



# FORESTS IN SLOVAKIA

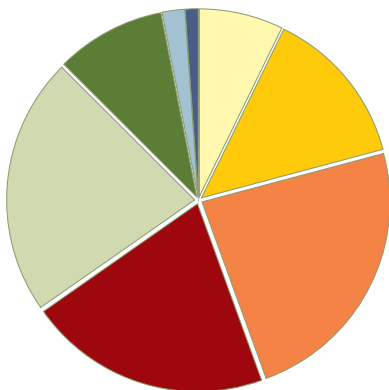


2015

# NATURAL CONDITIONS IN THE FORESTS IN SLOVAKIA

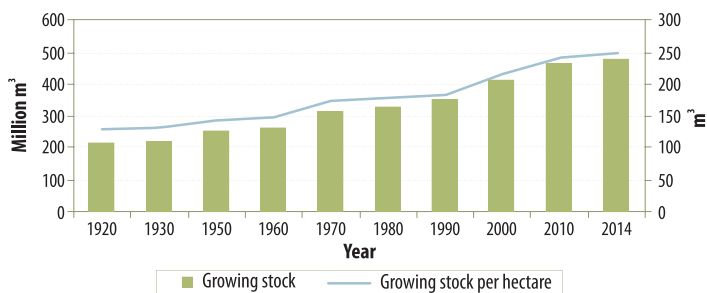
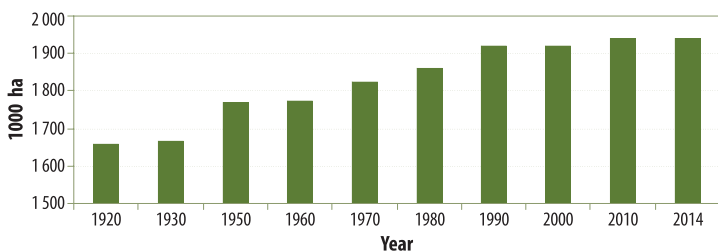
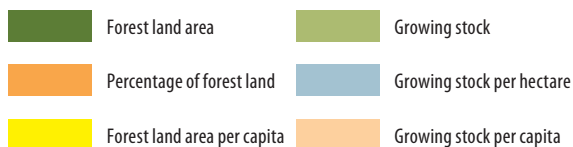
Area									Total
ha	138 605	265 571	460 202	405 203	427 567	183 192	40 387	21 265	1 941 992
%	7.1	13.7	23.7	20.9	22	9.4	2.1	1.1	100

## Altitudinal vegetation zone



# DEVELOPMENT OF BASIC DATA ON FORESTS IN SLOVAKIA

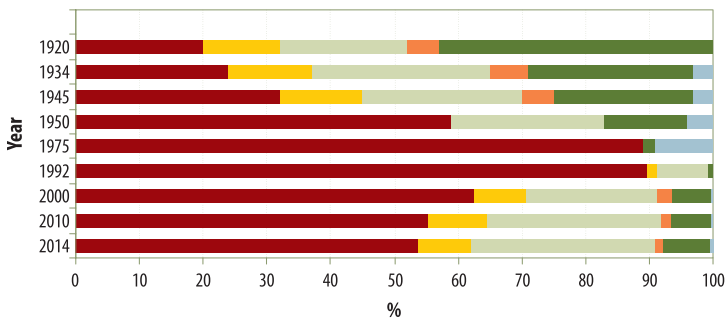
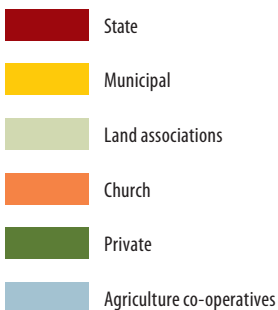
Indicators	Year										
	1920	1930	1950	1960	1970	1980	1990	2000	2010	2014	
1 000 ha	1 659	1 668	1 771	1 776	1 827	1 862	1 922	1 921	1 939	1 942	
%	33.9	34.1	36.1	36.2	37.3	38.0	39.2	39.2	41	41.1	
ha	0.55	0.50	0.51	0.45	0.40	0.37	0.36	0.36	0.36	0.36	
Mil. m <sup>3</sup>	213.3	217.9	251.2	258.8	313.3	324.0	348.5	410.0	462	476.6	
m <sup>3</sup> /ha	129	131	142	146	171	174	181	215	239	246	
m <sup>3</sup>	71	66	73	65	69	65	66	76	85	88	



# DEVELOPMENT OF THE USE OF FORESTS IN SLOVAKIA

Forest manager (user)	Year								
	1920	1934	1945	1950	1975	1992	2000	2010	2014
	%								
State	20	24	32	59	89	89.8	62.4	55.4	53.6
Municipal	12	13	13	0	0	1.5	8.5	9.1	8.5
Land associations	20	28	25	24	0	8.1	20.4	27.4	28.9
Church	5	6	5	0	0	0	2.4	1.4	1.2
Private	43	26	22	13	2	0.5	6.0	6.4	7.4
Agriculture co-operatives	0	3	3	4	9	0.1	0.3	0.3	0.4

