

# NATURA 2000 IN THE GIANT MOUNTAINS



The Krkonoše National Park Administration



# The European Union and Natura 2000



**T**he formation of a network of protected sites in Europe, known as Natura 2000, is the European Community's direct response to the rapid decline in the number of natural habitats and individual plant and animal species over recent decades. The European Union as a whole is demonstrating its awareness of the need to protect all outstanding aspects of nature in the continent of Europe.



# NATURA 2000 IS...

- ❑ a network of protected sites designed to protect the most precious parts of the natural environment within the territory of EU member states,
- ❑ composed of two types of sites: areas for the protection of birds (Special Protection Areas, SPA) and special conservation areas of designated natural habitats, plants and animals (Sites of Community Interest, SCI),
- ❑ focused on the preservation of biodiversity, maintaining natural sites in the best possible condition and protecting the most endangered species of plants and animals.

The designation of localities of Natura 2000 is based on two European Community directives: Council Directive 79/409/EEC on the conservation of wild birds (referred to as the Birds Directive) and Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (referred to as the Habitats Directive). Both directives were integrated into the Czech legislative system even before the Czech Republic joined the EU. The Czech Republic is therefore, as a member state, obliged to ensure the protection of endangered habitats, plants and animal species that fulfil the conditions of both directives.



Fig. 1: European Network of protected sites of Natura 2000.

# BIRD AREA OF THE GIANT MOUNTAINS

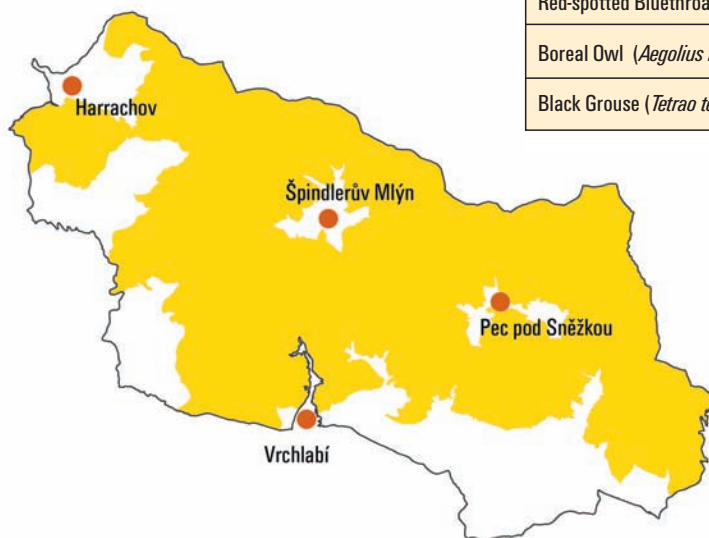
The Special Protection Area (SPA) was declared by statutory act of the Czech Republic No.: 600/2004 on 27. 10. 2004. The area covering 40 907 hectares, incorporates the whole of the Krkonoše National Park and selected parts of its buffer zone. Among seven bird species protected here and therefore designated objects of protection are: the Black Stork (*Ciconia nigra*), Black Grouse (*Tetrao tetrix*), Corncrake (*Crex crex*), Boreal Owl (*Aegolius funereus*), Black Woodpecker (*Dryocopus martius*), Red-spotted Bluethroat (*Luscinia svecica svecica*) and Red-breasted Flycatcher (*Ficedula parva*). In protecting the bird area, the goal is to sustain the natural habitats and safeguard conditions in which the population of the above mentioned species can be maintained.

Forests, especially of older woodland vegetation, offer a suitable environment for five of the bird species. The Black Stork and Red-breasted Flycatcher nest in beech forests. Spruce and mixed forests are home to the Black Woodpecker and Boreal Owl. In locations where forests give way to forest-free areas, it is usual in Krkonoše to find a mosaic of open spaces with clusters of dead trees. These sites can primarily be found on clear-cuts induced by air pollution that are reforested at present and are sought out by the Black Grouse.

The Corncrake can be heard in the Giant Mountains' meadows. Considerable luck is needed to spot this timid bird whose activities are mostly nocturnal. Its tuneless call, the monotonously repeated "crex-crex" has been responsible for waking more than one local inhabitant.

The remaining species (object of protection), the Red-spotted Bluethroat, occurs in biotopes above the tree line.

Objects of protection in the Bird area Krkonoše
Black Stork ( <i>Ciconia nigra</i> )
Black Woodpecker ( <i>Dryocopus martius</i> )
Corncrake ( <i>Crex crex</i> )
Red-breasted Flycatcher ( <i>Ficedula parva</i> )
Red-spotted Bluethroat ( <i>Luscinia svecica svecica</i> )
Boreal Owl ( <i>Aegolius funereus</i> )
Black Grouse ( <i>Tetrao tetrix</i> )



Tab. 1

Fig. 2: SPA the Giant Mts. – shaded yellow, borders of the Krkonoše National Park – shaded black.



Fig. 3: The **Red-spotted Bluethroat** belongs to an extremely rare species. It nests in Dwarf Pine vegetation in mires and in wet subalpine meadows from 1300 to 1470 m above sea level. Apart from its main location in Scandinavia, there exists a North-European (tundra) subspecies characterized by a reddish patch in the middle of a blue breast. The first confirmed nesting was in 1978. Over the years its numbers have grown and today there are estimated 25 to 30 pairs. Our entire population of this subspecies nests only in the Giant Mountains. Nowhere else in the Czech Republic can it be seen in the nesting season.



