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Biotope trees – important for biodiversity

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For 85 years now, at the beginning of April, Forest Week has been observed, highlighting the importance of green wealth and the good practices for the protection and conservation of tree species and biodiversity. An important part of silvicultural practices are the standing live and dead trees – the biotope trees with special characteristics that provide habitats for other living organisms.

Forest Week has been celebrated in our country every first full week of April since 1925, when the eighth Forest Act for Bulgaria was introduced. We also owe to this Act the establishment of the First Afforestation Day after the Liberation, at a time when our country was suffering from floods, erosion and drought. During the first year of the Afforestation Day (12 April 1925), 420,000 forest seedlings were planted and 20 kg of forest seeds were sown; in the following year these figures were respectively 3,120,000 seedlings and 208 kg of seeds. The celebration was transformed into

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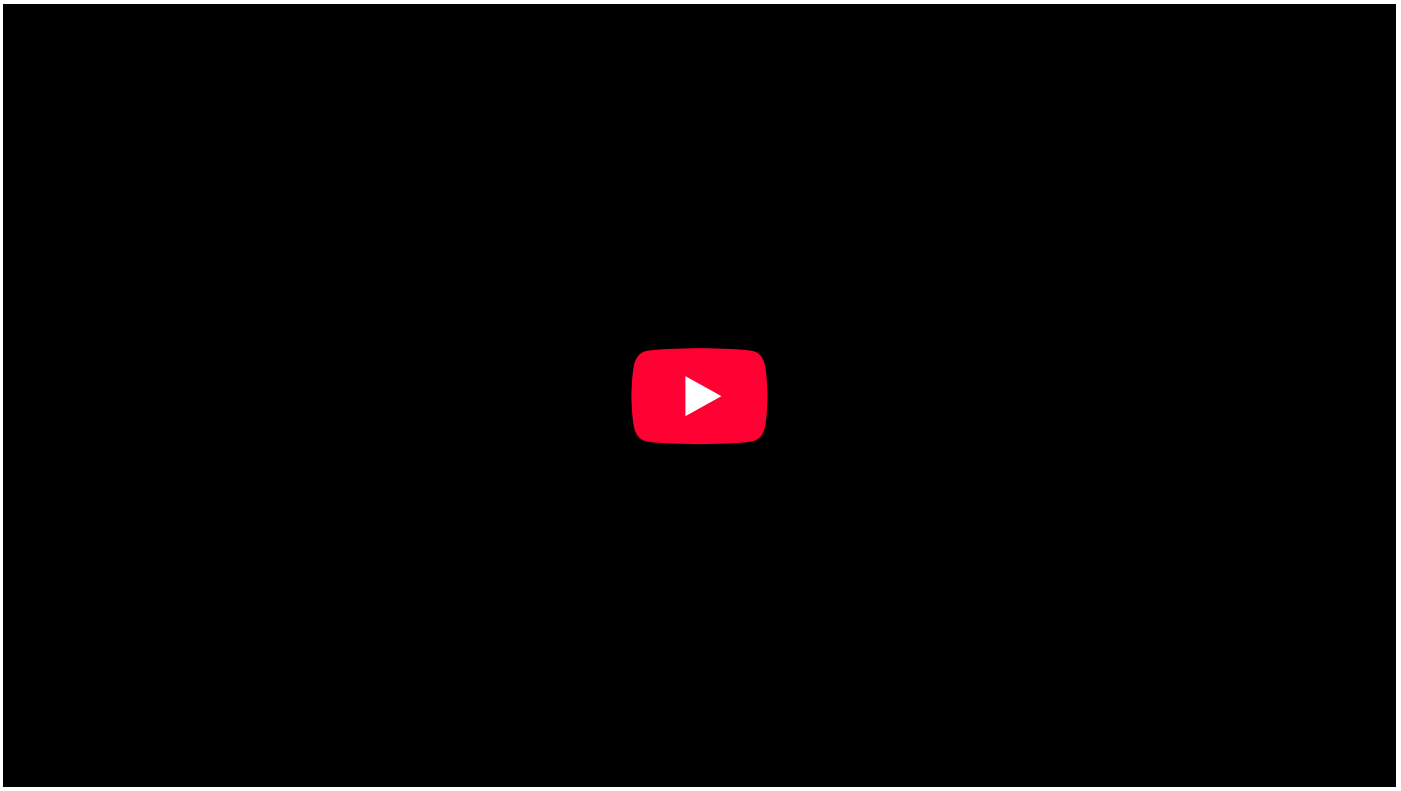
Forest Week in 1934 and has since included a variety of events – from afforestation activities to lectures.

