

RECREATION IN THE CARPATHIAN MOUNTAINS

The aim of this study was to investigate the physiological comfort, emotional and psychological impact of the forest on the Recreation in the Carpathian Mountains. On the basis of this research the data from different material were received.

The Carpathian region within Ukraine is a unique natural mountain-forest ecosystem that occupies 37,000 km², or 6.1% of the entire territory of the country. These are a kind of "lungs", where three-quarters of the Dnister, Prut, Tysa and other large European rivers are formed. The most valuable natural resource of the region is the forest, which occupies a special place. This is the most perfect natural complex, which produces more than 20 thousand types of products. This climate regulator, has an irreplaceable water and soil protection value, and is a place of recreation, tourism, people's health, etc.

The forests of the Ukrainian Carpathians are characterized by high productivity. The average annual biomass accumulation of only trunk wood and branches, without taking into account the organic mass of root systems, undergrowth, and grass cover, is 5.8-8.2 m³/ha for certain tree species. Forest plantations of the Carpathians absorb 12.8 million tons of carbon dioxide and emit 9.8 million tons of oxygen every year. On average, 1 hectare of forest absorbs 8 tons of carbon dioxide and emits 6.1 tons of oxygen per year.

The biological activity of oxygen depends on the degree of its ionization. Ionized air increases the activity of respiratory enzymes, relieves fatigue, improves well-being, and contributes to the treatment of bronchial asthma, hypertension, atherosclerosis, and pulmonary tuberculosis. In forest air, oxygen ionization is 2-3 times higher than in sea air, and 8-10 times higher than in the atmosphere of industrial cities. In 1 cm³ of forest air, there are 2-3 thousand light ions, while in the same amount of air of large industrial cities - 220-400, and in closed crowded rooms - only 25-100. The presence of light ions with a negative charge is considered an indicator of the purity and freshness of the air.

Fir, larch, birch, common and red oak, rowan, and other trees and shrubs ionize the air well. In pine forests, oxygen ionization is 2 times higher than in deciduous forests. Carpathian forests are characterized by high oxygen productivity. This is important: the oxygen released by forest vegetation is carried by the wind over considerable distances, improving the air composition of industrial cities [1, p.245].

The microclimate of the forest is advantageous, it differs from the microclimate of the city, first of all, in that little solar radiation penetrates under its tent. More than half of it is reflected by tree crowns into the atmosphere, part is absorbed by leaves and needles for photosynthesis and transpiration, and only 4-12% reaches the soil surface. If at noon above the crowns of trees, the amount of solar radiation is 0.95-1.00 cal/cm² per minute, then only 0.05-0.12 cal, or 8-20 times less, reaches the surface of the soil. Of course, it depends on the composition and structure of stands, closed crowns, the presence of undergrowth and undergrowth, etc.

Lighting, temperature, and humidity of the air and soil depend on the amount of solar radiation. Under the canopies of closed beech, fir, and spruce stands, lighting

even at noon in cloudless weather is only 3-5% of the lighting in an open place, in oak stands - 6-9%, in birch stands - 11-14%. In the Carpathians, in each forest massif, there are plantations with a different composition of tree species, with dense and sparse stands, under the crowns of which different microclimatic conditions are created. Visitors without much effort can always find places for rest with suitable conditions for them.

However, not only physiological comfort is important for a person. The emotional and psychological impact of the forest is no less important. With the modern development of science and technology, some sanitary and hygienic functions of the forest can replace technical means, for example, an air conditioner, or an ozonator (creation of an artificial microclimate, etc.). But nothing can replace the positive emotional and psychological impact that a person receives from communication with living nature. With the development of industrialization and urbanization, the aesthetic role of forest plantations is growing significantly.

The emotional and psychological impact of the forest is determined by its aesthetic qualities. They appear due to human perception of the beauty and dynamism of forest landscapes, and the variety of characteristics of forest plantations. For whatever purpose a person comes to the forest, his first glance is always on its general appearance, on the surrounding trees and bushes, on the richness of the grass cover.

A questionnaire survey in the Carpathians showed that 65% of vacationers are attracted to coniferous plantations, and 35% to deciduous ones. Almost 50% of respondents prefer old plantations, 40% - medieval, and only 10% - young.

Pure and mixed forests are found in the Carpathians: oak, beech, fir, spruce, oak-beech-fir, beech-fir-fir, as well as hornbeam, birch, aspen, alder, and others. And every forest is attractive in its way. Only the flora of higher spore and flowering plants has more than two thousand species. Vascular flowering plants have the greatest value - trees, shrubs, and herbaceous plants, of which there are about one and a half thousand species. All these are natural resources of food products and medicinal and technical raw materials. Almost 350 species of wild plants have medicinal value and are widely used in folk medicine (just over 200 species are officially recognized as medicine). About 20 types of plants contain tannins and 18 types – dyes [3, p.138].

Carpathian forests are rich in plants with decorative flowers. These are white snowdrops, blue snowdrops, white and yellow anemones, purple liverworts, and saffron, fragrant lilies of the valley. Many plants produce fruits of high taste qualities. These are witch strawberries, and "cosmic" berries - blueberries, healing lingonberries, fragrant raspberries, blackberries, etc. The fruits of the modest ancestor of the "queen of flowers" - rose hips, bride of the forest - mountain ash, red viburnum, and others have important medicinal and nutritional value.