Fig. 4: The **Boreal Owl** nests in the Giant Mountains from 500 m above sea level all the way to the tree line. The territory below 800 m above sea level is limited by the Eurasian Tawny Owl which, however, enriches its menu with Boreal Owl. The Boreal Owl seeks mixed and spruce forests interspersed with clearings and nests in natural hollows as well as in nesting boxes. The overall number is estimated at 90 pairs. Not all of them though, nest every year. The number of nesting pairs depends on the food supply, primarily that of the Orkney Vole.



Fig. 5: The **Corncrake** belongs to a species which is greatly endangered throughout Europe. It regularly nests in the Giant Mountains but only on the Czech side of the mountains at 400–1250 m above sea level where it prefers cultivated fields and pastures as well as uncut moist mountain meadows. Over the last ten years its numbers have ranged from 100 to 120 males, but in last two years numbers have inexplicably fallen by half.

Fig. 6: The **Black Grouse** usually nests in the Giant Mountains from 900 to 1500 m above sea level. It is found in meadow enclaves and clear-cuts induced by air pollution, in glacier corries as well as in subalpine meadows with scattered Dwarf Pine vegetation. It is the only one of the grouse family that has responded positively to the dying out of forests and the creation of immission clear-cuts overgrown by pioneer species (rowans, willows, birches). Its numbers are estimated to range from 100 to 120 males.



Fig. 7: The **Black Stork** mostly builds its nest in fully grown beeches but also occasionally on ledges of rock, very often near watercourses, which it uses for catching fish. About 10 pairs nest in the Giant Mountains from the foothills to 940 m above sea level.



Fig. 8: The **Black Woodpecker** occurs in all types of woodland vegetation in the Giant Mountains from the foothills to 1100 m above sea level. Its local population is estimated at 60–70 pairs.



Fig. 9: The **Red-breasted Flycatcher** prefers deciduous or mixed forests. It nests by choice in the hollows of beech trees, predominantly in lower locations of the Giant Mountains. The highest observation was near Horní Míšečky at 1050 m above sea level. About 60–70 pairs nest here.





Fig. 10



# THE SITE OF COMMUNITY INTEREST GIANT MTS.

**B**ased on the survey of the presence of habitats and species, the whole territory of the Krkonoše National Park and its buffer zone was nominated as a Site of Community Interest (SCI). It was established by the government of the Czech Republic on 22. 12. 2004 by Act No.: 132/2005, appendix No.: 412. Not only does the appendix include maps marking the borders of the SCI the Giant Mountains but it also lists the habitats and species that became the objects of protection: 21 types of habitats, 4 plant species and 2 animal species.

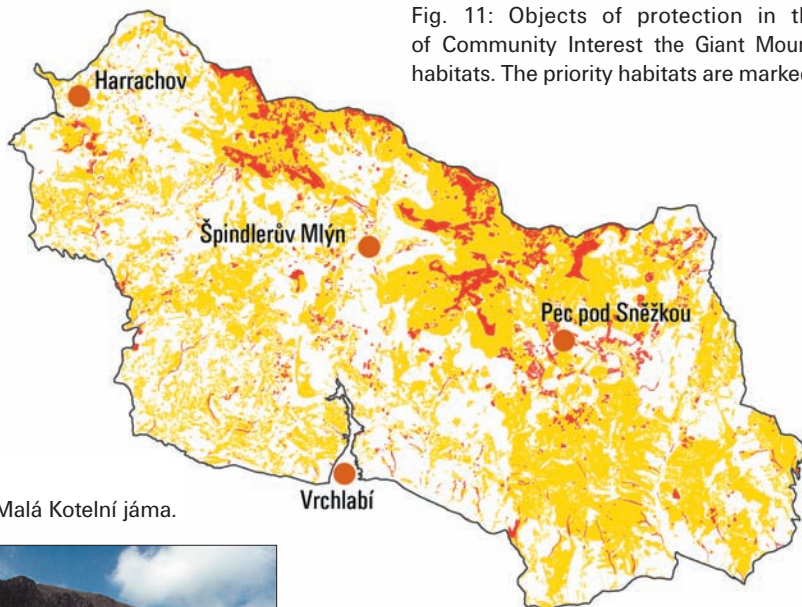


Fig. 11: Objects of protection in the Site of Community Interest the Giant Mountains – habitats. The priority habitats are marked in red.

Fig. 12: Corrie Malá Kotelní jáma.

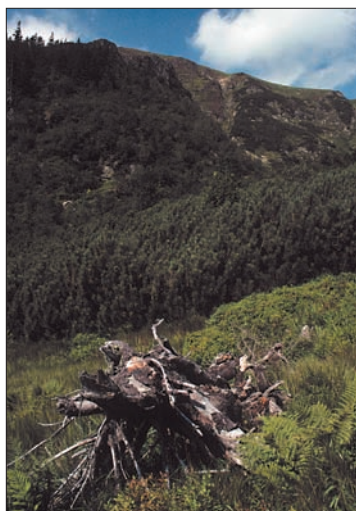


Fig. 13: Flower-rich mountain meadow in Horní Míšečky.