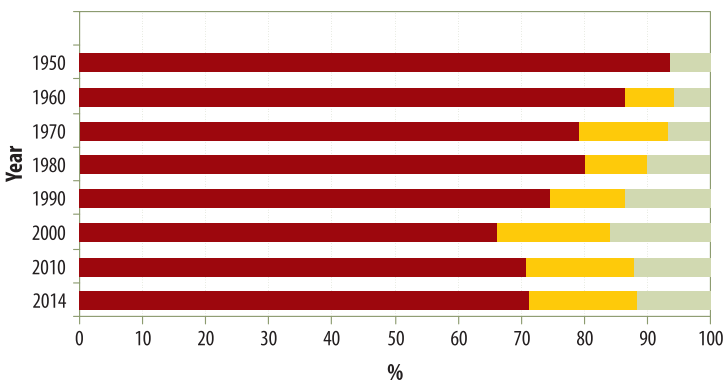
## Entities



# DEVELOPMENT OF FOREST CATEGORIES IN SLOVAKIA ACCORDING TO DOMINANT FUNCTIONS

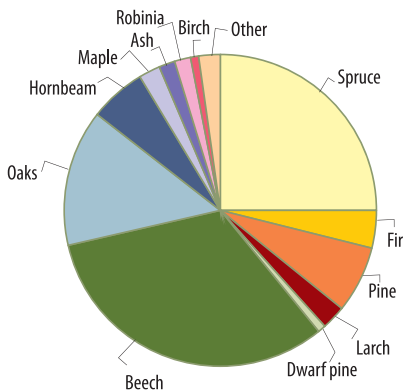
Forest categories	Year							
	1950	1960	1970	1980	1990	2000	2010	2014
	%							
Commercial	93.5	86.4	79.1	80.0	74.5	66.3	70.7	71.5
Special purpose	0.0	7.9	14.3	10.1	12.0	17.7	17.1	17.2
Protective	6.5	5.7	6.6	9.9	13.5	16.0	12.2	11.3

Forests



# TREE SPECIES IN THE FORESTS OF SLOVAKIA

Species		%
	Spruce	23.7
	Fir	4
	Pine	6.8
	Larch	2.5
	Dwarf pine	1.1
	Coniferous	38.15



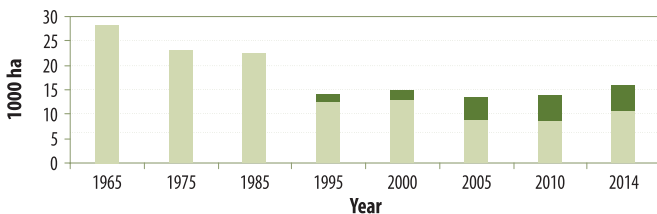
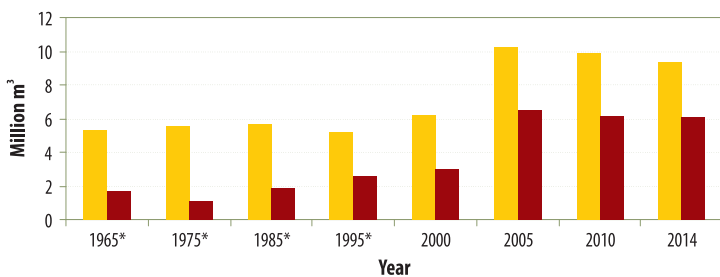
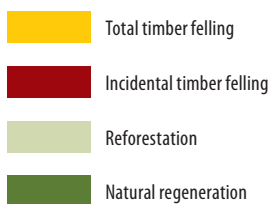
Broadleaved		%
	Beech	33.0
	Oaks	13.1
	Hornbeam	5.9
	Maple	2.4
	Ash	1.6
	Robinia	1.7
	Birch	1.5
	Other	2.65
	Broadleaved	61.85



