

Management of large carnivores in Nízke Tatry National Park

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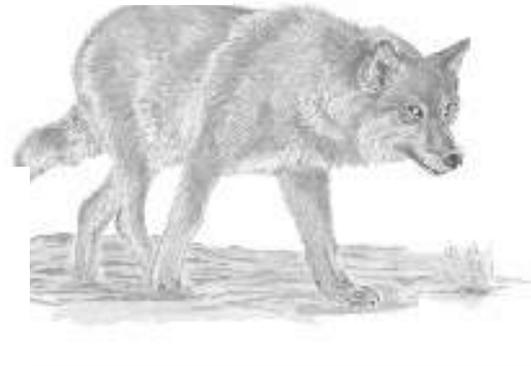
State Nature Conservancy of the
Slovak Republic
Administration of NP Nízke Tatry &
Headquarters



Liptovský Ján, 3.7.2009

Large Carnivores in Slovakia

- Brown bear
(*Ursus arctos*)
- Wolf
(*Canis lupus*)
- European Lynx
(*Lynx lynx*)



Legislation

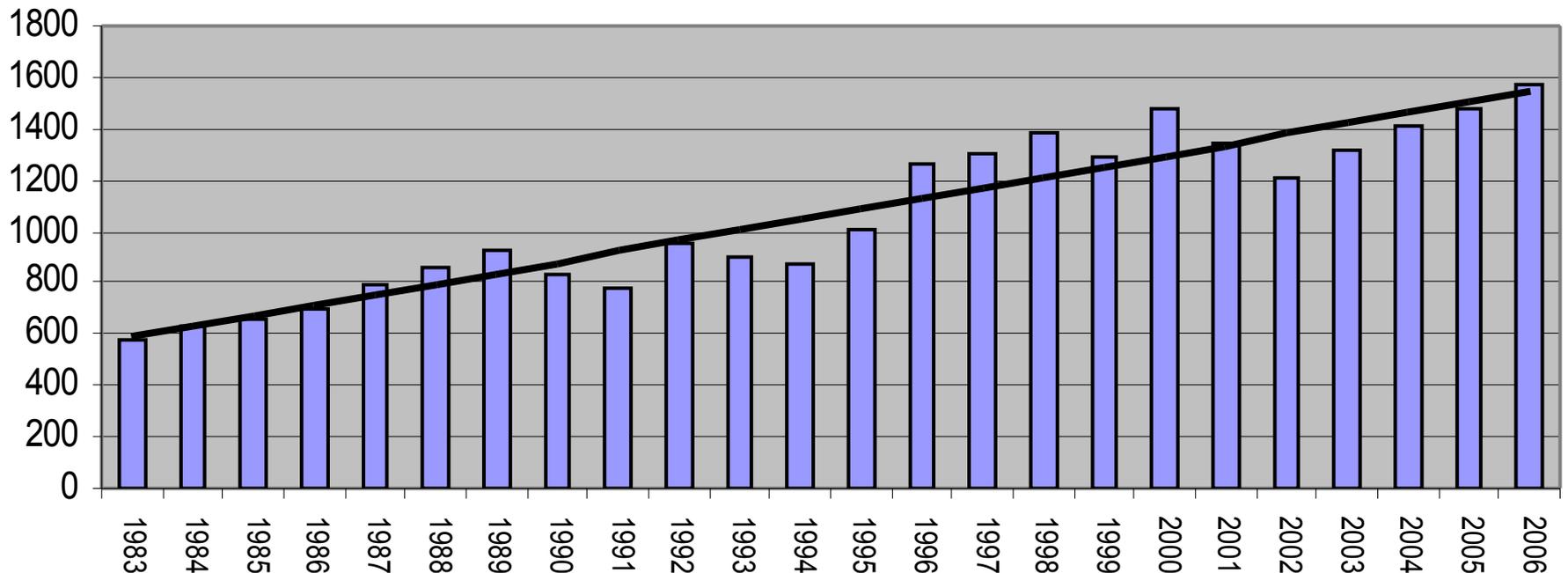
- Act on Nature and Landscape Protection
No. 543/2002 Coll. & its decrees
- Hunting Act
No. 23/1962 Coll. & its decrees