	<b>Objects of protection in the Site of Community Importance the Giant Mountains – code and type of natural habitat of Natura 2000 (* asterisk marks the priority habitats)</b>
4030	European dry heaths
4060	Alpine and boreal heaths
4070	* Bushes with <i>Pinus mugo</i> and <i>Rhododendron hirsutum</i> ( <i>Mugo-Rhododendretum hirsuti</i> )
4080	Sub-Arctic willow scrub
6150	Siliceous alpine and boreal grasslands
6230	* Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and submountain areas, in continental Europe)
6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels
6510	Extensive hay meadows of the plain to submontane levels ( <i>Arrhenatherion Brachypodio-Centaureion nemoralis</i> )
6520	Mountain hay meadows
7110	* Active raised bogs
7140	Transition mires and quaking bogs
8110	Siliceous scree of the montane to snow levels ( <i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladani</i> )
8220	Chasmophytic vegetation on siliceous rocky slopes
8310	Caves not open to public
9110	<i>Luzulo-Fagetum</i> beech forests
9130	<i>Asperulo-Fagetum</i> beech forests
9140	Medio-European subalpine beech woods (with <i>Acer</i> and <i>Rumex arifolius</i> )
9180	* <i>Tilio-Acerion</i> forests of slopes, screes and ravines
91D0	* Bog woodland
91E0	* Mixed ash-alder alluvial forests of temperate and Boreal Europe ( <i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i> )
9410	Acidophilous spruce forests ( <i>Vaccinio-Piceetea</i> )

Tab. 2



# MEADOWS

The existence of meadows, forests and fields appears to us as a natural feature of the ever-changing picturesque mosaic of the countryside. It also seems natural that in summer we should enjoy the sight of flowering meadows and breathe in their scent. When so doing, it is important to realize that most meadows were created by humans who many years ago, cut down an area of forests, settled in the clearing and started to farm. They reared livestock, hayed meadows and maintained water resources. It is possibly only a slight exaggeration to claim that without man, forests would abound. Human care is needed to preserve meadow communities. Beautiful colourful meadows are the result of our ancestors' regular attention, often over many years. Unfortunately, just a few seasons of neglect are sufficient to render them extinct. And that is not the only danger to meadows nowadays. The excessive use of artificial fertilizers, changes in farming methods, building on green meadows or large numbers of tourists, contribute to the gradual decrease of meadow communities.

Fig. 14: **Extensive hay meadows** (Oat-grass meadows) are the most frequent type of meadow in the Giant Mountains and they abound especially in the foothills. Tall grass predominates, mainly Oat-grass which gives its name to this type of meadow. Other species that grow here are the Oxeye Daisy, Spreading Bellflower and Red Clover.



Fig. 15, 16: The use of light mechanization and haymaking keeps the meadows in good condition.



Fig. 17: The largest concentration of **mountain hay meadows** (Golden Oat-grass meadows) can be found in the vicinity of people's residences, most frequently in areas between 550 and 800 m above sea level. Even here there is abundance of grass species as in extensive hay meadows, but of different species composition. Oat-grass is replaced by Common bent grass, Timothy-grass or Broad-leaved Meadow-grass; and of course, by Golden Oat grass which gives this type of meadow its name. Apart from the green species of grass, plenty of other colours are to be found, e.g. bright white flowering Hairy Rock-Cress, yellow flowering Hawksbeard or dark red Red Campion. The large purple flowers of Wood Cranesbill blend well with the pink of Bistort.



Fig. 19: Meadowsweet

Fig. 18: **Wet Meadowsweet** grassland can usually be found within earshot of water: scattered on alluvial plains of creeks or in damp meadows. Meadowsweet, herb about a metre high, with creamy white flowers has given this type of fallow its name. This plant species is also used in the preparation of herbal tea. Thanks to the salicylic acid which is the main ingredient of acylpyrine, it has been used as a cure for influenza and rheumatism from time immemorial.



Fig. 20: In rare cases, the golden heads of the Globeflower glisten in wet Meadowsweet grassland.





# MAT-GRASS SWARDS

**P**rimarily vegetation such as Mat-grass swards occurred in the Giant Mountains even before the arrival of man. It appeared in corries and so-called primeval meadows above the tree line.

Secondary Mat-grass swards have developed here, particularly as a result of the colonisation of the Giant Mountains in the time of chalet farming. They mostly replaced various types of forests vegetation on acid bedrock or less frequently, dwarf pine vegetation. Mat-grass swards occur from the foothills to the highest altitudes and so can be divided into submontane, montane and subalpine.

**Fig. 21: Submontane and montane Mat-grass swards without Common Juniper** replaced the beech and to a lesser extent, the spruce forests. Nowadays they appear only rarely in the Giant Mountains. Once, such vegetation was probably more frequent but its decline began, among other reasons, because of the artificial increase in nutrients in the environment in 1970s and 80s. Stemless Carline Thistle appears in these grasslands in autumn.



**Fig. 22: Montane Mat-grass swards with alpine species** are represented in the Czech Republic territory only in the Giant Mountains. Their origins are connected with the deforestation of the mountains, particularly during the period of chalet farming from the 17<sup>th</sup> to the 19<sup>th</sup> centuries, when these grasslands replaced uprooted beech and spruce forests. Subalpine species that have descended to lower altitudes mixed in swards with submontane species that conversely, ascended to higher altitudes. This has formed an interesting community of rare and common plant species.