# DEVELOPMENT OF INDICATORS OF MANAGEMENT IN THE FORESTS OF SLOVAKIA

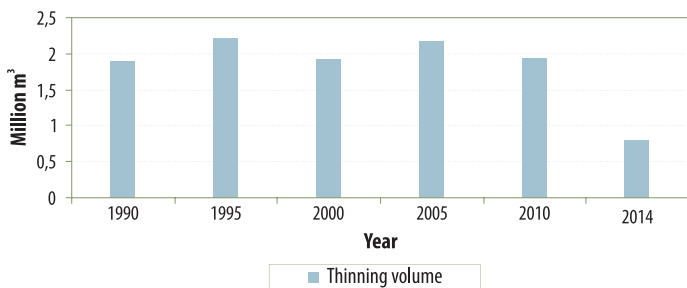
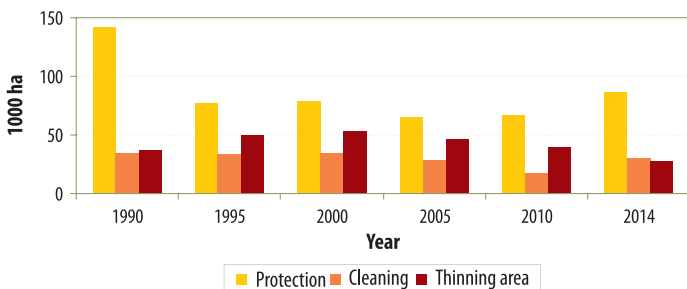
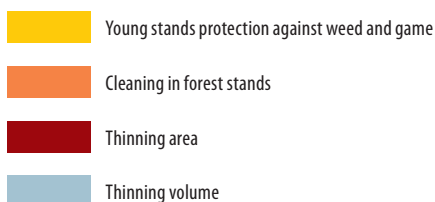
Indicators		Year							
		1965*	1975*	1985*	1995*	2000	2005	2010	2014
Mil. m <sup>3</sup>	Total timber felling	5.27	5.54	5.64	5.25	6.22	10.19	9.86	9.417
	Incidental timber felling	1.67	1.12	1.90	2.65	3.02	6.53	6.16	6.142
ha	Reforestation	28 252	22 951	22 391	12 609	12 923	8 922	8 520	10 751
	Natural regeneration	0	0	0	1 407	2 134	4 582	5 460	5 183

\*Data represent decennial average values.



# DEVELOPMENT OF INDICATORS OF MANAGEMENT IN THE FORESTS OF SLOVAKIA

Indicators		Year					
		1990	1995	2000	2005	2010	2014
1 000 ha	Young stands protection against weed and game	141.92	77.57	78.32	65.72	79.50	86.49
	Cleaning in forest stands	34.14	32.89	34.94	29.08	32.84	30.39
	Thinning area	37.14	50.24	53.94	46.07	44.32	29.15
Mil. m <sup>3</sup>	Thinning volume	1.90	2.21	1.93	2.16	1.17	0.787

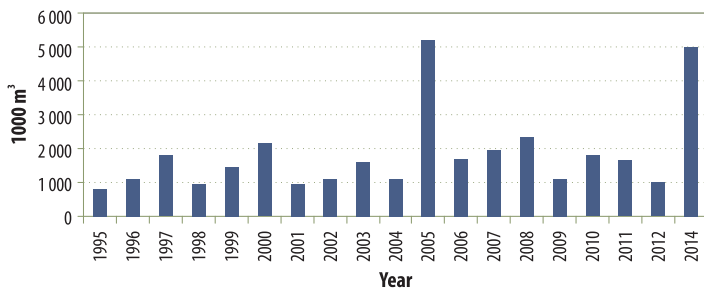


# DEVELOPMENT OF FOREST DAMAGE IN SLOVAKIA

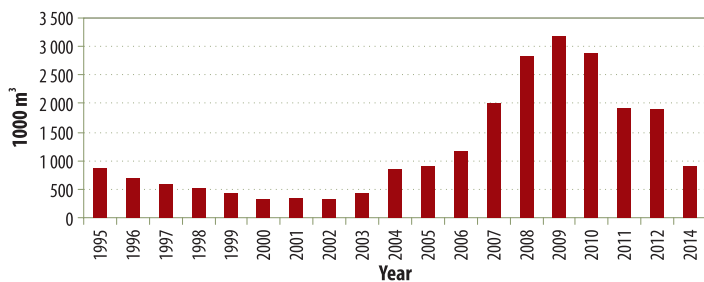
Proportion of incidental felling	Year									
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
	%									
	56.1	58.9	57.1	41.7	45.5	48.6	39.5	34.5	41.3	40.1

Proportion of incidental felling	Year									
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
	%									
	64.0	51.0	56.2	64.6	60.4	62.5	52.7	42.6	39.7	65.2

■ Proportion of incidental felling in the total annual felling



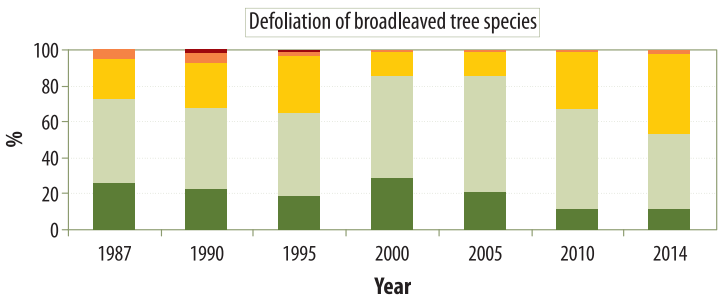
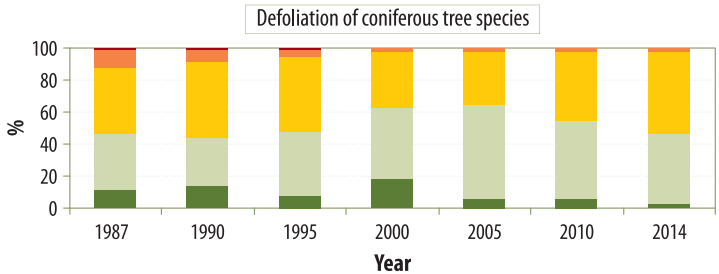
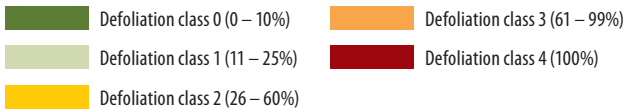
■ Incidental felling caused by wind



