

SOUTH-EASTERN UKRAINE WOODLAND ECOSYSTEMS IN MILITARY INTERVENTION CONDITIONS

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The forests of the Eastern part of Ukraine, and Kharkiv region in particular, perform mainly ecological functions. They have limited exploitation and high environmental protection, social, recreational, and health benefits. In current conditions, the role of forests as a resource potential has been reconsidered. Thus, the directions of the study of forests in terms of planetary climate change, and high anthropogenic load on the environment are no less important than their study as a source of timber, especially in the conditions of full-scale armed aggression of the Russian Federation against Ukraine.

The troops of the aggressor country seek to cause maximum damage to our state. This applies not only to infrastructure and the economy. Invaders purposefully aggravate the state of the environment, destroying natural, including unique, landscapes. Numerous facts of deliberate actions of the occupiers are documented every day, which lead to man-made accidents, losses, damages, and transformations of natural ecosystems. They provoke a general large-scale ecological danger in Ukraine. Forest ecosystems are among the natural ecosystems that, due to several reasons, suffer the most during the war. Acting as a natural storage for military units and equipment, they become primary objects of intense mechanical and fire damage. This leads to large-scale forest fires, disruptions of the relief, soil, and grass cover, contamination of soil, water, and forest products with radionuclides, heavy metals, and other toxic substances, destruction of biodiversity, etc.

Forests along the large rivers of the Dnipro and the Siversky Donets were mostly damaged by fires. Although these forests are artificially created, over time they have turned into typical and sometimes unique forest ecosystems. Their protection has been recognized at the level of the Council of Europe. We are talking about the Sarmatian pine forests located on the left bank of the Siversky Donets in the Kharkiv, Donetsk, and Luhansk regions. Forest fires in these plantations make it almost impossible to restore, and the places of fires can turn into sandy mounds, similar to Oleshkivskiyi, for a long time. Large-scale fires also covered the objects of the Nature Reserve Fund (NRF) in the National Nature Park “Svyati Hory” (Holy Mountains) in the Donetsk region.

Losses of forest resources occur not only due to shelling, and illegal tree felling, but also the impossibility of timely implementation of forestry activities. Moreover, solid waste (remnants of military equipment and ammunition) including biological material as a result of the mass death of people and animals

accumulated in forest plantations. We should also consider the fact that significant forest areas are currently mined.

Therefore, one of the urgent issues for now and for the future is to determine the amount of damage caused to the state and the surrounding natural environment, in particular. For this purpose, the Cabinet of Ministers of Ukraine approved Resolution No. 326 “On approval of the Procedure for determining damage and losses caused to Ukraine as a result of the armed aggression of the Russian Federation” dated March 20, 2022. According to paragraph 2 of the specified Procedure, the determination of damage and losses is carried out separately according to twenty-two directions. Methods (order) of their determination have been developed and approved for each direction. One of the directions involves determining the loss of the forest fund and includes the loss and damage of forests and forest areas and the costs associated with them.

The 2022 public report of the State Forestry Agency states that a detailed analysis of forest damage and forestry losses will be conducted after the complete de-occupation and demining of the territories. Contamination of forests with explosive objects is currently defined as the biggest forestry problem. Armed aggression of the Russian Federation against Ukraine causes significant damage to forestry. Currently, 2.9 million hectares of forests have various degrees of damage. Considering the forests of the Autonomous Republic of Crimea and the Luhansk and Donetsk regions, which had been occupied before 2022, about 1 million hectares of forests, as well as individual territories and objects of the NRF (nature reserve fund) are in the occupied territories or are in the area of active military activities. Part of the territory of the NRF was also damaged due to fortifications construction.

Thus, according to the estimates of the environmental inspection, losses caused by military activities in the Kharkiv region (as of June 1 of the current year) amount to UAH 340 billion. Such work continues in the territories where access to its implementation is possible. In general, the damage caused by soil pollution in the region has been estimated at more than 9 billion hryvnias, the emissions of pollutants into the atmosphere – almost 3.5 billion hryvnias, the death of animals, the mass loss of aquatic living resources due to a rapid drop in the water level – about 4 billion hryvnias. fires in forest plantations – 3 billion hryvnias.

The consequences of large-scale forest fires, especially in woodlands and steppe forests, will have a long-term negative effect not only for Ukraine but also for Europe and the world. It is about climate change, atmospheric pollution, increasing desertification processes, and global biodiversity loss.