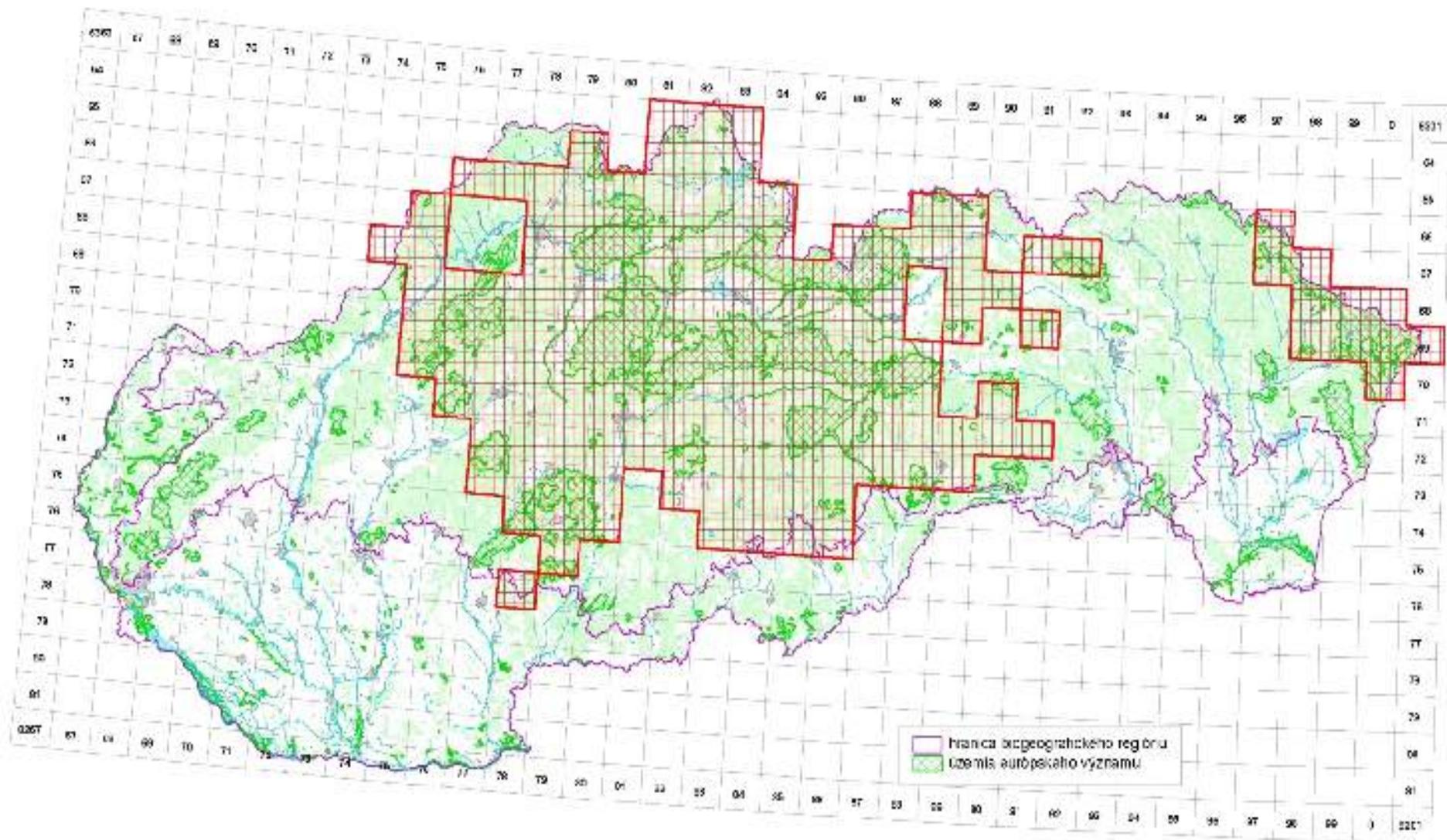
Brown bear

-expert estimation of brown bear population in Slovakia is ca 800 individuals

Population number of brown bear in SK



ursus arctos - výskyt



Bear - protection

- hunting act – strictly protected game,
- conservation act – strictly protected species, European priority species & species for which SCIs are established,
- societal value – 2655 EUR,
- exception (permission) for hunting:
 - regulatory
 - protective



Hunting

- regulatory:
 - regulation of population number – the aim is stable population or slowly increasing
 - ca 10% of estimated population no.
 - under special conditions:
 - outside of NPs
 - no meat / flesh bait
 - only to 100 kg
 - not in spring
- protective:
 - exact problematic individuals are removed from the population
 - if necessary – managed directly

