# Wildlife and Fauna of the Czech Republic

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# Introduction

The Czech Republic, nestled in the heart of Central Europe, is a country renowned not only for its rich history, architectural landmarks, and vibrant cultural tapestry, but also for its remarkable natural heritage. Boasting a landscape where mountains, rolling hills, valleys, and rivers interweave with forests and meadows, the Czech Republic presents a unique mosaic of habitats supporting an astonishing diversity of wildlife. Though relatively modest in size, the nation's geography, shaped by ancient geological forces and influenced by the crossroads of multiple biogeographical regions, has nurtured an impressive spectrum of fauna and flora.

This book, "Wildlife and Fauna of Czech Republic: A Guide to the Wildlife and Fauna of Czech Republic," aims to provide readers with a comprehensive and accessible introduction to the rich biodiversity of the Czech lands. Exploring a broad range of species—from elusive large carnivores prowling in mountain forests to vibrant birdlife swirling above rivers and wetlands—this guide is crafted for nature lovers, students, travelers, and anyone curious about the living treasures this country protects.

The diversity of life in the Czech Republic is apparent not only in its forests and agricultural fields, which dominate the landscape, but also in its wetlands, rocky outcrops, and even urban environments. Around 71 native mammal species, over 400 birds recorded, more than 60 freshwater fish, numerous amphibians and reptiles, and tens of thousands of invertebrates all call this land home. These species, many of which are found along vital European migration routes or isolated in unique geological refuges, together create an intricate web of ecological interactions.

Yet, this wealth of biodiversity faces substantial threats. Habitat fragmentation, pollution, the spread of invasive species, and climate change exert mounting pressures on wildlife and ecosystems. Conservation is not simply a matter of admiration and scientific study; it is a national priority supported by extensive protective legislation, the dedication of governmental and non-governmental organizations, and networks of protected areas including national parks, landscape areas, and the EU-wide Natura 2000 network. Despite the progress made, nearly half of the country’s birds and significant portions of other taxonomic groups remain threatened, underscoring the urgency of continued action.

In this context, the Czech Republic stands as a model for its comprehensive approach to nature protection. The combined efforts of state bodies, conservation agencies, scientific institutions, and passionate individuals show how a nation can cherish and defend its natural legacy while engaging the broader public in environmental stewardship. The landscape’s beauty and biological richness, from forested mountains

to bird-filled wetlands, are testaments to these endeavors.

This guide invites you to journey through the wild heart of the Czech Republic. Whether you are exploring mountain trails, walking beside a quiet forest stream, or observing birds in a protected wetland, the pages that follow will deepen your appreciation for the country’s wildlife. May this book serve not only as an introduction, but as an inspiration to join in the ongoing endeavor to cherish and protect the living heritage of the Czech Republic for generations yet to come.

# CHAPTER ONE: Geography and Landscape of the Czech Republic

Nestled in the geographical heart of Central Europe, the Czech Republic is a landlocked nation whose character is profoundly shaped by its position at the convergence of major European geographical systems. It serves as a natural bridge and, at times, a barrier between the western and eastern parts of the continent, and between the northern European lowlands and the southern mountain ranges. This pivotal location, coupled with a complex geological history, has endowed the country with a remarkably varied landscape for its size, providing the foundational diversity upon which its rich tapestry of wildlife and fauna is built. The physical stage is set by a fascinating interplay of mountains, hills, river valleys, and expansive basins, each contributing unique environmental conditions that favour different forms of life.

The country occupies an area of just under 79,000 square kilometers, a modest footprint compared to many of its European neighbours. Yet, within this relatively confined space, one can traverse a remarkable range of altitudes and topographies. From the peaks of its border mountains to the low-lying river plains, the elevation changes dramatically, bringing with it shifts in temperature, precipitation, and soil types. This vertical and horizontal variation is key to understanding why such a variety of plant and animal species can coexist within its borders, each finding their specific niche determined by the physical attributes of the land.

Much of the Czech landscape is defined by the Bohemian Massif, an ancient geological formation that forms the core of the country, predominantly in its western and central parts. This massif is a complex mosaic of crystalline rocks, sculpted over eons by tectonic forces, erosion, and past climatic changes. It manifests today as a series of highlands, plateaus, and mountain ranges, typically rounded and forested, contrasting with the sharper peaks found elsewhere in Europe. These older mountains, while not reaching the dramatic heights of the Alps, nonetheless create significant barriers and diverse microclimates.

Bordering the Bohemian Massif are several prominent mountain ranges that delineate the natural boundaries of the Czech Republic. To the northeast lie the majestic Krkonoše (Giant Mountains), shared with Poland, home to Sněžka, the country's highest peak at 1,603 meters. These mountains are known for their subalpine character, glacial cirques, and unique tundra-like plateaus at higher elevations, providing habitats distinct from the lower, more temperate zones. The steep slopes and rocky outcrops here support specialized flora and fauna adapted to harsher conditions.

