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SECTION: GEOGRAPHY

LANDSCAPE TRANSFORMATION IN STRIPA RIVER VALLEY

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Actuality of theme. Significant anthropogenic impact on natural landscapes leads to scientific research on comprehensive conclusions about their transformation. Lowland river valleys are a source of biological resources, part of the regional landscape. The river valleys themselves, their riparian landscapes, ecosystems are undergoing significant changes due to various types of nature management.

Scientists: Y.O. Marynyak, P.L. Tsaryk, V.K. Khilchevskyi, and A.V. Yatsyk studied the geoecological situation of the Strypy River. Kovalchuk I.P., Merezhko O.I., Khimko R. Kukuruza S.I. Yu.M. Hryshchenko, etc., found out the problematic geo-ecological situations

The most significant changes in the valley of the Strypa River occurred in the 60s of the 20th century. At that time, a program for leveling riverbeds implemented, the course of the Strypa River leveled on a significant stretch in the upper and middle reaches, and channels were formed, which led to structural changes on the coastline. The river valley formed to the intensive melioration of riverside landscapes.

Today, there are many artificially created reservoirs of different sizes in the river valley. The purpose of creating such reservoirs with an area of 1-3 to 10-15 hectares was the functioning of water mills, fish farming [6].

The extensive use of natural resources led to the fact that reservoirs in the valley of the Strypy River became the main source of water supply for various economic needs. The excessive number of reservoirs led to a partial loss of the river's natural flow. This situation contributed to the change of riverside landscapes, ecosystems in the river valley, the primary biotic composition of ecosystems was partially lost, the water level in floodplain areas changed, etc.

In the valley of the Strypa River, reservoirs are sledding up, overgrown with aquatic vegetation, and in shallow waters they have turned into a swamp, which leads to a decrease in surface runoff. Reservoirs increase the area of influence of the river outside the water area. As a result, the groundwater distribution system in the surrounding landscapes changes, the drainage function deteriorates. The flooded lands are on the floodplain below the dam. Water from reservoirs is intensively filtered there. A change in climatic conditions is not always favorable. Reservoirs are contaminate ding with heavy metal ions: zinc, manganese, iron, nickel, lead, copper, and mainly copper, nickel, and cobalt ions accumulate in bottom sediments.

Engineering reconstructions of the channel and floodplains of the Strypy River carried out to improve the technical (technological) conditions of its use, to expand the area of diverse land use. The main direction of engineering reconstruction of rivers and their floodplains was land reclamation (drainage, irrigation). This led to the plowing of floodplain lands, and sometimes the slopes of the river valley. For 60 years in the valley of the river Strypy, most of the river valley plowed. Almost no areas with permanent, continuous natural plant cover preserved [4].

Because of the plowing of river floodplains in the 1950s and 1970s, about 10 million hectares of meadow and forest-shrub ecosystems of floodplain landscapes disappeared in Ukraine. Natural biocenoses were the most favorable in the nature of Ukraine in terms of maintaining biosphere balance and preservation of typical climatic conditions.

Carrying out drainage and irrigation reclamation, development of floodplain lands of the Strypy River led to the disappearance of meanders, plas, rolling and other natural elements of riverbeds. Consequently, the medium-sized river lost its characteristic biotopes, which ensured the diversity of hydrobiont communities. Due to such actions, the biotope component of the channel subsystem underwent significant changes in the direction of simplifying the species structure and reducing trophic chains. In addition, this, in turn, led to the accumulation of pollution and silt in the rivers.

Rational use of land involves the flooding of rivers by transferring them to hayfields, gardens (without plowing between rows), limited livestock grazing, and recreational areas. Currently, the process of plowing the land up to the water cut of the river reservoirs continues. Such human activity leads to the degradation of floodplain ecosystems, siltation of rivers, and overgrowth of riverbeds.

A typical picture in the river valley within the boundaries of Zborivska, Kozivska and part of Terebovlyanska territorial communities is the floodplains and terraces of the higher-order river valley, if they are not flooded by a pond and plowed up to the water cut, then practically everywhere they are used for intensive livestock grazing, settlements are located [2].

The valley of the Strypa River has undergone the greatest changes where settlements are located, namely the cities of Zboriv and Buchach. In the villages as well as in the cities in the valley of the Strypy River, various industries are located: agricultural farms, livestock complexes, small processing enterprises, farms, industrial enterprises, etc. All these industrial complexes use river water to one

degree or another, and this process is largely uncontrolled. Often, such facilities inevitably produce uncontrolled, mostly untreated effluents that end up in coastal areas. Built-up areas of floodplains are destroyed natural vegetation, violation of the water balance of the territory and other negative processes regarding the biotic component of riverside landscapes.

