

**THE WHITLEY LAING FOUNDATION FOR INTERNATIONAL NATURE
CONSERVATION
RUFFORD SMALL GRANT PROGRAMME**



**CONSERVATION OF THE EUROPEAN SOUSLIK - A STEP TOWARDS THE
PROSPERITY OF ITS NATIVE PREDATORS
AND PREFERRED HABITATS**



**Final report
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I. Introduction:

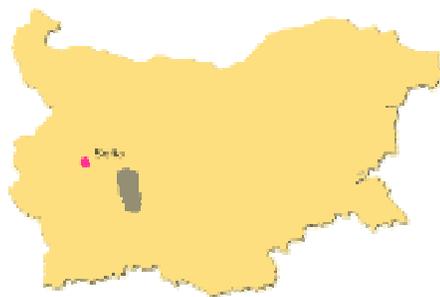
During the last 15 years after the changes in Bulgaria, biotopes suitable for a number of steppe species have been formed in many regions of the country. Such a species is the European souslik (*Spermophilus citellus*), which is endangered worldwide.



European souslik (*Spermophilus citellus*)

Its conservation status is unfavorable (Convention for protection of the wild European flora and fauna and nature habitats (Bern Convention) - Appendix II; European Community Directive 92/43/EEC - Appendix II and IV; IUCN 2004 Red List category – vulnerable (VU A1c); Bulgarian Biological Diversity Act, Appendix II) and its area in Europe constantly decreases.

The habitat loss and degradation because of the extending agriculture is considered to be the main threatening factor of European importance. European souslik is primary food source for many protected birds of prey, such as Imperial, Lesser Spotted and Booted eagles, Saker and protected mammals as Marbled and Steppe polecats, etc. At the same time there is no information about the species condition in Bulgaria, about the territories it inhabits and the threats.



Study area (with grey)

The scanty scientific information indicates that the European souslik population has been reduced in Bulgaria. The area between Topolnitsa and Luda Yana rivers provides a variety of suitable habitats for European sousliks with a distinct gradient in altitude and intensity of anthropogenic pressure.

The main objective of the project comprised research and mapping of the colonies in the region between the two rivers. The research team has also started a survey in local settlements to establish the attitude of the people towards these rodents and their predators. Four model colonies have been selected and monitored twice a month. The predators' diet in the area of these colonies has been investigated. The habitat preferences, anthropogenic pressure, predator-prey interactions have been evaluated.

The results were used for raising the public awareness through educational activities with local authorities in order to reduce the negative factors over the souslik's population and their predators. Measures for conservation and management of the most valuable habitats and sites were outlined.

II. Objectives as stated in the application and their progress

1. A month of research and mapping of the colonies was planned, after the winter hibernation. The project team also started a survey in local settlements to establish the attitude of the people towards these rodents and their predators.

After Sousliks' winter hibernation and the end of the migration of the birds of prey, a team of field zoologists and volunteers from Bulgarian Society of Natural Research and BALKANI Wildlife Society mapped the Souslik's colonies in the area between the rivers Topolnitsa and Luda Yana. More than 30 settlements were visited and about 300 local people enquired. The results of this inquiry show that the Souslik's population declines progressively during the last 15 years.

During the study we have found that the species is extinct from many of the previously recorded localities, especially from the mountain localities, such as the vicinities of the villages Bania, Bata, Elshitza, etc. The density of the species was significantly reduced in the lowlands and in some regions the species was even not found.

Reasons for the decrease:

- Significant decrease of the areas used as pastures by the livestock. The souslik is very sensitive to the height of the grass. In the investigated region there is a decrease in the livestock feeding freely and therefore the grass is higher.
- Agricultural intensification and introduction of monocultures, changing the habitats suitable for Souslik, especially in the lowlands. Agriculture not only demolishes the habitats of the souslik but also terminates the natural eco-corridors between them.
- Destruction of habitats in general (in the region of the Sredna Gora Mountains many Souslik colonies were destroyed after the appearance of mines and pits).
- Natural calamity. During the period 4 – 6 August 2005 in the region of rivers Topolnitsa and Luda Yana there were pelting rainfalls which had never been observed before. Several dam lakes and rivers overflowed and many souslik colonies were flooded, including some of our model colonies. The floods are considered to be one of the main causes for European souslik's mortality.

2. Four model colonies were selected and monitored twice a month. The predators' diet in the area of these colonies was researched. The habitat preferences, anthropogenic pressure, predator-pray interactions were evaluated.

17 actual Souslik colonies and more than 20 abandoned ones were mapped by GPS. Four model colonies (in Tserovo, Zvanichevo, Popintsi and Tsar Assen) were chosen for monitoring twice a month.

Two teams, comprising ornithologists and NGO volunteers, observed the model colonies and investigated



The teams observed the model colonies



Birds of pray

them and thus established potential threats. The monitoring concerned: interactions between predators and Sousliks, research of the predator's diet, studying the anthropogenic pressure, etc. The team have registered the following predators (Table I).

