
1998	540	44.4	48.2	7.4
1999	603	50.6	44.3	5.1
2000	602	55.5	40.2	4.3
2001	604	53.3	40.1	6.6
2002	603	48.0	41.6	10.4
2003	601	44.1	46.9	9.0

Pinus sylvestris

MOUNTAIN-OUS (SOUTH)	Number of trees	0-10%	>10-25%	>25%
1990	739	66.9	21.2	11.9
1991	742	51.1	32.3	16.6
1992	758	39.4	40.7	19.9
1993	743	36.9	41.2	21.9
1994	731	29.5	40.7	29.8
1995	747	31.7	54.9	13.4
1996	754	35.5	49.5	15.0
1997	763	34.3	55.7	10.0
1998	829	39.6	50.0	10.4
1999	918	48.4	41.7	9.9
2000	904	35.6	51.7	12.7
2001	895	37.5	49.5	13.0
2002	896	26.2	54.7	19.1
2003	896	23.1	59.0	17.9

BOREAL (TEMP.)	Number of trees	0-10%	>10-25%	>25%
1990	960	10.4	34.4	55.2
1991	1154	4.9	32.8	62.3
1992	1130	3.1	26.3	70.6
1993	1156	4.0	34.2	61.8
1994	1099	9.9	43.8	46.3
1995	1079	15.9	56.6	27.5
1996	1117	20.0	57.8	22.2
1997	1096	18.0	61.7	20.3
1998	1115	19.5	60.7	19.8
1999	1134	14.2	67.0	18.8
2000	1068	15.0	67.8	17.2
2001	1121	12.3	74.9	12.8
2002	1133	15.5	72.0	12.5
2003	1131	19.6	71.0	9.4

SUB-ATLANTIC	Number of trees	0-10%	>10-25%	>25%
1990	8491	13.5	46.2	40.3
1991	8534	8.2	45.8	46.0
1992	8538	8.6	43.9	47.5
1993	8549	8.9	44.6	46.5
1994	8011	5.4	41.5	53.1
1995	7838	7.5	42.1	50.4
1996	7838	12.4	51.7	35.9
1997	7815	12.1	54.8	33.1
1998	8210	12.9	56.8	30.3
1999	8205	12.5	61.0	26.5
2000	8216	10.5	61.9	27.6
2001	8195	10.4	62.4	27.2
2002	8059	9.1	63.2	27.7
2003	8103	8.5	63.4	28.1

CONTINENTAL	Number of trees	0-10%	>10-25%	>25%
1990	149	46.3	18.1	35.6
1991	157	56.0	25.5	18.5
1992	158	62.6	20.3	17.1
1993	162	63.0	16.0	21.0
1994	162	59.9	17.3	22.8
1995	166	69.3	12.0	18.7
1996	168	66.7	14.3	19.0
1997	168	64.9	14.9	20.2
1998	181	62.4	21.0	16.6
1999	180	68.4	17.2	14.4
2000	170	65.9	14.7	19.4
2001	170	68.8	15.9	15.3
2002	170	61.2	18.2	20.6
2003	169	53.3	26.0	20.7

ALL REGIONS	Number of trees	0-10%	>10-25%	>25%
1990	11630	23.1	41.1	35.8
1991	11877	17.2	41.5	41.3
1992	11887	16.6	40.0	43.4
1993	11924	15.9	41.6	42.5
1994	11292	13.2	40.6	46.2
1995	11113	15.3	44.0	40.7
1996	11154	19.1	51.0	29.9
1997	11115	19.2	53.6	27.2
1998	11608	20.4	54.6	25.0
1999	11847	20.6	57.3	22.1
2000	11764	18.3	58.7	23.0
2001	11794	17.9	59.8	22.3
2002	11670	16.4	60.3	23.3
2003	11708	15.9	60.9	23.2

Fagus sylvatica

ATLANTIC (NORTH)	Number of trees	0-10%	>10-25%	>25%
1990	420	18.8	45.0	36.2
1991	420	28.3	47.2	24.5
1992	420	25.0	46.2	28.8
1993	420	25.5	45.2	29.3
1994	425	28.2	44.3	27.5
1995	423	14.4	43.8	41.8
1996	404	19.8	47.5	32.7
1997	420	24.5	43.8	31.7
1998	420	27.1	42.4	30.5
1999	431	22.0	47.8	30.2
2000	436	15.8	41.1	43.1
2001	461	29.7	41.9	28.4
2002	459	26.1	43.4	30.5
2003	463	28.3	42.5	29.2

ATLANTIC (SOUTH)	Number of trees	0-10%	>10-25%	>25%
1990	123	65.9	21.1	13.0
1991	95	57.9	28.4	13.7
1992	119	59.7	31.1	9.2
1993	119	62.2	31.1	6.7
1994	80	33.8	54.9	11.3
1995	120	59.2	35.0	5.8
1996	96	33.3	52.1	14.6
1997	120	29.2	54.1	16.7
1998	120	27.5	60.8	11.7
1999	121	35.5	55.4	9.1
2000	126	42.9	47.6	9.5
2001	127	48.8	46.5	4.7
2002	128	28.9	57.8	13.3
2003	128	27.3	60.2	12.5

Fagus sylvatica

SUB-ATLANTIC	Number of trees	0-10%	>10-25%	>25%
1990	2372	31.2	46.2	22.6
1991	2430	33.6	44.3	22.1
1992	2447	20.4	48.4	31.2
1993	2425	23.8	47.1	29.1
1994	2386	16.2	49.8	34.0
1995	2421	18.0	46.1	35.9
1996	2435	21.4	51.2	27.4
1997	2477	22.5	54.2	23.3
1998	2685	23.5	51.5	25.0
1999	2719	17.8	56.3	25.9
2000	2732	23.6	50.6	25.8
2001	2722	20.6	48.4	31.0
2002	2725	24.9	52.0	23.1
2003	2743	23.8	51.4	24.8

MOUNTAIN-OUS (SOUTH)	Number of trees	0-10%	>10-25%	>25%
1990	976	48.3	41.7	10.0
1991	994	59.0	33.8	7.2
1992	1001	52.2	31.9	15.9
1993	1014	52.2	32.9	14.9
1994	950	48.0	36.7	15.3
1995	1010	40.4	42.7	16.9
1996	1004	35.4	48.5	16.1
1997	1011	30.7	49.9	19.4
1998	1053	45.4	44.5	10.1
1999	1158	34.4	52.3	13.3
2000	1204	43.1	45.9	11.0
2001	1193	29.0	54.7	16.3
2002	1200	31.8	56.4	11.8
2003	1202	17.8	49.7	32.5

ALL REGIONS	Number of trees	0-10%	>10-25%	>25%
1990	4015	37.0	43.0	20.0
1991	4064	40.9	41.2	17.9
1992	4091	31.4	42.8	25.8
1993	4109	33.6	42.0	24.4
1994	3948	27.0	45.4	27.6
1995	4127	25.9	44.0	30.1
1996	4092	26.2	49.9	23.9
1997	4163	25.8	51.6	22.6
1998	4417	30.2	48.7	21.1
1999	4568	24.1	53.9	22.0
2000	4637	29.6	47.9	22.5
2001	4640	25.0	49.2	25.8
2002	4649	27.6	52.2	20.2
2003	4678	23.9	50.0	26.1

Quercus ilex and *Q. rotundifolia*

MEDITERR. (HIGHER)	Number of trees	0-10%	>10-25%	>25%
1990	652	80.4	18.7	0.9
1991	652	56.1	40.8	3.1
1992	653	42.0	49.1	8.9
1993	653	31.2	60.4	8.4
1994	653	25.4	56.1	18.5
1995	671	17.1	50.7	32.2
1996	665	21.1	53.5	25.4
1997	665	25.6	58.5	15.9
1998	657	35.0	51.6	13.4
1999	770	26.6	56.5	16.9
2000	764	27.0	56.2	16.8
2001	765	24.7	62.8	12.5
2002	765	17.3	64.4	18.3
2003	766	20.2	60.7	19.1

MEDITERR. (LOWER)	Number of trees	0-10%	>10-25%	>25%
1990	2326	65.0	21.5	13.5
1991	2308	47.2	36.3	16.5
1992	2323	38.2	45.7	16.1
1993	2298	36.4	56.9	6.7
1994	2294	31.4	57.4	11.2
1995	2277	16.6	56.4	27.0
1996	2278	20.5	54.7	24.8
1997	2278	29.0	56.2	14.8
1998	2278	31.9	54.4	13.7
1999	2896	21.8	56.2	22.0
2000	2914	17.6	60.8	21.6
2001	2914	19.4	65.2	15.4
2002	2918	17.6	64.4	18.0
2003	2919	14.1	66.1	19.8

ALL REGIONS	Number of trees	0-10%	>10-25%	>25%
1990	3074	67.8	20.9	11.3
1991	3064	49.4	37.2	13.4
1992	3080	38.6	46.6	14.8
1993	3055	35.1	57.8	7.1
1994	3027	29.3	57.4	13.3
1995	3052	16.3	55.6	28.1
1996	3034	20.6	55.1	24.3
1997	3034	28.3	56.9	14.8
1998	3026	32.8	53.8	13.4
1999	3820	23.4	56.4	20.2
2000	3852	20.2	59.8	20.0
2001	3853	20.4	64.5	15.1
2002	3857	17.4	63.8	18.8
2003	3859	15.6	64.4	20.0

Pinus pinaster

ATLANTIC (SOUTH)	Number of trees	0-10%	>10-25%	>25%	MEDITERR. (HIGHER)	Number of trees	0-10%	>10-25%	>25%
1990	467	44.3	17.8	37.9	1990	426	77.5	14.3	8.2
1991	461	38.6	27.8	33.6	1991	380	75.0	14.7	10.3
1992	482	53.3	26.6	20.1	1992	370	84.1	13.5	2.4
1993	451	59.0	31.9	9.1	1993	370	75.9	21.4	2.7
1994	423	60.3	31.0	8.7	1994	432	72.9	17.8	9.3
1995	420	57.1	36.2	6.7	1995	432	69.3	27.5	3.2
1996	420	54.5	34.3	11.2	1996	432	69.2	22.9	7.9
1997	410	60.3	32.9	6.8	1997	427	72.6	20.1	7.3
1998	410	52.7	39.3	8.0	1998	432	69.6	26.2	4.2
1999	598	52.9	43.1	4.0	1999	511	61.2	28.8	10.0
2000	600	49.0	40.2	10.8	2000	482	61.2	29.0	9.8
2001	592	41.7	53.2	5.1	2001	481	62.4	34.7	2.9
2002	593	41.3	48.8	9.9	2002	482	54.2	42.5	3.3
2003	565	37.0	57.0	6.0	2003	482	50.6	44.0	5.4
MEDITERR. (LOWER)	Number of trees	0-10%	>10-25%	>25%	ALL REGIONS	Number of trees	0-10%	>10-25%	>25%
1990	1712	71.4	18.6	10.0	1990	2654	68.1	17.5	14.4
1991	1699	61.7	27.6	10.7	1991	2589	60.1	25.4	14.5
1992	1698	64.1	25.6	10.3	1992	2599	65.3	23.8	10.9
1993	1582	67.7	23.5	8.8	1993	2452	67.5	24.6	7.9
1994	1638	65.7	27.8	6.5	1994	2542	66.0	26.8	7.2
1995	1480	59.2	32.2	8.6	1995	2381	60.9	31.9	7.2
1996	1449	57.0	34.6	8.4	1996	2350	59.3	32.0	8.7
1997	1433	43.6	45.9	10.5	1997	2333	52.9	38.0	9.1
1998	1427	44.2	45.8	10.0	1998	2332	51.2	40.2	8.6
1999	1661	42.9	47.4	9.7	1999	2886	50.0	41.8	8.2
2000	1661	46.5	45.4	8.1	2000	2859	51.1	40.3	8.6
2001	1653	47.7	46.3	6.0	2001	2842	50.1	44.8	5.1
2002	1649	48.4	45.7	5.9	2002	2840	48.5	45.3	6.2
2003	1459	45.9	44.6	9.5	2003	2622	45.2	47.1	7.7

Quercus suber

MEDITERR. (LOWER)	Number of trees	0-10%	>10-25%	>25%	ALL REGIONS	Number of trees	0-10%	>10-25%	>25%
1990	1403	39.1	19.2	41.7	1990	1442	38.9	18.9	42.2
1991	1382	26.6	29.7	43.7	1991	1419	26.7	29.2	44.1
1992	1449	29.6	37.7	32.7	1992	1487	29.6	37.2	33.2
1993	1401	46.1	44.5	9.4	1993	1438	47.6	43.3	9.1
1994	1397	39.2	47.0	13.8	1994	1434	40.7	45.8	13.5
1995	1398	19.4	54.3	26.3	1995	1435	21.3	53.1	25.6
1996	1400	32.9	52.1	15.0	1996	1437	33.9	51.5	14.6
1997	1403	34.3	53.2	12.5	1997	1440	35.8	52.0	12.2
1998	1403	26.8	58.2	15.0	1998	1440	28.1	57.2	14.7
1999	1511	23.4	56.9	19.7	1999	1548	24.5	56.3	19.2
2000	1533	21.2	62.0	16.8	2000	1570	22.4	61.2	16.4
2001	1534	22.0	59.6	18.4	2001	1571	22.5	59.4	18.1
2002	1557	22.1	60.4	17.5	2002	1594	22.5	60.2	17.3
2003	1541	19.4	54.4	26.2	2003	1578	19.8	54.5	25.7

Quercus robur and *Q. petraea*

ATLANTIC (NORTH)	Number of trees	0-10%	>10-25%	>25%	ATLANTIC (SOUTH)	Number of trees	0-10%	>10-25%	>25%
1990	322	57.2	30.4	12.4	1990	269	66.5	8.6	24.9
1991	323	39.9	43.7	16.4	1991	257	55.3	13.2	31.5
1992	323	25.1	56.3	18.6	1992	237	49.4	27.8	22.8
1993	326	25.2	41.4	33.4	1993	238	51.7	34.9	13.4
1994	316	35.8	33.2	31.0	1994	197	55.3	33.5	11.2
1995	331	37.2	41.0	21.8	1995	239	40.2	48.1	11.7
1996	328	15.9	39.0	45.1	1996	237	32.9	49.4	17.7
1997	335	17.9	43.0	39.1	1997	238	34.5	52.1	13.4
1998	335	25.7	47.7	26.6	1998	240	33.8	44.5	21.7
1999	335	23.6	39.4	37.0	1999	280	35.4	53.5	11.1
2000	337	27.3	47.2	25.5	2000	278	30.6	57.9	11.5
2001	341	20.8	52.8	26.4	2001	281	20.3	60.8	18.9
2002	342	24.9	46.4	28.7	2002	282	20.6	62.7	16.7
2003	338	15.1	51.5	33.4	2003	298	22.1	62.5	15.4

Quercus robur and ***Q. petraea***

SUB-ATLANTIC	Number of trees	0-10%	>10-25%	>25%	MOUNTAIN-OUS (SOUTH)	Number of trees	0-10%	>10-25%	>25%
1990	1634	27.3	49.2	23.5	1990	205	12.2	23.4	64.4
1991	1635	17.0	48.6	34.4	1991	212	26.9	39.6	33.5
1992	1624	13.1	49.1	37.8	1992	212	14.6	58.5	26.9
1993	1624	10.2	43.6	46.2	1993	214	18.7	34.1	47.2
1994	1630	6.9	37.3	55.8	1994	197	11.2	55.8	33.0
1995	1631	8.5	38.6	52.9	1995	210	21.0	45.2	33.8
1996	1608	10.6	43.0	46.4	1996	209	12.9	30.6	56.5
1997	1627	11.2	45.4	43.4	1997	209	17.2	26.8	56.0
1998	1693	12.2	42.4	45.4	1998	238	19.3	35.3	45.4
1999	1723	13.8	52.1	34.1	1999	243	18.5	39.5	42.0
2000	1725	12.3	52.7	35.0	2000	241	18.3	44.8	36.9
2001	1729	12.1	52.7	35.2	2001	244	18.4	45.1	36.5
2002	1735	15.4	52.0	32.6	2002	246	13.8	46.8	39.4
2003	1737	9.4	53.8	36.8	2003	247	15.4	45.3	39.3
CONTINENTAL	Number of trees	0-10%	>10-25%	>25%	ALL REGIONS	Number of trees	0-10%	>10-25%	>25%
1990	178	35.9	29.8	34.3	1990	2633	35.8	38.8	25.4
1991	177	42.4	27.1	30.5	1991	2640	26.4	42.2	31.4
1992	177	28.2	32.8	39.0	1992	2609	20.7	47.0	32.3
1993	185	30.3	19.5	50.2	1993	2615	18.3	40.9	40.8
1994	185	33.0	27.0	40.0	1994	2559	16.8	36.7	46.5
1995	190	36.8	27.4	35.8	1995	2643	18.1	39.8	42.1
1996	191	38.2	24.1	37.7	1996	2619	15.7	41.1	43.2
1997	207	37.1	30.0	32.9	1997	2651	17.2	42.9	39.9
1998	207	47.8	25.1	27.1	1998	2764	18.7	41.9	39.4
1999	208	47.1	22.6	30.3	1999	2839	20.5	47.7	31.8
2000	205	52.7	23.9	23.4	2000	2868	20.2	49.3	30.5
2001	204	46.0	27.0	27.0	2001	2879	18.2	50.9	30.9
2002	203	40.4	26.6	33.0	2002	2888	19.5	50.3	30.2
2003	178	35.9	29.8	34.3	2003	2901	14.1	52.3	33.6

Abies alba

SUB-ATLANTIC	Number of trees	0-10%	>10-25%	>25%	MOUNTAIN-OUS (SOUTH)	Number of trees	0-10%	>10-25%	>25%
1990	385	11.2	27.5	61.3	1990	335	21.5	30.1	48.4
1991	385	10.1	23.9	66.0	1991	348	22.7	34.2	43.1
1992	386	9.8	23.1	67.1	1992	347	14.7	43.5	41.8
1993	382	8.1	26.7	65.2	1993	347	11.2	30.8	58.0
1994	385	7.8	22.9	69.3	1994	343	15.5	39.7	44.8
1995	402	8.0	30.8	61.2	1995	359	14.8	37.6	47.6
1996	401	9.7	35.4	54.9	1996	366	13.7	32.8	53.5
1997	392	11.5	35.7	52.8	1997	360	10.3	40.8	48.9
1998	432	11.6	34.5	53.9	1998	342	16.4	38.9	44.7
1999	429	10.5	37.5	52.0	1999	347	13.8	42.1	44.1
2000	430	9.3	36.0	54.7	2000	384	17.7	43.0	39.3
2001	419	10.3	29.6	60.1	2001	375	16.3	46.1	37.6
2002	459	15.9	32.2	51.9	2002	425	13.6	49.7	36.7
2003	459	13.7	38.3	48.0	2003	437	9.6	44.9	45.5
ALL REGIONS	Number of trees	0-10%	>10-25%	>25%					
1990	748	15.6	28.9	55.5					
1991	761	16.0	28.6	55.4					
1992	761	13.8	32.9	53.3					
1993	757	9.5	29.2	61.3					
1994	756	12.4	31.2	56.4					
1995	785	11.1	34.1	54.8					
1996	795	11.8	35.0	53.2					
1997	780	11.4	39.4	49.2					
1998	802	14.6	36.8	48.6					
1999	804	12.9	39.6	47.5					
2000	818	13.2	39.4	47.4					
2001	794	13.1	37.4	49.5					
2002	884	14.8	40.6	44.6					
2003	896	11.7	41.5	46.8					

Picea sitchensis

ATLANTIC (NORTH)	Number of trees	0-10%	>10-25%	>25%	ALL REGIONS	Number of trees	0-10%	>10-25%	>25%
1990	294	61.2	28.6	10.2	1990	294	61.2	28.6	10.2
1991	285	45.9	30.2	23.9	1991	285	45.9	30.2	23.9
1992	286	45.8	29.7	24.5	1992	286	45.8	29.7	24.5
1993	287	33.4	29.3	37.3	1993	287	33.4	29.3	37.3
1994	266	35.7	39.1	25.2	1994	266	35.7	39.1	25.2
1995	259	39.0	33.6	27.4	1995	259	39.0	33.6	27.4
1996	265	52.1	29.8	18.1	1996	265	52.1	29.8	18.1
1997	269	61.4	24.5	14.1	1997	269	61.4	24.5	14.1
1998	288	51.7	29.5	18.8	1998	288	51.7	29.5	18.8
1999	266	72.9	16.2	10.9	1999	266	72.9	16.2	10.9
2000	267	65.9	22.1	12.0	2000	267	65.9	22.1	12.0
2001	262	62.3	22.1	15.6	2001	262	62.3	22.1	15.6
2002	266	49.6	31.6	18.8	2002	266	49.6	31.6	18.8
2003	245	61.3	26.9	11.8	2003	245	61.3	26.9	11.8