The picture is typical is when roads are laid in the floodplains of the river, along the channel, which negatively affect the river by compacting aquifers and destroying the environment. During the melioration of the river valley, the uniqueness of the natural landscape, which has been preserve ding only in certain areas of the river valley, was not tokening into account.

The valley of the Strypa River consists of a system of terraces, the slopes of the valley, the floodplain, as well as the pre-channel embankment and the actual riverbed. The natural river valley consists of well-developed meadow systems, among which there are floodplain forests, wooded slopes of terraces and fortified banks with willow and willow. Such natural complexes are an ideal biological filter.

Existing highly productive meadow groups, adapted to high humidity levels, are easily destroying and practically cannot be restore ding in full.

Due to intensive economic activity, the Strypa River has lost its unique meadows. Forest strips along the banks are often plantain with non-bank-reinforcing rocks, cluttering the channel with wood. Destroyed floodplains are unable to prevent surface runoff from entering the riverbeds [6].

The most characteristic feature of the degradation of natural biocenoses of river valleys is the predominance of agrophytocenoses and weeds in the landscapes, which are companions of agrophytocenoses. Degradation of natural biocenoses and soils leads to chemical and organic pollution of the river. Significant plowing of the river's slopes and floodplains is the main reason for solid runoff deposits and organic-chemical pollution of the river.

The species diversity of various grasses, weeds and their number indicates the degree of disruption of the ecosystems of the river valley. For natural undisturbed riverside phytocenoses are characterized by the almost absence of weeds, which are quickly replaced by natural plants. The appearance of weeds indicates degradation processes.

The appearance of stinging nettle (dioici urticae) or horsetail (horsetail) in the meadows indicates soil nitrification - increased decomposition with nitrogen release (and, therefore, increased surface runoff with the washing of biogens from the valley slopes). The appearance of the great tartarnik and species of thistle or wormwood is a manifestation of excessive livestock grazing [5].

In silted et channelized riverbed Strypa, there is a slow current, stagnant processes that lead to water pollution, Eurytopian species are developing.

Practically every type of economic activity in the river basin under different loads leads to the entry of pollutants of different origins into the river. There is a consistent chain of transformations and connections, which contributes to the reduction of species diversity, the reduction of the stability of ecosystems and their

degradation, the loss of water content of the river, the waterlogging of its floodplains and channels.

Anthropogenic transformations of the Stripy River valley have led to negative processes:

- Plowed terraces and floodplains increase surface runoff, often with polluted waters;
- Delayed underground power supply;
- Soil is being wash ding away;
- Organic compounds with surface runoff pollute water; promote the development of algae and other plants;
- Silting of the channel;
- Channels are clogging with branches, often in places with large tree trunks;
- Significant reduction of water in the channel.

The sources of pollution of the Stripy River are effluents that come from treatment facilities, settlements or enterprises. In addition, residential and industrial premises, farms, degraded pastures, recreational areas with oversaturation of vacationers, garbage dumps, etc. are also located on the shores [6].

The modern mostly extensive use of the waters of the Strypa River, its resources, floodplains, landscapes and ecosystems has led to the development of many problems. They can be divide ding into the following groups:

1. Direct pollution - dumping untreated and untreated sewage, household and technical waste, organic residues, etc. directly into rivers or coastal strips.

2. Destruction of natural landscapes, biocenoses of river valleys, destruction of water protection zones, because of which excess natural substances and pollution are washing into the river.

3. Engineering reconstruction of riverbeds and floodplains, in particulars: leveling and deepening of riverbeds, creation of dams, ponds and drainage systems, removal of alluvial deposits (sand, pebbles) from riverbeds.

4. Secondary (own) pollution of the river - due to the production of excess biomass that cannot be completely decomposed or consumed, which leads to - siltation of the riverbed [3].

Degradation processes in the Strypa River and its ecosystems can be stopping only by implementing a set of measures aimed at reducing the anthropogenic load on river and floodplain ecosystems, reproducing the natural properties of the destroyed riverbed and floodplain, and reproducing water protection zones. To achieve this, a comprehensive program for the protection and improvement of the Strypy River is necessary. It is necessary to systematically reduce the use of land resources of river valleys for arable land, areas for residential and commercial construction, and especially for garbage dumps.

