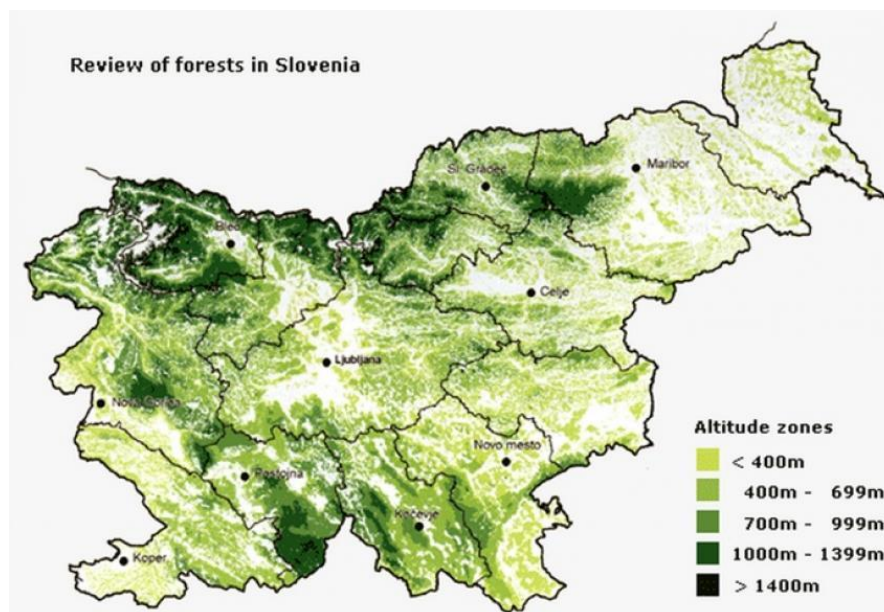


Forest characteristics and forest types - Slovenia

Forestation and variety of forests



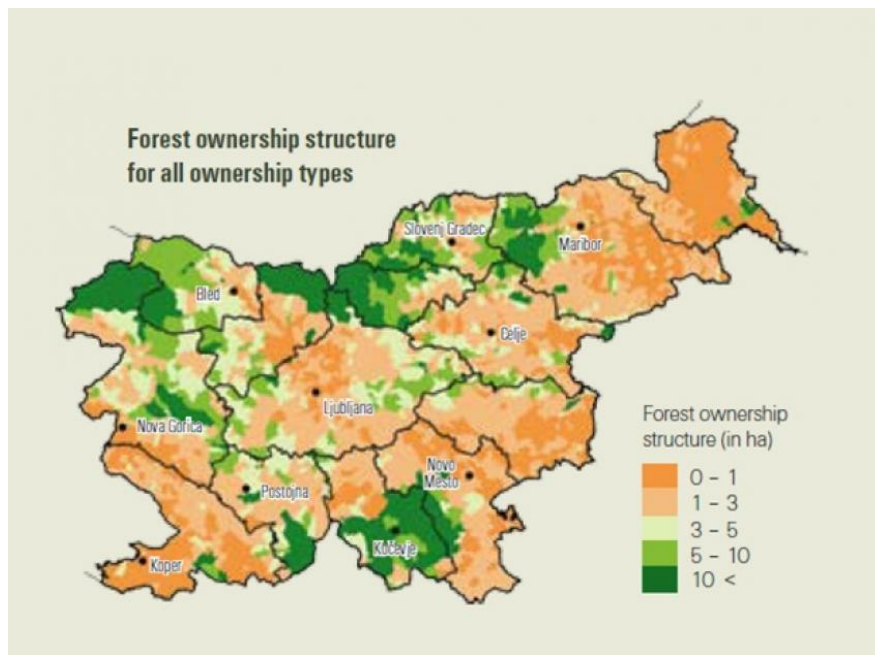
Slovenia belongs to the most forested countries in Europe. 1,186,104 ha of forests cover more than a half of its territory (forestation amounts to 58.5 %). Most Slovenian forests are located within the area of beech, fir-beech and beech-oak sites (70 %), which have a relatively high production capacity.