All species

ATLANTIC (NORTH)	Number of trees	0-10%	>10-25%	>25%	ATLANTIC (SOUTH)	Number of trees	0-10%	>10-25%	>25%
1990	2729	47.8	34.3	17.9	1990	1668	66.6	14.0	19.4
1991	2729	44.8	34.8	20.4	1991	1555	56.6	21.7	21.7
1992	2718	41.4	37.8	20.8	1992	1799	64.3	23.2	12.5
1993	2710	38.8	35.6	25.6	1993	1782	61.3	27.3	11.4
1994	2693	38.5	36.8	24.7	1994	1608	59.2	28.7	12.1
1995	2642	36.2	37.6	26.2	1995	1704	58.8	33.0	8.2
1996	2624	37.0	39.9	23.1	1996	1560	51.4	37.9	10.7
1997	2605	42.0	38.0	20.0	1997	1680	56.1	35.2	8.7
1998	2628	45.8	36.2	18.0	1998	1704	49.3	38.3	12.4
1999	2754	45.9	35.4	18.7	1999	2376	55.2	37.1	7.7
2000	2726	43.6	36.2	20.2	2000	2376	48.6	37.2	14.2
2001	2765	45.7	36.4	17.9	2001	2376	42.8	48.5	8.7
2002	2746	43.6	37.9	18.5	2002	2376	36.6	50.1	13.3
2003	2724	43.7	37.2	19.1	2003	2376	34.8	51.9	13.3
SUB-ATLANTIC	Number of trees	0-10%	>10-25%	>25%	MEDITERR. (HIGHER)	Number of trees	0-10%	>10-25%	>25%
1990	18600	21.3	43.3	35.4	1990	3636	78.4	16.9	4.7
1991	18638	17.8	43.2	39.0	1991	3586	60.3	30.8	8.9
1992	18707	15.2	43.0	41.8	1992	3600	50.9	36.0	13.1
1993	18654	15.6	42.1	42.3	1993	3600	46.8	40.8	12.4
1994	18016	11.6	40.5	47.9	1994	3612	43.0	39.6	17.4
1995	18056	14.8	39.6	45.6	1995	3684	34.0	44.9	21.1
1996	18005	19.0	46.1	34.9	1996	3660	36.1	46.1	17.8
1997	18052	18.3	49.2	32.5	1997	3636	40.2	46.3	13.5
1998	19727	19.5	48.8	31.7	1998	3636	42.9	45.9	11.2
1999	19765	18.6	52.6	28.8	1999	4356	40.0	48.3	11.7
2000	19847	17.8	52.6	29.6	2000	4326	39.2	49.7	11.1
2001	19547	17.1	52.5	30.4	2001	4326	33.6	53.1	13.3
2002	19570	16.9	53.2	29.9	2002	4326	30.4	53.7	15.9
2003	19577	15.6	54.0	30.4	2003	4326	28.7	56.6	14.7
MEDITERR. (LOWER)	Number of trees	0-10%	>10-25%	>25%	MOUNTAIN-OUS (SOUTH)	Number of trees	0-10%	>10-25%	>25%
1990	8715	67.4	18.5	14.1	1990	5271	45.5	31.8	22.7
1991	8634	57.5	26.5	16.0	1991	5336	42.3	35.7	22.0
1992	8853	50.8	32.7	16.5	1992	5347	32.4	40.7	26.9
1993	8622	51.6	38.6	9.8	1993	5320	31.6	40.6	27.8
1994	8578	46.8	39.4	13.8	1994	5232	28.0	42.2	29.8
1995	8394	32.6	46.2	21.2	1995	5506	27.2	47.0	25.8
1996	8424	36.3	47.1	16.6	1996	5498	29.2	45.4	25.4
1997	8435	37.0	50.9	12.1	1997	5458	28.9	46.1	25.0
1998	8454	38.1	48.9	13.0	1998	6074	35.2	42.5	22.3
1999	10038	33.7	51.5	14.8	1999	6633	36.7	43.8	19.5
2000	10188	31.5	54.1	14.4	2000	6763	33.3	47.0	19.7
2001	10218	30.5	56.6	12.9	2001	6647	28.2	50.6	21.2
2002	10248	28.5	57.2	14.3	2002	6745	24.3	53.4	22.3
2003	9978	25.7	57.4	16.9	2003	6794	19.8	53.7	26.5

All species

BOREAL (TEMP.)	Number of trees	0-10%	>10-25%	>25%	CONTINENTAL	0-10%	>10-25%	>25%	0-10%
1990	1920	28.9	34.1	37.0	1990	1133	60.9	19.2	19.9
1991	2424	22.6	37.7	39.7	1991	1151	64.0	19.1	16.9
1992	2396	18.7	37.5	43.8	1992	1151	62.3	18.2	19.5
1993	2420	20.1	41.9	38.0	1993	1162	56.9	18.5	24.6
1994	2257	27.1	43.7	29.2	1994	1140	53.9	17.9	28.2
1995	2262	34.4	46.2	19.4	1995	1160	61.5	15.9	22.6
1996	2368	31.8	50.1	18.1	1996	1117	65.3	15.0	19.7
1997	2297	30.0	53.5	16.5	1997	1073	66.9	14.9	18.2
1998	2326	30.4	53.6	16.0	1998	1155	66.5	16.0	17.5
1999	2348	25.2	57.9	16.9	1999	1230	71.9	13.7	14.4
2000	2256	18.8	61.1	20.1	2000	1230	67.7	13.6	18.7
2001	2325	18.0	65.9	16.1	2001	1211	64.1	18.9	17.0
2002	2340	19.7	66.7	13.6	2002	1182	63.5	17.3	19.2
2003	2293	21.4	65.9	12.7	2003	1182	58.0	18.3	23.7

ALL REGIONS	Number of trees	0-10%	>10-25%	>25%
1990	43672	42.9	32.1	25.0
1991	44053	36.5	35.8	27.7
1992	44571	32.2	38.1	29.7
1993	44270	31.6	39.5	28.9
1994	43136	28.6	39.3	32.1
1995	43408	26.7	41.6	31.7
1996	43256	29.3	44.9	25.8
1997	43236	29.8	47.1	23.1
1998	45704	31.2	46.1	22.7
1999	49500	30.9	48.4	20.7
2000	49712	28.7	49.7	21.6
2001	49415	26.8	51.9	21.3
2002	49533	25.2	52.8	22.0
2003	49250	23.1	53.6	23.3

Annex I-9
Development of defoliation of most common species (1997-2003).

Picea abies

ATLANTIC (NORTH)	Number of trees	0-10%	>10-25%	>25%	SUB-ATLANTIC	Number of trees	0-10%	>10-25%	>25%
1997	1285	64.4	23.1	12.5	1997	8253	20.9	31.0	48.1
1998	1314	57.2	30.2	12.6	1998	7267	30.3	34.2	35.5
1999	1336	55.0	31.9	13.1	1999	7550	31.1	34.0	34.9
2000	1333	56.5	26.8	16.7	2000	7528	28.6	35.7	35.7
2001	1216	61.6	25.5	12.9	2001	7324	26.7	37.9	35.4
2002	1196	60.0	24.9	15.1	2002	7381	26.9	35.2	37.9
2003	1178	55.2	27.8	17.0	2003	7435	26.6	36.9	36.5
MEDITERR. (HIGHER)	Number of trees	0-10%	>10-25%	>25%	MEDITERR. (LOWER)	Number of trees	0-10%	>10-25%	>25%
1997	116	40.5	41.4	18.1	1997	83	77.1	14.5	8.4
1998	116	26.7	42.3	31.0	1998	76	42.1	35.5	22.4
1999	128	27.3	45.4	27.3	1999	87	56.3	25.3	18.4
2000	128	25.8	51.5	22.7	2000	82	65.8	23.2	11.0
2001	116	31.0	42.3	26.7	2001	81	65.5	22.2	12.3
2002	103	35.0	47.5	17.5	2002	108	40.7	30.6	28.7
2003	116	44.8	36.2	19.0	2003	101	37.6	34.7	27.7
MOUNTAIN-OUS (NORTH)	Number of trees	0-10%	>10-25%	>25%	MOUNTAIN-OUS (SOUTH)	Number of trees	0-10%	>10-25%	>25%
1997	735	44.8	21.5	33.7	1997	5383	55.4	26.7	17.9
1998	728	45.5	20.2	34.3	1998	5803	53.4	27.3	19.3
1999	724	48.9	22.9	28.2	1999	5927	55.4	27.6	17.0
2000	713	47.5	26.6	25.9	2000	6105	53.6	28.8	17.6
2001	791	53.6	18.7	27.7	2001	5994	51.7	30.5	17.8
2002	829	48.7	23.6	27.7	2002	5958	51.1	31.4	17.5
2003	862	54.2	20.5	25.3	2003	6002	47.8	34.5	17.7
BOREAL	Number of trees	0-10%	>10-25%	>25%	BOREAL (TEMPERATE)	Number of trees	0-10%	>10-25%	>25%
1997	5805	40.9	32.1	27.0	1997	4653	37.6	42.6	19.8
1998	5878	39.7	33.9	26.4	1998	4587	38.4	41.3	20.3
1999	5864	40.0	32.9	27.1	1999	4559	33.6	42.8	23.6
2000	5780	37.3	36.6	26.1	2000	4566	38.2	41.8	20.0
2001	5739	35.0	35.4	29.6	2001	4548	35.9	45.2	18.9
2002	5709	37.6	35.8	26.6	2002	4557	45.9	41.7	12.4
2003	5640	36.0	35.4	28.6	2003	4585	41.2	43.7	15.1
CONTINENTAL	Number of trees	0-10%	>10-25%	>25%	ALL REGIONS	Number of trees	0-10%	>10-25%	>25%
1997	540	33.7	30.9	35.4	1997	26908	38.4	31.7	29.9
1998	511	34.4	29.2	36.4	1998	26339	40.9	33.1	26.0
1999	502	37.2	31.1	31.7	1999	26727	40.9	33.3	25.8
2000	465	31.6	34.9	33.5	2000	26749	40.0	34.6	25.4
2001	463	42.5	29.4	28.1	2001	26321	38.8	35.5	25.7
2002	455	37.2	32.5	30.3	2002	26345	40.6	34.7	24.7
2003	447	33.5	33.5	32.9	2003	26417	38.5	36.2	25.3

Pinus sylvestris

ATLANTIC (NORTH)	Number of trees	0-10%	>10-25%	>25%	ATLANTIC (SOUTH)	Number of trees	0-10%	>10-25%	>25%
1997	1165	49.9	41.2	8.9	1997	216	59.3	24.5	16.2
1998	1243	47.9	42.8	9.3	1998	216	52.3	36.1	11.6
1999	1318	45.0	42.3	12.7	1999	217	43.7	42.9	13.4
2000	1361	43.5	42.8	13.7	2000	212	57.5	32.1	10.4
2001	1360	36.5	49.8	13.7	2001	211	51.7	33.6	14.7
2002	1362	42.9	41.0	16.1	2002	212	44.8	42.9	12.3
2003	1379	42.9	43.1	14.0	2003	210	48.6	35.7	15.7
SUB-ATLANTIC	Number of trees	0-10%	>10-25%	>25%	MEDITERR. (HIHGER)	Number of trees	0-10%	>10-25%	>25%
1997	10366	18.8	48.5	32.7	1997	779	40.6	45.0	14.4
1998	10652	19.8	52.9	27.3	1998	780	41.7	45.2	13.1
1999	10677	20.0	54.9	25.1	1999	869	45.8	43.7	10.5
2000	10683	18.2	55.9	25.9	2000	866	48.0	42.5	9.5
2001	10677	17.3	57.4	25.3	2001	869	48.1	39.5	12.4
2002	10545	15.7	57.7	26.6	2002	870	43.3	41.4	15.3
2003	10586	14.0	58.9	27.1	2003	865	37.6	47.5	14.9

Pinus sylvestris

MEDITERR. (LOWER)	Number of trees	0-10%	>10-25%	>25%
1997	138	48.6	36.2	15.2
1998	138	50.0	34.8	15.2
1999	155	49.0	31.6	19.4
2000	154	40.9	44.2	14.9
2001	154	38.3	46.1	15.6
2002	154	37.0	44.2	18.8
2003	155	31.0	49.6	19.4

MOUNTAIN-OUS (NORTH)	Number of trees	0-10%	>10-25%	>25%
1997	823	47.0	36.6	16.4
1998	823	44.7	39.4	15.9
1999	826	48.3	37.5	14.2
2000	825	52.8	36.5	10.7
2001	843	53.6	36.2	10.2
2002	841	49.5	38.6	11.9
2003	851	54.6	35.3	10.1

MOUNTAIN-OUS (SOUTH)	Number of trees	0-10%	>10-25%	>25%
1997	2576	23.7	37.3	39.0
1998	2638	26.0	32.0	42.0
1999	2540	31.6	34.5	33.9
2000	2162	28.4	41.5	30.1
2001	2100	36.9	38.2	24.9
2002	2121	27.1	44.6	28.3
2003	2394	19.3	50.5	30.2

BOREAL	Number of trees	0-10%	>10-25%	>25%
1997	7814	65.0	28.2	6.8
1998	7822	65.6	28.8	5.6
1999	7806	65.6	28.5	5.9
2000	7836	65.9	29.3	4.8
2001	7903	59.7	32.3	8.0
2002	7954	58.4	35.5	6.1
2003	7930	55.6	37.4	7.0

BOREAL (TEMP.)	Number of trees	0-10%	>10-25%	>25%
1997	10653	17.3	52.1	30.6
1998	10678	21.8	50.9	27.3
1999	10630	19.3	57.1	23.6
2000	10576	23.4	57.2	19.4
2001	10650	21.3	60.9	17.8
2002	10612	31.9	57.1	11.0
2003	10612	35.9	54.5	9.6

CONTINENTAL	Number of trees	0-10%	>10-25%	>25%
1997	435	44.2	17.2	38.6
1998	449	50.2	12.2	37.6
1999	370	58.6	23.0	18.4
2000	503	55.9	26.2	17.9
2001	544	43.9	37.7	18.4
2002	500	44.0	32.6	23.4
2003	482	38.2	38.4	23.4

ALL REGIONS	Number of trees	0-10%	>10-25%	>25%
1997	34965	31.9	43.1	25.0
1998	35439	33.7	43.9	22.4
1999	35408	33.6	46.6	19.8
2000	35178	34.4	47.6	18.0
2001	35311	32.2	50.0	17.8
2002	35171	34.2	49.7	16.1
2003	35464	33.5	50.3	16.2

Fagus sylvatica

ATLANTIC (NORTH)	Number of trees	0-10%	>10-25%	>25%
1997	965	38.5	40.6	20.9
1998	966	31.3	46.7	22.0
1999	993	24.9	49.8	25.3
2000	994	22.8	43.9	33.3
2001	1011	31.0	43.6	25.4
2002	1029	25.2	46.2	28.6
2003	1034	30.1	45.8	24.1

ATLANTIC (SOUTH)	Number of trees	0-10%	>10-25%	>25%
1997	251	35.5	43.8	20.7
1998	228	46.5	47.4	6.1
1999	229	42.4	51.5	6.1
2000	237	53.5	39.7	6.8
2001	238	59.7	37.8	2.5
2002	239	36.8	53.2	10.0
2003	238	31.1	53.8	15.1

SUB-ATLANTIC	Number of trees	0-10%	>10-25%	>25%
1997	3184	27.0	51.1	21.9
1998	3366	28.5	48.4	23.1
1999	3503	24.0	52.0	24.0
2000	3435	27.5	48.0	24.5
2001	3459	24.3	47.1	28.6
2002	3490	27.8	49.1	23.1
2003	3514	25.8	50.4	23.8

MEDITERR. (HIGHER)	Number of trees	0-10%	>10-25%	>25%
1997	761	38.7	34.8	26.5
1998	786	36.0	35.8	28.2
1999	891	34.2	38.9	26.9
2000	892	33.7	42.0	24.3
2001	909	28.9	41.4	29.7
2002	873	30.1	44.1	25.8
2003	848	29.5	49.3	21.2

MEDITERR. (LOWER)	Number of trees	0-10%	>10-25%	>25%
1997	618	47.4	32.2	20.4
1998	630	47.2	33.0	19.8
1999	828	36.7	37.5	25.8
2000	826	36.2	38.7	25.1
2001	832	28.6	39.9	31.5
2002	821	31.3	45.9	22.8
2003	791	31.6	48.2	20.2

MOUNTAIN-OUS (SOUTH)	Number of trees	0-10%	>10-25%	>25%
1997	3419	36.5	44.3	19.2
1998	3513	40.4	42.3	17.3
1999	3639	37.0	43.5	19.5
2000	3862	39.9	41.8	18.3
2001	3663	31.3	46.8	21.9
2002	3716	33.4	46.3	20.3
2003	3748	29.6	45.4	25.0

Fagus sylvatica

CONTINENTAL	Number of trees	0-10%	>10-25%	>25%	ALL REGIONS	Number of trees	0-10%	>10-25%	>25%
1997	1637	48.0	32.9	19.1	1997	10840	36.4	42.9	20.7
1998	1755	46.6	34.8	18.6	1998	11249	37.2	42.5	20.3
1999	1448	51.1	26.5	22.4	1999	11536	33.6	43.9	22.5
2000	1436	49.4	27.6	23.0	2000	11688	35.5	41.9	22.6
2001	1576	48.3	28.2	23.5	2001	11695	31.7	43.0	25.3
2002	1636	51.8	30.1	18.1	2002	11811	33.2	44.9	21.9
2003	1559	50.2	31.8	18.0	2003	11739	31.4	45.8	22.8

Quercus ilex and *Q. rotundifolia*

MEDITERR. (HIGHER)	Number of trees	0-10%	>10-25%	>25%	MEDITERR. (LOWER)	Number of trees	0-10%	>10-25%	>25%
1997	864	25.8	53.5	20.7	1997	2567	27.9	55.3	16.8
1998	814	32.3	50.9	16.8	1998	2552	29.5	54.7	15.8
1999	935	25.9	55.1	19.0	1999	3190	21.4	56.4	22.2
2000	929	26.4	55.0	18.6	2000	3211	17.2	60.2	22.6
2001	930	24.3	58.5	17.2	2001	3225	19.1	64.2	16.7
2002	930	17.6	60.2	22.2	2002	3212	17.4	63.6	19.0
2003	933	20.2	56.5	23.3	2003	3186	13.9	64.8	21.3
MOUNTAIN-OUS (SOUTH)	Number of trees	0-10%	>10-25%	>25%	ALL REGIONS	Number of trees	0-10%	>10-25%	>25%
1997	156	24.4	41.6	34.0	1997	3677	27.2	54.6	18.2
1998	156	25.0	64.7	10.3	1998	3612	30.0	54.3	15.7
1999	241	29.9	53.9	16.2	1999	4456	23.0	56.0	21.0
2000	282	31.6	56.7	11.7	2000	4512	20.3	58.5	21.2
2001	283	25.1	54.1	20.8	2001	4528	20.6	62.0	17.4
2002	282	22.3	44.4	33.3	2002	4514	17.8	61.5	20.7
2003	238	16.0	42.4	41.6	2003	4447	15.8	61.3	22.9

Pinus pinaster

ATLANTIC (SOUTH)	Number of trees	0-10%	>10-25%	>25%	MEDITERR. (HIGHER)	Number of trees	0-10%	>10-25%	>25%
1997	1279	58.0	28.6	13.4	1997	476	65.3	20.2	14.5
1998	1283	41.8	41.7	16.5	1998	468	65.1	26.1	8.8
1999	1458	58.0	34.4	7.6	1999	546	57.5	29.9	12.6
2000	1409	58.4	33.2	8.4	2000	511	58.2	29.5	12.3
2001	1421	54.4	38.8	6.8	2001	510	59.2	35.1	5.7
2002	1401	52.3	38.3	9.4	2002	512	51.4	41.4	7.2
2003	1373	49.2	39.5	11.3	2003	512	47.6	42.0	10.4
MEDITERR. (LOWER)	Number of trees	0-10%	>10-25%	>25%	MOUNTAIN. (SOUTH)	Number of trees	0-10%	>10-25%	>25%
1997	1547	42.5	45.6	11.9	1997	71	78.8	12.7	8.5
1998	1521	43.8	46.0	10.2	1998	69	71.1	15.9	13.0
1999	1755	42.9	47.4	9.7	1999	134	79.2	10.4	10.4
2000	1755	45.9	45.9	8.2	2000	130	76.9	13.1	10.0
2001	1747	46.4	46.9	6.7	2001	129	69.8	18.6	11.6
2002	1743	46.9	45.9	7.2	2002	129	58.2	30.2	11.6
2003	1553	43.7	45.0	11.3	2003	129	47.3	40.3	12.4
ALL REGIONS	Number of trees	0-10%	>10-25%	>25%					
1997	3373	52.4	34.9	12.7					
1998	3341	46.6	40.9	12.5					
1999	3893	51.8	38.8	9.4					
2000	3805	53.2	37.9	8.9					
2001	3807	51.9	41.3	6.8					
2002	3785	49.8	42.0	8.2					
2003	3567	46.5	42.3	11.2					

Quercus suber

MEDITERR. (LOWER)	Number of trees	0-10%	>10-25%	>25%	ALL REGIONS	Number of trees	0-10%	>10-25%	>25%
1997	1434	33.9	53.1	13.0	1997	1502	36.7	50.8	12.5
1998	1434	26.9	57.6	15.5	1998	1501	29.6	55.6	14.8
1999	1541	23.4	56.9	19.7	1999	1632	25.6	55.1	19.3
2000	1563	21.5	61.8	16.7	2000	1654	22.9	61.0	16.1
2001	1564	22.2	58.6	19.2	2001	1654	22.8	58.9	18.3
2002	1587	22.3	59.5	18.2	2002	1678	22.6	59.6	17.8
2003	1571	19.4	54.1	26.5	2003	1638	20.0	54.4	25.6

Quercus robur and *Q. petraea*

ATLANTIC (NORTH)	Number of trees	0-10%	>10-25%	>25%	ATLANTIC (SOUTH)	Number of trees	0-10%	>10-25%	>25%
1997	1230	24.2	46.3	29.5	1997	1425	20.4	40.0	39.6
1998	1296	25.1	45.5	29.4	1998	1444	25.6	40.0	34.4
1999	1299	21.7	48.3	30.0	1999	1470	25.4	48.1	26.5
2000	1287	28.1	51.2	20.7	2000	1490	29.8	44.6	25.6
2001	1294	18.8	49.7	31.5	2001	1477	25.0	46.8	28.2
2002	1300	17.8	48.2	34.0	2002	1482	21.7	49.9	28.4
2003	1292	16.8	48.9	34.3	2003	1496	17.2	46.4	36.4
SUB-ATLANTIC	Number of trees	0-10%	>10-25%	>25%	MEDITERR. (HIGHER)	Number of trees	0-10%	>10-25%	>25%
1997	2606	11.3	46.4	42.3	1997	211	15.6	45.1	39.3
1998	2666	16.0	44.7	39.3	1998	217	19.4	41.9	38.7
1999	2727	16.9	50.5	32.6	1999	220	25.0	44.5	30.5
2000	2736	14.7	51.2	34.1	2000	219	23.3	47.0	29.7
2001	2739	14.3	51.9	33.8	2001	222	17.6	51.8	30.6
2002	2748	16.0	52.3	31.7	2002	215	13.5	53.9	32.6
2003	2750	11.3	48.7	40.0	2003	211	10.4	54.1	35.5
MEDITERR. (LOWER)	Number of trees	0-10%	>10-25%	>25%	MOUNTAIN-OUS (SOUTH)	Number of trees	0-10%	>10-25%	>25%
1997	515	21.4	40.5	38.1	1997	693	14.1	30.4	55.5
1998	586	20.0	38.7	41.3	1998	737	14.8	36.0	49.2
1999	632	23.9	43.8	32.3	1999	719	13.9	40.5	45.6
2000	629	25.9	39.9	34.2	2000	789	14.7	40.8	44.5
2001	629	27.2	45.3	27.5	2001	683	18.0	41.4	40.6
2002	634	26.0	48.8	25.2	2002	672	13.1	46.6	40.3
2003	626	23.6	50.0	26.4	2003	689	13.4	44.9	41.7
BOREAL (TEMPERATE)	Number of trees	0-10%	>10-25%	>25%	CONTINENTAL	Number of trees	0-10%	>10-25%	>25%
1997	308	15.9	43.2	40.9	1997	842	19.4	35.2	45.4
1998	303	23.1	42.6	34.3	1998	851	20.9	35.6	43.5
1999	289	14.9	48.8	36.3	1999	781	29.1	33.9	37.0
2000	310	27.1	42.3	30.6	2000	814	24.0	26.2	49.8
2001	312	22.1	48.7	29.2	2001	813	23.9	29.4	46.7
2002	304	31.6	51.3	17.1	2002	651	23.8	30.1	46.1
2003	307	18.2	48.6	33.2	2003	645	19.5	36.9	43.6
ALL REGIONS	Number of trees	0-10%	>10-25%	>25%					
1997	7840	17.1	42.0	40.9					
1998	8110	20.2	41.7	38.1					
1999	8146	20.9	46.4	32.7					
2000	8282	22.0	45.2	32.8					
2001	8177	19.6	46.9	33.5					
2002	8012	19.0	48.7	32.3					
2003	8023	15.3	47.3	37.4					