Recreational nature use also has a significant impact on the valley of the Strypy River. In some places, the excessive accumulation of vacationers in small areas creates a negative impact on natural ecosystems. The valley of the Strypy River is using as a water and landscape natural recreational resource. This is the territory of short-term, two-day and long-term rest, with various types of recreational activities.

Short-term rest on the shores of Strypa is common among residents of the surrounding villages and towns. The most common types are fishing, hunting, boating, collection of medicinal plants, recreational sports according to preferences. Separately, it is worth mentioning the beach-bathing type of recreational activity, which is popular among the population, but the ecological condition of the river and the coastal area is unsatisfactory. There are no certified beaches. Beach infrastructure is often absent. Thickets of shrubs limit access to water and coastal areas. Two-day or weekend rest and longer is designing for visiting tourists, whose rest can be organized or unorganized. Recreation centers "Lisova" and "Nad Stripoya" and children's recreation camp "Forest bell" operate on the banks of the river for recreationists. These stationary recreation facilities with well-organized infrastructure can serve tourists throughout the year. The main attraction for tourists is the local landscape, a combination of hilly terrain and river landscapes, forested areas. The available riverside pools for swimming create a positive effect [1].

Educational excursion sites on the Strypi River include the Travertine Waterfall in the village of Zhiznomir, the "Rusyliv Waterfalls" in the village of Rusyliv, the "Sokiletskyi Waterfalls" near the village of Sokilets, and the "Nad Strypoi" waterfall in the village of Skomorokhy. Natural waterfalls are interesting for viewing at all times of the year, so tourists actively visit them both locally and in transit. Regarding the waterfalls, the area around them needs to be controlled, regarding the recreational load. Many unorganized tourists litter the territory; trample the grass cover, etc.

Objects of recreation include nature reserves and objects. In the valley of the Strypa River there are hydrological natural attractions of local importance, the "Kanaly" tract, Ishkiv ornithological reserve, Strypsky zakaznik hydrological reserve, Rukomyski rocks" geomorphological formation, geological monument, as well as Zarvanysky regional landscape park, "Rukomyski rocks" geomorphological Formation, geological monument. Semikivsky reserve is a hydrological reserve of national importance.

These nature conservation objects are located in the most picturesque areas of the Strypy River valley, where: geology, topography, water, biota, climate, formed landscapes are harmoniously combined. Therefore, the significant recreational potential of these natural objects requires rational recreational nature use. Tourists who are interested in these places are people of different ages: children, young people, economically active population, pensioners.

One of the types of resources of river ecosystems is an informational and aesthetic resource. The river valley is a full-fledge ding natural landscape, especially rich in the variety of constituent elements, it has a high potential. The more the natural, unspoiled natural landscape has, the more elements of natural diversity it has, the more attractive it is, the greater it is potential for a positive impact on people [6].

In the valley of the Strypy River there are many recreational areas, zones that are used for short-term and long-term recreation. The recreational direction of using the resources of river ecosystems, in particular their valleys, can displace and limit their material and resource use, but also become a significant reserve for the physical

improvement of people, and further, the spiritual development of a person and society.

The use of recreational resources in the valley of the Strypy River should be amending at improving the recreational infrastructure. Its diversification would lead to the expansion of types of recreational activities, the study of recreational demand, fashion, the formation of proposals for recreational resources, the reproduction of especially valuable landscapes, localities, to promote the restoration of natural ecosystems through the expansion of water protection strips, the arrangement of full-fledged beaches near populated areas, to conduct explanatory environmental protection work among the population [38].

The main recreational load in the river valley occurs directly in places close to populated areas.

Conclusion. The natural landscape situation in the valley of the Strypy River has changed. This was preceded by anthropogenic transformations in the past and modern ways of using the land resources of the floodplains and higher terraces of the river valley (large-scale land reclamation, excessive grazing of livestock and poultry, placement of residential and industrial complexes). As well as destroyed floodplain and terrace meadows and forests, the river lost its unique natural biological filters. Destroyed natural floodplains do not function as natural filters of surface runoff to the riverbed. The natural landscape of the river valley is partially preserving in the Buchach district, where the valley is canyon-like and inaccessible. The valley of the Strypy River is using as a water and landscape natural recreational resource. This is the territory of short-term, two-day and long-term rest with various types of recreational activities.

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