

## Recreational Forest Management: Sustainably Protecting and Improving the Recreational Function of the Vienna Woods

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The City of Vienna stretches from 16°11'13" to 16°34'43" Eastern longitude, and from 48°07'06" to 48°19'23" Northern latitude, covering a territory of 41,495 hectares. At an altitude of 150 to 580 metres above sea level, Vienna is traversed by the Danube river for a length of over 20 km.

### URBAN TERRITORY BROKEN DOWN BY UTILISATION

Population (2000): 1,615,500.

Today, Vienna is an environmental model town that offers its people a high quality of living, thanks to its location on the eastern fringe of an extensive forest range known as the Vienna Woods.

### VIENNA WOODS

#### *Geographical extension*

- More than 135,000 hectares to the west of Vienna (only a small part 6 % is located on actual Viennese territory).

#### *Geology*

- 52% of the region Vienna Woods is covered by forest.
- Two rock types can be distinguished:  
Flysch (sandstone):
- Extends over most of the Vienna Woods in the northern and western parts.
- Marl, clay slate and sandstone, heavy and deep soil.
- Gently rolling hills with elevations of not more than 500 metres.
- Terraces descending towards Vienna, characterised by the deposits and erosions of the Danube.
- Vegetation: Deciduous forest (oak & hornbeam, beech & fir, red beech).

#### Limestone:

- In the south.
- Limestone or dolomite rock, dry, oligotrophic soil.
- Precipitous rock faces, hills with elevations of up to 900 metres.

- Prominent timber: Austrian pine (*Pinus nigra*; planted in the 18<sup>th</sup> and 19<sup>th</sup> century to obtain resin).
- Vegetation: Austrian pine & hornbeam, Austrian pine & beech, downy oak, sessile oak & hornbeam, red beech.

#### *Climate*

- Western part: Atlantic climate (precipitation: c. 1000 mm, cool summers).
- Eastern part: continental climate (precipitation up to 600 mm, hot summers).

### CITY OF VIENNA FOREST MANAGEMENT

One fifth of the areas managed by the Municipal Department 49 (Forestry Office) of the City of Vienna is located within the conurbation (8,230 hectares of mostly forested areas).

- Management of the city forests.
- Ongoing participation in urban development, by planning, designing and maintaining attractive green spaces.
- Preservation and maintenance of recreational areas and facilities (hiking paths, benches, grill spots, cycling and walking paths, etc.) in Vienna.
- Afforestation for the public benefit.
- Maintenance and preservation of meadows.
- Layout of ecological zones and wind screens.
- Information for forest visitors.
- Maintenance of paths and roads in the Forestry Office's administrative territory.
- Upkeep of the buildings of the Forestry Office.
- Activities to control game population.
- Timber sale.

	hectares	percent
Building space	13,600	33
Green space	20,250	49
of which:		
forest	7,840	18
agriculturally used	6,800	16
parkland	1,620	4
meadows	2,290	5
private gardens	1,270	3
sports grounds	770	2
Water	1,930	4
Traffic space	5,700	14
Total	41,495	100

### OWNERSHIP STRUCTURE

Most of the forests in Vienna (about 72%) are owned by the Municipality. The Austrian Federal Forests hold about 13%; church forests make up some 8%, and about 5% are in private hands and in the hands of the Federal Republic of Austria.

### URBAN FOREST MANAGEMENT

The forests of Vienna are the “green lung” of the city, an ecological compensation and important recreational space for the population of Vienna. Measures taken in and for the recreational forests aim to preserve and improve existing forest stands, based on the following principles:

- no clear felling, only spot clearing;
- regeneration through seeding by the trees;
- rare tree species of ecological value (e.g. *Sorbus torminalis*, *Sorbus domestica*) are encouraged;
- space set aside for special habitats (wetlands, dry meadows and grasslands);
- ban on chemicals (artificial fertilisers, herbicides, insecticides);
- visitor flows are directed to suitable paths and recreational facilities to protect ecologically valuable forests;
- old forest stands, trees and deadwood are not removed unless they constitute a danger to visitors;
- natural forest reserves are set up in near-nature forests.

**Recreational facilities:** Suitable recreational infrastructure needs to be provided for the hikers and strollers. The Forestry Office cares for more than 50 playgrounds in the forests and adjoining open spaces, large picnic meadows, three observation towers, five grill spots, several thousands of benches, garbage bins, signposts, information signs and two animal enclosures.

**The newly popular sports** of running, mountain biking and walking have conquered the forests, and runners and walkers can use the extensive network of paths without friction. For the mountain bikers, separate cycling paths, which

quickly get them from the more urban parts of the forests to the quieter sections of the Vienna Woods, had to be laid out in the forests to avoid conflict with other users. The network of cycling paths was developed jointly with the Province of Lower Austria, the Austrian Federal Forests and the neighbouring communities in 1998.

**Nature protection:** Vienna owns more than 2,800 hectares of national park, of which more than 2,500 hectares are set aside as a nature reserve within the boundaries of Vienna. The other parts of the Vienna Woods and the vineyards are mostly dedicated as protected areas. Nature protection in Vienna nevertheless is not limited to areas specifically designated for protection, but encompasses all habitats including those in the core of the city, and it spans efforts to raise awareness of the concept in the population.