■ Incidental felling caused by bark beetles and woodborers

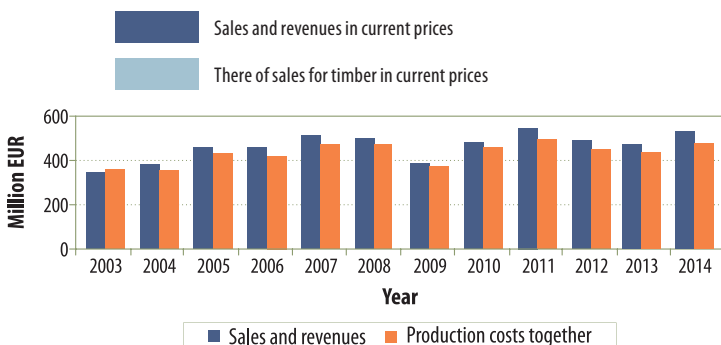
# FOREST HEALTH DEVELOPMENT IN SLOVAKIA

Defoliation classes		Year						
		1987	1990	1995	2000	2005	2010	2014
		%						
0	Coniferous	11	14	8	6	6	6	3.1
	Broadleaved	26	23	19	12	21	12	11.8
1	Coniferous	36	30	40	48	59	48	43.9
	Broadleaved	47	45	46	55	65	55	41.7
2	Coniferous	41	47	46	44	33	44	50.7
	Broadleaved	22	25	32	32	13	32	44.6
3	Coniferous	11	8	5	2	2	2	2.1
	Broadleaved	5	5	2	1	1	1	1.7
4	Coniferous	1	1	1	0	0	0	0
	Broadleaved	0	2	1	0	0	0	0

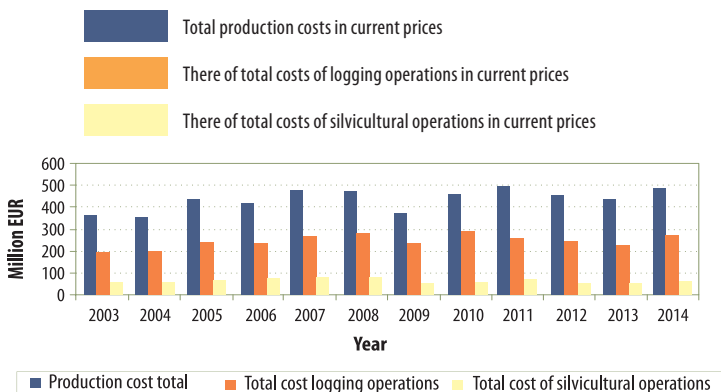


# DEVELOPMENT OF INDICATORS OF THE FOREST ECONOMY – SALES, REVENUES AND EXPENSES

Indicators	Year											
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
	Million EUR											
Sales and revenues in current prices	350	381	457	459	511	502	390	479	544	494	471	533
There of sales for timber in current prices	277	314	377	364	405	405	310	377	433	392	385	430



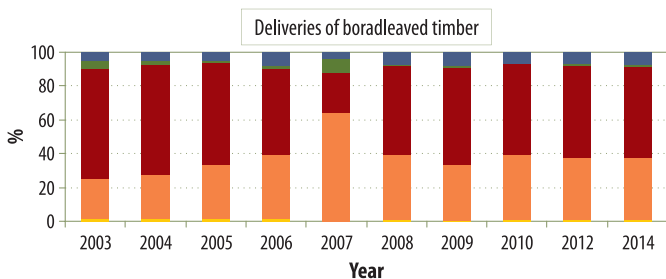
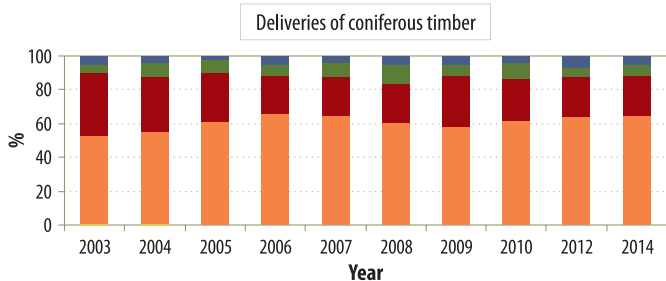
Indicators	Year											
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
	Million EUR											
Total production costs in current prices	359	353	434	420	476	471	373	461	496	454	439	481
There of total costs of logging operations in current prices	192	197	238	235	266	279	231	293	256	243	225	284
There of total costs of silvicultural operations in current prices	58	57	63	73	82	83	52	58	70	54	53	61