Forest ownership

74 % of forests in Slovenia are private property, 26 % of forests are public (owned by the state or communes). Larger and undivided forest estates of state-owned forests enable good professional management. Private forest estates are small, with an average area of only 3 ha and even these are further fragmented into several separate plots. For the great majority of these estates forests are not of economic interest. Private forest property is becoming even more fragmented as the number of forest owners is increasing. According to the latest data there are already 314,000 (with co-owners even 489,000) forest owners in Slovenia. The major fragmentation of forest property, the number of forest owners and co-owners, present a

serious obstacle to professional work in private forests, to optimal timber production and utilisation of forest potential.



Growing stock, increment and cut

According to the data of forest management plans by the Slovenia Forest Service, the growing stock of Slovenian forests amounts to 327,458,525 cubic metres or 276.08 cubic metres per hectare. The share of growing stock of coniferous trees is 46.50 %, of deciduous trees 53.50 %. In Slovenian forests there is an annual increment of 7,985,256 cubic metres of wood or 6.74 cubic metres per hectare.

In recent years the cut in Slovenian forests has totalled to 3.7 million m³ of trees annually, 60 % of which have been conifers and 40 % deciduous trees. The cut falls behind the possible one according to forest management plans and it amounts to 70 % of it and 40 % of current increment.

Disruptions endangering Slovenian forests

In addition to damage caused by weather (wind, sleet, snow), Slovenian forests have lately been endangered mostly by insects (mainly by bark beetles) that are the most common reason for sanitary cut (37 % of sanitary cut). On average sanitary cut amounts to a third of the entire cut and in different years it ranges between 19 % and 45 % of the total cut. Such a situation reduces the share of necessary tending cut, thus making planned forest management difficult and at the same time it weakens the bio-ecological stability of forests.

Slovenian forest in figures

Forest area:	1 186 104 ha
Forestation:	58.5 %
Growing stock:	327 458 525 m ³ (276.08 m ³ /ha)
Annual increment:	7 985 256 m ³ (6.74 m ³ /ha)
Possible cut:	5 126 609 m ³
Total annual cut:	3 740 191 m ³
Coniferous trees:	1 853 772 m ³
Deciduous trees:	1 520 419 m ³
Realised cut represents	70 % of possible cut.
Length of forest roads:	12 624 km
Length of forest borders:	ca 115 000 km

Year	Forest area (000 ha)	Forest cover (%)
1875	737	36
1947	879	43
1961	961	48
1970	1026	51
1980	1045	52
1990	1077	53
2000	1134	56
2001	1143	56
2002	1150	57
2003	1158	57
2004	1164	57
2005	1169	58

Changes in the forest area in Slovenia in the period 1875-2003

Typical and exceptional fauna and flora species in forests - Slovenia

Site Conditions, the Degree of Habitat Conservation and Forest Variety

Slovenia is characterised by great natural diversity, because of the range of geologic conditions, the broken relief and the fact that the country is at the conjunction of continental, alpine and sub-alpine climates. Due to its geographic position and broken relief, Slovenia is influenced by the Mediterranean, the Alps and the Pannonian Lowlands. Because of the varied climatic conditions, a highly diverse vegetation structure can be found in the relatively small area of Slovenian forests.

Most Slovenian forests are located within the area of beech (44 %), fir-beech (15 %) and beech-oak (11 %) sites, with a relatively high production capacity. Sites of thermophilic deciduous trees and pines, occupying only about 12 % of Slovenian forest area, are poorer in terms of timber production.





Much more broadleaves according to nature

Altogether, 71 tree species (only 10 conifers and 61 deciduous trees) have a natural geographical distribution in Slovenia. The major reason why human influence has been less detrimental to forests than in most Central European countries is attributable to the mountainous character of the country, the difficult of access Karst region, and hence a high proportion of poorly accessible forests. The forests have consequently been relatively well preserved, which is particularly true of the diversity of natural tree species composition and the structure (vertical and horizontal) of the stands. There are only 15 % of forests in which the share of spruce has strongly increased. However, it has been established that the actual tree composition deviates greatly from the potential vegetation. The ratio between coniferous and deciduous trees is 48:52 (2000), while the potential ratio appropriate for the site conditions is 20:80.

