



**Current situation, threats and
trends in meadows and pastures
on the territory of
Strandzha Nature Park**

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Territorial Scope

The northern slopes of Strandzha mountain (present area of Strandzha Nature Park 116,068.5 ha)



General characteristic of the vegetation

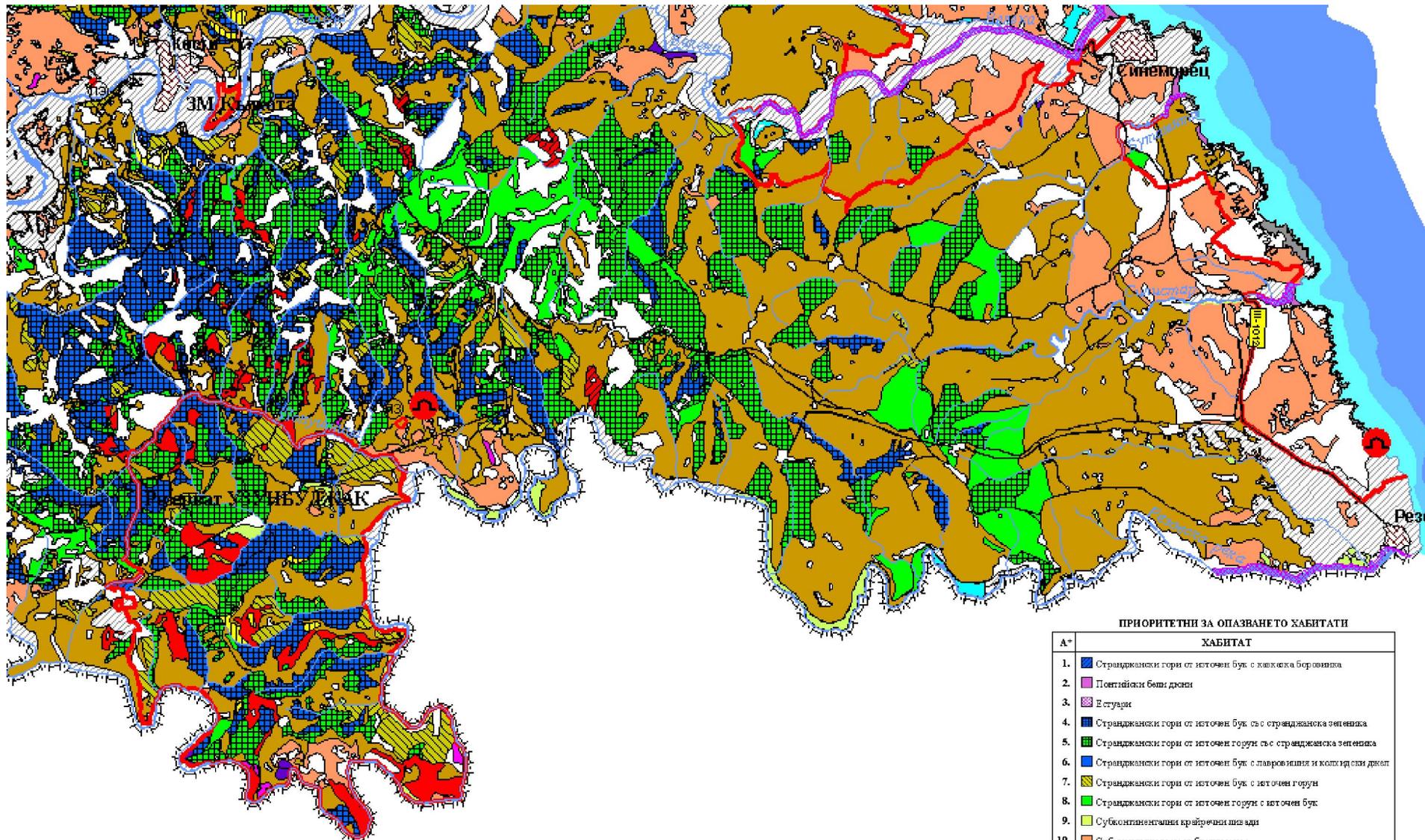
- § Unique phytocenotic specificity for Europe: bioma of moderate climate broad-leaf deciduous forests but edificators and dominants are Euxinian and sub-Euxinian floral elements.
- § Mezophilic forests of relict character of eastern beech (*Fagus orientalis*) and eastern durmast (*Quercus polycarpa*) with subforest of laurelly shrubs: Strandzha periwinkle (*Rhododendron ponticum*), cherry laurel (*Laurocerasus officinalis*), Colchidean holm (*Ilex colchica*), etc.