# DEVELOPMENT OF INDICATORS OF THE FOREST ECONOMY – LOG GRADES PROPORTION

Proportion of log grades	Year										
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2014
	%										
Coniferous	0.63	0.46	0.11	0.20	0.21	0.12	0.14	0.04	0.04	0.04	0.14
	52.29	54.47	61.26	65.51	64.27	60.10	57.72	61.63	63.75	64.14	64.76
	37.3	33.13	28.35	22.8	23.24	23.29	30.54	24.69	19.99	23.25	23.45
	5.01	8.1	7.9	7.06	8.10	11.97	6.52	9.54	10.88	5.75	6.62
	4.77	3.84	2.38	4.43	4.18	4.52	5.08	4.10	5.34	6.80	5.03
Broadleaved	1.08	1.47	1.43	1.30	0.24	0.90	0.50	0.61	0.61	0.72	0.46
	23.99	26.68	31.88	38.29	64.27	38.57	33.04	39.10	38.90	37.24	37.40
	65.7	64.29	60.58	51.01	23.20	52.43	57.39	53.28	53.51	53.40	52.65
	4.43	2.9	1.27	1.35	8.08	0.47	0.82	0.32	0.26	0.77	2.00
	4.8	4.65	4.84	8.05	4.21	7.63	8.25	6.69	6.72	7.87	7.49

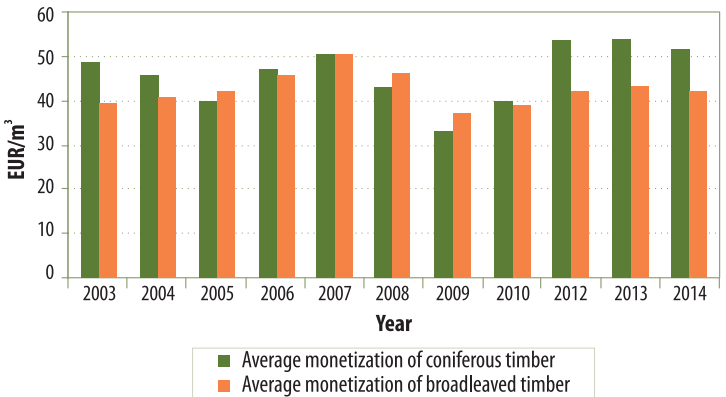
Proportion of timber assortments



# DEVELOPMENT OF INDICATORS OF THE FOREST ECONOMY – WOOD REALISATION

Indicators	Year											
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
	EUR/m <sup>3</sup>											
	48.73	45.84	39.77	47.30	50.26	43.05	32.96	39.64	51.46	53.80	53.62	51.45
	39.43	40.89	42.26	45.94	50.32	46.47	37.14	38.93	41.72	42.02	43.06	42.33
	44.31	43.65	40.60	46.77	50.29	44.18	34.26	39.40	47.46	48.34	48.36	47.44

- Average monetization of coniferous timber in current prices
- Average monetization of broadleaved timber in current prices
- Average timber monetization in current prices



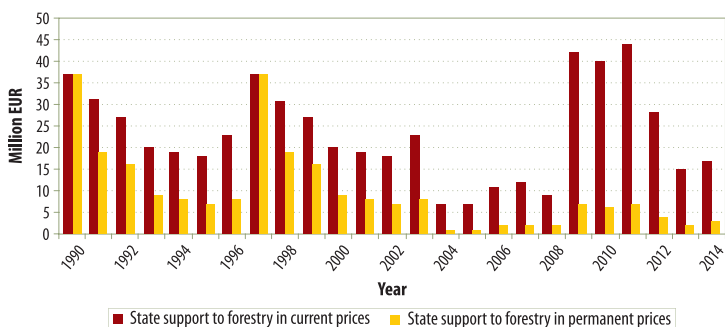
# DEVELOPMENT OF ECONOMIC INDICATORS IN FORESTRY – STATE SUPPORT

State support for forestry	Year								
	1990	1991	1992	1993	1994	1995	1996	1997	
	Million EUR								
	37	31	27	20	19	18	23	17	
	37	19	16	9	8	7	8	6	

State support for forestry	Year								
	1998	1999	2000	2001	2002	2003	2004	2005	
	Million EUR								
	23	16	19	20	17	12	7	7	
	7	4	5	5	4	2	1	1	

State support for forestry	Year									
	2006	2007	2008	2009	2010	2011	2012	2013	2014	
	Million EUR									
	11	12	9	42	40	44	28	15	17	
	2	2	2	7	6	7	4	2	3	