The slash and burn method used to be fairly important in the history of Slovenian forests. In the initial period of colonisation, forests were cleared by means of the slash and burn method and hoe cultivation in the lowlands and on hillsides. These areas are still the basis of agricultural production. In the present, primarily forest regions, traces of the last colonisation, between the 12th and 15th centuries, are still clearly visible.

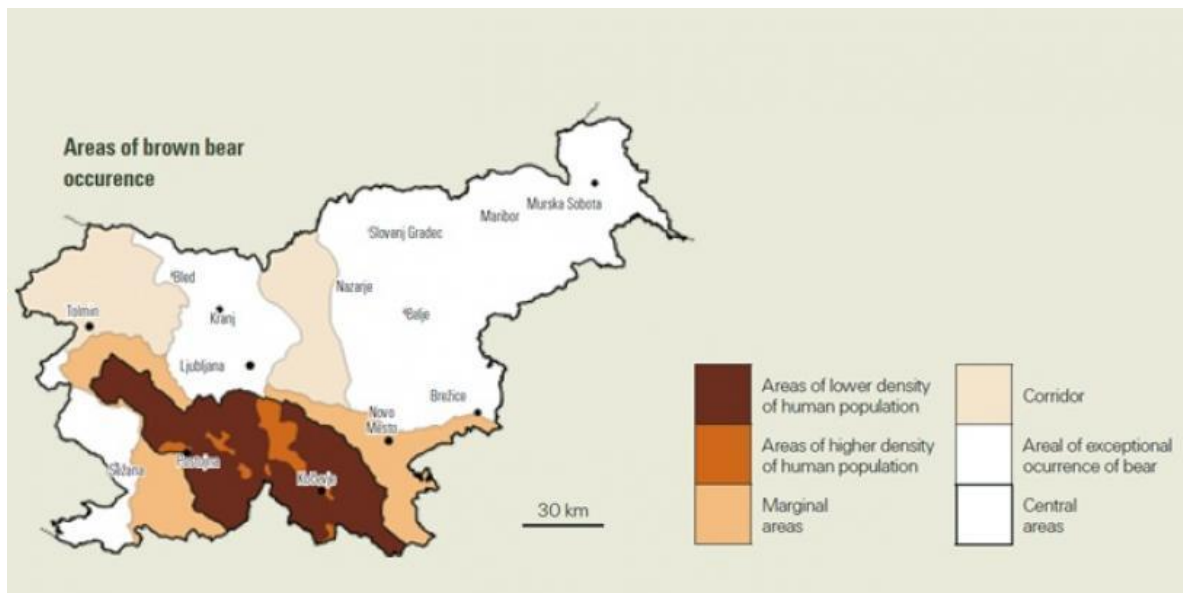
The high deviation in terms of the actual spruce share compared to the potential is primarily the result of spruce planting in the distant past (following the model of the German forest management school), especially in Štajerska and Koroška. Spruce was extensively introduced into deciduous sites (primarily beech). Especially in the 18th and 19th century, the species structure of Slovenian forests was greatly changed due to extensive felling and the planting of spruce. It was also highly influenced by mulching, which was practised for two centuries and caused a deterioration of soil conditions in forests in the vicinity of settlements and in agricultural regions. Less demanding tree species consequently took hold (spruce and pine).

Pine has also become a characteristic tree species of the Slovenian Karst, where it was planted in the second half of the 19th century in order to alleviate the effects of the strong "bora" wind and to make the barren rocky karstic landscape green again. The discrepancy between the actual and potential proportion of pine is thus an effect of the planting of *Pinus nigra* and its further spread by means of natural propagation in the Karst, a region that was completely bare a century ago.