§ Considerable presence of communities of Mediterranean and sub-Mediterranean type: thermophilic beech forests with a subforest of evergreen sclerophilic shrubs such as heather (*Erica arborea*), butcher's groom (*Ruscus aculeatus*) or grass cover of calyform St. John's wort (*Hypericum calycinum*), as well as shrubs of (*Phillyrea latifolia*), pink rockrose (*Cistus incanus*), sageleaf rockrose (*Cistus salvifolius*), heather, etc.;



- § Xerothermal grass communities formed on sites of destroyed forests with major edificators and dominants - scented grass (*Chrysopogon gryllus*), (*Dichantium ischaemum*) and bulbous bluegrass (*Poa bulbosa*);
- § Psamophyte vegetation on coastal sands;
- § Riverside vegetation: forests of black alder (*Alnus glutinosa*) willows (*Salix alba*, *S. fragilis*), dense forests, riverside meadows, etc.

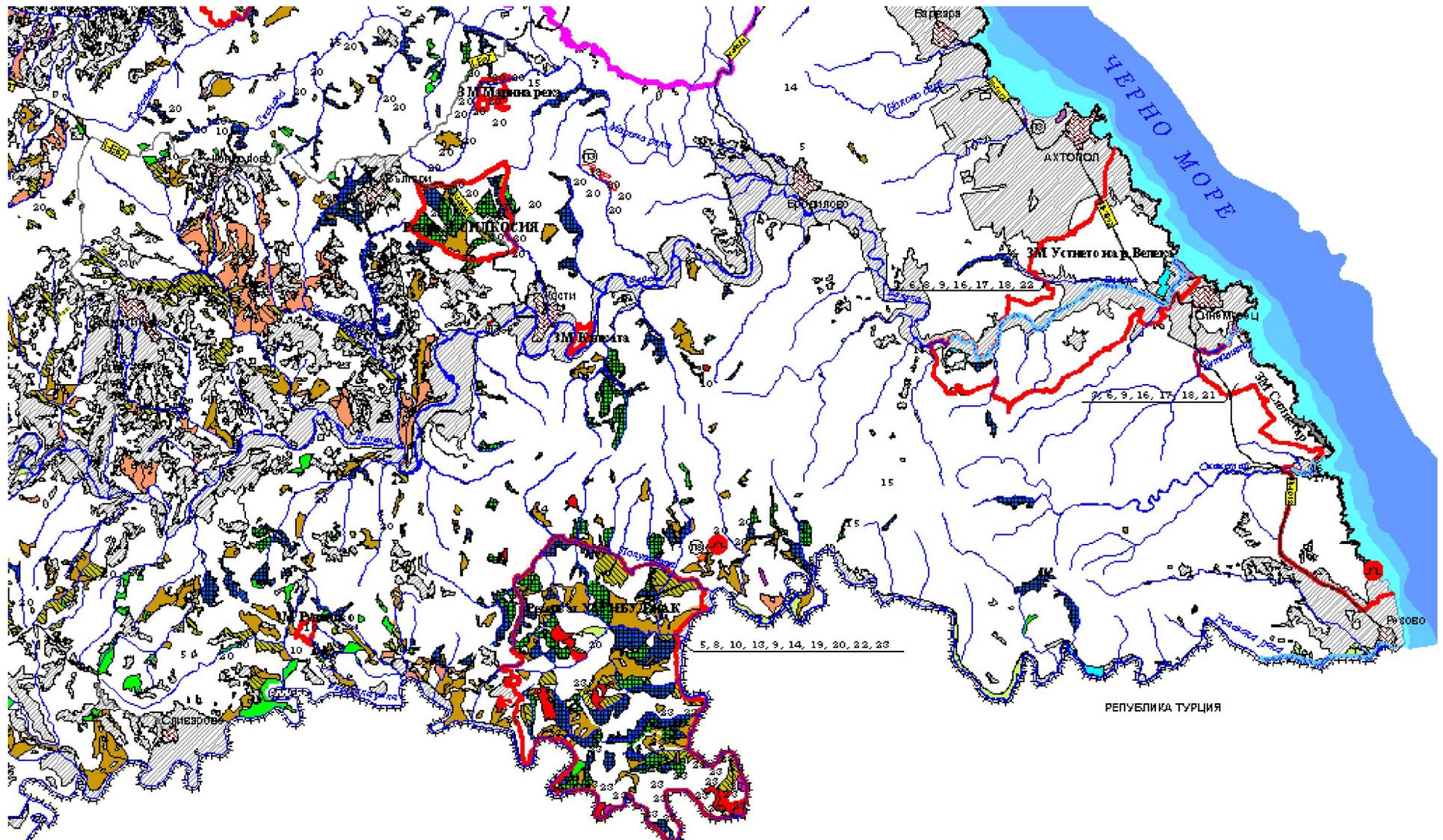


Priority protection habitats

After Spiridonov, Gussev, Patronov, 2003

ПРИОРИТЕТНИ ЗА ОПАЗВАНЕТО ХАБИТАТИ	
A*	ХАБИТАТ
1.	Странджански гори от източен бук с хавлика Берошица
2.	Поенниски бели дъбни
3.	Естуари
4.	Странджански гори от източен бук със странджанска зетеница
5.	Странджански гори от източен горун със странджанска зетеница
6.	Странджански гори от източен бук с лавровишня и кокадишки дъбел
7.	Странджански гори от източен бук с източен горун
8.	Странджански гори от източен горун с източен бук
9.	Субконтинентални крайбрежни шивади
10.	Субконтинентални гори от бял гун и цер
11.	Речи и потоци
12.	Баларски крайбрежни долни гори
13.	Странджански дълбоки гори с тлъжка
15.	Странджански дълбоки гори с цер
16.	Странджански гори от източен горун и бял гун
17.	Странджански гори с халупа
18.	Странджански букво-габрови-шипови гори
19.	Субконтинентални гори от обикновен габър с дъбове
20.	Континентални пещери на притоци и трото близки безбръмчани
21.	Източни храсталаци от грапа
22.	Странджански гори от източен горун с чашковидна зетеница

* A - Ред на приоритетност



Representative priority habitats

After Spiridonov, Gussev, Patronov 2003

Grassy communities

Meadows and pastures

Grassy communities in the vegetation cover of Strandzha Nature Park are an important component of the park biodiversity and resources.