The Carpathian forests are rich in diverse fauna. There are 435 species of vertebrates alone. All the main classes of animals are widely represented here: mammals, birds, reptiles, and amphibians. However, mammals and birds adorn the forests. There are 74 species of mammals in the Carpathians, which is almost 77% of the composition of mammals in Ukraine. Among them are ungulates, insectivores, rodents, bats, and, of course, predators.

Among the even-toed animals, the Carpathian aborigines are the most common: red deer, European roe deer, and wild boar. However, they are rare in suburban forests. Deer prefer dense young beech and beech-spruce forests. They go high into the

mountains, up to the meadows. They feed on plant food: grass, branches of trees and bushes, acorns, and beech nuts. Deer and roe deer are the decoration of forests, besides, they have an important industrial value. Wild pigs live in herds mainly in beech, fir-beech, and spruce-beech forests, which have a significant supply of fodder. But in acorn-bearing years, they can also be found in plain and foothill oak forests. Moose are occasionally found in the forests [1].

The Ukrainian Carpathians are characterized by rich recreational resources. An important component of these resources is the forests with the mineral springs available in them. This leads to the wide development of inpatient treatment and health facilities and various types and forms of people's recreation. The most common types of forest recreation in the Carpathians are medical, recreational, sports-tourist, utilitarian, and educational.

Medical recreation is of particular importance, the main purpose of which is the treatment and prevention of diseases. It is based on the use of the healing properties of forests in combination with mineral waters, mud, baths, and climate therapy. Thus, in the Transcarpathian region, based on the use of hydrogen carbonate-sodium, sodium-calcium, and chloride-sodium waters, there are balneological sanatoriums such as "Synyak", "Soniachne Zakarpattia", "Poliana", "Kvitka polonyny", "Shaian", "Hirska Tysa", "Verkhovyna" and climatic health resort "Karpaty". In the foothills of the Lviv region, the balneological sanatorium-resort complexes of state importance Truskavets and Morshyn are widely popular, the mineral waters of which are successfully used for the treatment and prevention of diseases of the digestive organs, liver, and kidneys. In the Ivano-Frankivsk region, the climatic sanatorium-resort complexes of Yaremche, Vorokhta, Kosiv, and the balneological-mud resort of Cherche are of greatest importance. There are also climatic sanatoriums in the Chernivtsi region. Sanatoriums and sanatorium-resort complexes of the Carpathians make it possible to treat more than 700,000 people annually.

Therapeutic recreation is carried out, as a rule, in stationary, long-term, and organized forms. Equally important is health recreation, which is based exclusively on the use of the healing properties of forests, its purpose is to restore people's working capacity, and relieve physical and nervous stress. It is carried out both in stationary and non-stationary forms.

However, non-stationary or self-made rest in the forest is the most popular. In the summer, tens of thousands of people go on weekends to the suburban forests, which are well connected by transport.

As a rule, health recreation is to some extent combined with utilitarian and cognitive recreation. The use of forests for mass recreation of the population is steadily increasing. Improving public transport, increasing the number of vehicles for individual use, building new roads - all this significantly expands the possibilities of non-stationary recreation.

The leading place in the Carpathians is occupied by sports and tourist recreation, which combines sports, tourism, hunting and fishing. 14 sports bases and camps, 36 tourist bases, their branches, and shelters are at the service of athletes and tourists. About two million tourists from different parts of the country come to the Carpathians every year. A major sports base of state importance is "Ukraine" in Vorokhta. Provincial tourist centers - "Prykarpattia", "Hutsulshchyna", "Silver Falls", "Carpathian Stars" in Ivano-Frankivsk region; "Dawn", "Latoritsa", "Narcis",

"Trembita", "Tysa", "Hoverla" are in Transcarpathia. Tourist routes of state importance pass through picturesque mountain forests to the highest mountain Hoverla [2, p.78].

The most massive and unorganized is utilitarian recreation, which combines the amateur collection of mushrooms, wild berries, nuts, medicinal plants, and flowers with recreation in the forest. Almost all forests are covered by this type of recreation - from the foothills to the highlands. During the ripening of berries, nuts, and the appearance of mushrooms, tens of thousands of residents of cities and villages go to the forests, often at a considerable distance from populated areas.

In the Carpathians, resort forests are allocated around all sanatoriums and sanatorium-resort complexes with a total area of 34.5 thousand hectares. The supply of resort forests is quite high. With the norm of 0.15 hectares of forested area for one resort site for balneological resorts, there are 0.7 hectares in Zakarpattia Region, 0.4 hectares in Ivano-Frankivsk, and 0.3 hectares in Chernivtsi. Over the past 20 years, the area of these forests has almost doubled. In the Carpathians, the largest balneological sanatorium-resort complexes are Truskavets and Morshyn in Lviv Region, and sanatorium complexes "Poliana", "Sonyachne Zakarpattia" and "Kvitka polonyny" in Transcarpathia, around which significant areas of resort forests are allocated.

So, the current stage of social development is characterized by the growth of the role of recreation in the process of restoring human strength. Today, it affects not only the recovery of the workforce, but also the person as a whole. The restoration of the labor force covers a complex of social relations associated with the main restoring force - man. Therefore, the Carpathian forests are a must-have place for recreation.

REFERENCES

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