It is no coincidence that this year the motto of Forest Week (7–11 April 2021) is “The Forest is Health!” Because forests are the source not only of forest, animal and human health, they are also the key instrument in combating climate change and the ever-decreasing biodiversity needed for the balanced course of all natural processes. Forests are the vital force of our society, because, according to data from the Bulgarian Society for the Protection of Birds, they manage to absorb about 2 billion tonnes of carbon dioxide every year, they are a place for recreation and tourism, and in addition they provide a large part of the drinking water and supply food for a large part of the population.



Biotope trees – important for biodiversity

At their various stages of development and existence, trees remain the main component for the proper functioning of natural forest ecosystems. An important part of silvicultural practices are standing live and dead trees with special characteristics that provide habitats for other living organisms. These are the biotope trees, about which it is important to know that they do not have equal value in terms of the needs of individual species and different organisms.

What are the main types of biotope trees?

Veteran trees – old trees with dimensions close to the maximum for the respective tree species. Their importance for preserving genetic and species diversity is of exceptional significance.

Trees with cavities – they provide shelter and a feeding base for a large group of forest inhabitants. Woodpeckers play an extremely important role, as they create cavities that serve as

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habitats for secondary user species. In some of the cavities, specific microclimatic conditions are formed, suitable for the development of particular insects.

Trees with significant coverage of mosses, lichens and fungi – these are old trees with specific position and age that create favourable conditions for the development of the above-mentioned plant species on them.

Trees in which parts of the crown are detached from the stem – they provide cracks, crevices and spaces behind the bark, often used for feeding and nesting. Thus, in the free space under the detached bark, various animal species can reside, such as the Eurasian treecreeper (Certhia familiaris) and the Eurasian nuthatch (Sitta europaea), which build their nests there.

Trees with a broken or forked top, umbrella-shaped crown or large branches – they offer opportunities for some large bird species such as eagles, hawks, herons, storks and others to build their nests on their crowns.

High emergent (solitary) trees – they provide good visibility and are often used by birds of prey when searching for prey. They are particularly valuable when located at the forest edge and bordering open areas or water bodies.

Trees with signs of use by animal organisms – the presence of cavities, holes, nests, food remains and others are indicators that the trees have been used by different species.

Trees providing a feeding base – their seeds and fruits serve as food for wild animals.

Tree species with single participation in the stand composition – they help increase species diversity.

Groups of trees around wet areas or springs in the forest – such sites in the forest create unique and often isolated biophysical conditions that are important for the existence of a number of mesophytic species.

Groups of trees around occurrences of rare plant species – some rare plant species with specific ecological requirements need the continuous presence of trees and a forest environment.

Standing dead trees – they play an important role in the functioning and productivity of forest ecosystems. Deadwood is a prerequisite for the development of various species of lichens, mosses, fungi and numerous invertebrate and vertebrate animals. For the purposes of sustainable modern forestry, it is advisable to preserve groups of biotope trees that form “islands of biodiversity”.

It is advisable that biotope trees, or those that have the potential to become such but still do not have the full set of characteristics, be marked. For example, within the project “Sustainable Forest

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Management in Natura 2000 Sites in the Smolyan Region", implemented by the Green Balkans Federation, templates have been developed with a stylized silhouette of a woodpecker, which are used by foresters to mark biotope trees.