Depending on their origin these are divided into natural, semi-natural and artificial.



Natural grassy communities have been formed on areas where ligneous and frutescent vegetation cannot develop due to soil and climatic reasons.

Semi-natural grassy communities are a secondary formation on areas of destroyed forests or shrubs or on arable land sites.

Artificial meadows and pastures have been formed according to an agro-technological scheme.



Depending on how they are used we define part of these communities as meadows and pastures.

Meadows: natural or semi-natural grassy communities, which are used for obtaining grassy fodder through mowing.

Pastures: these are natural or semi-natural grassy communities, which are or could be used to graze.



General Characteristics – Qualitative Parameters

As of 2000, agricultural lands in the park were 218,879.2 decars, i.e. 18.8% of the park's territory.

Whereas 156,531.0 decars were arable land, i.e. 71.5% of the arable land or 13.5% of the park's territory.

Common pastures and pastures add up to 54,032.6 decars, i.e. 24.7% of the arable land or 86.7% of the non-cultivated park land.

Meadows: 2,562.6 decars.



Classification of the grassy communities

Grassy communities (phytocenoses) of specific production characteristics have been formed depending on geographic situation, relief, soils, and climate – rainfall, temperature, and altitude. The specific conditions of the environment where grassy communities are formed determine the diversity of their content, structure, yield, and fodder qualities. Great variety exists and classifications have been developed depending on botanical composition (prevailing=dominant species and specie spectrum) and characteristics (relief and altitude) of the habitat. Cereal, leguminous, acidic grass, and different grasses.



Semi-natural meadows and pastures prevail in Strandzha Nature Park: the largest areas are occupied by grassy communities on sites of destroyed forests and shrubs. Plant communities in the plains and hilly regions (up to 500-600 m altitude): they relate to the categories meadows in plains, pastures in plains, and abandoned arable lands.