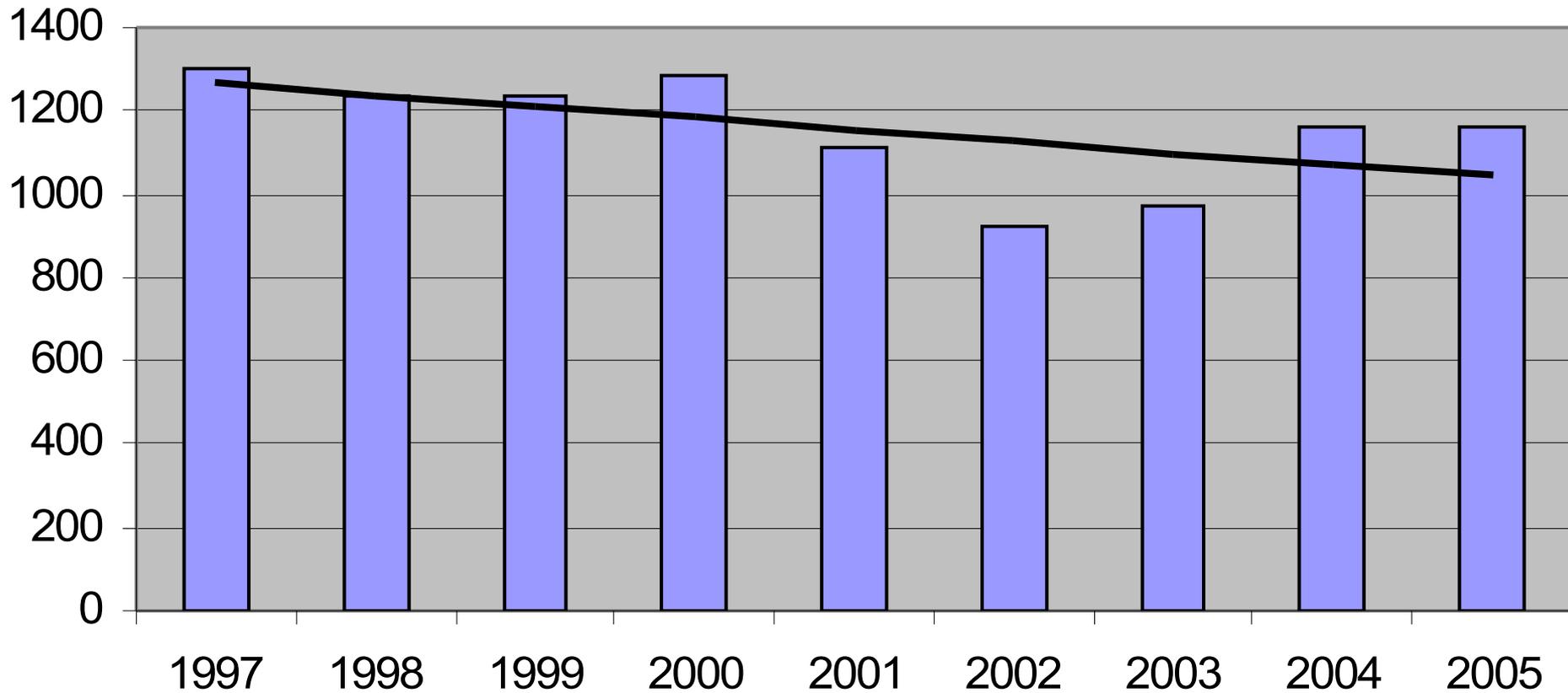
Bear hunting

Year	The regulatory shootings				The protective shootings			
	Required	Allowed	Shot	% of allowance	Required	Allowed	Shot	% of allowance
2000	134	74	28	38	--	6	2	33
2001	100	68	25	37	4	4	--	--
2002	124	70	33	47	7	6	6	100
2003	123	74	11	15	5	5	2	40
2004	102	61	24	39	26	15	9	60
2005	104	68	35	51	10	9	--	--
2006	122	69	14	20	14	8	2	25
2007	102	67	22	33	21	16	3	19
2008	163	59	31	53	0	0	0	0
Total	1 074	610	223	37	87	69	24	35

