

EXPERIMENTAL FACILITIES OF THE RESEARCH DATA ON FORESTS OF THE NATIONAL NATURE PARK “PRYPIAT-STOKHID”

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Is presented silvicultural and mensurational characteristics of tested material to assess the biotic productivity of stands of major tree species of National natural park «Prypiat-Stokhid», which later will give the opportunity to develop adequate mathematical models for components of phytomass and build a system of normative and information providing major mensurational and biotic parameters of trees and stands.

«Prypiat-Stokhid» National natural park, stands, age, productivity class, density, productivity, temporary plots.

Forest-stratum investigations of forests presuppose conducting both field and laboratory investigations. Estimation of biotic productivity is made according to a special technique that involves conducting of field and laboratory investigations with further processing of such data on personal computers with the use of standard and applied programs.

For a long time the current territory of the National Natural Park “Prypiat-Stokhid” has been receiving no attention from the researchers because of its difficult accessibility in the past. Only at the end of the XIX century - first half of the XX century the first floral investigations took place. That was connected with the Prypiat valley human reclamation. Such investigations had fragmentary character and concerned mainly flora of bogs.

Aim of the research is the aggregation of research data on the temporary sample plots available for this region that would represent the main taxation indexes and the most common conditions of growth of forest stands of the major productive tree species of the NNP “Prypiat-Stokhid” for further estimation of their biotic productivity and ecological potential.

Research methodology. Scientific investigations connected with studying of biotic productivity of forest ecosystems involved a great variety of methods and forms of scientific knowledge.

During the investigations, the methodology of P. I. Lakyda focused on the development of the system of standards of biomass estimation of trees and forest stands with application of applied software for further processing of research data on personal computers has been used.

Research findings. The research data for information support of estimation of biotic productivity and ecological potential of forests of the NNP “Prypiat-Stokhid” are temporary sample plots selected by an author (9 pieces) and scientists of the Department of forest management, forest assessment and forest management of the National University of Life and Environmental Sciences of Ukraine in the amount of 104 pieces, total area – 29,47 ha. Temporary sample plots used in investigations represent stands of the major productive tree species of the Park. Distribution of temporary sample plots according to the major productive tree species is the following: stands of Scotch pine (planted) – 28 pieces, stands of Scotch pine (naturally occurring) – 20 pieces, stands of common alder – 44 pieces, stands of drooping birch – 14 pieces, stands of common oak – 7 pieces.

Temporary sample plots, selected according to the forest growth conditions represent typological structure of forest stands of the major productive tree species of the Park. Provided that nearly 56% of the selected temporary sample plots belong to humid and moist hydrotopes and 38% belong to fresh hydrotopes. That is a characteristic feature of forest growth in the NNP.

Age structure of forest stands of the NNP “Prypiat-Stokhid” is characterized by prevalence of middle-age stands. Selection of temporary sample plots has been made with consideration of this fact. Forest capacity is a quality criterion of bioproductivity processes in forest ecosystems. According to a forest capacity scale of M. M. Orlov stands with medium productivity prevail in the Park. Stands of the II class of forest capacity take out the greatest percent.

Selected temporary plots depict in details the current state of forests in the NNP “Prypiat-Stokhid”. Most of temporary sample plots represent stands with average productivity. Along with productivity and age structure estimation of collected research data as to a relative completeness of stands which significantly influences productivity of forests is rather essential today. Relative

completeness of the major part of research data falls on forest areas with the completeness of stands of 0.7-0.9. It is important to note that there are temporary sample plots with a relative completeness that exceeds the index of 1 (32 pieces). This may be caused by some incorrect data in standards used for calculation of a relative completeness of stands (values of table sums of cross sectional areas with the completeness of 1.0 is a little bit reduced in comparison with the available ones that occur in modal stands).

Summarizing all above-mentioned information it is necessary to point that aggregated research data adequately characterize the forest stands available in forest funds of the NNP "Prypiat-Stokhid" and provide an opportunity to solve the following tasks in further investigations:

- to work out mathematical models of biomass estimation of forest stands of the NNP;
- to estimate total amounts of biomass and carbon contained in it on the basis of the worked out models;
- to determine oxygen productivity of the forests of the park.