**Fig. 23:** In the area of Mat-grass swards can be seen Bohemian Bellflower, Leopard's Bane, Sudetic Pansy, White False Helleborine and many more species. The natural basis of the meadows is Mat-grass.

Species-wise, very rich **subalpine Mat-grass swards** are now rarely represented around the alpine tree line. As far as plants are concerned, Golden Cinquefoil, Giant Cat's Ear, Alpine Hawkweed or Alpine Bastard Toadflax are to be found. Nor can the beautiful Alpine Pasque Flower be overlooked in spring or in autumn, the Willow-leaved Gentian.



Fig. 24:  
Willow-leaved  
Gentian



Fig. 25:  
Giant Cat's Ear

Fig. 26, 27: **Secondary submontane and montane heaths** are also to be found among meadow communities. They frequently develop in abandoned meadows and in some cases, on ski slopes scattered on the whole territory of the Giant Mountains. Apart from common species such as Heather and Bilberry, endangered species are also to be found: for example, inconspicuous representatives of the *Diphasium* family.







Fig. 28





# FENS AND RAISED BOGS

**W**hat are fens and raised bogs? In short, fens are places where water rich in minerals gathers. The mass of dead plants comprises the remains of sedges, grasses and mosses. Fens form from the plant remains.

Raised bogs, in contrast, are places with water poor in minerals. The source of water is snowfall and rainfall, fissure water, also poor in minerals, or surface water. Their bulging, lens-like shape is typical. Raised bogs are divided by small protuberances and groundwater depressions (bog hollow). The king of the vegetation in raised bogs is peat moss, which lends itself to the formation of peat. In its dense growth, small bushes such as the Cranberry, Bilberry or Crowberry cluster and at the highest altitudes of the Giant Mountains, so does the Dwarf Pine.

Fig. 29: **Acidic moss-rich fens** are scattered across the whole area of the Giant Mountains with the exception of the highest altitudes. Communities of sedges settle in the most watery parts of meadows or in water-logged soils on slopes. The most typical plant is the Cottongrass which creates conspicuous white areas on the fens in summer.



Fig. 30: Above the tree line can be found **mires**, the remains of subarctic tundra which existed here at the close of the last Ice Age. Today, special climatic conditions predominate on the mountain ridges, and therefore mires in the highest areas are distinctly different from the other types of mires in the Giant Mountains and other Hercynian mountains. The aerial photograph gives a bird's eye view of the raised bogs. The dark areas are ponds and the green areas represent dwarf pine vegetation.

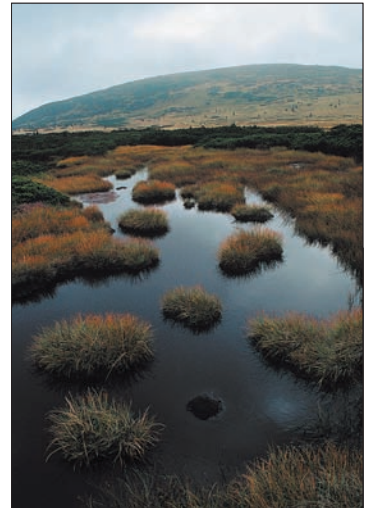


Fig. 31: Mire pools on the Giant Mountains ridges stretch along the contour line.



Fig. 32: The Black Mountain mire represents the biggest mire in the Giant Mountains of the spruce grove zone. It belongs to **the mountain mires** where the presence of ponds, often several metres deep, is typical. The ponds are created in places where the layer of peat is thickest.

Fig. 33, 34: The coexistence of the Dwarf Pine and the Cloudberry is unique. It illustrates the convergence of the North and the South. Dwarf Pine grows in the mountains of Central and Eastern Europe and the Giant Mountains is its most northerly occurrence. Cloudberry, on the contrary, represents a northern species at its most southerly European occurrence. Both species create a community called **Cloudberry Dwarf Pine** that cannot be seen anywhere else in the world.



Fig. 35, 36: We find **bog spruce forests** on the edges of raised bogs. These forests, as well as the mire vegetation, prefer a rougher climate with adequate water. They create an open stand of Spruce while other woods such as Birch and Rowan occur here less frequently. In the undergrowth apart from the peat mosses and other species of mosses, Bilberries, Bog Berries (Northern Bilberries) or Cranberries thrive.