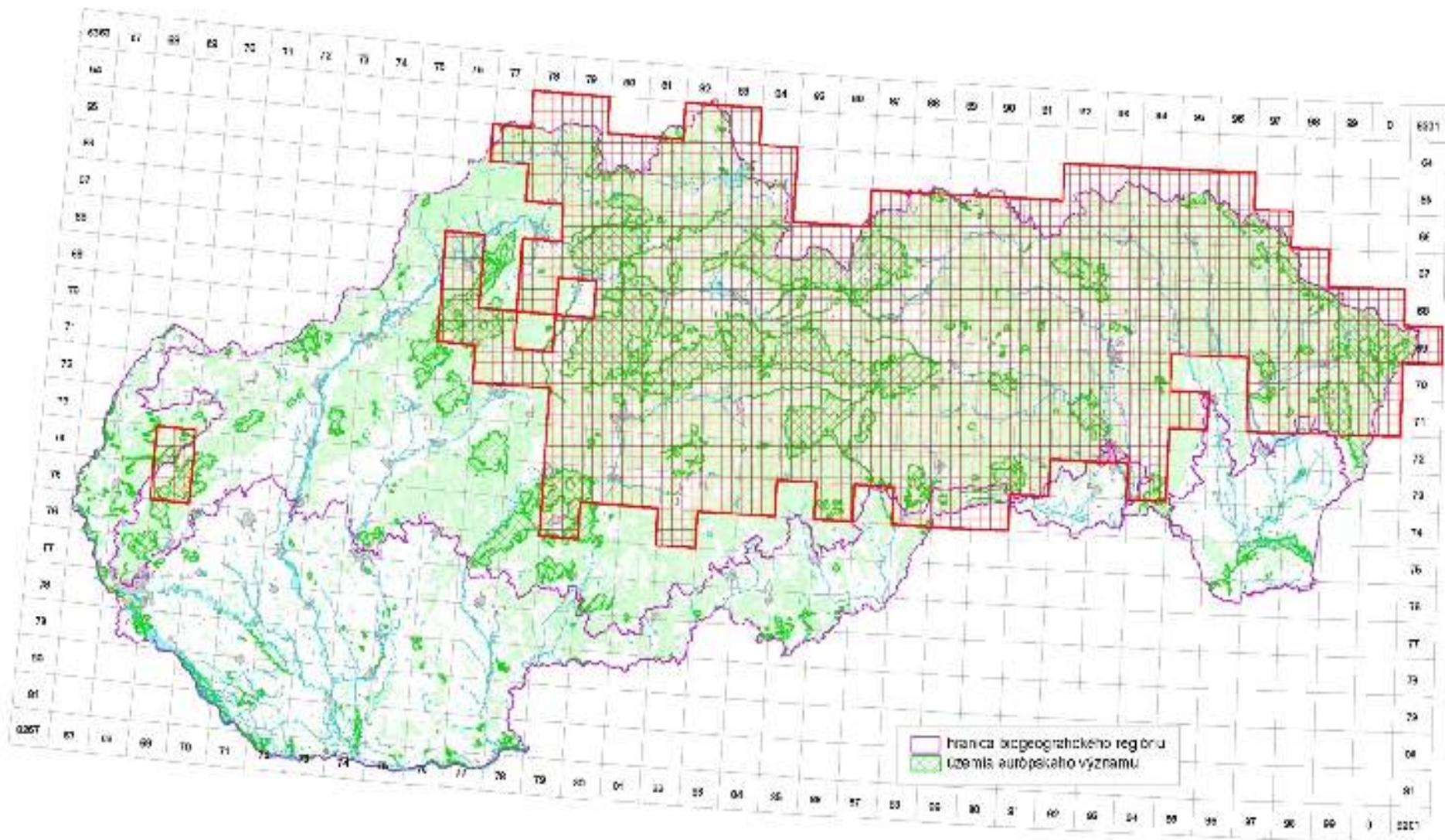
Wolf

-expert estimation of wolf population in Slovakia is ca 500

Population number of wolf