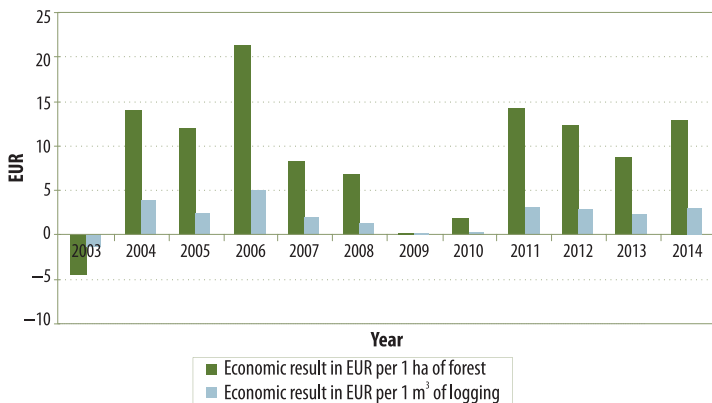
- State support for forestry in current prices
- State support for forestry in permanent prices



# DEVELOPMENT OF ECONOMIC INDICATORS IN FORESTRY – ECONOMIC RESULT

Indicators	Year											
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
	EUR											
	-4.51	14.11	11.88	21.38	8.33	6.64	0.12	1.91	14.21	12.35	8.61	12.74
	-1.36	3.88	2.32	5.05	1.99	1.36	0.02	0.36	3.11	2.94	2.19	2.85

- Economic result of the subjects in the forestry of SR in EUR per 1 ha of forest
- Economic result of the subjects in the forestry of SR in EUR per 1 m<sup>3</sup> of logging



# THE VOLUMES OF WOODY BIOMASS FOR ENERGY USE

Year	Forest chips		Fuel wood and other		Total	
	1 000 t	TJ	1 000 t	TJ	1 000 t	TJ
1990	2	19	368	3 496	370	3 515
2000	5	48	471	4 475	476	4 523
2005	120	1 140	640	6 080	760	7 220
2008	190	1 805	690	6 555	880	8 360
2009	220	2 090	695	6 602	915	8 692
2010	250	2 470	695	6 602	945	9 072
2011	270	2 565	700	6 650	970	9 215
2012	530	5 035	780	7 410	1 310	12 445
2013	620	5 890	820	7 790	1 440	13 680
2014	620	5 890	830	7 885	1 450	13 775



# DEVELOPMENT OF NATURA 2000 AREAS (FOREST CROP LAND)

		2007	2010	2011	2014
	1000 ha	469.2	470.3	<b>478.8</b>	479.2
	%*	24.3	24.3	24.7	24.7
	1000 ha	757.2	<b>833.2</b>	833.8	835.3
	%	39.2	43.0	43.0	43.0
	1000 ha	340.7	370.5	374.1	374.6
	%	17.6	19.1	19.3	19.3
Total	1000 ha	885.7	932.9	938.5	940.0
	%	45.8	48.1	48.4	48.4

\* Percentage of the total country's forest crop land.

	Sites of Community Importance (SCIs)
	Special Areas of Conservation (SACs)
	Of which overlaps between SCIs and SACs
Total	NATURA 2000 network in total*

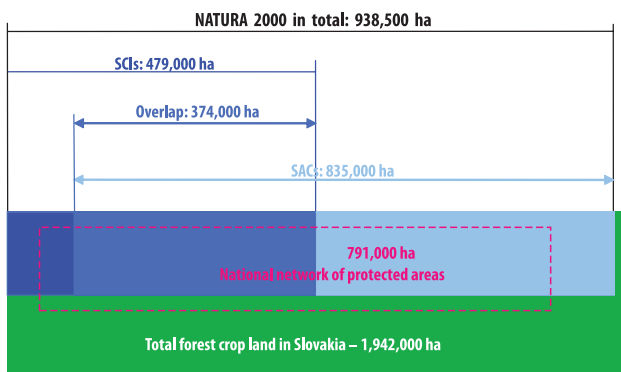
\* Real area of the Network – overlapping areas count only once.

Other international commitments of the Slovak Republic in the field of nature conservation

		2014
Biosphere reserves (UNESCO – MaB)	1000 ha	151.7
	% *	7.8
Ramsar Sites	1000 ha	14.2
	%	0.7

\* Percentage of the total country's forest crop land.

