

growth of individuals leads to gradual exhaustion of resources of living floor space for them that is a powerful limiting factor.

The obtained data can be used for further studying of features of growth of wide-brimmed cancer at the different density of landing in vitro.

Zaranko M., Golovaty S.

*International Sakharov Environmental Institute of Belarusian State University,
Minsk, Republic of Belarus*

METHODOLOGICAL APPROACHES OF CALCULATION OF ECOSYSTEM SERVICES

It is necessary to understand all range of goods and the services provided by the nature as ecosystem services. On the existing classification the services provided by ecosystems can belong to one of four broad categories which in essential degree match functions of the natural equity. They include the providing, regulating and cultural services which directly influence people, and also the support services necessary for preserving other services.

Now in the world development of a wide range of the questions connected with ecosystem services including their assessment, determination of potential sellers and buyers and mechanisms of compensation, forming of the markets of these services actively begins. Ecosystem services include the resource, regulating, cultural and other services and are determined as benefits which people receive from ecosystems. The Kyoto protocol, to some extent, became the first attempt of the world community on a global scale to include ecosystem services (including payments and compensation to the certain countries) in the international and national economic mechanisms for fight against climate change.

It is necessary to begin development of ecosystem services with identification, further accounting and assessment – on the basis of the analysis of extent of degradation and a possibility of recovery of ecosystems. The list will include the processes of agriculture, livestock production, fish breeding, collection of officinal herbs and seaweed supporting and regulating the cultures, etc. occurring in the territory of Belarus.

In case of assessment of ecosystem services study their role, a complex of technological and economic measures for accounting of some types. Only in case of complete understanding of a question it will be possible to adjust accounting, statistics, planning. It isn't excluded that entering of certain quotas, an incentivization will be required, changes in the taxation – are possible provided that ecosystem services will be entered into the field of state regulation and the legislation of Belarus. It is necessary to understand that development of ecosystem services adjoins to economy and shall be considered in the economic block of the National Sustainability Strategy (NSS).

Ecosystem approach represents the strategy of integrated management of land, water and live resources which stimulates their preservation and steady use on a fair basis.

Traditional approach to assessment of ecosystem services in nature protection activities is the value assessment of preserving a biodiversity in especially protected natural territories (EPNT). A benefit of this approach is not only a capability to characterize uniqueness and biological diversity of ecoservices of the protected territories, to give them an economic evaluation, to determine benefits and possible losses, but also to develop the principles of preserving the services provided by ecosystems. The main lack of approach consists that efficiency of EPNT is limited to isolation and the small area of the territories, thus it is impossible to estimate a full range of ecosystem services. With respect thereto, the main attention is paid to preserving a biodiversity outside EPNT.

Zhukava H., Panko A., Kryuk D.

Belarusian State University, Minsk, Republic of Belarus

REED PARAMETERS IN THICKETS OF DIFFERENT DENSITY IN NAROCH LAKE

Naroch Lake is a meso-oligotrophic polymictic lake, which face and functions are significantly influenced by macrophytes. Wide littoral zone, which takes near half of lake's square and high water transparency create fine conditions for water plants to grow. In the shallow water zone of littoral reed beds have the greatest values of biomass and density (Zhukava et al., 2005). Reed grows along the coastline, in some places going 200 meters into the lake from the coast. Those thickets are not continuous. They form sites of different size and density which take in total nearly 20 % of the shallow water zone – the territory from the coastline to isobath limiting 2 m depth (Zhukava et. al., 2009).

The paper is aimed at assessment of reed growth and weight parameters in thickets of different density in the shallow water biotopes in the littoral zone of Naroch Lake.

The studies have been carried out on the premises of the Educational and Research Centre «Naroch Biological Station named after G.G. Vinberg» in July 2016. The investigated part of the coastline stretched from the Biostation to the sanatorium «Naroch» (near 4 km). For sampling we chose biotopes with different density of reedbeds. Reed stems were cut at the ground level using 0,25 m² frame. We took from 3 to 11 samples depending on thickets density so the number of stems in one biotope was more or equal to 30. Depth at the measured sites ranged around 0,3–0,5 m. In the collected samples we measured the number of stems, their length and diameter (at the bottom part), wet and air-dry weight (table 1).