Table I. Predators registred on the model souslik colonies

Species (English name)	Species (Latin name)	number
BIRDS OF PREY		
Buzzard	<i>Buteo buteo</i>	10
Long-legged buzzard	<i>Buteo rufinus</i>	4
Lasser Spotted Eagle	<i>Aquila pomarina</i>	2
Sparrow hawks	<i>Accipiter nisus</i>	1
Kestrels	<i>Falco tinnunculus</i>	2
Short-toed eagle	<i>Circaetus gallicus</i>	2
PREDATOR MAMMALS		
Pine martens	<i>Matres martes</i>	1
Stone martens	<i>Martes foina</i>	2
Western polecats	<i>Mustela putorius</i>	4
Red foxes	<i>Vulpes vulpes</i>	4
Golden jackals	<i>Canis aureus</i>	2
Domestic dogs	<i>Canis familiaris</i>	8

While investigating the diet of the predators inhabiting the model colonies, we discovered that the share of the souslik in it was the biggest (about 20 – 30 %) in the end of spring and beginning of summer. In this period the newborn sousliks are going out on the

surface, but still have no experience, and the predators, from the other hand, are hunting more actively in order to feed their offspring.

One of the colonies (near the village of Tsar Asen) disappeared. It was near a copper mine. The reasons are still unknown.



**The souslik colonies near copper mine
“Tsar Asen”**



Maritza river flooding model colony

Another colony is situated near the village of Popintsi where the construction of a mine is planned. The effect of the mines upon the European souslik is not known except for the direct destruction of habitats. Our teams will continue to monitor the colonies in vicinity to mines.

The territory of the model colony in Zvanichevo village was flooded by Maritza river during the flooding of 4 – 6 August 2005. None of the animals survived.

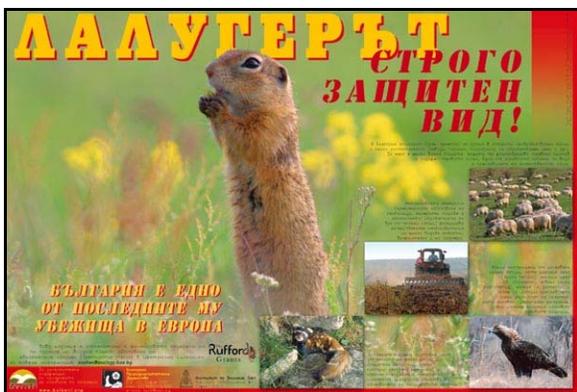
The colony near the village of Dragor and Topolnitsa River was partially destroyed due to the transformation of its locality into agricultural land. At present, there is no functioning legislation preventing this kind of destruction of the localities of the species in Bulgaria.

3. *The results will be used for raising the public awareness through educational activities with local authorities in order to reduce the negative factors over the souslik's population.*



Lectures in primary schools

Lectures were held in many primary schools in Zvanichevo, Septemvri, etc., presenting biology, ecology and threats for the European souslik. It was explained to the kids which are the predators and how to recognize them. The aim of these lectures was not only to introduce the European souslik but also to raise their awareness.



In July the team prepared and published a poster dedicated to the conservation of both the European souslik and the predators feeding on it. One of the main aims of this poster was to explain the principal factors threatening the sousliks in the region and to present to the children this animal and the predators connected with it.

Several articles about this interesting animal and his ecological niche were published in popular Bulgarian magazines like “Obicham te jivotno”, aiming to make the public acquainted with it.

4. *Measures for conservation and management of the most valuable habitats and sites will be outlined.*

At a meeting held in the Ministry of Environment and Water of Bulgaria some of the souslik’s colonies were proposed to be included in the European network for protected territories NATURA 2000.

III. Targets achieved through the project

The prepared educational materials will be used further on in schools. At the moment we are conducting preliminary research in other regions of Bulgaria. Field zoologists, trained within the research, are now taking part in an international project on the mapping of the localities of Saker falcon and souslik in Bulgaria. We are applying the methods of sousliks/habitat/predators interaction that we have used in the present project. Suitable habitats, selected on the basis of evaluation of the localities and the role of the predators, were studied with regard to future introduction of the species which we consider necessary.

IV. Budget & expenditure

Description of items	Planed budget (as per project proposal)	Expenditure
1. Travel costs		
fuel	775	770
2. Accommodation and overheads		
Accommodation	450	500
Overheads	700	730
3. Technical equipment		
binoculars (2)	200	200
Photo films	80	80
Processing of photo films	60	60
Maps	100	100
GPS	300	300
4. Office consumable materials		
Office consumable materials	80	85
5. Educational activities		

brochure publishing (1000 copies)	300	400
educational leaflets for meetings	250	245
Subtotal	3295	-
Unpredictable expenses (5% of total sum)	165	-
Total	3460	3470

Acknowledgments

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