Abies alba

SUB-ATLANTIC	Number of trees	0-10%	>10-25%	>25%	MEDITERR. (HIGHER)	Number of trees	0-10%	>10-25%	>25%
1997	640	30.9	28.4	40.7	1997	123	30.9	17.9	51.2
1998	647	29.4	29.1	41.5	1998	121	33.1	14.0	52.9
1999	688	29.2	32.0	38.8	1999	139	31.7	18.0	50.3
2000	647	29.5	29.8	40.7	2000	139	28.8	18.0	53.2
2001	637	30.0	25.3	44.7	2001	126	24.6	19.0	56.4
2002	679	32.8	27.4	39.8	2002	127	26.8	18.9	54.3
2003	678	30.2	32.3	37.5	2003	126	24.6	19.8	55.6

Abies alba

MOUNTAIN-OUS (SOUTH)	Number of trees	0-10%	>10-25%	>25%
1997	1031	36.0	33.9	30.1
1998	1018	35.3	35.9	28.8
1999	1042	33.3	38.9	27.8
2000	1079	35.5	38.7	25.8
2001	1027	37.8	39.0	23.2
2002	1048	35.8	38.5	25.7
2003	1096	31.7	37.6	30.7

CONTINENTAL	Number of trees	0-10%	>10-25%	>25%
1997	176	17.6	26.7	55.7
1998	181	16.0	30.9	53.1
1999	170	20.0	28.8	51.2
2000	164	15.2	33.5	51.3
2001	164	29.9	31.1	39.0
2002	166	28.3	36.2	35.5
2003	166	21.1	46.4	32.5

ALL REGIONS	Number of trees	0-10%	>10-25%	>25%
1997	2032	32.6	31.0	36.4
1998	2028	31.9	32.1	36.0
1999	2101	31.1	34.3	34.6
2000	2066	31.9	33.9	34.2
2001	1988	34.1	32.6	33.3
2002	2053	33.9	33.5	32.6
2003	2099	30.3	35.5	34.2

Picea sitchensis

ATLANTIC (NORTH)	Number of trees	0-10%	>10-25%	>25%
1997	972	42.8	39.3	17.9
1998	1017	36.5	37.6	25.9
1999	923	44.9	34.9	20.2
2000	970	41.4	35.7	22.9
2001	941	37.4	38.8	23.8
2002	921	29.4	41.3	29.3
2003	900	28.2	41.5	30.3

ALL REGIONS	Number of trees	0-10%	>10-25%	>25%
1997	995	44.1	38.4	17.5
1998	1039	37.8	36.9	25.3
1999	945	46.2	34.1	19.7
2000	992	42.7	34.9	22.4
2001	963	38.5	38.2	23.3
2002	943	30.2	41.2	28.6
2003	922	29.2	41.2	29.6

All species

ATLANTIC (NORTH)	Number of trees	0-10%	>10-25%	>25%
1997	6919	46.0	37.5	16.5
1998	7109	42.8	39.4	17.8
1999	7190	42.0	39.9	18.1
2000	7247	43.2	38.0	18.8
2001	7137	40.7	39.7	19.6
2002	7159	38.9	39.0	22.1
2003	7120	37.9	40.3	21.8

ATLANTIC (SOUTH)	Number of trees	0-10%	>10-25%	>25%
1997	5720	45.0	31.6	23.4
1998	5724	42.9	35.2	21.9
1999	6336	49.3	35.8	14.9
2000	6215	48.8	34.6	16.6
2001	6215	45.7	39.9	14.4
2002	6196	39.6	42.5	17.9
2003	6136	35.6	41.2	23.2

SUB-ATLANTIC	Number of trees	0-10%	>10-25%	>25%
1997	28077	25.9	44.2	29.9
1998	28774	26.0	46.2	27.8
1999	28572	24.8	46.6	28.6
2000	28348	23.4	47.5	29.1
2001	28414	22.9	47.9	29.2
2002	28437	20.9	48.6	30.5
2003	28077	25.9	44.2	29.9

MEDITERR. (HIGHER)	Number of trees	0-10%	>10-25%	>25%
1997	7402	33.5	39.6	26.9
1998	7387	36.4	41.3	22.3
1999	8423	34.3	43.7	22.0
2000	8379	32.9	45.7	21.4
2001	8389	28.7	46.4	24.9
2002	8235	27.3	47.5	25.2
2003	8233	25.0	49.9	25.1

MEDITERR. (LOWER)	Number of trees	0-10%	>10-25%	>25%
1997	12101	35.3	46.6	18.1
1998	12099	34.8	46.5	18.7
1999	14446	31.4	49.0	19.6
2000	14542	29.5	50.9	19.6
2001	14604	28.1	52.4	19.5
2002	14691	26.6	53.3	20.1
2003	14266	24.2	53.6	22.2

MOUNTAIN-OUS (NORTH)	Number of trees	0-10%	>10-25%	>25%
1997	2632	42.7	34.3	23.0
1998	2673	42.7	33.7	23.6
1999	2672	43.9	34.7	21.4
2000	2686	46.6	35.8	17.6
2001	2864	48.9	32.4	18.7
2002	2967	44.7	34.9	20.4
2003	3025	47.9	33.0	19.1

MOUNTAIN-OUS (SOUTH)	Number of trees	0-10%	>10-25%	>25%
1997	17757	38.2	34.8	27.0
1998	18560	39.1	33.5	27.4
1999	19778	39.7	35.4	24.9
2000	20029	38.8	36.7	24.5
2001	19692	37.0	37.9	25.1
2002	19268	36.2	39.2	24.6
2003	19516	32.8	41.3	25.9

BOREAL	0-10%	>10-25%	>25%	0-10%
1997	15922	56.1	29.3	14.6
1998	15978	55.6	30.5	13.9
1999	15892	55.5	30.0	14.5
2000	15870	53.9	32.7	13.4
2001	15860	50.0	33.7	16.3
2002	15887	50.3	35.8	13.9
2003	15808	48.4	36.4	15.2

All species

BOREAL (TEMP.)	Number of trees	0-10%	>10-25%	>25%
1997	19935	27.1	48.0	24.9
1998	19893	29.2	47.3	23.5
1999	19801	25.6	52.8	21.6
2000	19815	28.7	52.6	18.7
2001	19933	27.5	55.5	17.0
2002	19906	37.0	51.8	11.2
2003	19942	37.5	50.3	12.2

CONTINENTAL	Number of trees	0-10%	>10-25%	>25%
1997	6394	35.5	32.1	32.4
1998	6922	33.7	31.8	34.5
1999	6167	41.8	29.9	28.3
2000	6323	38.7	27.9	33.4
2001	6538	39.4	31.2	29.4
2002	6418	37.9	34.6	27.5
2003	6174	34.5	35.9	29.6

ALL REGIONS	Number of trees	0-10%	>10-25%	>25%
1997	123164	35.1	39.3	25.6
1998	124422	36.2	39.8	24.0
1999	129479	35.9	41.9	22.2
2000	129678	35.5	42.5	22.0
2001	129580	33.6	44.1	22.3
2002	129141	34.1	44.6	21.3
2003	128657	32.2	45.1	22.7

Year	Period 1990 - 2003			Period 1997 - 2003		
	No. of trees N	Mean defoliation $\bar{x}$	Standard error $s_{\bar{x}} = s/\sqrt{N}$	No. of trees N	Mean defoliation $\bar{x}$	Standard error $s_{\bar{x}} = s/\sqrt{N}$
Pinus sylvestris						
1990	11630	24.3	0.15			
1991	11877	26.2	0.14			
1992	11887	26.9	0.14			
1993	11924	26.6	0.14			
1994	11292	27.7	0.14			
1995	11113	26.0	0.14			
1996	11154	23.3	0.13			
1997	11115	22.5	0.12	34965	20.7	0.08
1998	11608	21.9	0.12	35439	20.0	0.08
1999	11847	21.3	0.11	35408	19.2	0.07
2000	11764	21.9	0.12	35178	18.8	0.07
2001	11794	21.8	0.11	35311	19.1	0.07
2002	11670	22.4	0.12	35171	18.6	0.07
2003	11708	22.5	0.12	35464	18.7	0.07
Picea abies						
1990	6485	22.4	0.22			
1991	6634	22.5	0.21			
1992	6660	23.3	0.20			
1993	6584	24.3	0.22			
1994	6553	25.7	0.23			
1995	6700	24.6	0.23			
1996	6707	22.3	0.21			
1997	6615	22.9	0.20	26908	20.4	0.10
1998	7887	22.0	0.18	26339	19.2	0.10
1999	7855	21.8	0.18	26727	19.3	0.10
2000	7778	22.9	0.18	26749	19.4	0.10
2001	7503	22.7	0.17	26321	19.4	0.10
2002	7523	23.3	0.18	26345	19.1	0.10
2003	7569	23.2	0.18	26417	19.6	0.10
Quercus robur and ***Q. petraea***						
1990	2633	21.0	0.34			
1991	2640	23.4	0.33			
1992	2609	24.1	0.32			
1993	2615	26.2	0.32			
1994	2559	27.6	0.34			
1995	2643	26.9	0.34			
1996	2619	27.9	0.36			
1997	2651	26.3	0.32	7840	27.2	0.20
1998	2764	25.9	0.31	8110	26.0	0.20
1999	2839	23.8	0.28	8146	24.2	0.18
2000	2868	23.5	0.28	8282	24.2	0.18
2001	2879	23.7	0.27	8177	24.7	0.18
2002	2888	23.3	0.27	8012	23.9	0.17
2003	2901	24.6	0.26	8023	26.0	0.17
Fagus sylvatica						
1990	4015	17.9	0.22			
1991	4064	17.2	0.21			
1992	4091	20.8	0.23			
1993	4109	20.0	0.24			
1994	3948	21.6	0.22			
1995	4127	22.2	0.22			
1996	4092	21.1	0.21			
1997	4163	20.6	0.20	10840	19.2	0.14
1998	4417	19.5	0.20	11249	18.9	0.14
1999	4568	20.6	0.19	11536	19.8	0.14
2000	4637	20.5	0.21	11688	19.8	0.15
2001	4640	21.5	0.21	11695	20.8	0.14
2002	4649	20.0	0.19	11811	19.9	0.14
2003	4678	21.7	0.20	11739	20.3	0.14

Year	Period 1990 - 2003 No. of trees N	Mean defoliation $\bar{x}$	Standard error $s_{\bar{x}} = s/\sqrt{N}$	Period 1997 - 2003 No. of trees N	Mean defoliation $\bar{x}$	Standard error $s_{\bar{x}} = s/\sqrt{N}$
Pinus pinaster						
1990	2654	13.2	0.30			
1991	2589	15.8	0.37			
1992	2599	14.0	0.33			
1993	2452	12.1	0.33			
1994	2542	12.5	0.31			
1995	2381	12.8	0.28			
1996	2350	14.6	0.36			
1997	2333	15.5	0.33	3373	16.4	0.31
1998	2332	15.8	0.32	3341	16.7	0.27
1999	2886	16.5	0.32	3893	15.8	0.27
2000	2859	17.8	0.38	3805	16.5	0.31
2001	2842	14.7	0.23	3807	14.4	0.21
2002	2840	15.4	0.24	3785	15.3	0.22
2003	2622	16.1	0.27	3567	16.4	0.25
Quercus ilex **and** ***Q. rotundifolia***						
1990	3074	13.8	0.25			
1991	3064	16.0	0.22			
1992	3080	17.4	0.24			
1993	3055	16.0	0.17			
1994	3027	19.6	0.29			
1995	3052	24.0	0.28			
1996	3034	22.6	0.27			
1997	3034	19.4	0.25	3677	20.4	0.24
1998	3026	18.5	0.23	3612	19.3	0.21
1999	3820	21.1	0.23	4456	21.2	0.21
2000	3852	20.9	0.19	4512	21.1	0.18
2001	3853	20.2	0.19	4528	20.7	0.18
2002	3857	21.2	0.18	4514	21.7	0.18
2003	3859	22.3	0.22	4447	22.8	0.21

Annex II

National Surveys

Annex II-1
Forests and surveys in European countries (2003)

Participating countries	Total area (1000 ha)	Forest area (1000 ha)	Coniferous forest (1000 ha)	Broadleav. forest (1000 ha)	Area surveyed (1000 ha)	Grid size (km x km)	No. of sample plots	No. of sample trees
Albania	2875	1030	173	599		no survey in 2003		
Austria	8385	3878	2683	798	3481	16 x 16	131	3470
Belarus	20760	7845	4728	3117	7845	16 x 16	406	9691
Belgium	3035	691	281	324	691	4^2 / 8^2	132	3087
Bulgaria	11100	3314	1172	2142		4^2/8^2/16^2	139	5115
Croatia	5654	2061	321	1740		16 x 16	78	1869
Cyprus	925	298	172	0	138	16x16	15	360
Czech Republic	7886	2630	2057	573	2630	8^2/16^2	140	6610
Denmark	4300	468	294	174	468	7^2/16^2	20	479
Estonia	4510	2206	1108	1098	2206	16 x 16	93	2228
Finland	30460	20032	18089	1663	15006	16^2 / 24x32	453	8482
France	54926	14591	9228	4058	13100	16 x 16	515	10298
Germany	35562	10264	6869	3395	10264	16^2 / 4^2	447	13572
Greece	12890	2512	954	1080		no survey in 2003		
Hungary	9300	1823	247	1576	1823	4 x 4	1153	27224
Ireland	8442	650	399	37	399	16 x 16	19	403
Italy	30128	8675	1735	6940		16 x 16	247	6866
Latvia	6459	2932	1586	1210	2932	8 x 8	361	8601
Liechtenstein	16	8	6	2	no survey in 2003			
Lithuania	6530	2045	1160	791	2045	8x8/16x16	280	6758
Luxembourg	259	89	30	54	no survey in 2003			
Rep. of Moldova	3376	318	6	312		2x2/2x4	490	14631
The Netherlands	3482	334	158	52	210	16 x 16	11	233
Norway	32376	12000	6800	5200		3^2/9^2	1531	7700
Poland	31268	8894	6848	2046	6968	16 x 16	1257	25140
Portugal	8893	3234	1081	2153	3234	16 x 16	136	4080
Romania	23750	6244	1929	4315	6244	4 x 4	3840	101243
Russian Fed.	11100	8125				varying		
Serbia and Montenegro	8836	2360	179	2181	1868	16 x 16	103	2390
Slovak Republic	4901	1961	815	1069	1961	16 x 16	108	4253
Slovenia	2027	1099	410	688	1099	16 x 16	41	984
Spain	50471	11588	5910	4056	11588	16 x 16	620	14880
Sweden	41000	23400	19600	900	20600	varying	2504	14713
Switzerland	4129	1186	818	368	1186	16 x 16	49	1054
Turkey	77945	20199	9426	10773	no survey in 2003			
Ukraine	60350	9316	3969	5347	918	16 x 16	54	1342
United Kingdom	24100	2156	1520	636	2156	random	310	7440
TOTAL	652406	200456	112761	71467	121060	varying	15683	315196

Serbia and Montenegro: Serbia only.

Annex II-2
Defoliation of all species by classes and class aggregates (2003)

Participating countries	Area surveyed (1000 ha)	No. of sample trees	0 none	1 slight	2 moderate	3+4 severe and dead	2+3+4
Albania			no survey in 2003				
Austria	3481	3470	61.1	27.8	9.1	2.0	11.1
Belarus	7845	9691	36.0	52.7	9.3	2.0	11.3
Belgium	691	3087	40.7	42.0	14.9	2.4	17.3
Bulgaria		5115	19.3	47.0	26.8	6.9	33.7
Croatia		1869	36.0	42.1	19.8	2.1	21.9
Cyprus	138	360	21.1	60.5	18.1	0.3	18.4
Czech Republic	2630	6610	11.4	34.2	53.5	0.9	54.4
Denmark	468	479	62.1	27.7	7.9	2.3	10.2
Estonia	2206	2228	42.8	49.6	6.6	1.0	7.6
Finland	15006	8482	54.4	34.9	9.9	0.8	10.7
France	13100	10298	35.6	36.0	25.4	3.0	28.4
Germany	10264	13572	31.3	46.2	21.1	1.4	22.5
Greece			no survey in 2003				
Hungary	1823	27224	35.6	41.9	17.1	5.4	22.5
Ireland	399	403	52.9	33.2	11.2	2.7	13.9
Italy		6866	19.8	42.6	33.2	4.4	37.6
Latvia	2932	8601	21.8	65.7	10.3	2.2	12.5
Liechtenstein			no survey in 2003				
Lithuania	2045	6758	13.3	72.0	11.9	2.8	14.7
Luxembourg			no survey in 2003				
Rep. of Moldova		14631	27.8	29.8	34.9	7.5	42.4
The Netherlands	210	233	53.2	28.8	15.0	3.0	18.0
Norway		7700	38.9	38.2	19.8	3.1	22.9
Poland	6968	25140	8.2	57.1	32.6	2.1	34.7
Portugal	3234	4080	45.0	42.0	10.8	2.2	13.0
Romania	6244	101243	62.2	25.2	11.1	1.5	12.6
Russian Fed.			no survey in 2003				
Serbia and Montenegro	1868	2390	41.0	36.2	20.6	2.2	22.8
Slovak Republic	1961	4253	9.6	59.0	30.3	1.1	31.4
Slovenia	1099	984	33.2	39.3	23.6	3.9	27.5
Spain	11588	14880	22.7	60.7	13.2	3.4	16.6
Sweden	20600	14713	46.7	35.1	15.1	3.1	18.2
Switzerland	1186	1054	31.6	53.6	7.9	7.0	14.9
Turkey			no survey in 2003				
Ukraine	918	1342	18.4	54.6	24.3	2.7	27.0
United Kingdom	2156	7440	28.8	46.5	23.2	1.5	24.7

Serbia and Montenegro: Serbia only.

Note that some differences in the level of damage across national borders may be at least partly due to differences in standards used. This restriction, however, does not affect the reliability of the trends over time.

Annex II-3
Defoliation of conifers by classes and class aggregates (2003)

Participating countries	Coniferous forest (1000 ha)	No. of sample trees	0 none	1 slight	2 moderate	3+4 severe and dead	2+3+4
Albania	171		no survey in 2003				
Austria	2683	3078	61.3	27.5	9.1	2.1	11.2
Belarus	4728	7074	35.7	54.8	8.0	1.5	9.5
Belgium	281	1089	39.8	41.6	16.4	2.2	18.6
Bulgaria	1172	2959	13.0	48.6	31.6	6.8	38.4
Croatia	321	226	1.8	20.8	68.1	9.3	77.4
Cyprus	172	360	21.1	60.5	18.1	0.3	18.4
Czech Republic	2057	5468	9.3	30.0	59.7	1.0	60.7
Denmark	294	292	81.2	12.7	3.4	2.7	6.1
Estonia	1177	2093	41.2	51.1	6.7	1.0	7.7
Finland	18089	7232	54.0	34.9	10.2	0.9	11.1
France	9228	3603	51.3	29.8	16.8	2.1	18.9
Germany	6869	9404	32.3	47.6	18.9	1.2	20.1
Greece	954		no survey in 2003				
Hungary	247	3940	29.7	42.7	22.0	5.6	27.6
Ireland	399	403	52.9	33.2	11.2	2.7	13.9
Italy	1735	2058	43.6	36.0	16.5	3.9	20.4
Latvia	1586	6322	20.7	67.1	10.2	2.0	12.2
Liechtenstein	6		no survey in 2003				
Lithuania	1160	4795	14.1	75.2	8.7	2.0	10.7
Luxembourg	30		no survey in 2003				
Rep. of Moldova	6	65	20.0	24.6	49.3	6.1	55.4
The Netherlands	128	150	72.6	18.0	8.0	1.4	9.4
Norway	6800	5920	42.0	36.8	18.3	2.9	21.2
Poland	5364	19180	7.9	58.9	31.0	2.2	33.2
Portugal	1081	1211	57.1	37.6	5.3	0.0	5.3
Romania	1929	24495	68.0	22.2	8.6	1.2	9.8
Russian Fed.	5800		no survey in 2003				
Serbia and Montenegro	179	174	29.9	30.5	37.9	1.7	39.6
Slovak Republic	815	1777	4.1	56.2	38.4	1.3	39.7
Slovenia	410	388	28.9	35.8	29.9	5.4	35.3
Spain	5910	7514	27.0	58.9	11.5	2.6	14.1
Sweden	19600	13223	45.9	34.6	16.2	3.3	19.5
Switzerland	818	741	30.4	56.2	6.8	6.6	13.4
Turkey	9426		no survey in 2003				
Ukraine	3969	560	15.9	68.7	14.5	0.9	15.4
United Kingdom	1520	4368	26.7	47.5	24.4	1.4	25.8

Serbia and Montenegro: Serbia only.

Note that some differences in the level of damage across national borders may be at least partly due to differences in standards used. This restriction, however, does not affect the reliability of the trends over time.