Characteristics of Strandzha natural grass:

- § **Great species diversity:** approx. 200 higher plant species included in specie structure;
- § **Xerophyte character:** communities of thermophilic species adapted to high summer temperatures and dry habitats prevail;
- § **Distribution and high abundance of annual species:** clover (*Trifolium* – *T subterraneum* *T nigrescens* *T purpureum* *T campestre* *T glomeratum* *T resupinatum* *T spadiceum*, etc.) are particularly represented.



Classification

Wet and semi-wet grassy communities

Wet and semi-wet grassy communities typical for low altitude (up to 900 m).

Grassy communities in plains and hilly regions (500 – 600 m)

Grassy communities dominated by scented grass (*Chrysopogon gryllus*)

Grassy communities dominated by bulbous barley (*Hordeum bulbosum*).

Dry grassy communities

Xerophytic grassy communities with steppe elements

Rich of ruderal-type xerophyte grassy communities

Dauco-Melilotion Görs 1966

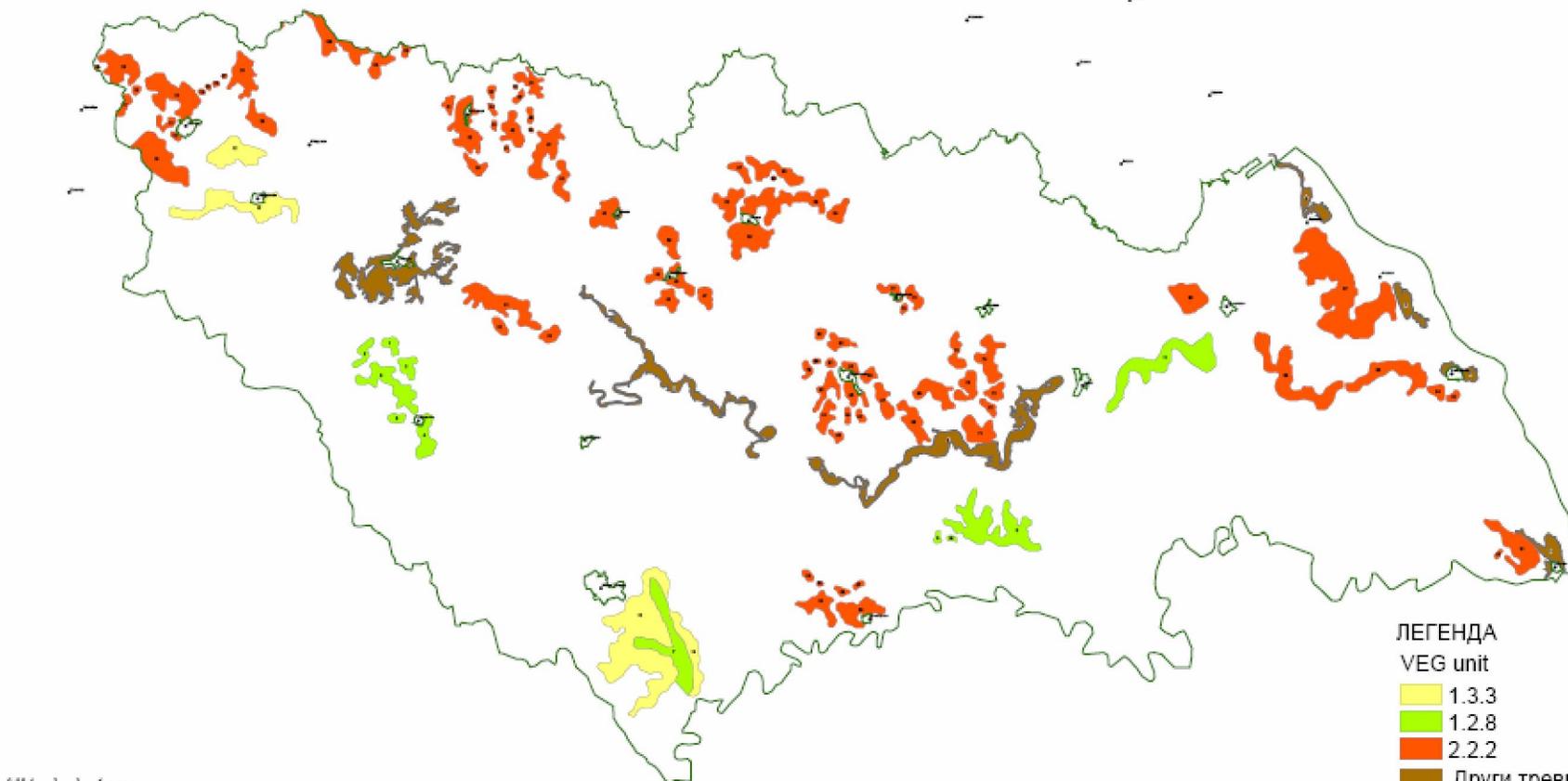
Xerophyte grassy communities with southern elements