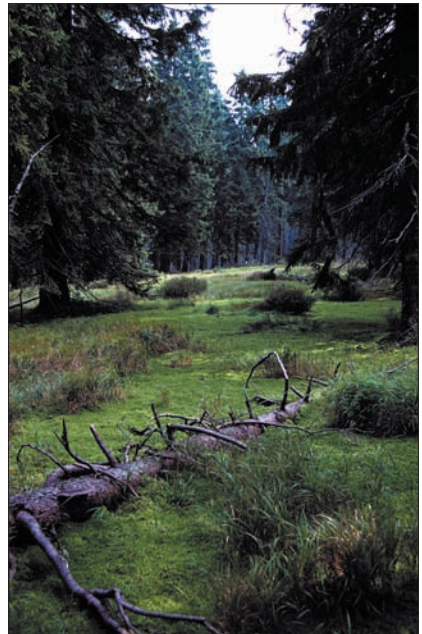


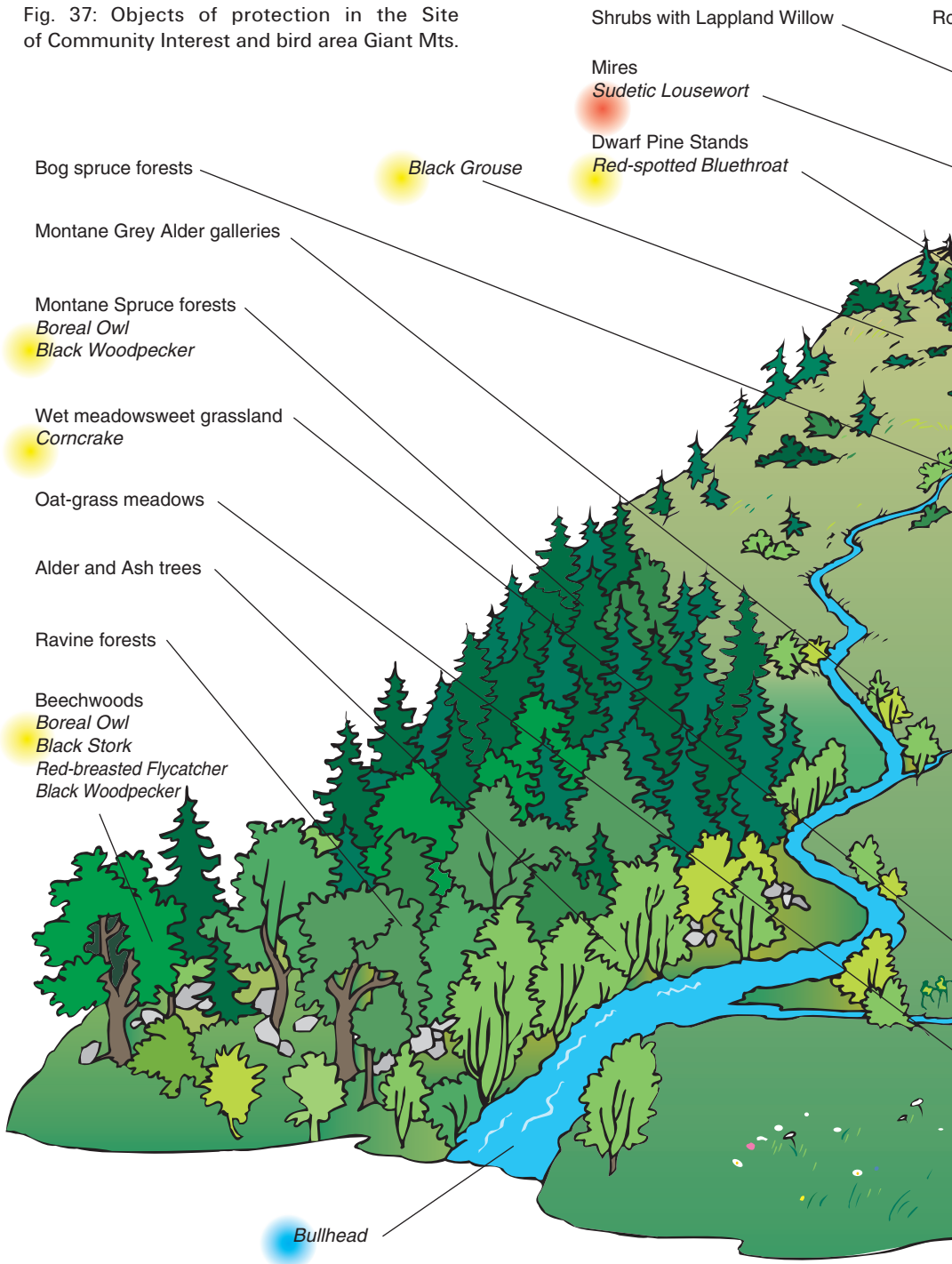




Fig. 36



Fig. 37: Objects of protection in the Site of Community Interest and bird area Giant Mts.