Annex II-4
Defoliation of broadleaves by classes and class aggregates (2003)

Participating countries	Broadleav. forest (1000 ha)	No. of sample trees	0 none	1 slight	2 moderate	3+4 severe and dead	2+3+4
Albania	599		no survey in 2003				
Austria	798	392	59.2	30.6	8.9	1.3	10.2
Belarus	3117	2617	37.0	47.2	12.5	3.3	15.8
Belgium	324	1998	41.1	42.3	14.1	2.5	16.6
Bulgaria	2142	2156	27.9	44.9	20.3	6.9	27.2
Croatia	1740	1643	40.7	45.0	13.2	1.1	14.3
Cyprus			only conifers assessed				
Czech Republic	573	1142	21.4	54.2	24.2	0.2	24.4
Denmark	174	187	32.1	51.3	15.0	1.6	16.6
Estonia	1072	135	68.2	25.2	5.9	0.7	6.6
Finland	1663	1250	57.0	34.7	7.5	0.8	8.3
France	4058	6695	27.2	39.3	30.0	3.5	33.5
Germany	3393	4168	29.4	43.3	25.5	1.8	27.3
Greece	1080		no survey in 2003				
Hungary	1576	23284	36.2	41.8	16.4	5.6	22.0
Ireland	37		only conifers assessed				
Italy	6940	4808	9.6	45.4	40.3	4.7	45.0
Latvia	1210	2279	24.9	61.6	10.6	2.9	13.5
Liechtenstein	2		no survey in 2003				
Lithuania	791	1963	11.5	63.9	19.9	4.7	24.6
Luxembourg	54		no survey in 2003				
Rep. of Moldova	312	14566	27.8	29.9	34.8	7.5	42.3
The Netherlands	44	83	18.1	48.2	27.7	6.0	33.7
Norway	5200	1780	28.0	43.0	24.9	4.1	29.0
Poland	1603	5960	9.1	51.3	37.6	2.0	39.6
Portugal	2153	2869	40.0	43.8	13.1	3.1	16.2
Romania	4315	76748	60.5	26.2	11.8	1.5	13.3
Russian Fed.	510		no survey in 2003				
Serbia and Montenegro	2181	2216	41.9	36.6	19.3	2.2	21.5
Slovak Republic	1069	2476	13.6	60.8	24.6	1.0	25.6
Slovenia	688	596	36.0	41.4	19.6	3.0	22.6
Spain	4056	7366	18.3	62.6	14.9	4.2	19.1
Sweden	900	1859	53.6	36.3	8.4	1.7	10.1
Switzerland	368	313	33.5	48.0	10.2	8.0	18.2
Turkey	10773		no survey in 2003				
Ukraine	5347	782	20.2	44.5	31.3	4.0	35.3
United Kingdom	636	3072	31.6	45.2	21.5	1.7	23.2

Sweden, *Norway*: Special study on birch. *Serbia and Montenegro*: Serbia only.

Note that some differences in the level of damage across national borders may be at least partly due to differences in standards used. This restriction, however, does not affect the reliability of the trends over time.

Annex II-5

Defoliation of all species (1992-2003)

Participating countries	All species defoliation classes 2-4												change % points 2002/ 2003
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	
Albania							9.8	9.9	10.1	10.2	13.1		
Austria	6.9	8.2	7.8	6.6	7.9	7.1	6.7	6.8	8.9	9.7	10.2	11.1	
Belarus	29.2	29.3	37.4	38.3	39.7	36.3	30.5	26.0	24.0	20.7	9.5	11.3	1.8
Belgium	16.9	14.8	16.9	24.5	21.2	17.4	17.0	17.7	19.0	17.9	17.8	17.3	-0.5
Bulgaria	23.1	23.2	28.9	38.0	39.2	49.6	60.2	44.2	46.3	33.8	37.1	33.7	-3.4
Croatia	15.6	19.2	28.8	39.8	30.1	33.1	25.6	23.1	23.4	25.0	20.6	22.0	1.4
Cyprus										8.9	2.8	18.4	15.6
Czech Rep.	56.1	51.8	57.7	58.5	71.9	68.6	48.8	50.4	51.7	52.1	53.4	54.4	1.0
Denmark	25.9	33.4	36.5	36.6	28.0	20.7	22.0	13.2	11.0	7.4	8.7	10.2	1.5
Estonia	28.5	20.3	15.7	13.6	14.2	11.2	8.7	8.7	7.4	8.5	7.6	7.6	0.0
Finland	14.5	15.2	13.0	13.3	13.2	12.2	11.8	11.4	11.6	11.0	11.5	10.7	-0.8
France	8.0	8.3	8.4	12.5	17.8	25.2	23.3	19.7	18.3	20.3	21.9	28.4	6.5
Germany	26.4	24.2	24.4	22.1	20.3	19.8	21.0	21.7	23.0	21.9	21.4	22.5	1.1
Greece	18.1	21.2	23.2	25.1	23.9	23.7	21.7	16.6	18.2	21.7	20.9		
Hungary	21.5	21.0	21.7	20.0	19.2	19.4	19.0	18.2	20.8	21.2	21.2	22.5	1.3
Ireland	15.7	29.6	19.7	26.3	13.0	13.6	16.1	13.0	14.6	17.4	20.7	13.9	-6.8
Italy	18.2	17.6	19.5	18.9	29.9	35.8	35.9	35.3	34.4	38.4	37.3	37.6	0.3
Latvia	37.0	35.0	30.0	20.0	21.2	19.2	16.6	18.9	20.7	15.6	13.8	12.5	-1.3
Liechtenstein	16.0												
Lithuania	17.5	27.4	25.4	24.9	12.6	14.5	15.7	11.6	13.9	11.7	12.8	14.7	1.9
Luxembourg	20.4	23.8	34.8	38.3	37.5	29.9	25.3	19.2	23.4				
Rep. of Moldova		50.8		40.4	41.2				29.1	36.9	42.5	42.4	-0.1
The Netherlands	33.4	25.0	19.4	32.0	34.1	34.6	31.0	12.9	21.8	19.9	21.7	18.0	-3.7
Norway	26.2	24.9	27.5	28.8	29.4	30.7	30.6	28.6	24.3	27.2	25.5	22.9	-2.6
Poland	48.8	50.0	54.9	52.6	39.7	36.6	34.6	30.6	32.0	30.6	32.7	34.7	2.0
Portugal	22.5	7.3	5.7	9.1	7.3	8.3	10.2	11.1	10.3	10.1	9.6	13.0	3.4
Romania	16.7	20.5	21.2	21.2	16.9	15.6	12.3	12.7	14.3	13.3	13.5	12.6	-0.9
Russian Fed.			10.7	12.5						9.8	10.9		
Serbia and Monten.					3.6	7.7	8.4	11.2	8.4	14.0	3.9	22.8	18.9
Slovak Rep.	36.0	37.6	41.8	42.6	34.0	31.0	32.5	27.8	23.5	31.7	24.8	31.4	6.6
Slovenia		19.0	16.0	24.7	19.0	25.7	27.6	29.1	24.8	28.9	28.1	27.5	-0.6
Spain	12.3	13.0	19.4	23.5	19.4	13.7	13.6	12.9	13.8	13.0	16.4	16.6	0.2
Sweden				14.2	17.4	14.9	14.2	13.2	13.7	17.5	15.8	18.2	2.4
Switzerland	12.8	15.4	18.2	24.6	20.8	16.9	19.1	19.0	29.4	18.2	18.6	14.9	-3.7
Turkey													
Ukraine	16.3	21.5	32.4	29.6	46.0	31.4	51.5	56.2	60.7	39.6	27.7	27.0	-0.7
United Kingdom	58.3	16.9	13.9	13.6	14.3	19.0	21.1	21.4	21.6	21.1	27.3	24.7	-2.6

Austria: Results of 2003 are based on a wider gridnet than in previous years and thus not comparable.
Czech Republic: Only trees older than 60 years assessed until 1997. *France*: Due to methodological changes, only the time series 1992-94 and 1997-2003 are consistent, but not comparable to each other. *Italy*: Due to methodological changes, only the time series 1992-96 and 1997-2003 are consistent, but not comparable to each other. *United Kingdom*: The difference between 1992 and subsequent years is mainly due to a change of assessment method in line with that used in other States.

Note that some differences in the level of damage across national borders may be at least partly due to differences in standards used. This restriction, however, does not affect the reliability of the trends over time.

Annex II-6
Defoliation of conifers (1992-2003)

Participating countries	Conifers Defoliation classes 2-4												change % points 2002/ 2003
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	
Albania							12.0	12.1	12.3	12.4	15.5		
Austria	6.6	8.2	7.9	6.6	7.3	6.3	6.3	6.4	9.1	9.6	10.1	11.2	
Belarus	33.7	33.8	44.0	43.9	43.1	41.2	33.9	28.9	26.1	23.4	9.7	9.5	-0.2
Belgium	23.0	18.3	21.2	21.0	25.8	19.2	13.5	15.5	19.5	17.5	19.7	18.6	-1.1
Bulgaria	25.5	26.9	25.0	41.4	46.5	53.5	69.8	48.9	46.4	39.1	44.0	38.4	-5.6
Croatia	26.2	33.9	39.3	57.5	57.0	68.7	45.8	53.2	53.3	65.1	63.5	77.4	13.9
Cyprus										8.9	2.8	18.4	15.6
Czech Rep.	57.9	51.5	59.0	60.7	74.9	71.9	54.6	57.4	58.3	58.1	60.1	60.7	0.6
Denmark	28.6	37.0	38.7	34.8	23.2	15.9	17.0	9.9	8.8	6.7	4.5	6.1	1.6
Estonia	29.5	21.2	16.0	14.2	14.6	11.4	9.0	9.1	7.5	8.8	7.9	7.7	-0.2
Finland	15.2	15.6	13.1	13.7	13.7	12.8	12.2	11.9	12.0	11.4	11.9	11.1	-0.8
France	7.1	8.2	8.2	9.2	13.5	16.2	16.8	14.1	12.0	14.0	15.2	18.9	3.7
Germany	23.8	21.4	21.6	18.3	16.7	15.4	19.0	19.2	19.6	20.0	19.8	20.1	0.3
Greece	12.3	13.9	13.2	13.6	14.4	13.8	12.9	13.5	16.5	17.2	16.1		
Hungary	20.1	20.1	21.2	18.7	17.8	17.4	18.7	17.6	21.5	19.5	22.8	27.6	4.8
Ireland	15.7	29.6	19.7	26.3	13.0	13.6	16.1	13.0	14.6	17.4	20.7	13.9	-6.8
Italy	17.2	15.1	15.0	19.4	25.1	28.1	25.5	23.1	19.2	19.1	20.5	20.4	-0.1
Latvia	45.0	41.0	34.0	23.0	24.8	21.9	18.9	20.6	20.1	15.8	14.3	12.2	-2.1
Liechtenstein	18.0												
Lithuania	17.5	29.2	26.3	26.6	12.9	13.9	13.6	11.5	12.0	9.8	9.3	10.7	1.4
Luxembourg	6.3	9.0	12.8	12.9	12.7	8.0	10.5	8.7	7.0				
Rep. of Moldova		45.2		33.3	48.4							55.4	
The Netherlands	34.7	30.6	27.7	45.4	43.5	45.3	43.2	14.5	23.5	20.7	17.5	9.4	-8.1
Norway	23.4	20.9	22.4	24.0	25.1	28.5	27.5	24.3	21.8	25.1	24.1	21.2	-2.9
Poland	50.3	50.8	55.6	54.5	40.5	36.8	34.6	30.6	32.1	30.3	32.5	33.2	0.7
Portugal	11.3	7.1	5.4	6.6	5.6	7.8	6.6	6.0	4.3	4.3	3.6	5.3	1.7
Romania	10.9	16.6	15.5	15.2	10.4	10.3	9.0	9.1	9.8	9.6	9.9	9.8	-0.1
Russian Fed.	5.4	4.5	9.4	10.1	9.4	0.0				9.8	10.0		
Serbia and Monten.					4.4	7.9	6.0	9.2	10.0	21.3	7.3	39.6	32.3
Slovak Rep.	44.0	49.9	50.3	52.0	41.0	42.2	40.3	40.2	37.9	38.7	40.4	39.7	-0.7
Slovenia		27.0	19.0	33.6	26.0	32.5	36.7	38.0	34.5	32.2	31.4	35.3	3.9
Spain	13.5	14.7	19.1	18.1	18.1	11.5	12.9	9.8	12.0	11.6	15.6	14.1	-1.5
Sweden	16.9	10.6	16.2	14.5	16.9	15.9	15.0	13.6	13.5	18.4	16.8	19.5	2.7
Switzerland	14.1	17.4	19.6	23.2	21.4	19.9	19.7	18.3	33.0	19.1	19.9	13.3	-6.6
Turkey													
Ukraine	13.8	21.7	34.8	25.7	45.8	32.7	64.9	50.0	47.3	16.8	14.6	15.4	0.8
United Kingdom	52.7	16.8	15.0	13.0	13.9	17.0	19.8	20.1	20.2	20.6	25.1	25.8	0.7

Austria: Results of 2003 are based on a wider gridnet than in previous years and thus not cmparable. *Czech Republic*: Only trees older than 60 years assessed until 1997. *France*: Due to methodological changes, only the time series 1992-94 and 1997-2003 are consistent, but not comparable to each other. *Greece*: Excluding maquis. *Italy*: Due to methodological changes, only the time series 1992-96 and 1997-2003 are consistent, but not comparable to each other. *United Kingdom*: The difference between 1992 and subsequent years is mainly due to a change of assessment method in line with that used in other States.

Note that some differences in the level of damage across national borders may be at least partly due to differences in standards used. This restriction, however, does not affect the reliability of the trends over time.

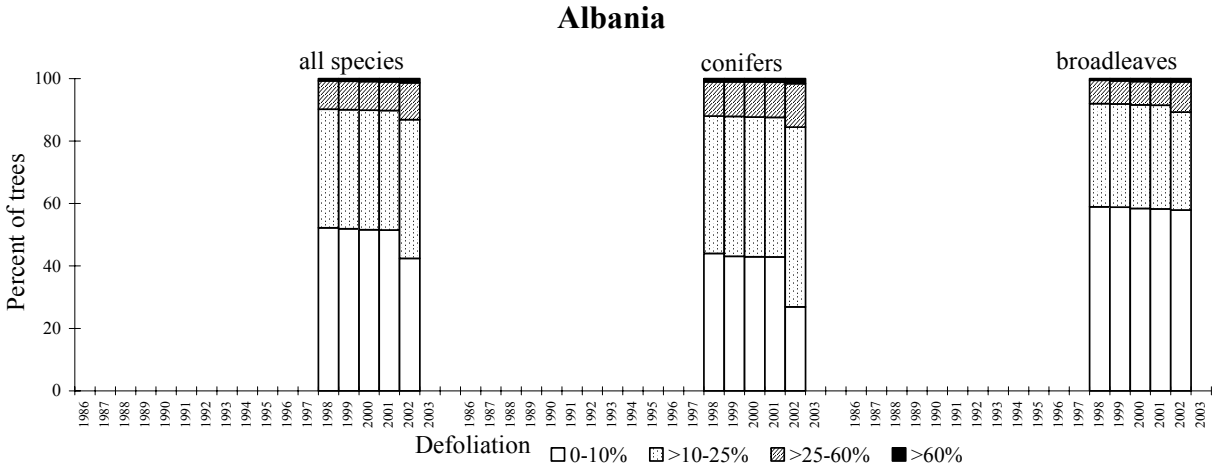
Annex II-7
Defoliation of broadleaves (1992-2003)

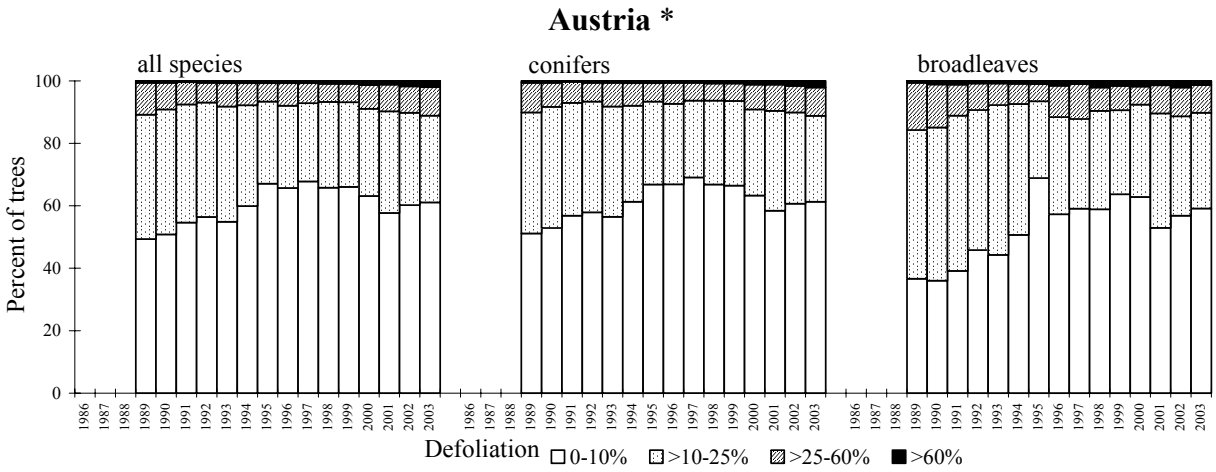
Participating countries	Broadleaves Defoliation classes 2-4												change % points 2002/ 2003
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	
Albania							8.0	8.1	8.4	8.4	10.7		
Austria	9.3	7.7	7.4	6.5	11.6	12.2	9.6	9.4	7.6	10.4	11.3	10.2	
Belarus	14.8	16.6	18.6	22.9	29.2	23.0	19.3	17.0	16.9	13.3	9.0	15.8	6.8
Belgium	11.8	11.7	12.8	26.6	18.5	16.1	19.2	19.1	18.8	18.3	17.0	16.6	-0.4
Bulgaria	18.0	16.6	34.4	32.7	33.0	43.9	48.4	35.9	45.8	26.0	29.0	27.2	-1.8
Croatia	13.6	15.6	26.4	35.2	26.0	27.8	21.9	16.8	18.3	18.7	14.4	14.3	-0.1
Cyprus	only conifers assessed												
Czech Rep.	29.2	54.4	48.0	30.6	34.0	26.5	13.5	17.1	21.4	21.7	19.9	24.4	4.5
Denmark	21.2	27.0	32.4	39.7	36.1	28.4	30.1	18.8	13.9	8.5	15.4	16.6	1.2
Estonia	0.0	1.1	2.0	1.1	5.3	7.4	1.0	1.1	9.5	2.1	2.7	6.7	4.0
Finland	10.1	12.8	12.0	11.0	10.3	8.4	9.4	8.6	9.9	8.8	8.8	8.3	-0.5
France	8.5	8.4	8.4	14.3	20.1	29.9	26.9	22.9	21.6	23.6	25.5	33.5	8.0
Germany	32.0	29.9	30.1	29.9	30.8	28.6	25.2	26.9	29.9	25.4	24.7	27.3	2.6
Greece	25.0	29.8	35.0	38.2	34.6	34.9	31.7	20.2	20.2	26.6	26.5		
Hungary	21.8	21.2	21.8	20.2	19.5	19.7	19.0	18.2	20.8	21.5	20.8	22.0	1.2
Ireland	only conifers assessed												
Italy	18.5	18.3	20.7	18.5	31.2	38.0	38.9	39.3	40.5	46.3	44.6	45.0	0.4
Latvia	19.0	17.8	15.0	10.0	11.4	11.3	13.6	14.2	22.2	14.8	12.8	13.5	0.7
Liechtenstein	8.0												
Lithuania	17.6	23.8	23.3	20.8	12.2	15.9	19.7	11.8	17.7	16.3	19.0	24.6	5.6
Luxembourg	30.5	31.0	46.8	51.4	49.8	41.8	33.3	25.8	33.5				
Rep. of Moldova		50.9	21.9	40.5	41.1	30.0		41.4	29.2	36.9	42.5	42.3	-0.2
The Netherlands	31.1	13.1	5.1	10.8	19.2	17.8	14.0	10.0	18.8	18.5	29.6	33.7	4.1
Norway	38.9	42.1	47.6	47.4	45.0	38.9	42.2	44.8	34.0	33.7	30.4	29.0	-1.4
Poland	40.4	45.6	51.5	46.7	37.4	35.8	34.8	31.1	32.0	31.4	33.1	39.6	6.5
Portugal	29.1	7.5	5.8	10.4	8.3	8.6	12.0	13.7	13.2	12.8	12.6	16.2	3.6
Romania	18.4	21.4	22.9	23.1	18.7	16.9	13.3	14.0	15.8	14.7	14.8	13.3	-1.5
Russian Fed.			39.4	34.4							16.0		
Serbia and Monten.					3.5	7.4	10.1	13.0	6.7	6.7	0.6	21.5	20.9
Slovak Rep.	30.0	29.1	35.6	35.8	28.0	23.3	27.0	19.3	13.9	26.9	14.5	25.6	11.1
Slovenia		11.0	13.0	19.3	15.0	21.4	21.7	23.2	18.4	26.7	25.9	22.6	-3.3
Spain	11.2	11.4	19.6	28.7	20.7	15.8	14.4	16.1	15.7	14.4	17.3	19.1	1.8
Sweden	only conifers assessed			7.9	20.7	6.1	7.4	8.7	7.5	14.1	8.6	10.1	1.5
Switzerland	11.1	12.7	16.2	27.0	19.8	12.5	18.1	20.4	22.1	16.3	16.0	18.1	2.1
Turkey													
Ukraine	20.2	21.6	29.9	33.0	46.2	30.7	43.2	59.7	69.6	53.3	36.7	35.3	-1.4
United Kingd.	67.8	17.1	12.4	14.5	15.0	22.0	22.9	23.2	23.8	21.9	30.3	23.2	-7.1

Austria: Results of 2003 are based on a wider gridnet than in previous years and thus not comparable. *Czech Republic*: Only trees older than 60 years assessed until 1997. *France*: Due to methodological changes, only the time series 1992-94 and 1997-2003 are consistent, but not comparable to each other. *Greece*: Excluding maquis. *Italy*: Due to methodological changes, only the time series 1992-96 and 1997-2003 are consistent, but not comparable to each other. *United Kingdom*: The difference between 1992 and subsequent years is mainly due to a change of assessment method in line with that used in other States.

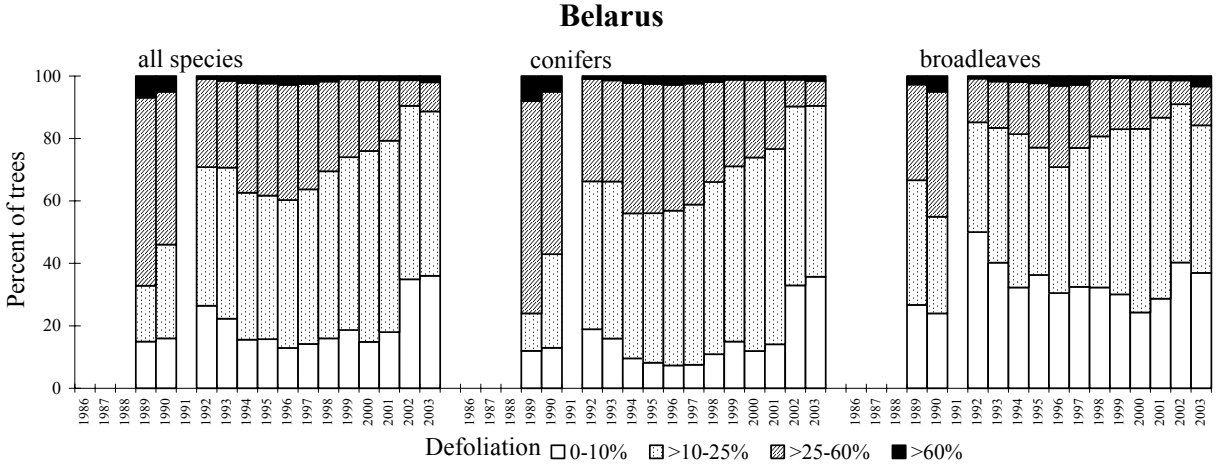
Note that some differences in the level of damage across national borders may be at least partly due to differences in standards used. This restriction, however, does not affect the reliability of the trends over time.