Scheme of spatial context of the Natura 2000 network and the national network of protected areas





# DEVELOPMENT OF NATURA 2000 AREAS (FOREST CROP LAND)

Natura 2000 in forests of Slovakia



# NATURE CONSERVATION LEVELS AND CATEGORIES OF PROTECTED AREAS

Protected area category		Nature conservation level (1000 ha)					Total		
		1	2	3	4	5			
National network of protected areas	Protected Landscape Areas (PLA) <sup>1</sup>		0	325.3	0	0	0	325.3	
	National parks (NP) <sup>1</sup>		0	0	207.4	0	0	207.4	
	NP's buffer zones <sup>1</sup>		0	135.0	0	0	0	135.0	
	Zones of PLAs and NPs (if zoned) <sup>2</sup>		A	—	—	—	1.4	1.4	
			B	—	—	—	2.3	—	2.3
			C	—	—	13.7	—	—	13.7
			D	—	17.5	—	—	—	17.5
	Small-scale protected areas (SSPA)	Nature reserves (NR)		0	19.6	0	4.5	74.5	79.0
		Nature monuments (NM)		0	0	0	0.5	0.5	9.6
		Protected sites (PS)		0	1.0	2.1	0.8	0	3.9
Buffer zones of SSPAs		0	0	0.4	4.2	0	4.6		
NATURA 2000	Sites of Community Importance not overlapping <sup>3</sup> national network		0	67.8	0	0	0	67.8	
	Special Areas of Conservation overlapping <sup>3</sup> nor national network, neither SCIs		291.2	0	0	0	0	291.2	
Total			291.2	546.5	223.5	12.2	76.	1 149.8	

<sup>1</sup> The area of large-scale protected areas (LSPAs) was reduced by subtraction of areas of SSPAs within their boundaries.

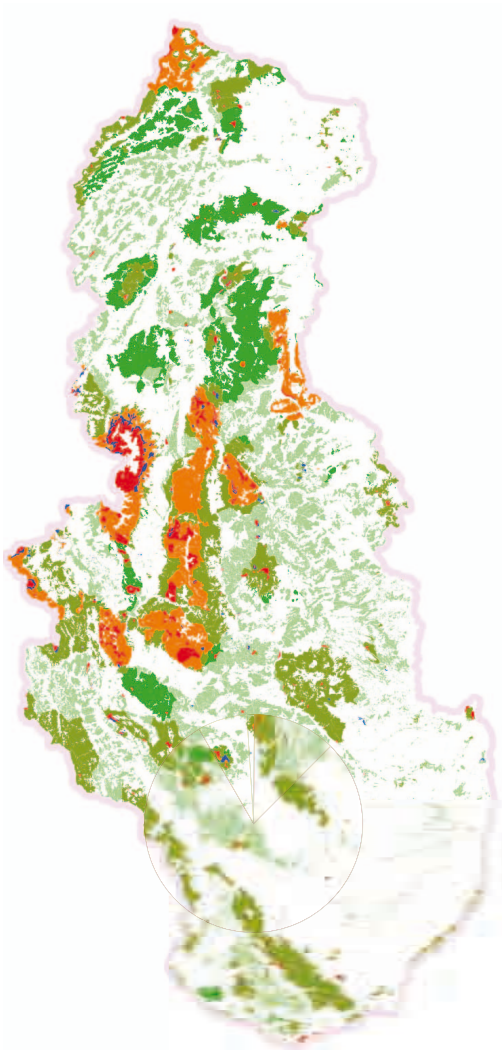
<sup>2</sup> Till now, only two LSPAs have been zoned: Horná Orava PLA and Pieniny NP.

<sup>3</sup> The majority of NATURA 2000 sites somehow overlaps national network sites and shares the nature conservation levels with them.



# NATURE CONSERVATION LEVELS AND CATEGORIES OF PROTECTED AREAS

Nature conservation levels in forests of Slovakia

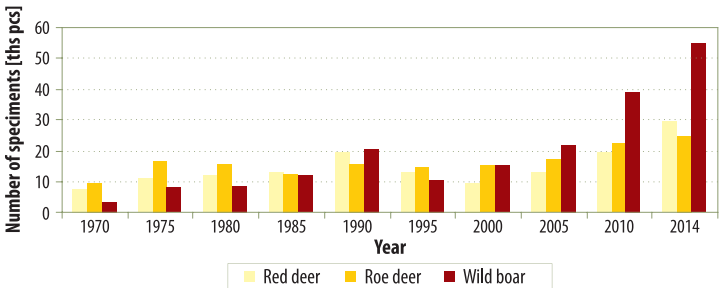


# ABUNDANCE OF GAME IN SLOVAKIA IN 2014

Kind of game	Number
Red deer	62 781
Roe deer	107 425
Wild boar	40 405
Fallow deer	14 771
Mouflon	12 846
Brown hare	160 231
Pheasant	154 593
Partridge	5 797

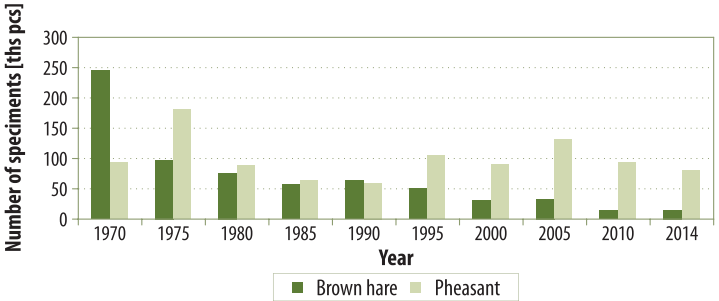
Kind of game	Number
Capercaillie	1 136
Black grouse	801
Hazel grouse	2 783
Chamois	1 170
Brown bear	2 062
Wolf	2 123
Lynx	1 668
Wild cat	3 305

