

RESTORATION VEGETATION OF THE DUBRIVSKY KAOLIN DEPOSIT

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Introductions. Monitoring human activity's impact is an important aspect of sustainable development. Its objects are various groups of biota and their habitats. The research that is being carried out on the territory of the West-Glynyanskaya section of the Dubrivsky primary kaolin deposit attracts scientists from various fields. Studies of flora and fauna, plant communities, and ecosystems are being conducted here. At the same time, interest is aroused by the preserved natural vegetation, anthropogenically transformed vegetation, and that which is being restored on areas disturbed by mining. According to the literature, the plant communities of this territory, which were classified by the Brown-Blanque method, belong to 13 classes, 19 orders, 35 unions, and 40 associations. Some of them are links of primary autogenic successions associated with the reformatting of the eco-nest system. During the mining of minerals, large areas devoid of vegetation are formed. These unoccupied econiches can be inhabited by both rare species and dangerous invasive species. This, on the one hand, creates the potential for the emergence of a territory with high ecosozological potential, and on the other hand, can pose a threat to the stability of natural ecosystems, human health, and agriculture. That is why monitoring and studying regenerative vegetation on mining sites is an urgent task today.

Aim. The work aims to classify and comprehensively study the regenerating vegetation of the Dubrovsky primary kaolin deposit. In accordance with the aim, the following tasks were set:

- to describe the plant communities of the restoration vegetation of the Dubrovsky primary kaolin deposit;

- to classify the plant communities of the regenerating vegetation of the Dubrovsky primary kaolin deposit using the Brown-Blanquet method
- to assess the ecosozological and invasive potential of newly formed habitat

Materials and methods. The materials for studying the regenerating vegetation of the Dubrivsky primary kaolin deposit are standard geobotanical descriptions made in the period 2023-2024. Phytocoenoses were established by analyzing standard geobotanical descriptions using the program "TURBOVEG for Windows". Indicators of environmental factors, including the integrated indicator of anthropogenic pressure transformation and the indicator of natural dynamics, were established by synphytoindication methods using the program package "Simargl 1.12". The rarity of habitats was determined according to international and national standards according to the EUNIS classification by Resolution 4 of the Bern Convention.

Results and discussion. The research was conducted in the territory where Cersanit Minerals LLC operates and its immediate surroundings. The industrial development of the Central-Hlynyanka section of the Dubrivsky deposit is underway for industrial extraction of primary kaolin, and pegmatite (feldspar) for the production of porcelain and faience products in an open-pit method. The development system is a transport one with parallel advancement of the mining front and external location of overburden dumps. The research area is located on the northern outskirts of the village of Hlynyanka, Dubrivsky rural territorial community, Novograd-Volynsky district, Zhytomyr region.

The habitats of the study area and their biota are typical for Central Polissya. They are formed under the influence of anthropogenic factors on the development of natural ecosystems. In this area, we observe a small number of aquatic habitats, which are associated with an artificial reservoir in the south of the study area, a melioration canal connecting with the Tserem River in the north, and several small depressions with accumulation and stagnation of water.

The following classes of plant communities belong to the restored vegetation:

Lemnetea, Potamogetea, Phragmiti-Magnocaricetea, Molinio-Arrhenatheretea, Trifolio-Geranietea, Epilobietea angustifolii, Robinietea, Salicetea purpurea, Alnetea glutinosae, Franguletea, Stellarietea mediae, Artemisietea vulgaris, Polygono arenastri-Poëtea annuae, Plantagenetea majoris, Galio-Urticetea, Bidentetea tripartiti.

These groups or elements of its biota may be recognized as rare. Rare species include those listed in international, national, and regional conservation lists (subject to Ukraine's ratification of certain international obligations). Lists of rare biosystems of international importance include the IUCN Red List, the European Red List, appendices, and resolutions to the Bern Convention. National ones include the Red Book of Ukraine (in the latest edition - Order of the Ministry of Environmental Protection and Natural Resources of Ukraine No. 111 of February 15, 2021) and the Green Book of Ukraine. The regional list of rare species is the list of regionally rare species approved by the decisions of the Zhytomyr Regional Council No. 1162 of September 8, 2010, and No. 1460 of March 19, 2015.

A rare habitat (E3.4 Moist or wet eutrophic and mesotrophic grassland) and a species (1337. *Castor fiber* (European beaver)) listed under the Bern Convention are observed in the southern outskirts of the planned activity area.

Conclusions. The regenerating vegetation of the Dubrivskyi primary kaolin deposit belongs to the classes Lemnetea, Potamogetea, Phragmiti-Magnocaricetea, Molinio-Arrhenatheretea, Trifolio-Geranietea, Epilobietea angustifolii, Robinietea, Salicetea purpurea, Alnetea glutinosae, Franguletea, Stellarietea mediae, Artemisietea vulgaris, Polygono arenastri-Poëtea annuae, Plantagenetea majoris, Galio-Urticetea, Bidentetea tripartiti. A rare habitat from Resolution 4 of the Bern Convention "E3.4 Moist or wet eutrophic and mesotrophic grassland" belonging to the *Scirpetum sylvatici* association of the Molinio-Arrhenatheretea class, "F9.1 Riverine scrub" of the *Salicetum pentandro-cinereae* association of the Franguletea class, "G1.11 Riverine *Salix* woodland" of the *Salicetum albae* association of the Salicetea purpurea class, and the European beaver species (1337. *Castor fiber*) from Resolution 6 of the Bern Convention were discovered on the territory.