Annex II-8
Changes in defoliation (1986-2003)

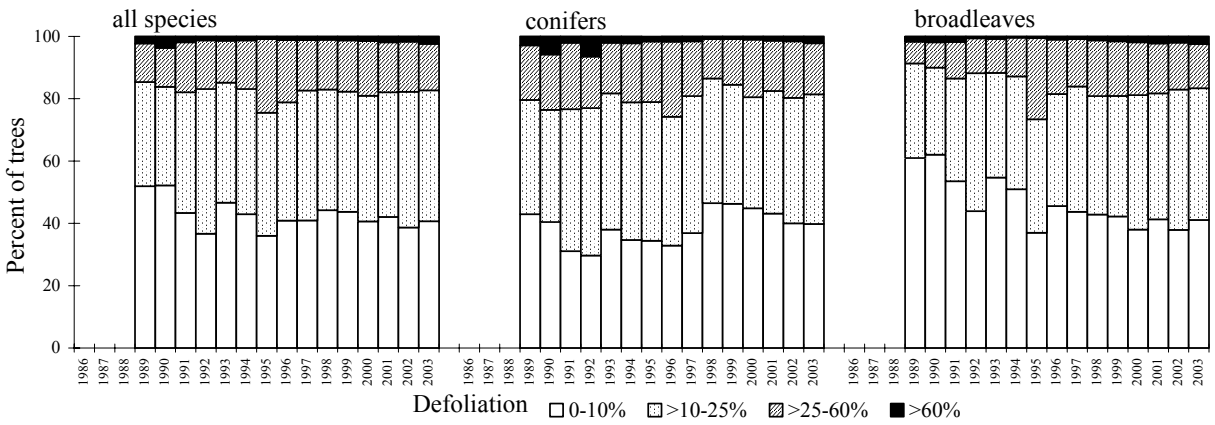




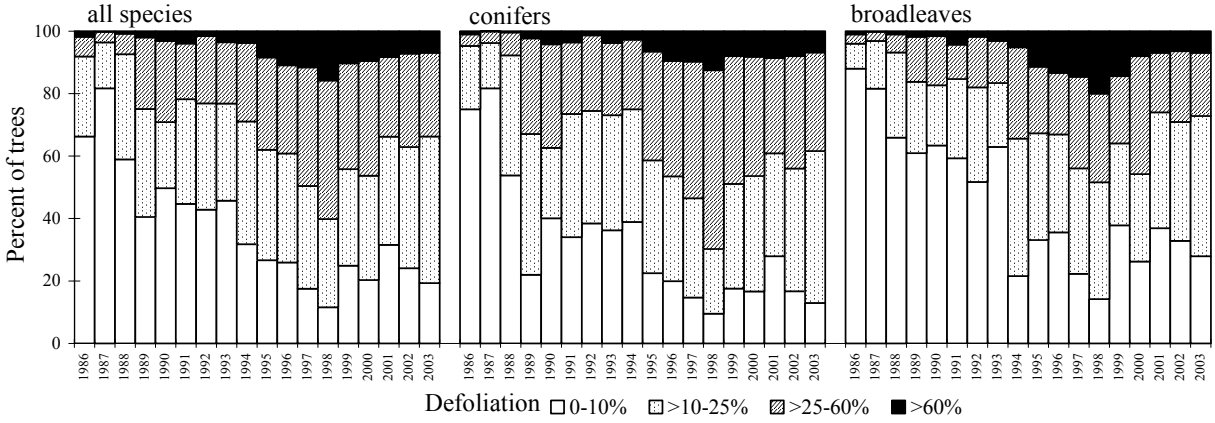
* Results must not be compared with previous years, as those were based on denser sampling.



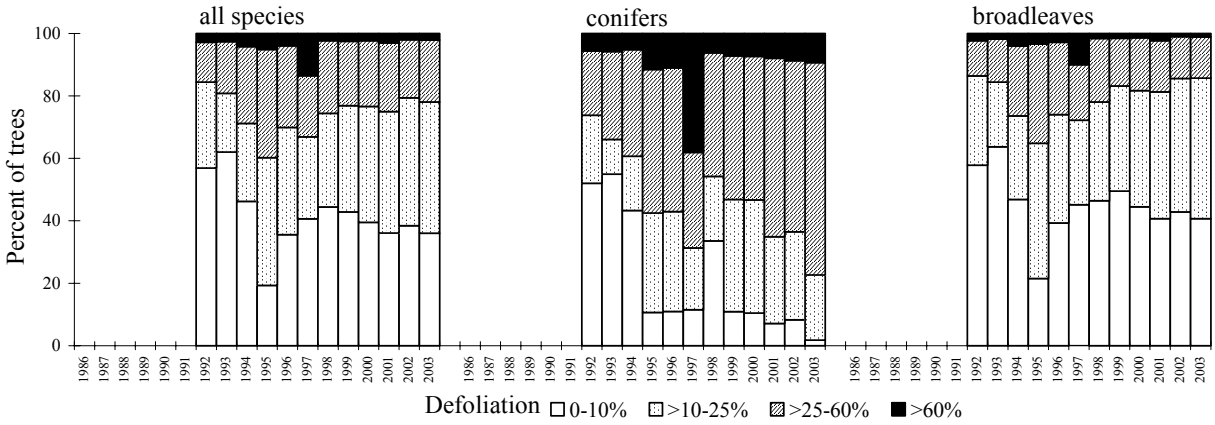
Belgium



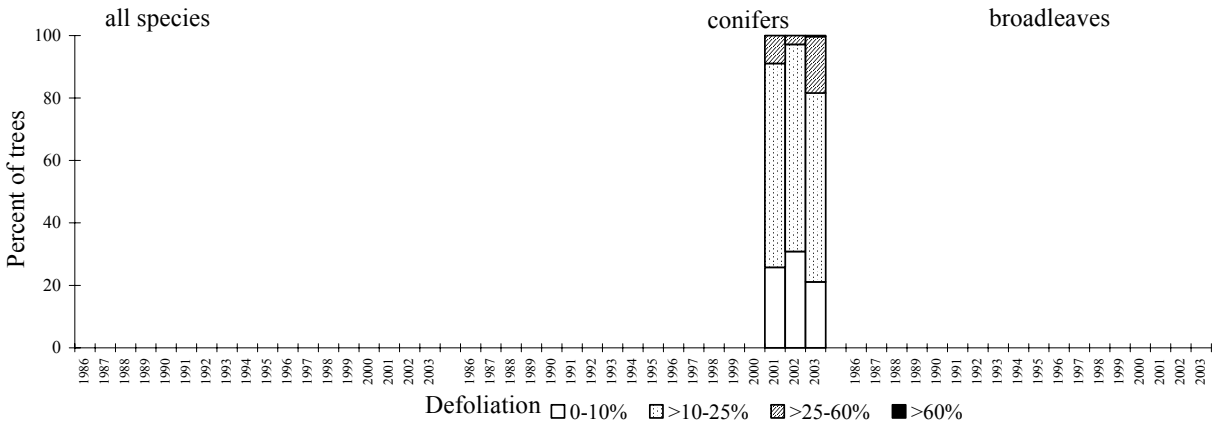
Bulgaria



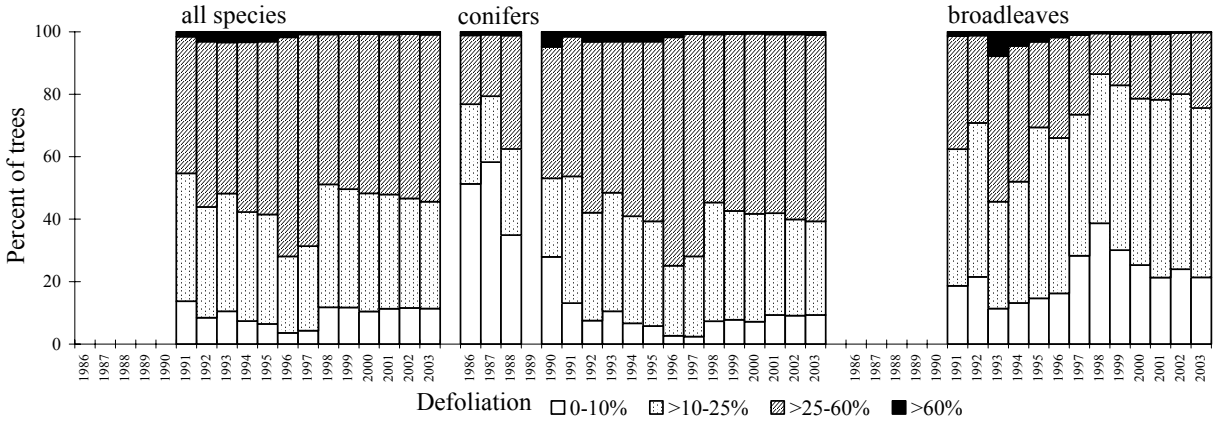
Croatia



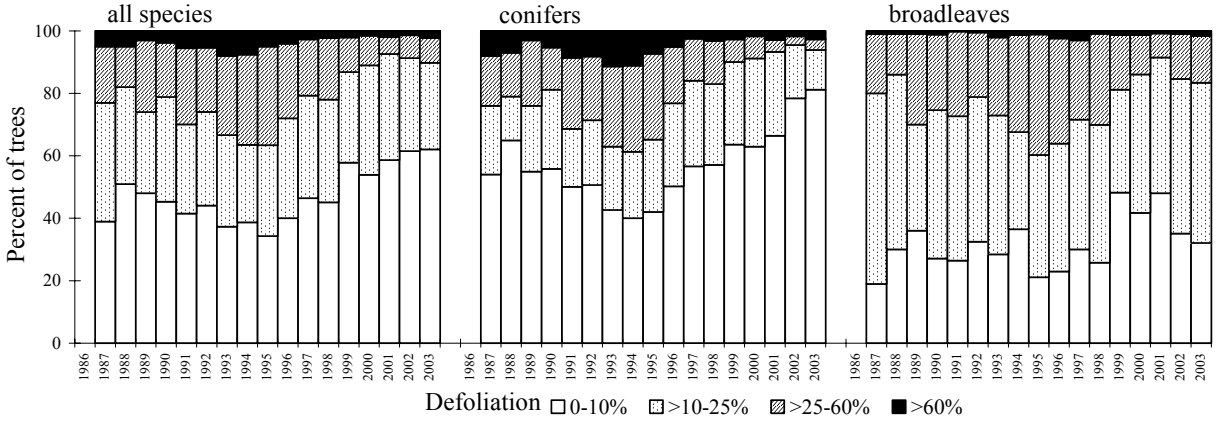
Cyprus



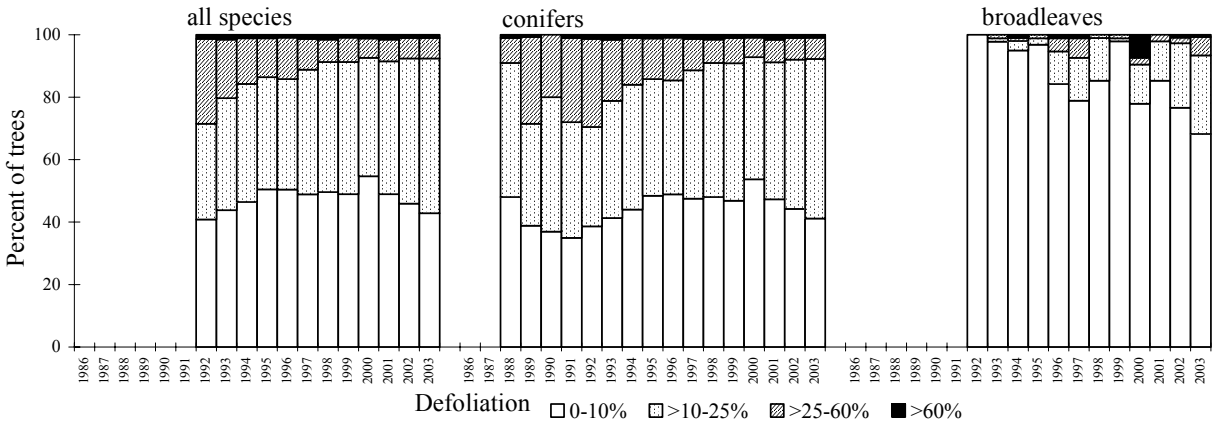
Czech Republic



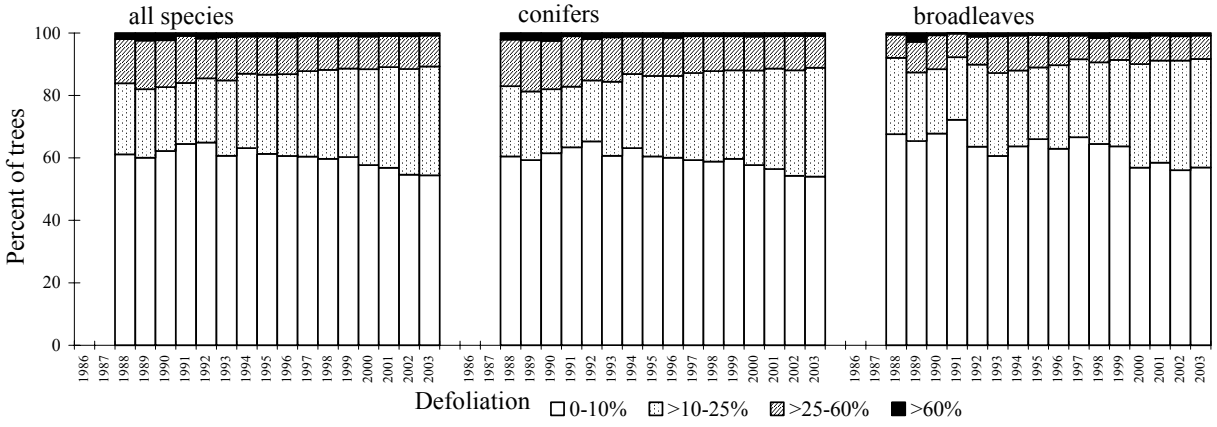
Denmark



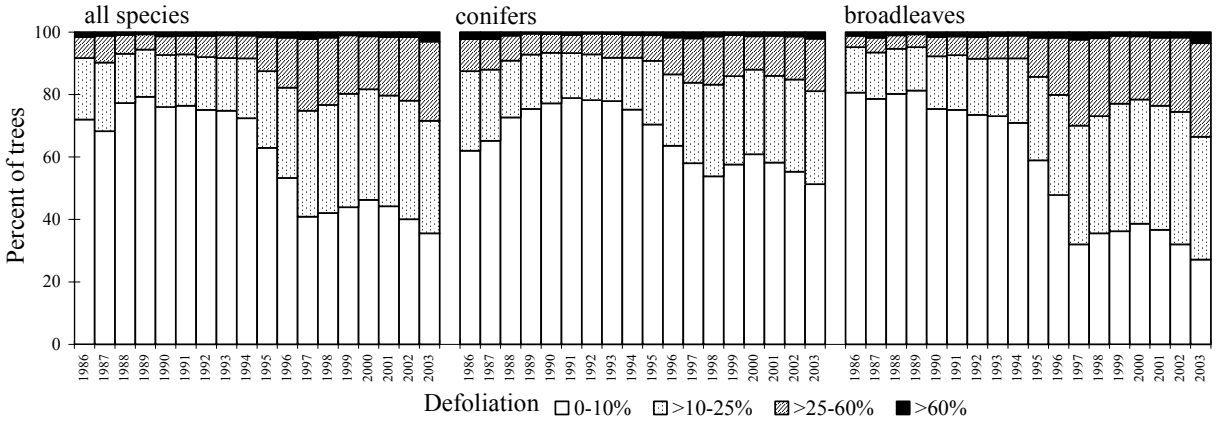
Estonia



Finland

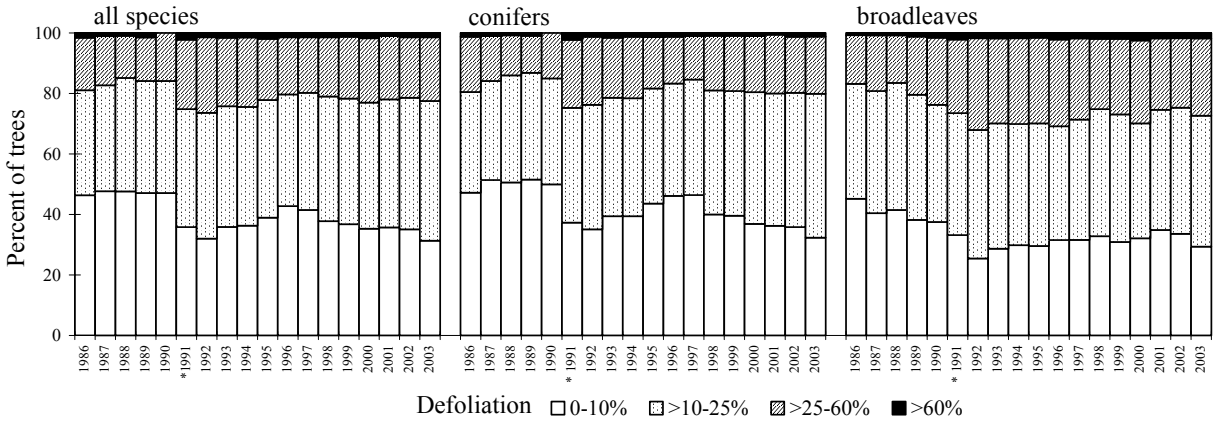


France *



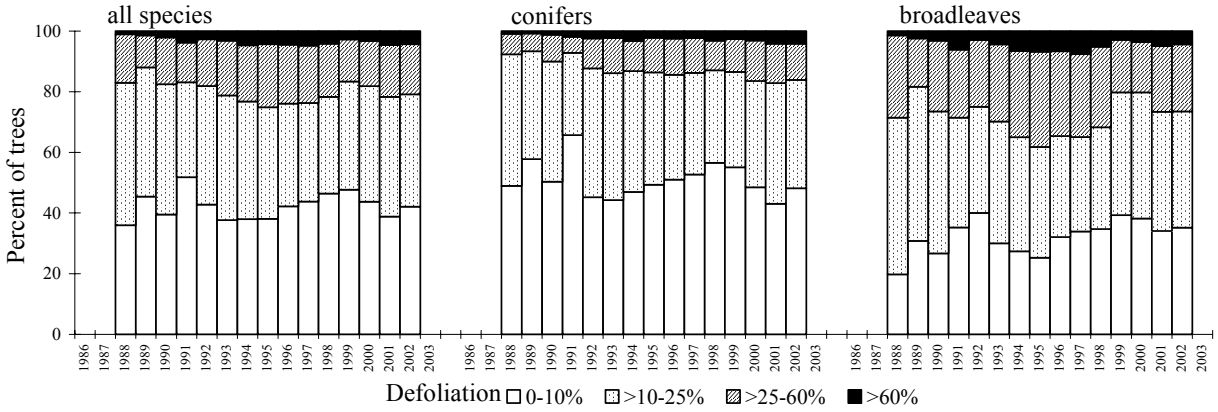
***** due to methodological changes, only the time series 1988-94 and 1997-99 are consistent, but not comparable to each other.