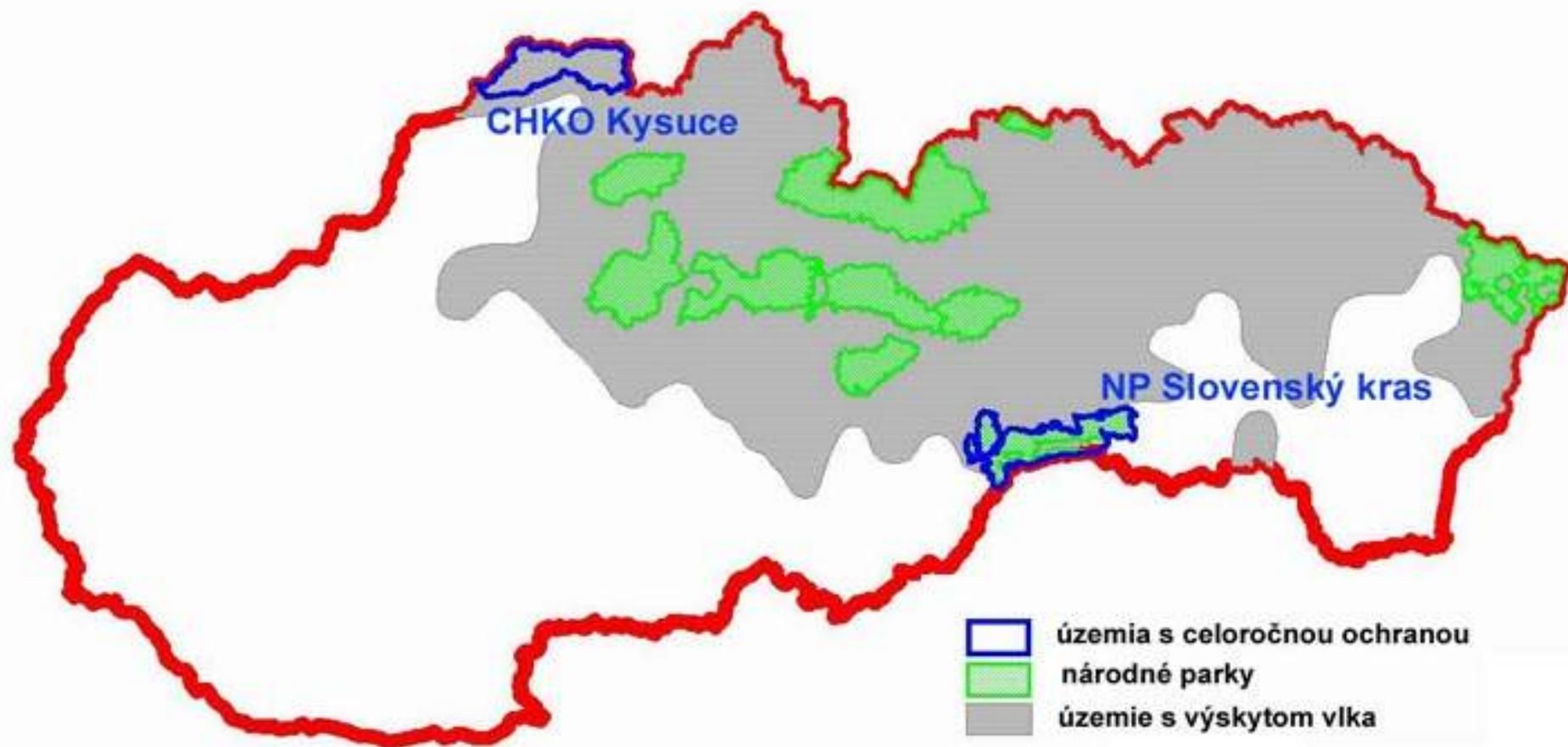


canis lupus - výskyt





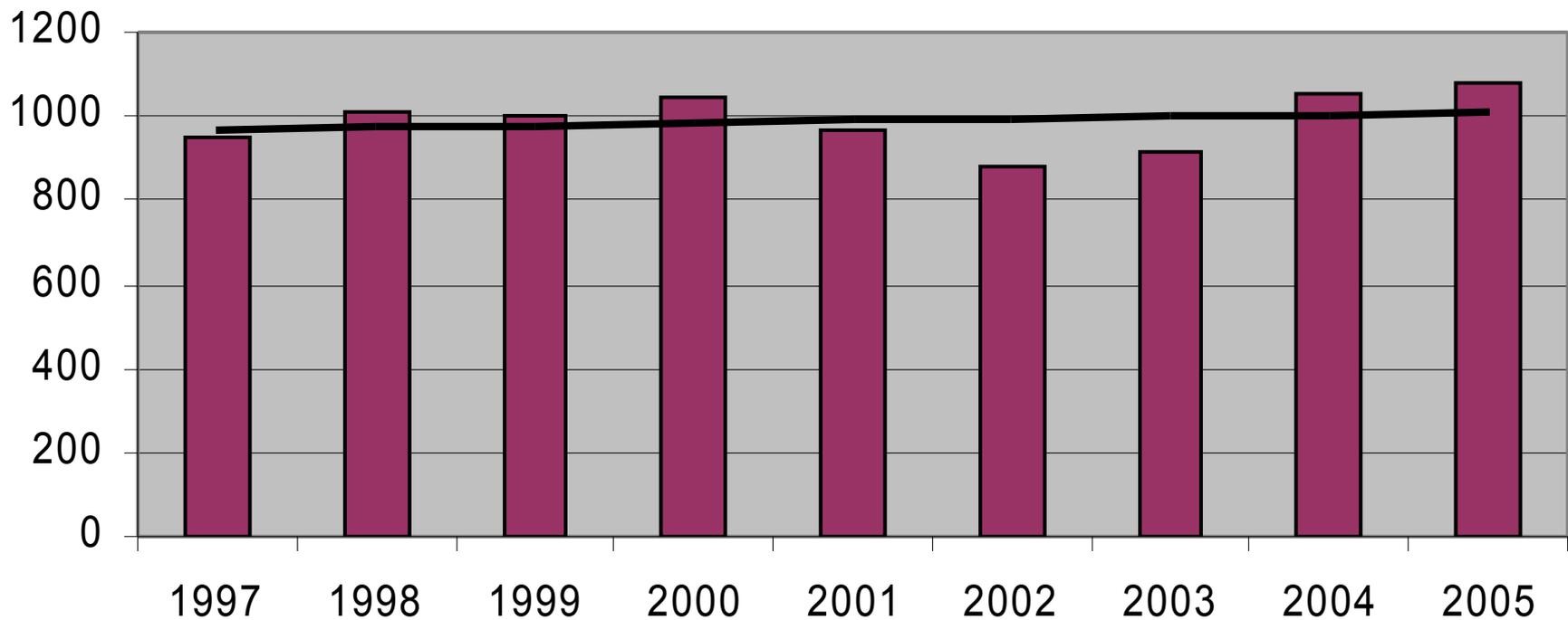
...Wolf...