**Soil protection:** The City of Vienna has planted more than 50 km of wind breaks within the territory of Vienna to shelter agricultural land, which are managed by the Forestry Office of the Municipal Department 49. By introducing these screens, an additional valuable component has been created in an urban environment which offers recreational space next to residential areas.

**Timbering** is fostered by the rigorous implementation of a concept to regenerate near-nature forest stands. Utility forests make up 7,800 hectares in Vienna, producing a timber stock of 311 cubic metres per hectare, an annual growth of 6.3 cubic metres per hectare and an annual utilisation of 3.8 cubic metres per hectare. Some near-nature stands (about 160 hectares in Vienna) are completely banned from timbering due to their scientific importance of being a natural forest reserve.

### VIENNA WOODS MANAGEMENT – FOCUS ON RECREATIONAL FUNCTIONS

Recreational areas in the immediate vicinity of a conurbation such as Vienna are expected to cover a number of requirements. Forests and open spaces contribute more than their share in terms of recreation, supply of fresh air and protection of

habitats. In view of the large number of (potential) users, it is necessary to identify and allocate individual interests while at the same time ensuring that the forests and green areas can still function as a high-quality recreational space, suppliers of fresh air, air filters and water reservoirs.

In terms of managing urban recreational areas, be they in Budapest, Vienna, Athens or elsewhere, similar approaches are used. An international comparison can analyse various strategies, from which solutions can be adapted for other regions.

In order to evaluate the current use of recreational forests in Vienna, a survey and analysis was made of their condition and infrastructure (100 square kilometres)

New offers of infrastructure and information are developed from suggestions and requests made by visitors through direct contacts or surveys. In addition, emerging conflicts may call for the need to find particular solutions. Rapid action is required in such cases and experience from other urban forests can be put to good use.

The findings obtained from this urban forest analysis and comparison between cities are intended to facilitate harmonious (conflict-free) utilisation of recreational forests and to explore further ways and means to utilise unused potentials. Special attention is being given to target-group specific information programmes and timely educational efforts.

#### **EDUCATIONAL FACILITIES OFFERED BY THE FOREST OFFICE OF THE MUNICIPAL DEPARTMENT 49: APPRECIATION IS THE FIRST STEP TOWARDS PROTECTING OUR NATURAL ENVIRONMENT**

Forest school: experience the forest with all your senses

The Vienna forest school offers school children an opportunity to relate to nature by using their senses. Opened in 1998, it welcomes more than 5,000 children per year, who, from 9 am to 4 pm on a “forest day”, learn to feel trees, taste plants, smell soil, hear animals and open their eyes to discover their surrounding by experiencing nature with all their senses. They obtain their information directly from the forest ranger who is the epitome of a person of acknowledged environmental competence. <http://www.wien.gv.at/ma49/>

The Lainz game preserve is a nature preserve of some 2,500 hectares in size which counts more than half a million visitors a year. One of its major attractions is the Hermesvilla once used by Empress Elisabeth and now the site of art exhibitions. In spring 2000, a visitor information centre was built at the main entrance to the preserve, which offers basic insights into this natural habitat. The preserve organises guided tours for groups specialising in a number of subjects, as well as guided forest tours for school classes and groups.

Nature trails: learning under the open sky

The Vienna Forest Office has laid out nature trails and “forest classrooms” in all forests of the city to furnish nature heritage information that can be freely used by all comers at all times or alternatively included specifically in a half-day guided tour with the forest ranger.

National Park: a pristine forest at the boundaries of a capital city

In addition to the Vienna Woods, the City of Vienna can also boast of its riverine forests along the Danube to add to its green spaces. These forests became part of the Donauauen National Park in 1996. In view of its great potential as a nature preserve, the National Park features a number of visitor attractions, such as a boat trip from the centre of the city to the Park, followed by a guided tour. Green Tours – a walking experience in the National Park.

National Park camp: a school under the stars

As the owner of the National Park, the Vienna Forest Office opened a youth camp at the edge of the National Park in early 2000, organising camp stays for children and youths for several weeks. During school holidays, the camp is also open to family and youth groups.

With ever changing and growing demands and focal points of environmental interest, the Municipality is constantly faced with new challenges in identifying targets and objectives in environmental education. In order to respond to new trends in the public interest in the environment, concepts are already being developed for new ecological education programmes.

#### **SUMMARY**

##### *Management of urban recreational forests*

Forests located in the vicinity of cities should cover a number of requirements: they must offer a great variety of complex services, such as supplying fresh air, meeting recreational needs and protecting habitats. Considering that many different interests are involved in the use of forests, it is imperative to prioritise conflicting interests and to ensure that the forest’s main functions as a supplier of fresh air, air filter and water storage medium will not be impaired in their quality.

Regarding the size and geographical distribution of forests and their usefulness, Vienna and Budapest show quite similar forest structures. The Natural Resources Project, which focuses on the afforestation of patches in the Pannonian region with a sparse wood cover, offers an opportunity to compare conflict solving strategies at an international level, and thus to address principles of recreational forest management in urban environments. The Management of Recreational Forests includes an analysis of how the recreational potential is utilised, a study of the network of forest paths, information facilities and transport systems. The conflict analysis will be used in the

management plan to identify parameters of relevance to the recreational value of forests.

The findings will facilitate conflict-free utilisation of forests and identify potential usage gaps. Conflict resolution will also be helped by information and awareness-raising programmes as well as efforts to educate children and young people on the benefits of forests.