Year	1970	1975	1980	1985	1990	1995	2000	2005	2010	2014
<b>Kind of game</b>	<b>Number of shot or trapped individuals</b>									
Red deer	7 650	10 990	11 770	12 710	19 370	12 910	9 650	12 771	19 418	29 349
Roe deer	9 520	16 560	15 650	12 440	15 540	14 790	15 470	17 174	22 453	24 556
Wild boar	3 550	6 720	8 490	11 860	20 570	10 360	15 450	21 939	39 045	54 541
Fallow deer	310	420	480	880	1 690	980	1 350	2 325	4 312	7 010
Mouflon	220	460	720	1 070	1 810	1 640	1 810	2 603	4 567	5 149

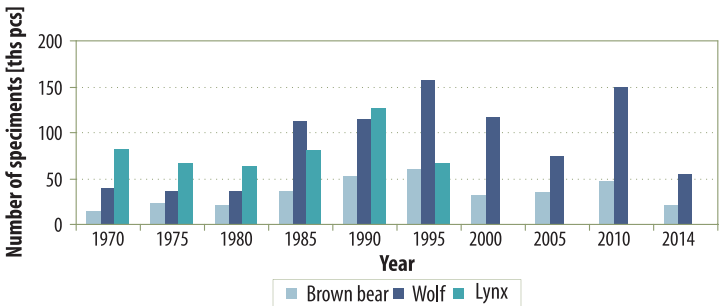


Year	1970	1975	1980	1985	1990	1995	2000	2005	2010	2014
<b>Kind of game</b>	<b>Number of shot or trapped individuals</b>									
Brown hare	246 380	97 640	76 570	56 550	63 840	48 920	32 050	32 314	14 525	14 890
Pheasant	93 130	181 580	87 320	64 890	60 170	105 200	90 260	130 111	91 811	79 275
Partridge	49 700	20 520	10	0	0	60	270	36	419	2 624
Wild duck	26 610	26 880	25 250	21 160	22 500	16 420	18 390	8 658	18 276	16 529
Wild rabbit	2 130	4 310	2 700	750	280	30	20	0	0	0

# DEVELOPMENT OF GAME BAGS IN SLOVAKIA



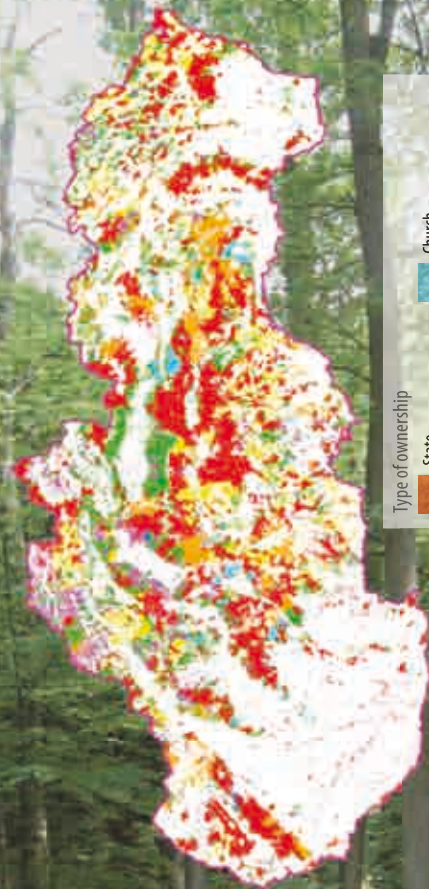
Year	1970	1975	1980	1985	1990	1995	2000	2005	2010	2014
<b>Kind of game</b>	<b>Number of shot or trapped individuals</b>									
Brown bear	15	24	21	36	53	61	31	35	47	20
Wolf	40	37	36	113	115	157	118	74	149	56
Lynx	83	67	64	81	127	67	0	0	0	0
Wild cat	796	536	228	150	160	216	0	0	0	0
Fox	9 260	9 030	13 330	13 130	14 130	15 950	15 560	17 354	17 433	19 359



Year	1970	1975	1980	1985	1990	1995	2000	2005	2010	2014
<b>Kind of game</b>	<b>Number of shot or trapped individuals</b>									
Capercaillie	94	79	36	34	0	5	0	0	0	0
Black grouse	38	43	18	1	0	0	0	0	0	0
Hazel grouse	343	166	30	29	11	5	1	5	5	0
Chamois*	4	8	1	1	4	3	7	8	7	10

\* Alpine origin.

# FOREST LAND OWNERSHIP IN SLOVAKIA



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Designed by: Ľubica Pilná, Ľuboš Frič

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