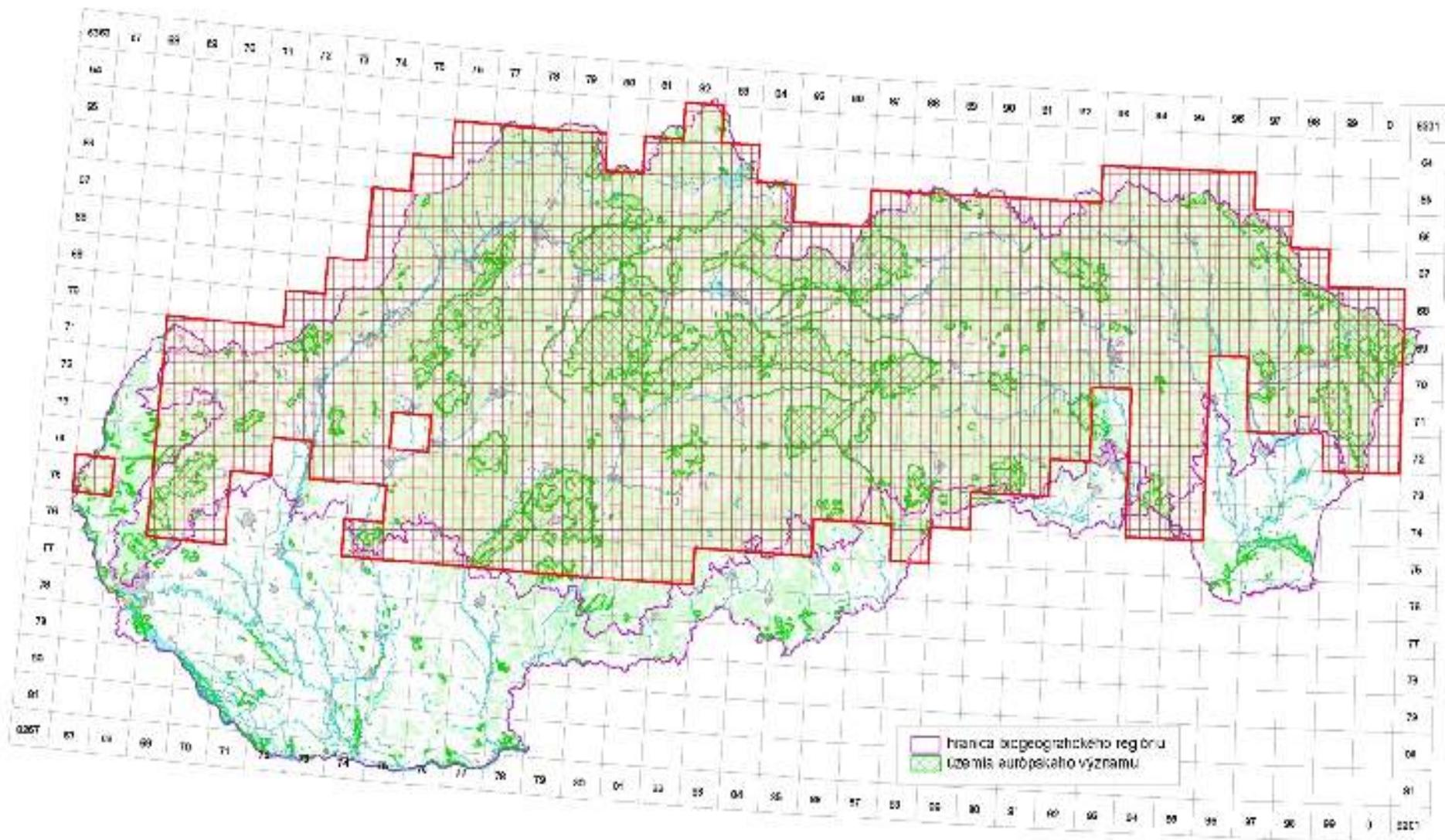
Lynx

-expert estimation of lynx population in Slovakia is ca 400 individuals

Lynx population numbers



lynx lynx - výskyt





Lynx protection

- hunting act – strictly protected game,
- conservation act – strictly protected species, species of European interest & species for which SCIs are established,

societal value – 2655 EUR



Damage compensation schemes

Decree Nr. 24/2003 Coll. – State covers the damage caused by protected species:

- a) beaver (*Castor fiber* L.),
- b) otter (*Lutra lutra* L.),
- c) great cormorant (*Phalacrocorax carbo* L.),
- d) grey heron (*Ardea cinerea* L.)
- e) moose (*Alces alces* L.),
- f) European bison (*Bison bonasus* L.),
- g) brown bear (*Ursus arctos* L.),**
- h) wolf (*Canis lupus* L.),**
- i) lynx (*Lynx lynx* L.) – only on selected domestic animals**



What should be covered

- **human health & life,**
- **domestic animals** (horse, donkey, their hybrids, cattle, goats, sheep, pigs, poultry, rabbits and fur animals)
- **dogs used for the protection of herds** (not shepherd dogs),
- fish on fish farms,
- **bees and beehives,**
- **agricultural crops,**
- **trees,**
- **game species in the areas with full protection of wolf and bear**



Annual damages

Brown bear

Year	Bees and beehives	Sheep, goats	Cattle	Agricultural crops	Trees	Game species	Human health	Total
2005	19 684	20 771	3 266	2 040	1 828	0	0	47 589
2006	14 511	20 118	640	2 264	581	0	0	38 113
2007	18 952	8 553	2 355	10 681	186	597	3 824	45 148
2008	19 982	9 257	3 733	15 269	1 909	465	88 346	138 961
Total	73 129	58 699	9 995	30 254	4 503	1 062	92 170	269 812