Home of brown bear, wolf and lynx



The extremely high diversity of habitats and biotic communities that have developed through the millennia has created a great many different ecosystems in the relatively small Slovenian area. Numerous animal species have thus found a niche here. Above all, a great many amphibians and mammals are linked to the forest.



	endangered species dependent on forest	species dependent on forest	all endangered species	all species in Slovenia
Plants	47	950	330	3000
Amphibians	11	17	18	19
Reptiles	10	10	20	20
Birds	46	95	116	365
Mammals	25	70	29	79

A survey of endangered and other plant and animal species dependent on forest.

The preservation of the forests has certainly contributed to Slovenia being one of the few European countries in which the three larger European beasts of prey can be found: brown bear, wolf and lynx.

Slovenia is situated on the northwest rim of the area populated by the Dinaric brown bear and - together with Gorski Kotar in neighbouring Croatia - is the western extent of the natural area of distribution of this species in Central Europe. Despite the general persecution of large beasts that was typical of Europe in the second half of the 19th century and after, the first animal to gain the right of domicile on the territory of Slovenia, and the affection of people, was the brown bear. Brown bear first enjoyed protection in the region of Kočevje and Notranjska – still its central habitat - as early as 1889.

That was not the case with lynx. It became extinct and was reintroduced to the Kočevsko region in 1973. In the very next year, lynx cubs were born in the neighbouring forests, marking the beginning of the spread of this species. By 1995, lynx had populated a large part of Slovenia and had also spread south and east to Croatia, even as far as Bosnia and Herzegovina. It had advanced towards the northwest to Italy and Austria.

The fate of the wolf in the present territory of Slovenia is interesting, too. As with the brown bear and lynx, high bounties were also offered for the killing of wolves in the 18th century. Bounties for dead wolves were only abolished in Slovenia as late as 1973. Owing to the wolf's extreme vitality, natural intelligence and habitation of large forest areas - extending from Notranjska and Kočevska in Slovenia to Croatia and Bosnia and Herzegovina - this species has managed to survive in Slovenia.

Forms of nature protection such as national parks and Natura 2000 sites - Slovenia

For a relatively small area, Slovenia offers a unique mosaic of biological, geographical and cultural diversity, with dozens of major natural assets and items of significant European cultural heritage. Around 12.6 % of Slovenia's territory is cover by protected natural areas, 36 % of the territory is protected under Natura 2000, and almost 15,000 aspects of the country's nature have been awarded the status "valuable natural feature".

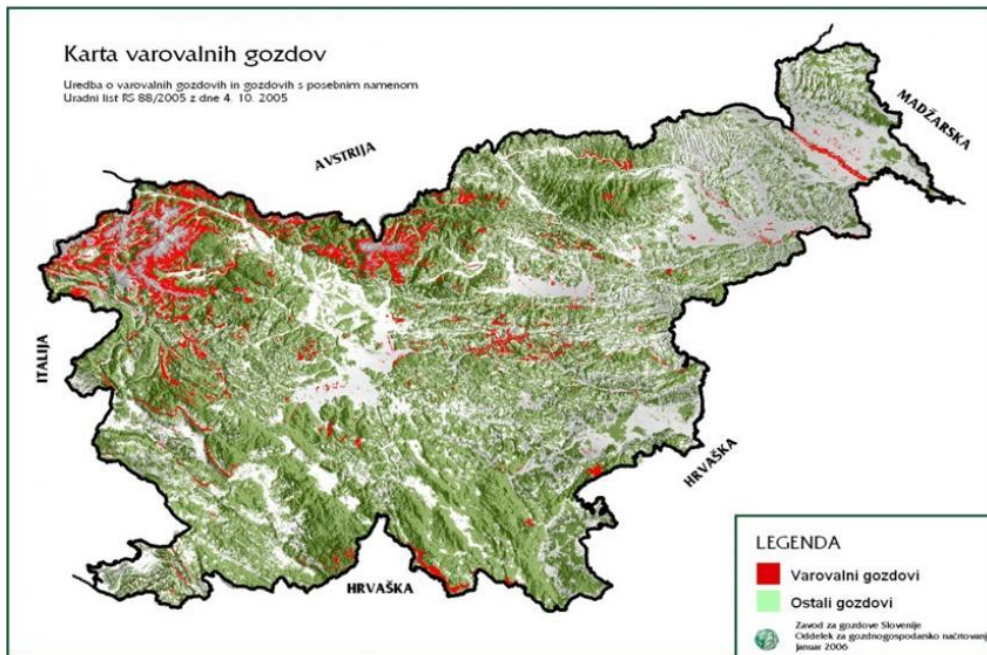
Slovenia's protected natural areas are divided into different categories according to the international IUCN categorization. The basic division is into large and small protected areas. Larger areas are those generally referred to as "nature parks". The following protected areas exist in Slovenia:

Large protected areas or nature parks:

- 1 national park (IUCN: II/V)
- 3 regional parks (IUCN: V/II)
- 44 landscape parks (IUCN: V)

Small protected areas:

- 52 nature reserves (IUCN: IV and I)
- 1217 natural monuments (IUCN: III)



Organization of Forestry - Slovenia

Forest management and forest use in Slovenia are directed by The Ministry of Agriculture, Forestry and Food as the supreme state institution in the field of forestry and by the Slovenia Forest Service as a public forestry service.



Main national documents that serve as the basis for forest treatment and management in Slovenia are:

- The Act on Forests of the Republic of Slovenia (1993), which regulates protection, silviculture, exploitation and use of forests on the basis of forest management plans;
- The Forest Development Programme of the Republic of Slovenia (1996), adopted by the National Assembly, which defines the national policy on close-to-nature forest management, guidelines for the preservation and development of forests and conditions for their exploitation or multipurpose use.

Besides, there are acts regulating the sphere of nature protection, environmental protection, space management, protection of plants, hunting and wildlife, building and construction, information of public interest and media.

Forest management plans include:

- regional forest management plans and plans of forest management units,
- silvicultural plans,
- regional hunting management plans.

Fundamental principles of forest treatment and management are:

- sustainability (sustained preservation of forests, sustained use of their goods and non-material functions),
- close-to-nature management (exploitation of forests to such a degree and in such a way as to ensure the preservation of all their natural constituents),
- multi-purpose management (a balanced significance of ecological, production and social roles of forests).

In accordance with professional foundations provided by the Slovenia Forest Service, forests are managed by forest owners, who are:

- private owners (natural and legal persons),
- local communities,
- state.

Approximately three quarters of Slovenian forests are private property. In performing its work the Slovenia Forest Service co-operates with numerous institutions and

organizations in the field of administration, education, scientific research, with professional and non-governmental organizations and it also participates in the international field. This cooperation is based on legal regulations, contracts and agreements, on common interest in projects and other activities. Among the most important institutions are the following: Administration: Ministry of Agriculture, Forestry and Food; Ministry of the Environment and Spatial Planning; Ministry of Defence; Slovenian inspectorate for agriculture, forestry and food; Environmental Agency of the Republic of Slovenia; The Agency of the Republic of Slovenia for Agricultural Markets and Rural Development; Farmland and Forest Fund of the Republic of Slovenia; Statistical Office of the Republic of Slovenia; Directorate of the Republic of Slovenia for Roads; Phytosanitary administration of the Republic of Slovenia; Slovenian veterinary administration; communes and administrative units.

Education: Biotechnical Faculty, Department of Forestry and Renewable Forest Resources; Slovenian Institute for Adult Education; the National Education Institute of the Republic of Slovenia; Secondary Forestry and Wood Technology School Postojna; primary and secondary schools.

Scientific research: Slovenian Forestry Institute; Biotechnical Faculty, Department of Forestry and Renewable Forest Resources.

Professional field: Institute of the Republic of Slovenia for Nature Conservation; Slovenian Geodesic Institute; Triglav National Park; Chamber of Agriculture and Forestry of Slovenia; Chamber of Commerce and Industry of Slovenia.

Non-governmental field: associations of forest owners; Slovenia Hunters' Association; Forestry association of Slovenia; Tourist Association of Slovenia; Alpine Association of Slovenia.

International field: UN-FAO, UN-ECE, ILO, IUFRO