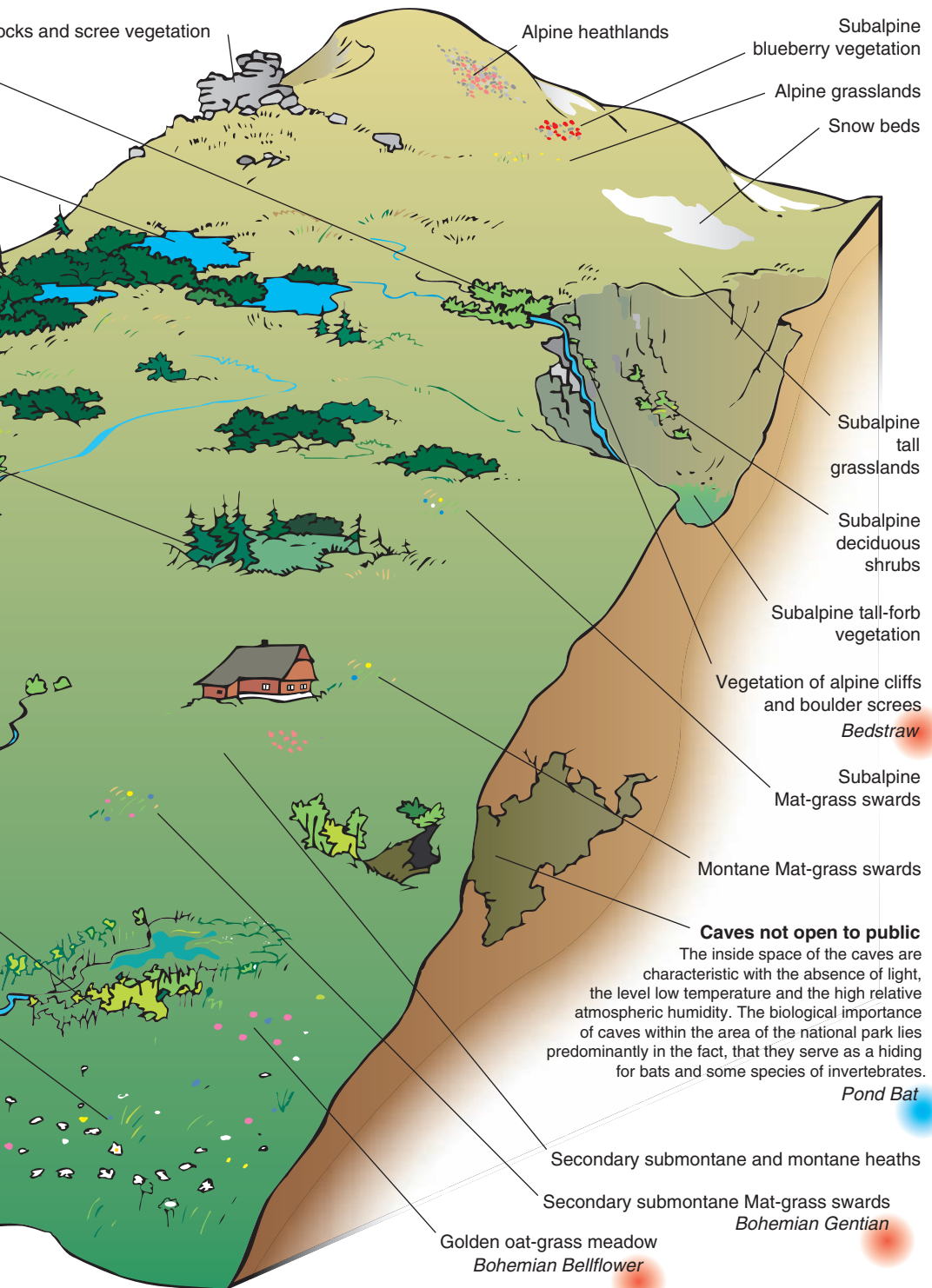




Fig. 38





## ALPINE NON-FOREST AREA

An alpine, forest-free area stretches from the tree line across the openings of the glacial valleys all the way to the highest peaks of the Giant Mountains: Sněžka, Studniční and Luční hora (Well and Meadow Mts.), Vysoké Kolo and Kotel (High Wheel and Basin). Here, in the rough domain of frost, snow, wind and ice are found the greatest number of protected habitats within the Giant Mountains Site of Community Importance.



Fig. 39: **Alpine grasslands** grow in very rough climatic conditions. They have only four months in which to grow, bloom and ripen their seeds. Here the temperature hovers around 8 °C in June! Low temperatures are often accompanied by fierce winds. The soil is shallow skeletal, and poor in humus and nutrients. Not all plants can survive such conditions and so the number of species in these grasslands is sparse.



Fig. 40: Plants have to be well adapted to these rough conditions. They create a low and closed stands and are usually covered with a thick coat of hair that protects them not only from the cold but also from the strong sun. An example of such plants is the Hawkweed which is abundant in alpine and Matgrass swards. The Giant Mountains are renowned among botanists for the diversity and number of Hawkweed species, several dozens of which belong to the Krkonoše endemic species (plants growing only in an exclusive area).



Fig. 41: **Alpine heathlands vegetation** can produce carpets of colour in late summer. They can be seen above the tree line in wind-swept places with shallow soil. They often create an overlapping mosaic with alpine grasslands.

Fig. 42: **Subalpine tall grasslands** take advantage of the more favourable conditions on the leeward slopes above the tree line. Protected from the wind, grasses like Rough Small-reed or Hairy Small-reed predominate in free areas. They are mostly joined by species of the light-requiring, that embellish the grasslands primarily at blossom time, e.g.: Apple-blossom, Anemone, Mountain Pansy or Scherfel Anemone.



Fig. 43:  
Cranberry.



Fig. 44: In completely unexpected places: in lee, can be seen large stands that set the mountain peaks ablaze with their bright-red colour in autumn. The stands consist mainly of Bilberry and Cranberry bushes of the **subalpine blueberry vegetation**.





Fig. 45: **Snow beds** are the places where the snow persists until late summer. The wind blows drifts here in winter. The snow takes a long time to thaw and can meet fresh snow the following winter. There are a few such places in the Giant Mountains found on leeward side of mountains and in corries. A good example is the famous snow bed "Map of the Czech Republic" (named according to its shape) on the southern slope of Studniční hora (Well Mt). Vegetation develops even in the extreme conditions of snow beds. Even though plants have only a few weeks to grow and bloom here, there are species that take the risk. An example is the small Creeping Cudweed.