Wolf

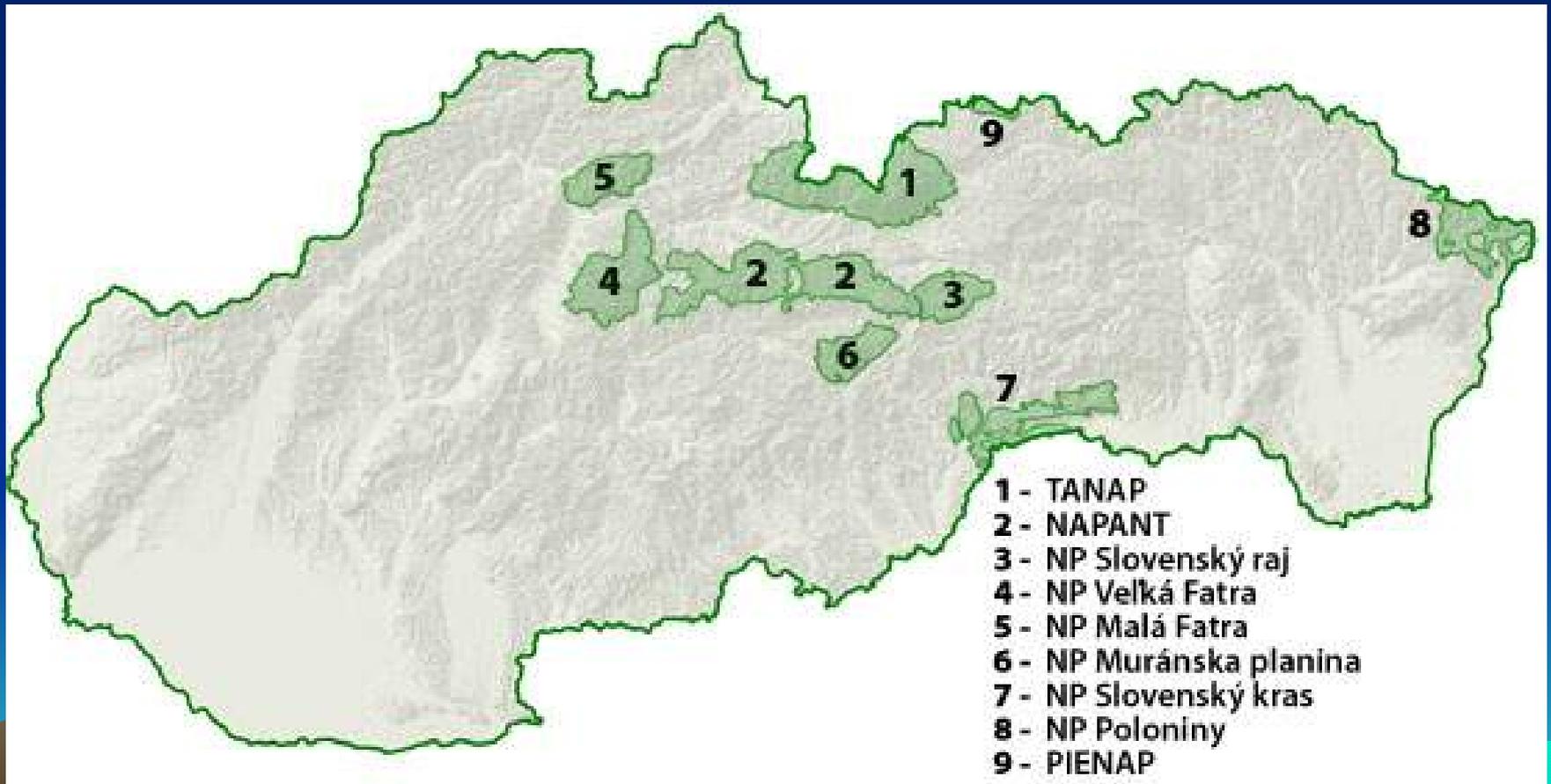
Year	Sheep	Goats	Cattle	Game species	Human health	Total
2003	24 403,11	0,00	5 713,34	0,00	0,00	30 116,44
2004	8 618,20	0,00	0,00	0,00	0,00	8 618,20
2005	22 226,58	0,00	1 755,00	265,55	0,00	24 247,13
2006	12 992,10	0,00	2 253,37	265,55	0,00	15 511,02
2007	23 604,53	0,00	2 917,41	0,00	0,00	26 521,94
2008	41 238,86	896,24	4 118,24	0,00	0,00	46 253,34
Total	133 083,38	896,24	16 757,35	531,10	0,00	151 268,07

uff, after short introduction,
finally we could take about LC in
NAPANT 😊



NAPANT

- NP Nízke Tatry





established in 1978

proposed SCI – NATURA 2000

NAPANT for LC

- one of the **most important and key areas** for the occurrence and survival of large carnivores **in Slovakia**, as well as **in the Central Europe**
- brown bear – ca 120 – 140 individuals
- wolf – ca 35 – 45 individuals
- lynx – ca 30 – 40 individuals