Germany

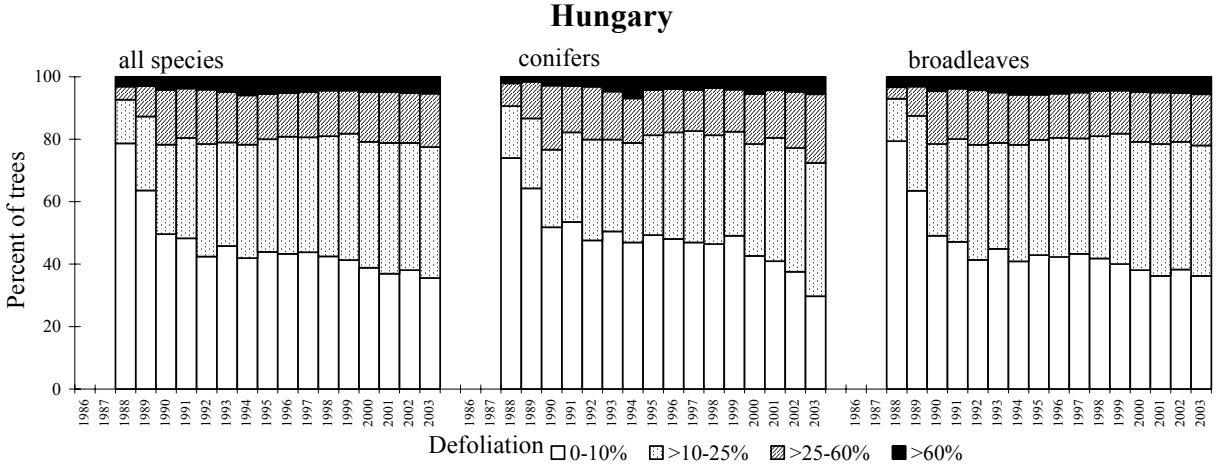


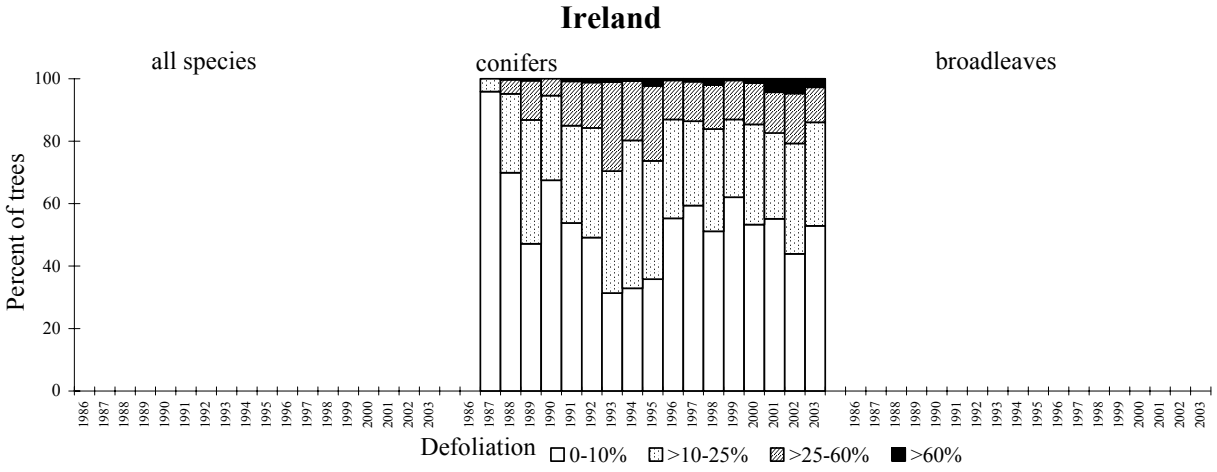
* since 1991 with former GDR

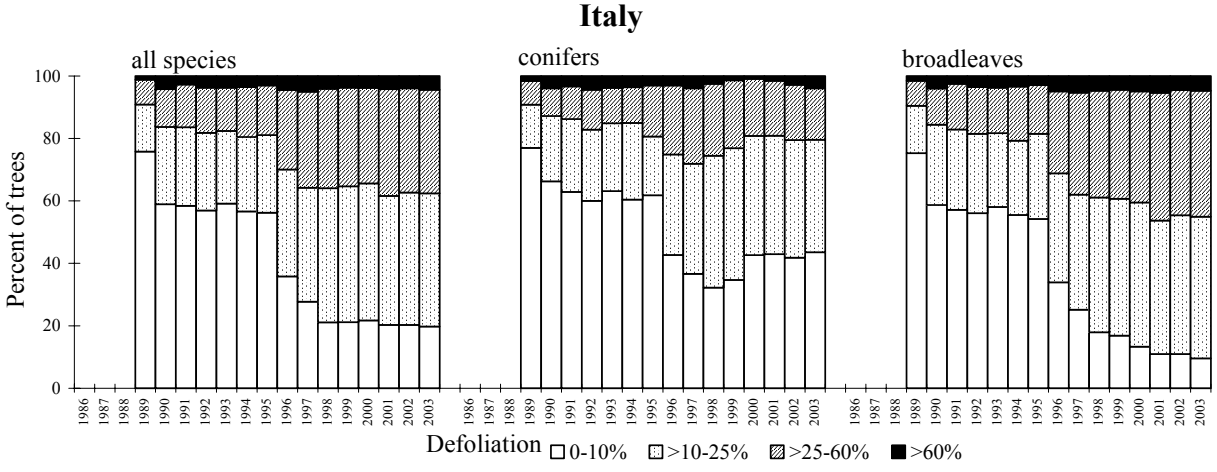
Greece

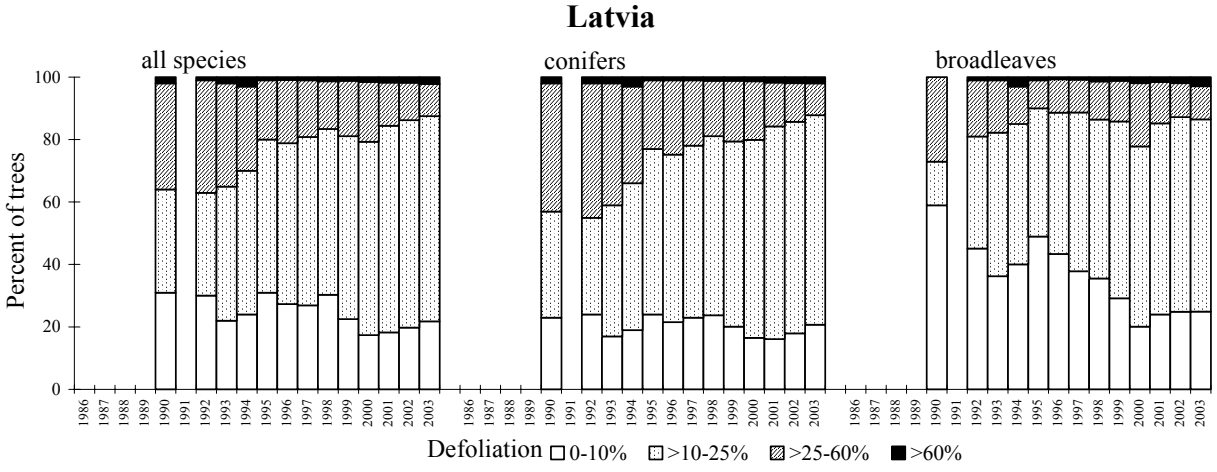


Hungary

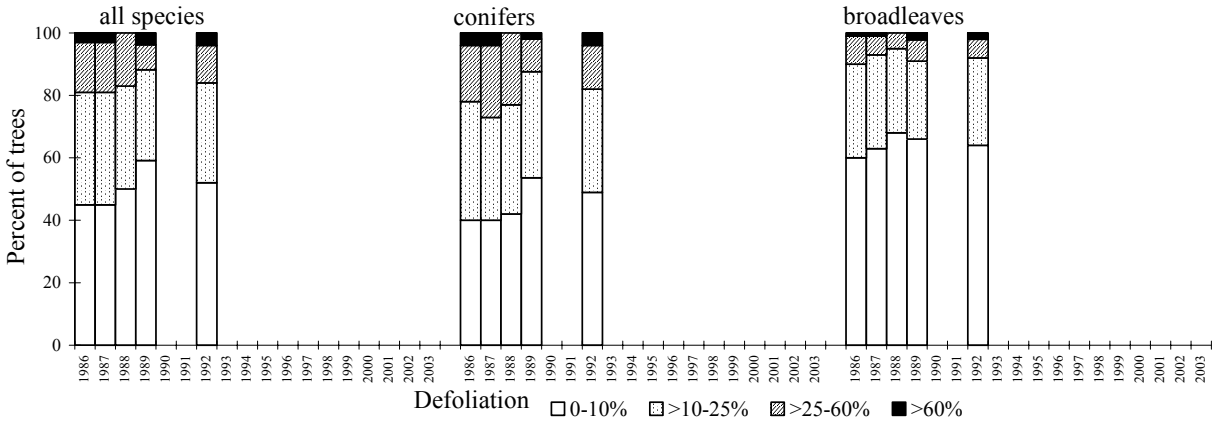



Ireland
all species
conifers
broadleaves
Percent of trees
Defoliation
0-10%
>10-25%
>25-60%
>60%

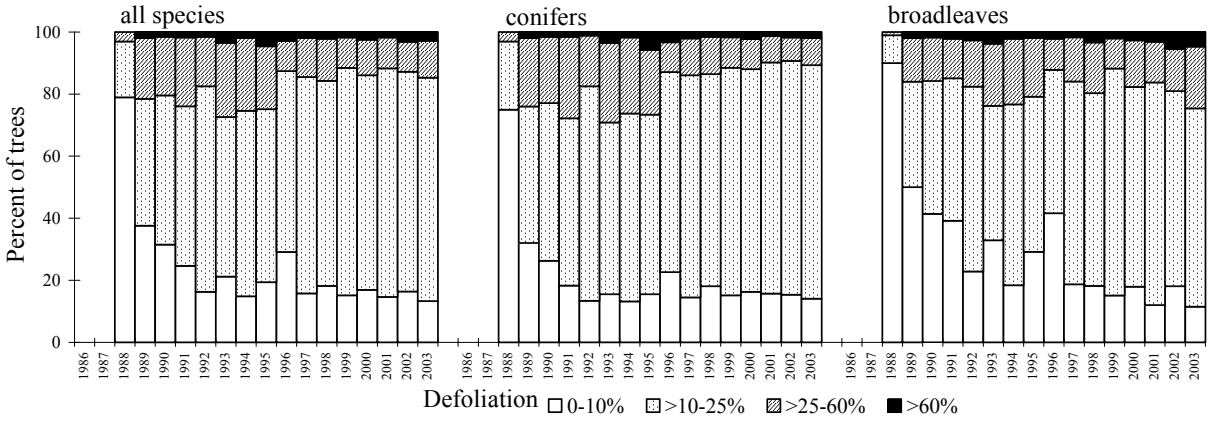

Italy
all species
conifers
broadleaves
Percent of trees
Defoliation
0-10%
>10-25%
>25-60%
>60%


Latvia
all species
conifers
broadleaves
Percent of trees
Defoliation
0-10%
>10-25%
>25-60%
>60%

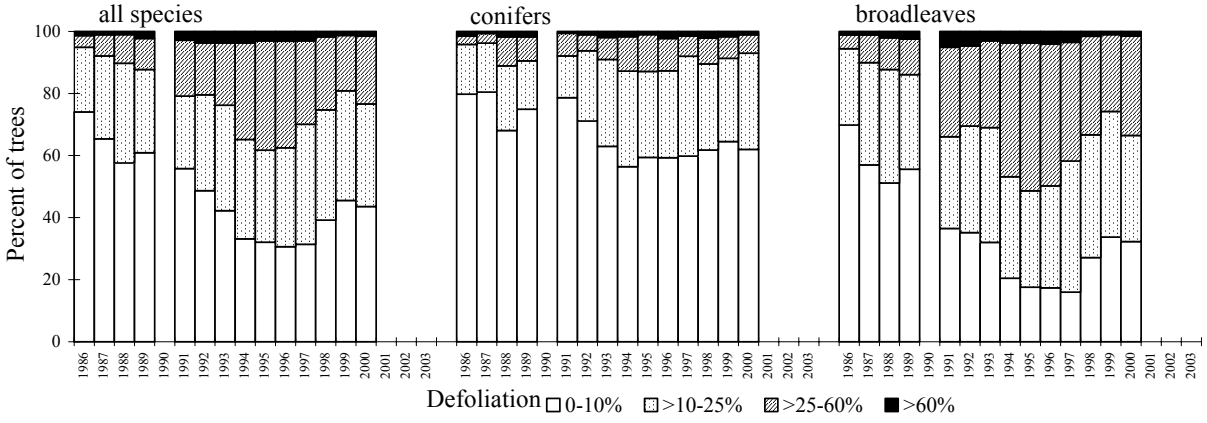
Liechtenstein



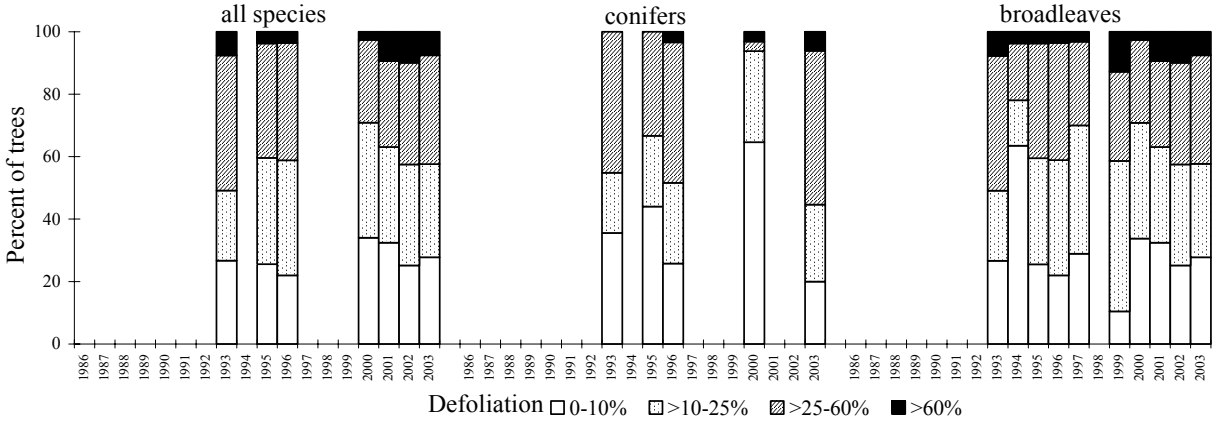
Lithuania



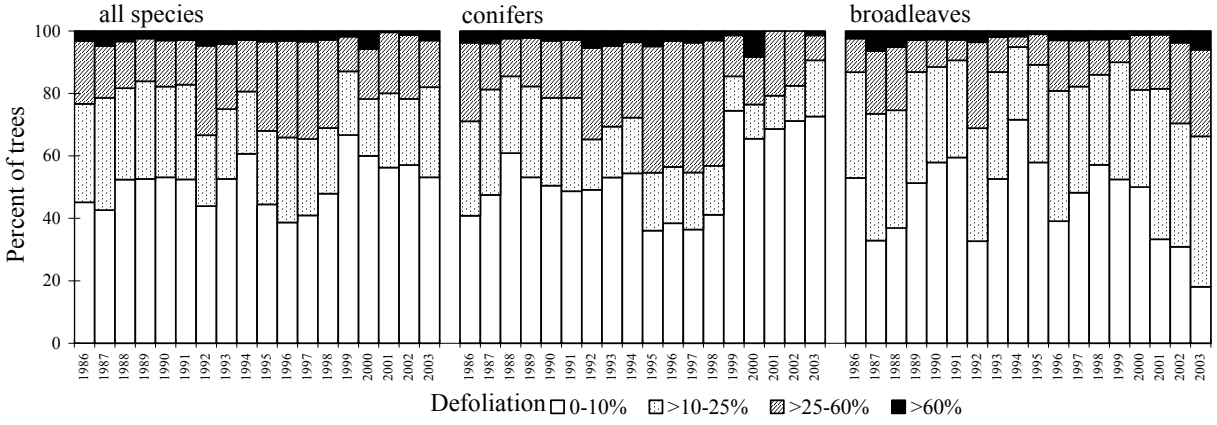
Luxembourg



Republic of Moldova

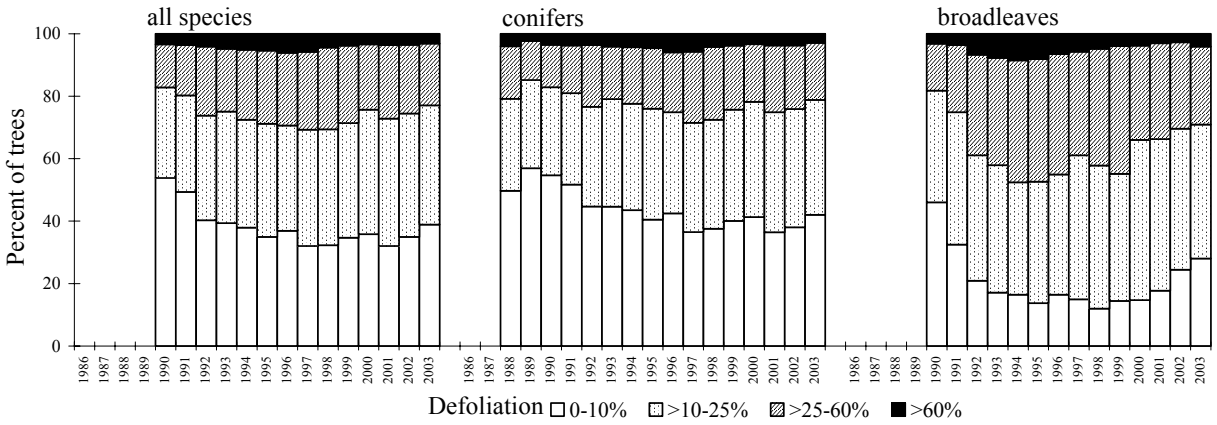


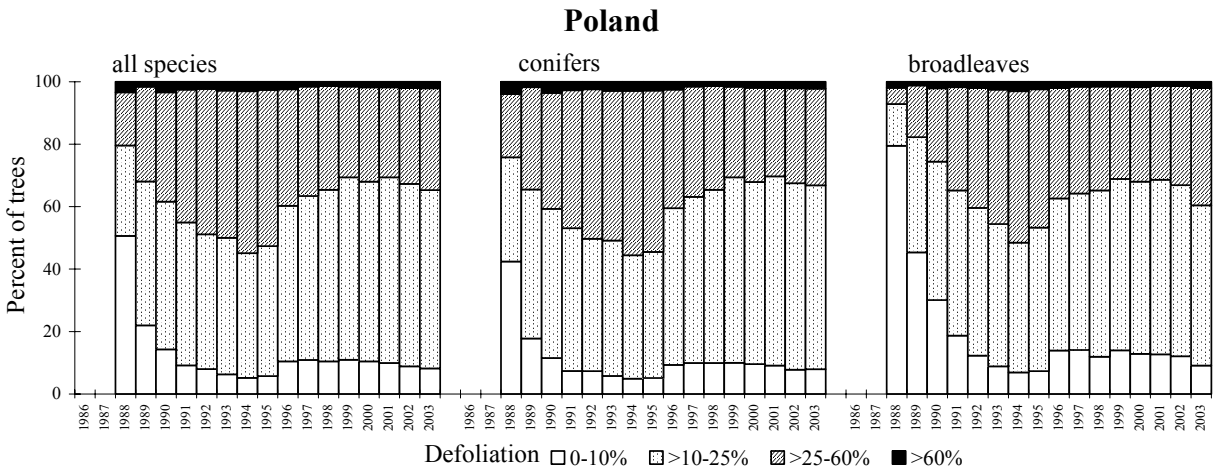
The Netherlands

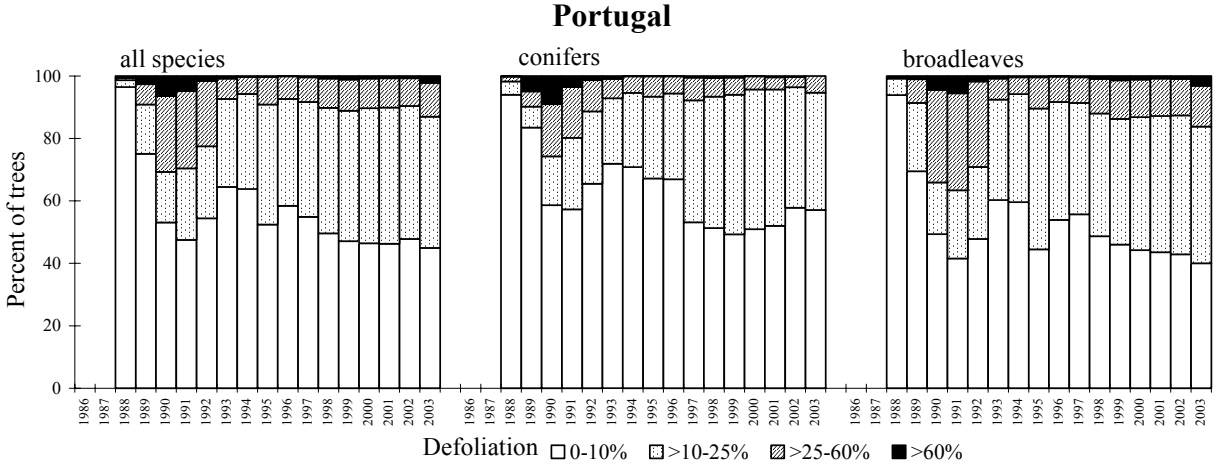


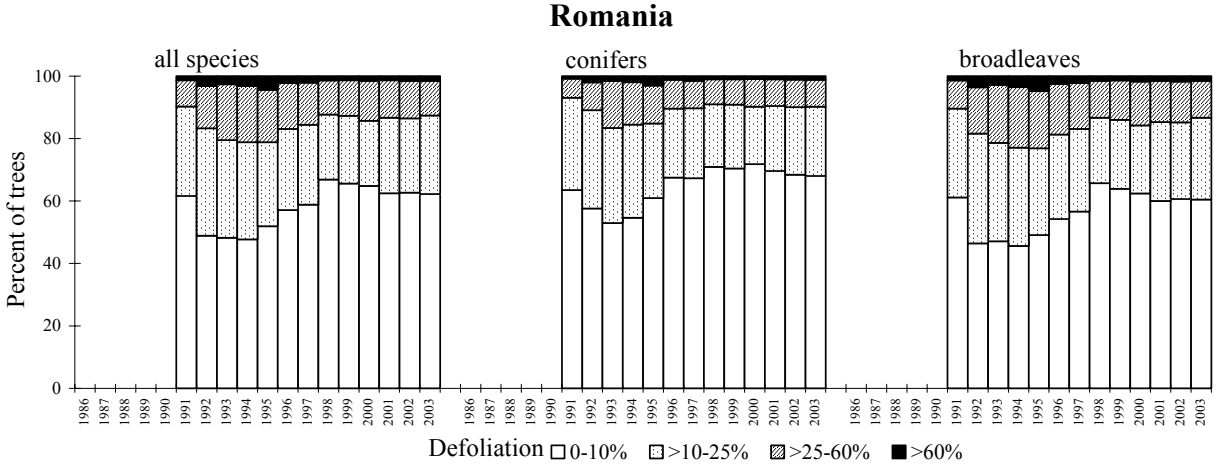
1989-1994: 1500 plots, 1995-1998: 200 plots, since 1999: 11 plots

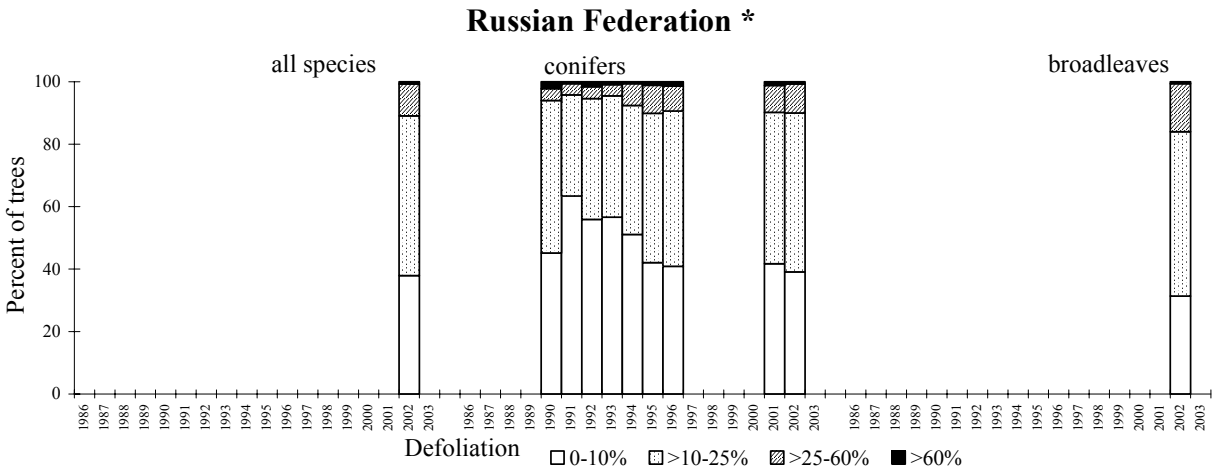
Norway



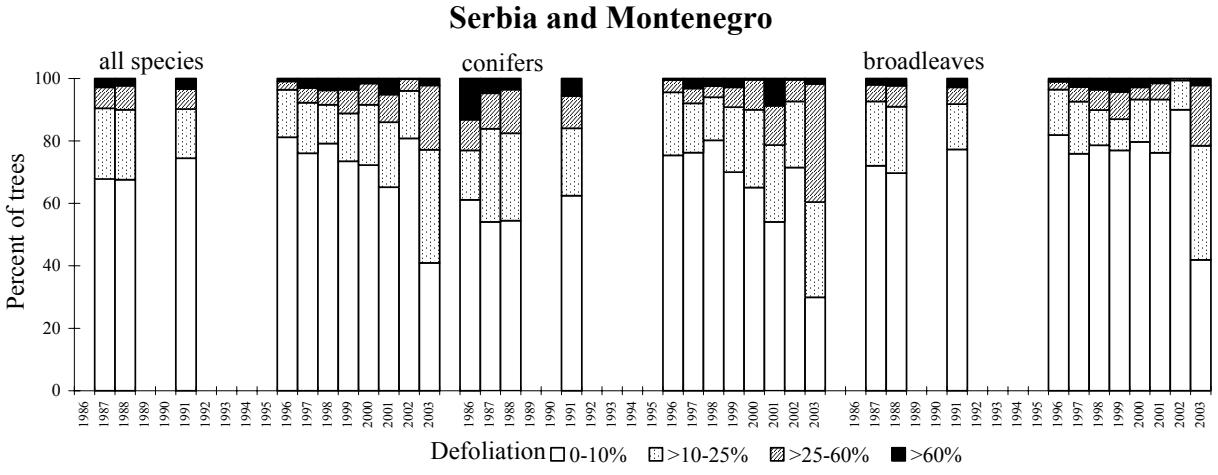

Poland
all species
conifers
broadleaves
Percent of trees
Defoliation 0-10% >10-25% >25-60% >60%