South and west of the Bohemian Massif, stretching along the border with Germany and Austria, is the extensive Šumava range, also known as the Bohemian Forest. In contrast to the ruggedness of the Krkonoše, Šumava is characterized by vast, relatively gentle, forested highlands, dotted with peat bogs and glacial lakes. This ancient woodland landscape, part of a larger continuous forest in Central Europe, offers crucial refuge and habitat for species requiring extensive, undisturbed areas. Its character is one of sprawling wilderness, a vital green lung in the region.

To the north and northwest, forming a natural boundary with Germany, are the Ore Mountains (Krušné hory). Historically significant for mining, these mountains present a landscape altered by human activity over centuries, yet still retain important natural areas, particularly at higher altitudes. Their slopes are primarily covered in forests, providing corridors for wildlife movement. The specific geological makeup of these mountains also influences the local hydrology and soil composition, adding another layer of environmental variation.

In the northeastern part of the country, the landscape transitions towards the younger Carpathian mountain system, which extends into Slovakia and Poland. Here lie the Beskydy and Jeseníky mountains, part of the Western Carpathians. The Beskydy, particularly known for their rugged beauty and traditional Wallachian culture, offer a mix of forests and pastures. The Hrubý Jeseník range includes the second-highest peak in the country, Praděd, and is notable for its alpine meadows and unique plant communities. These eastern ranges contribute further to the altitudinal and habitat diversity of the Czech Republic.

Away from the border mountains, the interior of the country is characterized by a mosaic of highlands, hills, and fertile lowlands carved by major river systems. The Bohemian Basin, encompassing much of central Bohemia, is a vast, undulating area, historically important for agriculture and settlement. This region, drained primarily by the Vltava and Labe rivers, features rolling hills interspersed with flat river valleys. The geology here is more varied, including sedimentary rocks, which gives rise to different soil types and thus different vegetation patterns compared to the crystalline massif.

The Moravian part of the Czech Republic, in the east, is separated from Bohemia by the Bohemian-Moravian Highlands, a transitional zone of rolling hills and forests. Moravia itself features fertile lowlands, particularly in the south, along the Morava River valley, which forms part of the Vienna Basin. This area, known for its agricultural productivity and vineyards, also contains important wetland habitats along the river corridors. To the north, the Moravian Gate, a significant geographical depression, provides a natural passage between the Carpathians and the Sudetes, historically important for migration and trade, and ecologically important as a faunal corridor.

The drainage of the Czech Republic is dominated by two major river systems that flow

into different seas. The larger part of the country, Bohemia and western Moravia, lies within the watershed of the Labe (Elbe) River, which flows north through Germany to the North Sea. Its main tributary, the Vltava (Moldau), is the longest river entirely within the Czech Republic, flowing through iconic landscapes, including Prague. These rivers and their numerous tributaries carve valleys, create floodplains, and form the backbone of aquatic ecosystems across a significant portion of the country.

The eastern part of Moravia and Czech Silesia drains into the Odra (Oder) River, which flows north through Poland to the Baltic Sea. The Morava River, another major waterway, flows south to join the Danube, eventually reaching the Black Sea, linking the Czech Republic to a third major European watershed. This intricate network of rivers, streams, and their associated valleys is not just a defining geographical feature but also a critical component of the country's biodiversity, providing habitats, water resources, and migratory routes for numerous species.

The geological history that shaped this landscape is long and complex, involving periods of ancient seabed deposition, mountain building (orogeny), volcanic activity (though limited in recent geological time), and the sculpting power of ice and water. The Bohemian Massif's formation dates back to the Hercynian orogeny, while the Carpathians are younger, part of the Alpine system. The varying resistance of different rock types to erosion has created the diverse topography seen today, from hard, resistant granite outcrops to softer sedimentary basins. This underlying geology dictates the soil composition, which in turn influences the type of vegetation that can grow, directly impacting the habitats available for animals.



While the Czech Republic was not extensively glaciated during the last ice age, glacial processes did influence the highest mountain areas, leaving behind features like cirques and moraines in the Krkonoše and Šumava. More significantly, periglacial processes and meltwater streams from the retreating ice sheets elsewhere in Europe shaped the landscape, contributing to the deposition of sediments in lowlands and river valleys. These post-glacial changes further diversified the habitats, creating wetlands, peat bogs, and nutrient-rich alluvial plains.