Xerophyte grassy communities with sub-Mediterranean elements of meadow sub-type

pasture sub-type (rocky steppes)



Тревни Хабитати на територията на НАТУРА 2000 Защитена зона Странджа



Xerophyte shrubs pastures: this is not a classification unit but a concept imposed by practice. These are areas used as pastures and representing complexes of grassy communities in combination with various shrubs and former forests.

Characteristic are (*Phyllirea latifolia*) combined with communities of scented grass as well as pink rockrose (*istus incanus*)



High nature value meadows and pastures

Conservational importance

Being nature objects meadows and pastures have natural value. These are a specific biotope of a large number of representatives of the fauna bound to grassy communities fully or in important moments of their development.

In nature protection context, the term “high natural value” can be regarded on two levels: **by species and by habitats.**



The presence of rare and threatened plant and/or animal species or species of conservation importance:

1. Species of European importance included in the lists of European laws (Directives).

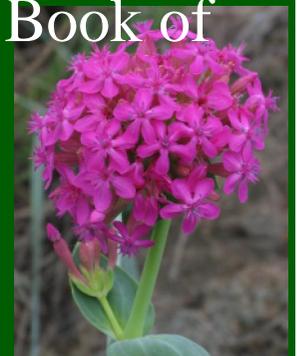
2. Species of European importance included on the lists if the Bern Convention.

3. Species of European importance included in the categories of the International Union for Conservation of Nature and Natural resources (IUCN).

4. Species of national importance included in the Biodiversity.

5. Species of national importance: Bulgarian or Balkan endemites.

6. Species of national importance included in the Red Book of Bulgaria.



Over 50% of the higher plants in Strandzha Nature Park of conservational importance are the inhabitants of grassy habitats: 72 species out of 140 species of conservational importance .

Dozens of fauna species: mammals, reptiles, birds, and insects.



Habitat level – Natural habitats

Key approach in the modern conception for the preservation of nature and protection of wild plant and animal species is the protection of their natural habitats.

“Plant and animal communities as a characteristic element of biotic environment together with abiotic factors (soil, climate, quantity and quality of water) functioning together in a specific scale” (UNIS – EU University Information System 2006).

Natural habitats are differentiated structural units of the biosphere and an important element of biodiversity.



6110 open calciphilic or basiphilic grassy communities of *Alysso-Sedion albi*

6210 semi-natural dry grassy and shrubs communities on limestone (Festuco-Brometalia)