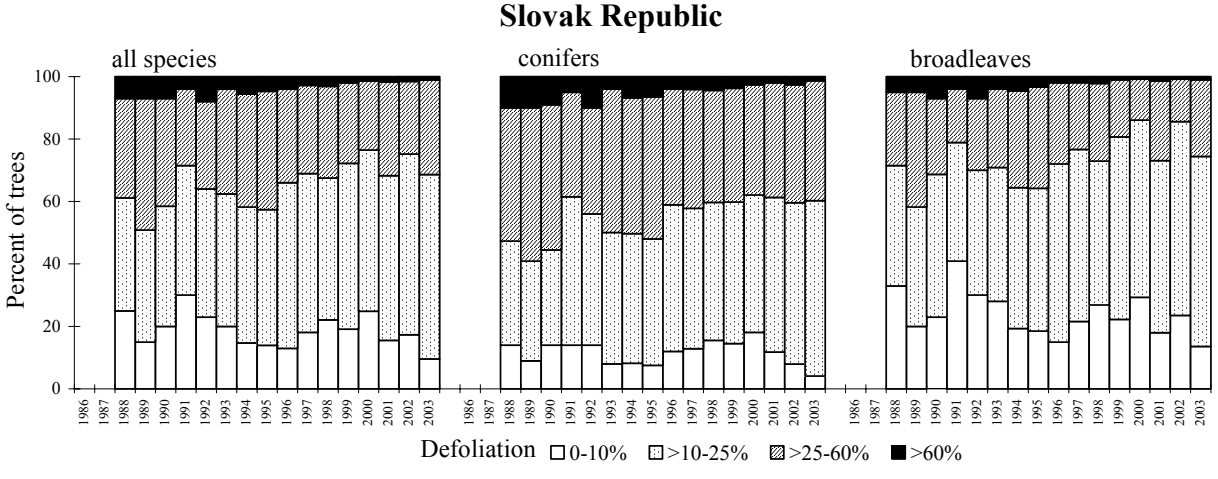

Portugal
all species
conifers
broadleaves
Percent of trees
Defoliation 0-10% >10-25% >25-60% >60%

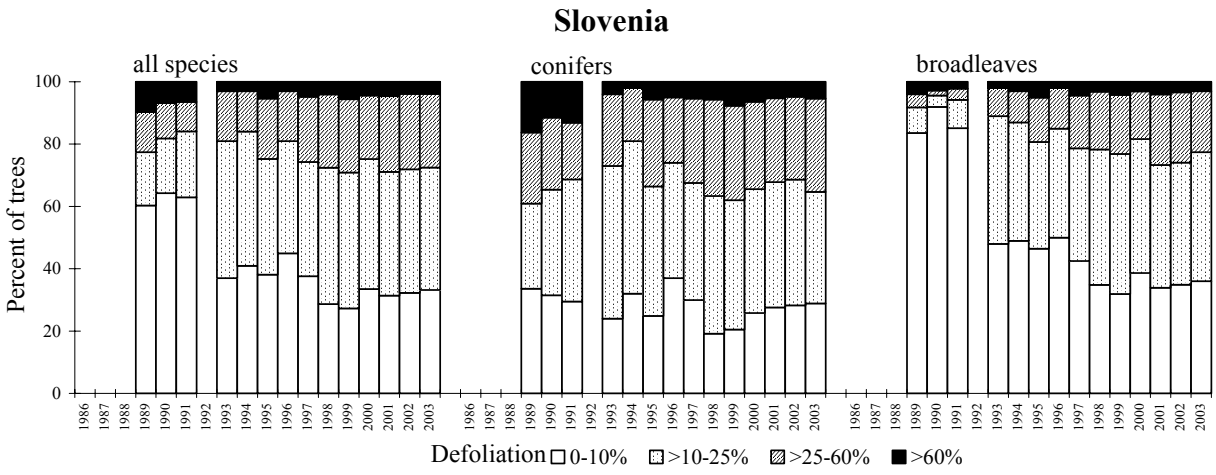

Romania
all species
conifers
broadleaves
Percent of trees
Defoliation 0-10% >10-25% >25-60% >60%

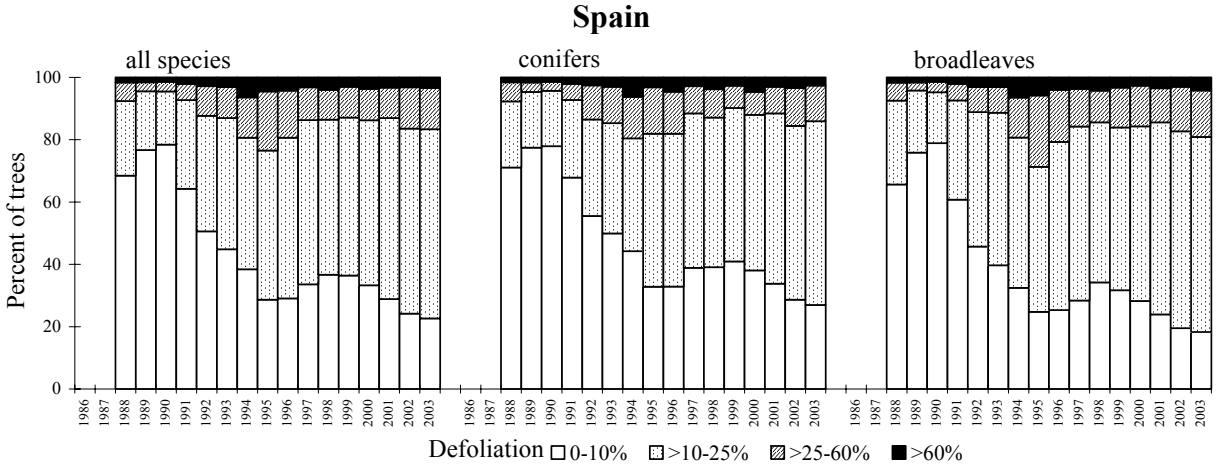


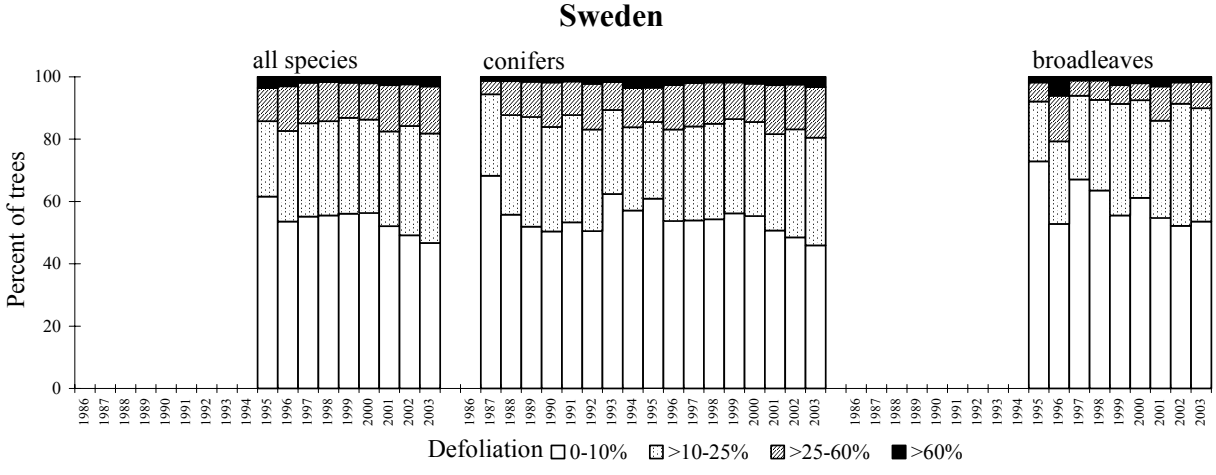
* Only regional surveys in north-western and Central European parts of Russia.



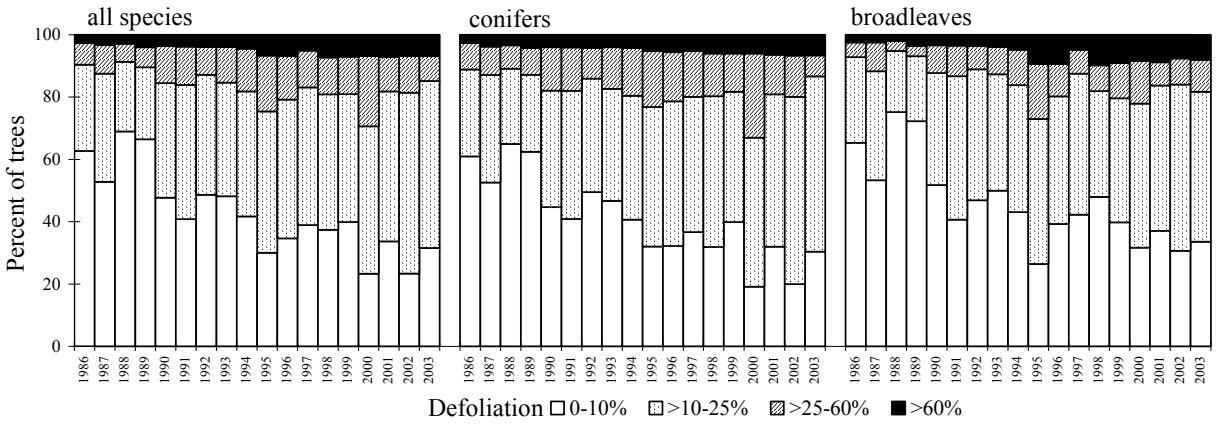



Slovenia
all species
conifers
broadleaves
Percent of trees
Defoliation 0-10% >10-25% >25-60% >60%

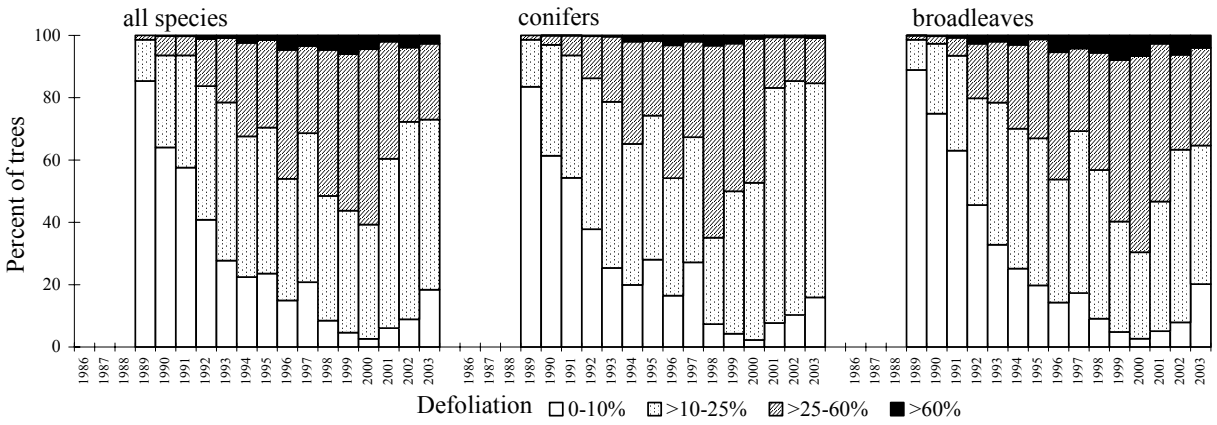

Spain
all species
conifers
broadleaves
Percent of trees
Defoliation 0-10% >10-25% >25-60% >60%


Sweden
all species
conifers
broadleaves
Percent of trees
Defoliation 0-10% >10-25% >25-60% >60%

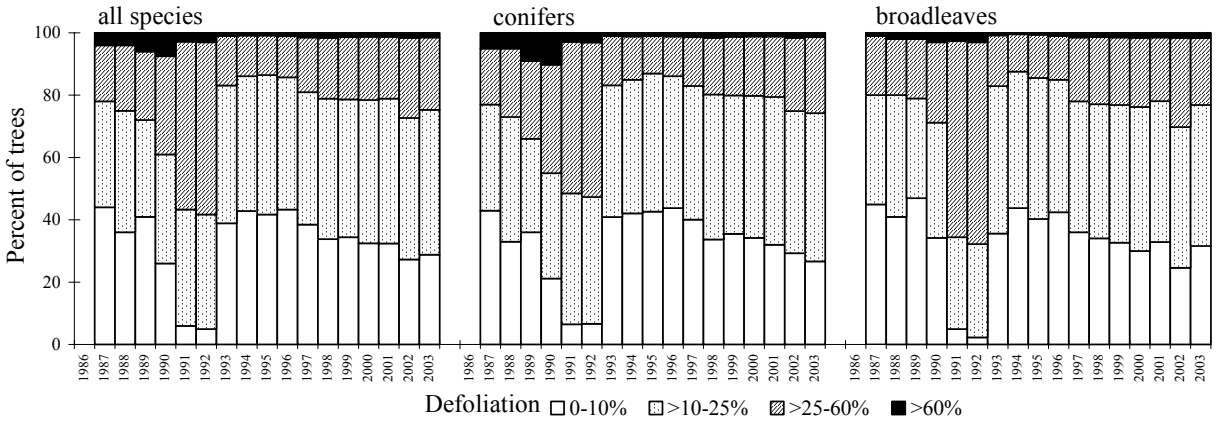
Switzerland



Ukraine



United Kingdom



after 1992 change of assessment method in line with that used in other countries

Annex III
Main species referred to in the text

Botanical name	Danish	Dutch	English	Finnish	French	German
Fagus sylvatica	Bøg	Beuk	Common beech	Pyökki	Hêtre	Rotbuche
Quercus petraea	Vintereg	Wintereik	Sessile oak	Talvitammi	Chêne rouvre	Traubeneiche
Quercus robur	Stilkeg	Zomereik	European oak	Metsätammi	Chêne pédonculé	Stieleiche
Quercus ilex	Steneg	Steeneik	Holm oak	Rautatammi	Chêne vert	Steineiche
Quercus suber	Korkeg	Kurkeik	Cork oak	Korkkitammi	Chêne liège	Korkeiche
Pinus sylvestris	Skovfyr	Grove den	Scots pine	Metsämänty	Pin sylvestre	Gemeine Kiefer
Pinus nigra	Østrigsk fyr	Oostenrijkse Corsicaanse zwarte den	Corsican/ Austrian black pine	Euroopanmustamänty	Pin noir	Schwarzkiefer
Pinus pinaster	Strandfyr	Zeeden	Maritime pine	Rannikkomänty	Pin maritime	Seestrandkiefer
Pinus halepensis	Aleppofyr	Aleppoden	Aleppo pine	Aleponmänty	Pin d'Alep	Aleppokiefer
Picea abies	Rødgran	Fijnspar	Norway spruce	Metsäkuusi	Epicéa commun	Rotfichte
Picea sitchensis	Sitkagran	Sitkaspar	Sitka spruce	Sitkankuusi	Epicéa de Sitka	Sitkafichte
Abies alba	Ædelgran	Zilverden	Silver fir	Saksanpihta	Sapin pectiné	Weißtanne
Larix decidua	Lærk	Europese lariks	European larch	Euroopanlehtikuusi	Mélèze d'Europe	Europäische Lärche

Botanical name	Greek	Italian	Portuguese	Russian	Spanish	Swedish
Fagus sylvatica	Οξυά δασική	Faggio	Faia	бук лесной	Haya	Bok
Quercus petraea	Δρυς απόδισκος	Rovere	Carvalho branco Americano	дуб скальный	Roble albar	Bergek
Quercus robur	Δρυς ποδισκοφόρος	Farnia	Carvalho roble	дуб черещатый	Roble común	Ek
Quercus ilex	Αριά	Leccio	Azinheira	дуб каменный	Encina	Stenek
Quercus suber	Φελλοδρύς	Sughera	Sobreiro	дуб пробковый	Alcornoque	Korkek
Pinus sylvestris	Δασική πεύκη	Pino silvestre	Pinheiro silvestre	сосна обыкновенная	Pino silvestre	Tall
Pinus nigra	Μαύρη πεύκη	Pino nero	Pinheiro Austríaco	сосна чёрная	Pino laricio	Svarttall
Pinus pinaster	Θαλασσία πεύκη	Pino marittimo	Pinheiro bravo	сосна приморская	Pino negral	Terpentintall
Pinus halepensis	Χαλέπιος πεύκη	Pino d'Aleppo	Pinheiro de alepo	сосна алеппская	Pino carrasco	Aleppotall
Picea abies	Ερυθρελάτη υψηλή	Abete rosso	Picea	ель европейская	Abeto rojo	Gran
Picea sitchensis	Ερυθρελάτη	Picea di Sitka	Picea de Sitka	ель ситхинская	Picea de Sitka	Sitkagran
Abies alba	Λευκή ελάτη	Abete bianco	Abeto branco	пихта белая	Abeto común	Sivergran
Larix decidua	Λάριξ ευρωπαϊκή	Larice	Larício Europeu	литвенница европейская	Alerce	Europeisklärk

Annex IV

Testing statistical significance of the differences in mean plot defoliation between two years of assessment.

Differences between mean plot defoliation were statistically examined for Common Sample Plots (CSPs) using the following test statistic:

$$t = \frac{\left|\bar{x}_{2003} - \bar{x}_{2002}\right|}{\sqrt{\frac{s^2}{n_{2003}} + \frac{s^2}{n_{2002}}}}$$

where $\bar{x}_{2002} - \bar{x}_{2001}$ is the difference in mean plot defoliation between the assessments in 2002 and 2003,

s - the standard deviation of these differences,

n_{2003}, n_{2002} - number of sample trees on plots being tested.

The standard deviation s is calculated as follows

$$s = \sqrt{\frac{(n_{2003} - 1)s_{2003}^2 + (n_{2002} - 1)s_{2002}^2}{n_{2003} + n_{2002} - 2}}$$

with standard deviations s_{2003}, s_{2002} derived from the defoliation scores for the years 2003 and 2002 on the plots investigated.

The minimal difference for qualifying a plot as having changed its mean defoliation was 5% and more. This applies to the map in Annex I-7. This additional criterion to the formal statistical test was chosen since 5% is the highest accuracy in the assessment of defoliation in the field.

Annex V
Addresses
1. UN/ECE, ICP Forests and the European Union Scheme

UN/ECE	United Nations Economic Commission for Europe Environment and Human Settlements Division Air Pollution Unit Palais des Nations CH-1211 GENEVA 10 Phone: +41 22 91 71 234/-91 72 358 Fax: +41 22 90 70 107 e-mail: keith.bull@unece.org; Matti.Johansson@unece.org Mr. Keith Bull Mr. Matti Johansson
ICP Forests	International Co-operative Programme on Assessment and Monitoring of Air Pollution Effects on Forests, Bundesministerium für Verbraucherschutz, Ernährung und Landwirtschaft– Ref. 533 Postfach 14 02 70 D-53107 BONN Phone: +49 228 529 4321/Fax: +49 228 529 4318 e-mail: thomas.haussmann@bmvel.bund.de Mr. Thomas Haußmann, Chairman of ICP Forests
PCC of ICP Forests	Programme Coordinating Centre of ICP Forests Bundesforschungsanstalt für Forst- und Holzwirtschaft Leuschnerstr. 91 D-21031 HAMBURG Phone: +49 40 739 62 119/Fax: +49 40 739 62 480 e-mail: lorenz@holz.uni-hamburg.de Internet: http://www.icp-forests.org Mr. Martin Lorenz
EC	European Commission DG ENV B.3 Avenue Beaulieu 9 B-1160 BRUSSELS Phone: +32 2 2957979/ Fax: +32 2 2968824 e-mail: robert.flies@cec.eu.int Internet: http://www.europa.eu.int/comm/environment Mr. Robert Flies

2. Expert Panels, WG and other Coordinating Institutions

Expert Panel on Soil Analysis	Laboratorium Bodemkunde Universiteit Gent Geologisch Instituut Krijgslaan 281 B-9000 GENT Phone: +32 9 264 46 37/Fax: +32 9 264 49 97 e-mail: eric.vanranst@rug.ac.be Mr. Eric van Ranst, Chairman / Ms D. Langouche

Expert Panel on Foliar Analysis	University of Oulu, Department of Biology P.O. Box 3000 FIN-90014, Oulu. Finland Phone: +358 8-553 1510/Fax: +358 8-553 1061 pasi.rautio@oulu.fi Mr. Pasi Rautio, Chairman
Expert Panel on Forest Growth	Eidgenössische Forschungsanstalt WSL Zürcherstr. 111 CH-8903 BIRMENSDORF Phone: +41 1 739 25 94/Fax: +41 1 739 22 15 e-mail: dobbertin@wsl.ch Mr. Matthias Dobbertin, Chairman
Expert Panel on Deposition Measurements	Office National des Forêts Boulevard de Constance F-77300 FONTAINEBLEAU Phone: +33 1 60 749221/Fax: +33 1 64 224973 e-mail: erwin.ulrich@onf.fr Mr Erwin Ulrich, Chairman Norwegian Forest Research Institute Hogskoleveien 12 N-1432 AS Phone: +47 64 94 8892/Fax: +47 64 94 2980 e-mail: Nicholas.clarke@skogforsk.no Mr Nicholas Clarke, Co-Chairman Working Group on Ambient Air Quality Landesumweltamt Nordrhein-Westfalen Wallneyer Str. 6 D-45133 ESSEN Phone: +49 2017 995 1215/Fax: +49 2017 995 1574 e-mail: Georg.Krause@lua.nrw.de Mr. Krause, Chairman CEAM c/Charles Darvin, 14 E-46980 VALENCIA e-mail: MJose@ceam.es Ms M. Sanz, Vice Chairwoman
Expert Panel on Crown Condition Assessment	Hessen Forst FIV Prof.-Oelkers-Str. 6 D-34346 HANN. MÜNDEN Phone: +49 5541 7004 16/Fax: +49 5541 7004 73 e-mail: eichhornj@forst.hessen.de Mr. Johannes Eichhorn, Chairman Mr. Marco Ferretti, Vice-chairman e-mail: m.ferretti@linnaea.org Mr. Andras Szepesi, Vice-chairman e-mail: szepesi.andras@aesz.hu