The climate of the Czech Republic is primarily temperate, falling within a transitional zone between oceanic influences from the west and continental influences from the east. This results in four distinct seasons, with warm summers and cold, often snowy winters. However, the varied topography creates significant regional climatic differences. Mountain areas experience lower temperatures, higher precipitation (often as snow), and shorter growing seasons compared to the warmer, drier lowlands of Bohemia and southern Moravia. These climatic gradients, dictated by altitude and geographical position, play a crucial role in determining the distribution of species.

The prevailing westerly winds bring moisture from the Atlantic, which is often intercepted by the border mountain ranges, leading to higher rainfall on their western

slopes. The eastern parts of the country, being further from oceanic influence and sometimes affected by continental air masses, can experience greater temperature extremes and less predictable precipitation patterns. These microclimates, influenced by elevation, aspect (direction of slope), and proximity to water bodies, create a mosaic of environmental conditions that allows for a wide array of plant and animal life to thrive in close proximity.

The fertile agricultural lands, covering over half of the country, are primarily located in the lowlands and gentler hilly areas. While extensively modified by human activity, these areas still interact with natural and semi-natural habitats in complex ways. Field margins, hedgerows, small copses, and riparian zones along streams within agricultural landscapes can serve as important refuges and corridors for wildlife, connecting larger patches of habitat. The structure and management of these agricultural areas therefore have a significant impact on the overall biodiversity of the country.

Forests are another dominant feature, covering more than a third of the Czech Republic. These range from the extensive coniferous forests of the higher mountains to mixed deciduous and coniferous woodlands at lower elevations. The type of forest is often dictated by altitude, soil type, and historical land use. Mountain forests provide habitat for species adapted to cooler climates, while lowland forests support a different community. The connectivity of these forest areas, often linking the border ranges to interior woodlands, is vital for the movement and genetic exchange of forest-dwelling species.

Wetlands, though covering a smaller percentage of the total area, are ecologically disproportionately important. These include river floodplains, natural and artificial ponds (many created for fish farming), marshes, and peat bogs, particularly found in the highlands and along river corridors. The presence of water, either standing or flowing, creates unique conditions that support highly specialized plant and animal communities, from amphibians and aquatic insects to migratory birds. The geographical distribution of these wetlands, often clustered in specific geological formations or river basins, creates vital hubs of biodiversity across the landscape.

Rocky habitats, including natural rock outcrops, scree slopes, and cliffs, are found dispersed throughout the mountainous and hilly regions, as well as in unique geological formations like the sandstone "rock towns." These areas, with their sparse vegetation and extreme microclimates (e.g., high sun exposure, rapid temperature changes), provide specialized niches for species adapted to these harsh conditions. The geological structure of the Bohemian Massif, with its prevalence of hard, erosion-resistant rocks, contributes significantly to the occurrence of these rocky habitats.

Heathlands and areas of sclerophyllous scrub, though less extensive, also contribute to the habitat diversity. Heathlands are typically found on nutrient-poor, acidic soils,

often in upland areas or degraded sites. Sclerophyllous scrub, characterized by tough, drought-resistant vegetation, can occur on dry, rocky slopes. These habitat types, while perhaps less visually dominant than forests or agricultural lands, add crucial variation to the landscape mosaic, supporting distinct communities of plants and animals adapted to these specific conditions.

The strategic geographical location of the Czech Republic in the centre of Europe means it lies along important biogeographical boundaries. It incorporates elements of the Hercynian (Central European Highlands), Pannonian (southeastern lowlands), and Carpathian biogeographical regions. This confluence of influences results in a mix of species characteristic of each region, as well as transition zones where different communities overlap. For example, species with eastern European distributions might reach their western limit here, while western European species might reach their eastern limit. This biogeographical crossroads significantly enhances the overall species richness compared to a country situated entirely within a single region.

Furthermore, the country's position on major bird migration routes makes its wetlands, fields, and forests crucial stopover and breeding sites for numerous avian species traveling between their breeding grounds in the north and their wintering grounds in the south or west. The geographical layout, with mountain ranges and river valleys providing natural flyways and resting points, plays a vital role in this ecological phenomenon. The large pond systems, particularly in southern Bohemia and southern Moravia, are internationally recognized for their importance to waterbirds.

In essence, the physical geography of the Czech Republic is the fundamental determinant of its biological diversity. The arrangement of mountains, hills, and lowlands, the pattern of rivers and watersheds, the underlying geology and soil types, and the resulting climatic variations all combine to create a complex mosaic of environmental conditions. This complexity provides the foundation for the wide variety of habitats that support the nation's rich fauna and flora, making it a fascinating area for the study and appreciation of wildlife. Understanding this geographical backdrop is the first step in exploring the intricate web of life that thrives across the Czech lands. The interplay between the physical environment and the living organisms it supports is a dynamic story, one that unfolds differently across the varied landscapes of this captivating country.

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