6220 Pseudosteppes with cereal and annual plants of class *Thero-Brachypodietea*

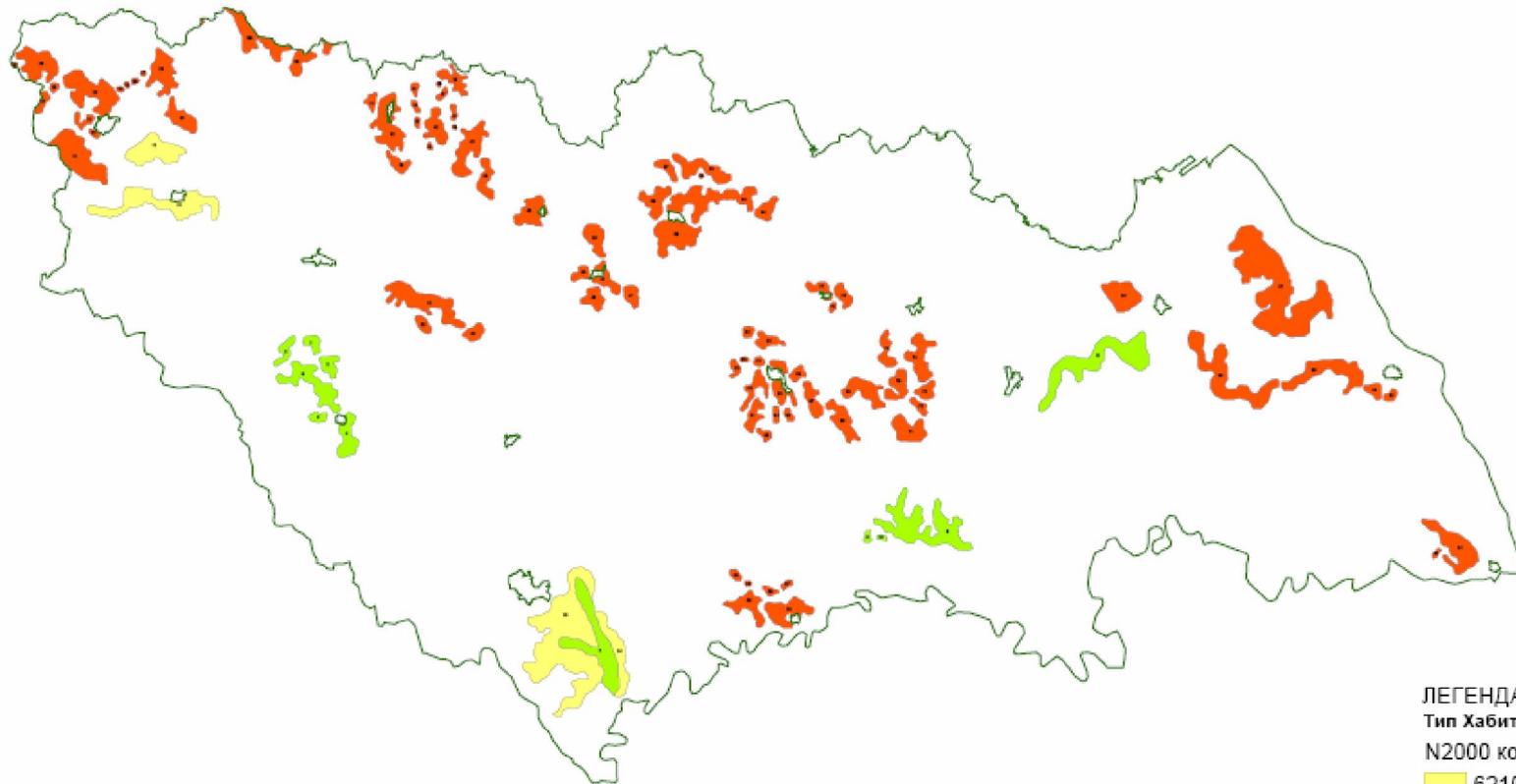
62A0 East-Mediterranean dry grassy communities

6510 Lowland haymaking meadows

4030 European dry ericoid communities



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ЛЕГЕНДА

Тип Хабитат	N2000 код
	6210
	6230
	62A0

Threats for meadows and pastures

- § Change in land use and construction of tourist infrastructure.
- § Plowing the land and turning it into arable land.
- § Use of fertilizers.
- § Hydromelioration.
- § Use of equipment.
- § Lack of grazing herds.
- § Overgrazing.



Trends

Monitoring – favourable condition

The assessment of favourable/unfavourable conditions is based on the understanding that a favourable condition means stability in time and space, rich diversity of species, limited presence of ruderal species, satisfactory productivity and good fodder qualities. The presence of conservationally important species and habitats determines the category as “high nature value”.



Adaptive management

Private land owners and farmers to revive agriculture and stock-breeding based on environmentally-friendly agricultural practices

- § Stimulation of agricultural producers to use production methods aimed at the biodiversity and nature protection (park-specific crop-rotation, biological methods of pests control, improved land cultivating technologies, improved grazing organisation, increased water use effectiveness, etc.);
- § improvement of the organisation and cooperation between resource owners, entrepreneurs and institutions involved in agriculture, agricultural raw materials and trade in agricultural produce.



- § training of local agricultural producers in environmentally friendly agricultural practices;
- § support of local agricultural communities to apply for projects financed by national and European funds;
- § renewal of agro-climatic studies on the territory;
- § establishment of adequate conditions for the recovery of the local gene fund and the sub-sectors which have potential to develop on the territory such as sheep, cattle, horse, bull and bee breeding;
- § establishment of a reliable security of agricultural land;
- § encouragement of extensive pasture animal-breeding;
- § diversification of agricultural activities.

