Expert Panel on Vegetation Assessment	Norwegian Forest Research Institute Høgskolevn. 12 N-1432 ÅS Phone: +47 64 94 89 92/Fax: 47 64 94 29 80 e-mail: dan.aamlid@skogforsk.no Mr. Dan Aamlid, Chairman
Expert Panel on Phenology and Meteorology	Danish Forest and Landscape Research Institute Hörsholm Kongevej 11 DK-2970 HÖRSHOLM Phone: +45 4517 8224/Fax: +45 45 76 32 33 e-mail: ab@kvl.dk Ms Annemarie Bastrup-Birk, Chairwoman
	Finnish Forest Research Institute Punkaharju Research Station FIN-58450 PUNKAHARJU Phone: +358 211 4010/Fax: +358 211 4001 e-mail: egbert.beuker@metla.fi Mr. Egbert Beuker, Co-chairman Phenology
WG on Remote Sensing	Working Group on Remote Sensing Applications on Forest Health Assessment Albert-Ludwigs-Universität Freiburg Abteilung Fernerkundung und LIS D-79085 FREIBURG Phone: +49 761 203 3696/Fax: +49 761 203 3701 e-mail: grosscp@felis.uni-freiburg.de Mr. Claus-Peter Gross, Coordinator
FFCC	Bundesamt und Forschungszentrum für Wald Seckendorff-Gudent-Weg 8 A-1131 WIEN Phone: +43-1-87838-1114/ Fax:+43-1-87838-1250 e-mail: alfred.fuerst@bfw.gv.at Mr Alfred Fürst
FSCC	Institute for Forestry and Game Management Gaverstraat 4 B-9500 GERAARDSBERGEN Tel. +32 54 43 71 15/Fax: +32 54 43 61 60 e-mail: peter.roskams@lin.vlaanderen.be Mr. Peter Roskams

3. Ministries (Min) and National Focal Centres (NFC)

Albania (Min) (NFC)	Ministry of the Environment Dep. of Biodiversity and Natural Resources Management Rruga e Durresit Nr. 27 TIRANA (ALBANIA) Phone: +355 4 270 630 7 624 FaxPhone: +355 4 270 623 e-mail: cep@cep.tirana.al Ms Elvana Ramaj

Andorra
(Min)
(NFC)

Ministry of Agriculture and Environment
Environmental Department
C/Prat de la Creu núm. 62-64
ANDORRA la Vella
Phone : +376-875707 / +376-869833
e-mail : silviac@andorra.ad
Ms Silvia Calvó

Austria
(NFC)

Bundesamt und Forschungszentrum für Wald
Institut für Waldwachstum und Betriebswirtschaft
Seckendorff-Gudent-Weg 8
A-1131 WIEN
Phone: +43 1 878 38 1330/Fax: +43 1 878 38 1250
e-mail: ferdinand.kristoefel@bfw.gv.at
Mr. Ferdinand Kristöfel
markus.neumann@bfw.gv.at
Mr. Markus Neumann

(Min)

Bundesministerium für Land- und Forstwirtschaft,
Umwelt und Wasserwirtschaft
Marxergasse 2
A-1030 WIEN
Phone: +43 1 71100 7218/Fax: +43 1 71100 7399
e-mail: rudolf.themessl@bmlf.gv.at
Mr. R. Themessl

Belarus
(NFC)

Forest Inventory republican unitary company
"Belgosles"
27, Zheleznodorozhnaja St.
220089 MINSK
Belarus
Phone: +375 17 2263105/Fax: +375 17 226 3092
e-mail: belgosles@open.minsk.by
Mr. V. Kastsiukevich

(Min)

Committee of Forestry
Chkalov-Street 6
220039 MINSK
Belarus
Phone: +375 172 24 03/Fax: +375 172 24 41 83
Mr. N. T. Yushkevich

Belgium
Wallonia
(Min)
(NFC)

Ministère de la Région Wallonne
Div. de la Nature et des Forêts
Dir. des Ressources Forestières
Avenue Prince de Liège, 15
B-5000 NAMUR
Phone: +32 81 33 58 42/Fax: +32 81 33 58 33
e-mail: c.laurent@mrw.wallonie.be
Mr. C. Laurent
Mr. E. Gérard

Flanders (Min)	AMINAL – Forest and Green Areas Division Graf de Ferraris-gebouw Emile Jacqmainlaan 156 – bus 8 B-1000 BRUSSELS Phone: +322 553 81 02/Fax: +322 553 81 05 e-mail: carl.deschepper@lin.vlaanderen.be Mr. Carl De Schepper
Flanders (NFC)	Institute for Forestry and Game Management Gaverstraat 4 B-9500 GERAARDSBERGEN Tel. +32 54 43 71 15/Fax: +32 54 43 61 60 e-mail: peter.roskams@lin.vlaanderen.be Mr. Peter Roskams
Bulgaria (Min) (NFC)	Ministry of Environment and Waters National Centre of Environment and Sustainable Development 136, Tzar Boris III blvd. BG-1618 SOFIA Phone: +359 2 955 98 11/Fax:+359 2 955 90 15 e-mail: forest@nfp-bg.eionet.eu.int Ms. Penka Stoichkova / Mr. Dimitar Kantardjiev (Level I) e-mail: forest@nfp-bg.eionet.eu.int Ms Genoveva Popova (Level II)
Canada (Min) (NFC)	Canadian Forest Service Forest Health Science Branch 580 Booth Street – 7th Floor CDN-OTTAWA, ONT K1A 0E4 Phone: +1 613 947 9015/Fax: +1 613 947 9090 e-mail: hirvonen@nrcan.gc.ca Mr. Harry Hirvonen
Quebec (Min) (NFC)	Ministère des Ressources naturelles Direction de la recherche forestière Forêt Quebec Complexe scientifique 2700, Einstein CDN-STE. FOY - QUEBEC G1P 3W8 Phone: + 418 643-7994 Ext. 384/Fax: + 418 643-2165 e-mail: rock.ouimet@mrn.gouv.qc.ca Mr. Rock Ouimet
Croatia (NFC)	Sumarski Institut Cvjetno Naselje 41 10450 JASTREBARSKO Phone: +385 1 6273 000/Fax: + 385 1 6273 035 e-mail: josog@sumins.hr Mr. Joso Gracan

Cyprus	Ministry of Agriculture,
(Min)	Natural Resources and Environment
(NFC)	Cyprus Forestry Department
	P.O.Box 4157
	CY-1414-LEFKOSIA, Cyprus
	Phone: +357 22 303836/Fax: +357 22 303935
	e-mail: Publicity@cytanet.com.cy
	Mr. Andreas K. Christou
Czech Republic	Forestry and Game Management
(NFC)	Research Institute (VULHM)
	Strnady 136
	CZ-15604 PRAHA 516, Zbraslav
	Phone: +420 2 57892222
	/Fax: +420 2 57921444
	e-mail: lomsky@vulhm.cz
	Mr Bohumir Lomsky
(Min)	Ministerstvo zemedelstvi CR,
	Odbor lesniho hospodarstvi
	Tesnov 17
	CZ-11705 PRAHA 1
	Phone: +42 02 2181 2677/Fax: +420 2 2181 2988
	Mr Tomas Krejzar
Denmark	Danish Forest and Landscape Research Institute
(NFC)	Hörsholm Kongevej 11
	DK-2970 HÖRSHOLM
	Phone: +45 4517 8224/Fax: +45 45 76 32 33
	e-mail: ab@kvl.dk
	Ms Annemarie Bastrup-Birk
(Min)	Minstry of Environment and Energy
	Danish Forest and Nature Agency
	Haraldsgade 53
	DK-2100 COPENHAGEN
	Phone: +45 3947 2000/Fax: +45 3927 9899
	e-mail:k06@sns.dk
	Ms Agnete Thomsen
Estonia	Estonian Centre for Forest Protection and Silviculture
(NFC)	Rôômu tee 2
	EE-51013 TARTU
	Phone:+3727 339 713/Fax: +3727 339 464
	e-mail: mmk@uninet.ee / kalle.karoles@metsad.ee
	Mr. Kalle Karoles, Director
(Min)	Ministry of Environment
	Forest Department
	Bureau of Ecosystems
	Toompuiestee 24
	EE-15172 TALLINN
	Phone: +27 2 6262902/Fax:+2726 262 801
	e-mail: olav.etverk@ekm.envir.ee
	Mr. Olav Etverk

Finland	Finnish Forest Research Institute
(NFC)	(METLA) Parkano Research Station Kaironiementie 54 FIN-39700 PARKANO Phone: +358 10 211 4010 / Fax: +358 10 211 4001 e-mail: john.derome@metla.fi Mr. John Derome
(Min)	Ministry of Agriculture and Forestry, Department of Forestry Hallituskatu 3 A - Helsinki P.O.Box 30, FIN-00023 GOVERNMENT, Finland Phone: +358 9 160 52407 / Fax +358 9 160 52430 e-mail: anne.vehvilainen@mmm.fi Ms Anne Vehvilainen
France	Ministère de l'agriculture, de l'alimentation,
(Min)	de la pêche et des affaires rurales
(NFC)	Direction de l'espace rural et de la forêt Département de la santé des forêts 19, avenue du Maine F-75732 PARIS Cedex 15 Phone: +33 1 49 55 51 95/Fax: +33 1 49 55 57 67 e-mail : jean-luc.flot@agriculture.gouv.fr Mr. Jean Luc Flot
Germany	Bundesministerium für Verbraucherschutz,
(Min)	Ernährung und Landwirtschaft– Ref. 533
(NFC)	D-53107 BONN Phone: +49 228 529 4321/Fax: +49 228 529 4318 e-mail: thomas.haussmann@bmvel.bund.de Mr. Thomas Haußmann
Greece	Institute of Mediterranean Forest Ecosystems
(NFC)	Terma Alkmanos P.O. Box 14180 GR-11528 ATHENS-ILISSIA Phone: +30210-7784240/Fax: +30210-7784602 e-mail: mpag@fria.gr, oika@fria.gr Mr. George Baloutsos, Mr. Anastasios Economou
(Min)	Ministry of Agriculture Gen. Secretariat for Forests and the Natural Environment Dir. of Forest Resource Development 3-5, Hyppokratous street GR-101 64 ATHENS Fax: +30 1 360 86 85 e-mail: daspro19@minagr.gr, d.vakalis@minagr.gr Mr. N. Efstathiadis, D. Vakalis
Hungary	Forest Management Planning Service
(NFC)	Széchenyi u. 14 H-1054 BUDAPEST 5 Phone: +36 1 37 43 216/Fax: +36-1-3743206 e-mail: szepesi.andras@aesz.hu Mr. Peter Csoka, Mr. Andras Szepesi

(Min) Ministry of Agriculture and Regional Development
Department of Forestry
Kossuth Lajos tér 11
H-1055 BUDAPEST
Phone: +36 1 301 4025/Fax: +36 1 301 4678
e-mail: tamas.szedlak@fvm.hu
Mr. Gyula Holdampf

Ireland
(NFC) Coillte Teoranta
Research and Development
Newtownmountkennedy
IRL- CO. WICKLOW
Phone: +353 120 11 162/Fax: +3531 20 111 99
e-mail: Pat.Neville@coillte.ie
Mr. Pat Neville

(Min) Ministry of the Marine and Natural Resources
Department of Forest Service
Leeson Lane
IRL-DUBLIN 2
Phone: +353 1 6199383/Fax: +353 1 6623180
kevin.collins@marine.irlgov.ie
Mr. Kevin Collins

Italy
(Min) Ministry for Agriculture and Forestry Policy
V Div. - National Forest Service
(NFC) Conecofor Service
Via Sallustiana 10
I-00187 ROMA
Phone: +39 06 466 56 523/Fax: +39 06 483 498
e-mail: conecofor@corpoforestale.it
Mr. Bruno Petriccione

Latvia
(Min) Ministry of Agriculture
Department of Forest Resources and Forest Economy
Republikas laukums 2
LV-1981 RIGA
Phone: +371 7027285/ Fax:+371 7027094
e-mail: lasma.abolina@zm.gov.lv
Ms Lasma Abolina

(NFC) State Forest Service of Latvia
Division of Environment Protection
13. Janvara iela 15
LV-1932 RIGA
Phone: +371 7222820/Fax: +371 7211176
e-mail: ieva.zadeika@vmd.gov.lv
Mrs Liene Suveizda

Liechtenstein
(Min) Amt für Wald, Natur und Landschaft
(NFC) Dr. Grass-Strasse 10
FL-9490 VADUZ
Phone: +423 236 64 01/Fax: +423 236 64 11
e-mail: felix.naescher@awnl.llv.li
Mr. Felix Näscher

Lithuania	State Forest Survey Service
(NFC)	Pramones ave. 11a LT-3031 KAUNAS Phone: +370 37 490210/Fax: +370 37 490251 e-mail: vmt@lvmi.lt Mr. Andrius Kuliesis
(Min)	Ministry of Environment Dep. of Forests and Protected Areas A. Juozapaviciaus g. 9 LT-2600 VILNIUS Phone: +370 2 723648/Fax: +370 2 72 20 29 e-mail: valdas.v@gamta.lt Mr. Valdas Vaiciunas
Luxembourg	Administration des Eaux et Forêts
(Min)	Service de l'Aménagement des Bois et de
(NFC)	l'Economie Forestière 16, rue Eugène Ruppert L-2453 LUXEMBOURG-Ville (Cloche d'Or) Phone: +352 402 201 206/Fax: +352 402201 250 e-mail: claude.parini@ef.etat.lu Mr. Claude Parini
Moldova	State Forest Agency
(Min)	124 bd. Stefan Cel Mare
(NFC)	MD-2001 CHISINAU / MOLDOVA Phone : +37322 27 23 06/Fax : +37322 2773 45 e-mail: safmoldsilva@yahoo.com Mr. Anatolie Popusoi
The Netherlands	Ministry of Agriculture, Nature Management & Fisheries
(NFC)	National Reference Centre for Nature, Forests and Landscape
(Min)	Postbus 30, Marijke wag 24 NL-6700 AA WAGENINGEN Phone: + 31 317 822860/ Fax: +31 317 47 49 30 e-mail: g.t.m.grimberg@eclnv.agro.nl Mr. Gerard Grimberg
Norway	Norwegian Forest Research Institute
(NFC)	Høgskolevn. 12 N-1432 ÅS Phone: +47 64 94 89 92/Fax: +47 64 94 29 80 e-mail: dan.aamlid@skogforsk.no Mr. Dan Aamlid
(Min)	Norwegian Pollution Control Authority (SFT) Dep. for Environmental Strategy Section for Environmental Monitoring P. O. Box 8100 Dep Strömsveien 96 N-0032 OSLO 1 Phone: +47 22 57 36 85/Fax: +47 22 67 67 06 e-mail: linn.bryhn-jacobsen@sft.no Ms Linn Bryhn Jacobsen

Poland	Forest Research Institute
(NFC)	Bitwy Warszawskiej 1920 nr. 3 PL-00973 WARSZAWA Phone: +48 22 822 32 01/Fax: +48 22 822 49 35 e-mail: j.wawrzoniak@ibles.waw.pl Mr. Jerzy Wawrzoniak
(Min)	Ministerstwo Srodowiska Ministry of Environment Wawelska 52/54 PL-00 922Warszawa Phone: +48 22 579 2580/Fax: +48 22 579 2290 e-mail: elenart@mos.gov.pl Mr. Edward Lenart
Portugal	Ministerio da Agricultura, da Desenvolvimento Rural
(Min)	e das Pescas
(NFC)	Direcçao Geral dos Recursos Florestas Av. Joao Crisostomo 28-46° P-1049-040 LISBOA Phone: +351 21 312 48 96/Fax: +351 21 312 49 87 e-mail: mbarros@dgrf.min-agricultura.pt Ms Maria Barros
Romania	Forest Research and Management Institute
(Min)	Sos. Stefanesti nr. 128 sector 2
(NFC)	RO-72904 BUKAREST Phone: +40 21 240 60 95/Fax: +40 21 240 68 45 e-mail: biometrie@icas.ro Mr. Romica Tomescu/ Mr. Ovidiu Badea
Russian Fed.	Ministry of Nature Resources (MINPRIRODA)
(Min)	Dept. of International Environment Cooperation Div. of International Conventions and Agreements B. Grusinskaya str. 4/6 RUS-MOSKVA D-242, GSP-5, Russia 123995 Fax: +7 095 254 8283 e-mail: karnat@mnr.gov.ru Ms Nataly Karpova
(NFC)	St. Petersburg State University (SpbSU) Biological Research Institute Oranienbaumskoe schosse 2 RUS-198504 Petrodvoretz, St. Petersburg Phone: +7 812 4277310/Fax: +7 812 4284677, 4277310 e-mail: corina@mail.dux.ru, Natalia.Goltsova@pobox.spbu.ru Mrs Natalia Goltsova
Serbia and Montenegro	Ministry for Protection of Natural Resources and Environment
(Min)	Directorate for Forest Republic of Serbia Dr. Ivana Ribara street 91 SCG -11000 BEOGRAD Phone: +381 11 361 63 68/Fax: 381 11 158 793 e-mail: ekabin@ekoserb.sr.yu / minpsum@ptt.yu Mr. Aleksandar Vasiljevic

(NFC)	Institute for Forestry Kneza Viseslava street 3 SCG -11000 BEOGRAD Phone: +381 11 553 454/Fax: +381 11 545 969 e-mail: inszasum@Eunet.yu / nevenic@Eunet.yu Mr. Radovan Nevenic
Slovak Republic (NFC)	Lesnicky vyskumny ustav T.G. Masaryka 22 SK-96092 ZVOLEN Phone: +421 45 5314 149/Fax: +421 45 5321 883 e-mail: tomas.bucha@fris.sk Mr. Tomás Bucha
(Min)	Ministerstvo podohospodarstva Dobrovicova 12 SK-81266 BRATISLAVA Phone: +4217 59266530 Fax: +4217 59266517 e-mail: carny@mpsr.sanet.sk Mr. Juraj Balkovic
Slovenia (NFC)	Gozdarski institut Slovenija Slovenian Forestry Institute Vecna pot 2 SLO-1000 LJUBLJANA Phone +3861 200 78 00/Fax:+3861 257 35 89 e-mail: marko.kovac@gozdis.si Mr. Marko Kovac
Spain (NFC)	Dirección General para la Biodiversidad (DGCN) Servicio de Protección de los Montes Contra Agentes Nocivos (SPCAN) Gran Vía de San Francisco, 4 E-28005 MADRID Phone: +3491 596 4812/Fax: +3491 596 48 72 e-mail: gsanchez@mma.es Mr. Sanchez Peña
(Min)	Ministerio de Medio Ambiente DGCN Dirección General para la Biodiversidad Gran Vía de San Francisco, 4 E-28005 MADRID Phone: +34 91 596 48 29/Fax: +34 91 596 48 71 e-mail: igdoncel@mma.es Mrs Ines González Doncel
Sweden (Min) (NFC)	National Board of Forestry Vallgatan 6 S-551 83 JÖNKÖPING Phone: +46 36 15 57 15/Fax: +46 36 16 61 70 e-mail: sture.wijk@svo.se Mr. Sture Wijk

Switzerland
(NFC)
Eidgenössische Forschungsanstalt für Wald,
Schnee und Landschaft (WSL)
Zürcherstr. 111
CH-8903 BIRMENSDORF
Phone: +41 1 739 25 95/Fax: +41 1 739 22 15
e-mail: kraeuchi@wsl.ch
Mr. Norbert Kräuchi

(Min)
Bundesamt für Umwelt, Wald und Landschaft
Eidgenössische Forstdirektion
Papiermühlestr. 172
CH-3003 BERN
Phone: +41 31 324 77 86/Fax: +41 31 324 77 89
e-mail: richard.volz@buwal.admin.ch
Mr. Richard Volz

Turkey
(NFC)
Ormancilik Arastirma Enstitüsü Müdürlügü
P.K. 24 Bahcelievler
TR-06561 GAZI-ANKARA
Phone: +90 312 21 31 734/Fax: +90 312 21 22 944
Mr. Yasar Simsek

(Min)
General Directorate of Forestry
Orman Genel Mudurlugu Gazi Tesisleri
APK 1 Nolu Bina
TR-06561 Gazi-Ankara
Phone: +90 312 212 80 42/Fax: +90 312 222 73 36
e-mail: apk@ogm.gov.tr
Mr Atatürk Ormanciftligi

Ukraine
(NFC)
Ukrainian Research Institute
of Forestry and Forest Melioration
Laboratory of Forest Monitoring and Certification
Pushkinskaja 86
UKR-61024 KHARKIV
Phone: +380 572 43 15 49 / Fax: +380 572 43 25 20
e-mail: buksha@uriffm.com.ua
Mr. Igor F. Buksha

(Min)
State Committee of Forestry
of the Ukrainian Republic
5, Chreshchatic
UKR-252001 KIEV
Phone: +380 44 22 8 78 58/Fax: +380 44 228 77 94
e-mail: yyy@mlg.kiev.ua
Mr. Victor Kornienko

United Kingdom
(NFC)
Forest Research Station
Alice Holt Lodge, Wrecclesham
UK-FARNHAM SURREY GU10 4LH
Phone: +44 1 420 526202/Fax: +44 1 420 23653
e-mail: andy.moffat@forestry.gsi.gov.uk
Mr. Andrew J Moffat

(Min)	Air and Environment Quality Division DETR Ashdown House, zone 4/F15 123 Victoria Street London SW1E 6DE United Kingdom Phone: +44 (0)20 7082 8373/Fax: +44 (0)20 7082 8385 e-mail: alison.vipond@detr.gsi.gov.uk Ms Alison Vipond
United States of America (NFC)	National Program Manager Forest Health Monitoring Program Forestry Sciences Laboratory P.O. Box 12254 USA-RESEARCH TRIANGLE PARK, NC 27709 Phone: +1 919 549 4020
(Min)	USDA Forest Service Wildlife, Fisheries, Watershed & Air Research P.O. Box 96090 USA-WASHINGTON, DC 20090-6090 Phone: +1 703 605 5280/Fax: +703 605 0279 e-mail: ariebau@fs.fed.us Mr Allen Robert Riebau, Ph.D.

For further information please contact:

Federal Research Centre for Forestry and Forest Products
PCC of ICP Forests
Dr. M. Lorenz
Leuschnerstr. 91
D-21031 HAMBURG
Internet: http://www.icp-forests.org