LC management problems

- food availability becomes simpler in higher altitudes due to increase of planting of new crops, e.g. maize
- seasonal concentrations of brown bear in agrocenosis and increase of human-bear conflicts
- different purpose of use of NP – nature conservancy, tourism, hunting, sport, recreation, forestry, etc... – different way of management



Hunting

- area of NP is divided into 55 hunting units, still in progress – the aim of hunting policy is to enlarge the area of one hunting unit, but in reality, the area is decreasing & the number of hunting units is increasing
 - the problem with LC management
 - monitoring and number of individuals (hunting statistics)
- some of them are private , State Forests (6) and Slovak Hunting Union (33)
- prohibition of hunting only in the protected areas with 5th degree of protection (ca 4%)
- prohibition of group hunts

Hunting of LC

- lynx – strictly protected – no official hunting
 - the best tolerated species
- wolf – huntable species, the same as in other parts of Slovakia
 - hunting from 1.11. to 15.1. (2,5 months)
 - no quota
 - no difference between hunting in protected area or outside
 - annually is shot ca 15 - 20 individuals (officially)
 - the worst tolerated species – the main enemy of humans
- brown bear –
 - hunted on the basis of permission
 - only in buffer zone (2nd degree of protection)
 - the same conditions as everywhere – up to 100 kg, no meat bait
 - preference of hunting close to human activities to lower the human-bear conflicts and reduce the damages (hotels, recreation)
 - ca 8 – 10 individuals shot annually

Illegal hunting

- in last 10 years were 5 cases of poaching, which were announced to police and tracked by them
- no case was solved with finding of the responsible person, thus solved as unknown case... !!!



Conflicts

- livestock keeping
 - sheep
 - goats
 - cattle

















One of the worst cases of damage on livestock was caused by pack of wolves in May 2002, when 35 sheep were killed / no prevent measure







More conflicts

- beehives and bees





Damages together

Annual damages officially solved by authorities					
Average annual	Livestock	Crops	Trees & forest school	Bees and beehives	Together
BEAR	15 ex. / 2500 EUR	3 cases / 650 EUR	2 cases / 1000 EUR*	10 cases / 700 EUR	3500 EUR / 4000 EUR
WOLF	5 cases / 1000 EUR	--	--	--	1000 EUR
LYNX	---	---	---	---	---

human health – the biggest case in history – damage on human health, close to here L. Sliache – bad accident when forester was attacked by bear & followed by many plastic operations, man was hardly injured – 90000EUR

Even more conflicts

- recreation
- tourism (if not controlled)
- waste (garbage) management







Orphans



Other conflicts / problems

- habitat fragmentation by forest activities
 - by road and highway building
 - the worst is highway D1 Ružomberok – Poprad – isolation of NAPANT / TANAP with only on greenbridge
 - also frequented road from Banská Bystrica – Brezno – Červená skala (south part of NP)
- traffic accidents (annual crashes with car, trains)
 - annually known – 2 bears (car), 3 wolves (car+train), 0-2 lynx
- recreation activities – new ski resorts, golf courses, new hotels ...



Management

- SKUEV0304 Dumbierske Tatry & SKUEV0310 Kralovoholske Tatry
 - already established for the LC and their habitat protection – **first time protected area for LC**
- monitoring of population
- if necessary – shot of some problem individuals or regulatory shooting
- management of waste (garbage)
- protection of domestic animals by electrical fence or promoting of special dogs using



from each individual:

- tissue samples are taken for future analyses
- is measured



Tissue analyses

- used for genetic research
- two samples of brown bear had positive *Mycobacterium paratuberculosis*
- one sample of wolf had positive *Trichinella sp.*
- all samples have high measure of cadmium



The bear was young one from NP Mala Fatra, where radio-collar was placed on him. Moved through NP Veľká Fatra, in 1 week moved to Banská Bystrica (went through many barriers), made some damage on 2 hens and found sleeping in garden. There he was again caught (immobilised) a transferred 15 km into the wilderness to BR Polana, where was released and in 1 week he was found close to Hungarian border (50 km).





Project: „Research and monitoring of the large carnivores and a wild cat in Slovakia “

Project activities

- 1. Research and monitoring of the population of the large carnivores and a wild cat in Slovakia**
- 2. Elaboration of management plans and protection plans of population of the large carnivores and a wild cat**
 - studies:
 - ethology of the bear population in Slovakia,
 - estimation of the brown bear abundance, using the non-invasive DNA analysing methodology from the faeces samples,
 - health condition of the brown bear population in Slovakia,
 - complex population survey of the large carnivores and a wild cat in Slovakia, using supportive forms of monitoring,
 - damages caused by large carnivores and the options of their elimination,
 - databases
- 3. Environmental education – working with children, stakeholders, preparing of publications, materials...**



Thank you for attention