Fig. 46: We meet **subalpine tall-forb vegetation** at the foot of corries, in the surroundings of streams and in shady and humid sites. In contrast to the poor-in-species ridges of the Giant Mountains, a considerable number of species are to be found on the alluvial plains e.g. pink Hedge-garlic Adenostyle, green White False Helleborine, dark blue Monkshood or the sturdy Alpine Lady Fern.







Fig. 47: On **rocks**, different types of lichens are mainly to be found and on **scree**s, mosses or tiny ferns such as the highly endangered Parsley Fern predominate.

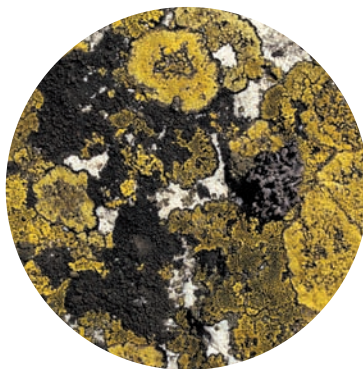


Fig. 48, 49: **The vegetation of alpine cliffs and boulder scree**s is considerably poorer. Settling on the highest mountain peaks and ridges, isolated rocks (tors), corries and the like, and battered by the rough climate; the number of reproducing species is very low here. Above – Geographic lichen.



Fig. 50: The structure of **Dwarf Pine stand** is complicated. The Dwarf Pine roots procumbently spreading in all directions. It is very difficult therefore, to track down the oldest root of the Dwarf Pine. The oldest roots with 324 annual rings were discovered on Kozi hřbety.



Fig. 51: At the end of spring, male pollen inflorescences form on the lateral branches of Dwarf Pine shrubs.

Fig. 52: The Dwarf Pine usually grows in places where trees are unable to grow. Here the temperature of the soil and air is lower, the soil is poor in nutrients and in winter there is a thick frost cover. Full-grown trees cannot overcome these conditions, and therefore gradually have yielded their domain to the Dwarf Pine. It is not, however, the only representative of the plant empire. In undergrowth Bilberries and Cranberries abound as does the grass Hairy Small-reed.





Fig. 53: **Cliff vegetation in the Sudeten corries** can be discovered on rocks or rocky slopes where avalanches often occur. These sites are well supplied with water, predominantly from melting snow or mountain streams. The vegetation in these locations is curiously rich in species. Its appearance is similar to grassland with different species of herbs peeping out.



Fig. 54: **Subalpine deciduous shrubs with Lapland Willow**, which like Dwarf Pine creates procumbent stands of a conspicuous grey colour, belong to the alpine non-forest area. They grow on the edges of raised bogs above the tree line.



Fig. 55: *Prunus padus* subsp. *borealis* (Bird cherry)

Fig. 56: Other type of **subalpine shrub vegetation** can be found on steep, often **avalanche-prone slopes**, and can descend along streams even below the tree line. Among shrubs found here are the Carpathian Birch or the Silesian Willow.







# WOODLAND KINGDOM OF THE GIANT MTS.

The Giant Mountains was covered with primeval forest consisting mainly of spruce, fir and beech trees until the 13<sup>th</sup> century. Spruce forests merged with dwarf pine vegetation at altitudes above 1200 m above sea level. With man's arrival in the mountains, interference with the primeval forest began. Enclaves of settlements, meadows and fields took their place. Developing industry, metallurgy, glass making and mining played their part in the decline of the Giant Mts' forests. Wood was needed for all of the above, so the Giant Mountains' forests had been felled almost completely by the turn of the 16<sup>th</sup> and 17<sup>th</sup> centuries. Luckily, at the beginning of the 17<sup>th</sup> century the natural and from the middle of the 18<sup>th</sup> century also the artificial resurgence of the forests began.

Fig. 57: Beechwoods with a colourful undergrowth of herbs, so called **herb-rich beech forests**, lie at lower altitudes in soil rich in humus. In spring Woodruff, Dog's Mercury, and Asarabaca are found here as are the Martagon Lily or Herb Paris.



Fig. 58:  
Dog's  
Mercury



Fig. 59:  
Herb Paris

Fig. 60: **Acidophilous beech forests** occurred at higher altitudes, where beeches settle in poorer acid mountain soils. Grasses and ferns predominate.



Fig. 61: Usually on steeper slopes with sufficiently damp soil **mountain maple beechwoods** can sometimes be found. With their rich herb undergrowth, they often match herb-rich beech forests.



Fig. 62: Wood Sorrel



Fig. 63: Original **montane spruce forests** have been preserved in a narrow stretch around the alpine border of woods and on the slopes of corries. The average age of this vegetation is thought to be between 120 and 200 years. Three hundred-year-old trees are however, not exceptional. The herb undergrowth of montane spruce forests is poor due to the convergence of circumstances such as the temperature, the duration of snow cover, precipitation etc. Villous Smallreed, Alpine Coltsfoot and Shamrock predominate and often a rich vegetation of Bilberries is to be found.







Fig. 64: **Montane Grey Alder galleries** are rare and they fringe the banks of rapidly flowing mountain streams. Species of mountain herbs alluvial plains such as Alpine Blue-sow-thistle or Large white buttercup often appear in the undergrowth.

Fig. 65: **Alders and Ash trees** line most of the water-courses in the Giant Mountains foothills. They are most beautiful in spring when their undergrowth lights up with carpets of Spring Snowflake.

Fig. 66: **Ravine forests** are found on small sites throughout the foothills. They grow on steep slopes or rocky outcrops, at the foot of slopes or screes, wherever the soil runs under your feet. Here Sycamore Maple or Norway Maple, European Ash, Small-leaved Lime, European Beech or Hazel are found.







Fig. 67

# “NATURA” PLANT SPECIES

There are four plant species designated as objects of protection in the Giant Mountains Site of Community Interest: the Bohemian Bellflower (*Campanula bohemica*), the Sudetic Bedstraw (*Galium sudeticum*), the Bohemian Gentian (*Gentianella bohemica*) and the Sudetic Lousewort (*Pedicularis sudetica*).

If we look at these four more closely, one common characteristic attracts our attention: they are endemic species (plants growing only in a small exclusive site). The first two species: Bohemian Bellflower and Sudetic Lousewort are endemic species of the Giant Mountains. Sudetic Bedstraw is endemic species of Slavkovský les (Slavkov’s Forest) and Vysoké Sudety (High Sudetes) (today it probably grows only in the Giant Mountains). The last species, the Bohemian Gentian, is an endemic species of Český masiv (Bohemian Massif) and adjacent regions of Moravia, Austria and Bavaria.

	Objects of protection in the Site of Community Importance the Giant Mts. – code and plant species of the Natura 2000 network (* asterisk marks the priority species)	Localities (number)
4069	* Bohemian bellflower ( <i>Campanula bohemica</i> )	24
2217	* Sudetic lousewort ( <i>Pedicularis sudetica</i> )	5
4113	* Bedstraw ( <i>Galium sudeticum</i> )	2
4094	* Bohemian gentian ( <i>Gentianella bohemica</i> )	1

Tab. 3



Fig. 69: The best known and most abundant representative of the group of protected species is the **Bohemian Bellflower**. It is found mainly in rich-in-species mountain meadows, but also on the edges of dwarf pine vegetation and in corries. It grows at an altitude of approximately 750 m to the top of Sněžka (1602 m a. s. l.), predominantly on the Czech side of the mountains. Its disappearance has been attributed to changing farming practices in the mountain meadows. Excessive building activities are also responsible for the decline in mountain meadows.



Fig. 68: Objects of protection in the Site of Community Interest the Giant Mountains – plant species and their locations.





Fig. 70: The eye-witness of glaciation in the Giant Mountains, **the Sudetic Lousewort**, grows predominantly in spring, in areas above the tree line. Its entire population numbers only several thousand specimens. The species is interesting for being described first by botanists in the Giant Mountains even though it occurs mainly in the far North: in the wide belt of North America and Eurasia.



Fig. 71: **The Bohemian Gentian** is the most endangered of the protected species within the SCI the Giant Mountains. It is the sad barometer of change in our landscape. Earlier it was a normal feature of meadows and pastures but today it is disappearing as pastures decline. Gentians are also sensitive to the spread of chemicals in the environment which upset the complex balance between Gentians and a specific species of fungi that occurs in the roots of the plants (*Endotrophic Mycorrhiza*) and supports their development.

Fig. 72: **The Sudetic Bedstraw** is hidden from view as it only grows in areas where tourists are prohibited. It likes warm open spaces in corries, particularly in growths of low grassland, on small rocky terraces and in screes.





# “NATURA” ANIMAL SPECIES

	<b>Objects of protection in the Site of Community Importance the Giant Mts. – code and animal species of the Natura 2000 network</b>	<b>Localities (name)</b>
1163	Bullhead ( <i>Cottus gobio</i> )	Horní Sytová
1318	Pond bat ( <i>Myotis dasycneme</i> )	Herlíkovické štoly

Tab. 4



Fig. 73: Objects of protection in the Site of Community Interest the Giant Mountains – animal species and their locations.

Two animal species, the Bullhead (*Cottus gobio*) and the Pond Bat (*Myotis dasycneme*) are also objects of protection within the Site of Community Importance the Giant Mountains.

Fig. 74: The **Bullhead** lives in clean mountain rivers with shallow fast flowing water and a stony gravel bed. Most of the time it is hidden under stones. Since it has no air bladder, it is not a good swimmer and it moves by hopping along the bottom. The designation of the Bullhead as a protected species is justified because it is very sensitive to the pollution of streams and to the adequate supply of oxide in water. It serves as a bioindicator of the water environment. It can be also endangered by fish of the salmon family such as the Brook Trout if they appear in excessive numbers.



Fig. 75: The only hibernating site of the **Pond Bat** in the Czech Republic is Herlíkovické štoly (Herlíkovice adits) in the Giant Mountains. It flies to this particular place, possibly from summer colonies in Poland, and appears here in waves. After years of absence, one or two bats have appeared here and they lead other individuals into the adits. They return for several consecutive years, gradually disappear and then the whole cycle repeats itself.





Fig. 76

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### **Natura 2000 in the Giant Mountains**

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