ECOSYSTEMS: ECOLOGY AND DYNAMICS, 2021, Vol. 5, No. 2, P. 102-117

DYNAMICS OF ECOSYSTEMS AND THEIR COMPONENTS

UDC 556.14/.16; 574.42

EFFICIENCY OF ECOSYSTEMS REHABILITATION IN THE FLOODED PEAT BOGS IN THE DUBNA FLOODPLAIN, ACCORDING TO THE ANALYSIS OF THE DYNAMICS OF THE NESTING POPULATION OF THE COMMON CRANE (TALDOM URBAN DISTRICT, MOSCOW REGION)[1]

© 2021. O.S. Grinchenko*, A.V. Dulin, C. Zöckler***, T. Tennhardt****, N.V. Mokiyevskiy*******

**Water Problems Institute of the Russian Academy of Sciences*
Russia, 119333, Moscow, Gubkina Str. 3. E-mail: olga_grinchenko@mail.ru
***Branch of the Interregional Public Organization for Sports "Moscow Society of Hunters and Fishermen", "Taldomsky Hunting Entity"*
Russia, 141900, Moscow Region, Taldom, Sovetskaya Str. 23
****Manfred-Hermsen-Stiftung for Nature Conservation and Environmental Protection*
Germany, D-28209, Bremen, Goebenstraße 1
***** NABU – Naturschutzbund Deutschland*
Germany, 10117, Berlin, Charitestraße 3
******M.V. Lomonosov Moscow State University*
Russia, 119991, Moscow, Leninskiye Gory 1, Bld. 12

Received May 01, 2021. After revision May 15, 2021. Accepted June 01, 2021.

Most of the bogs and bogged lands of the Moscow Region have been fully transformed with agricultural activities that reached their highest point the 1920-1980s. It heavily impacted the river valleys, where the river beds were regulated to ensure an effective discharge of the excess water from the drainage systems. Due to the problems of ecosystems degradation in the drained peat bogs and the adjacent territories that are affected by this drainage, the flooding and further ecological rehabilitation shall be performed in this territory. This task is important for fire control in the reeds and peat bogs and for the preservation of biodiversity in the specially protected nature territories and the surrounding drained peat bogs that are subjects to these fires.

Our studies were carried out in the Taldom Urban District of the Moscow Region in 2001-2020 in the Dubna bog massif. During this period the projects to keep water in the disturbed areas of the Dubna floodplain were implemented there. The projects were financed by the Manfred Hermsen Foundation (Germany).

The common crane is one of the indicator species of the state of wetland ecosystems, because it nests depending on the hydrological conditions. During 2020 in the Dubna floodplain we registered an increase in the number of its breeding population due to the climate changes that cause an increased bogging in the valley territories and the growth and stabilization of the free-flow groundwater level.

The occurrences of territorial pairs of the common crane during their nesting period and roosting stations during autumn period in the flooded area of the floodplain bogs, where these birds have not been registered before, indicates that building of the dams to keep water in the oxbow lakes of the Dubna River was an effective measure.

By studying the distribution dynamics of the common crane's territorial pairs throughout the

[1] The study was carried out according to the Research Project of the Water Problems Institute of the Russian Academy of Sciences for 2018-2021 "Modeling and Forecasting of the Restoration Processes of the Waters and Ecosystems Quality Under Various Scenarios of Climate Change and Anthropogenic Activities" No. 0147-2018-0002), state registration No. AAAA-A18-118022090104-8.

wetland landscapes, we can make conclusions about environmental changes and predict changes in the species composition of animal population to solve management problems of wetland ecosystems for preservation of their biodiversity.

Keywords: peat bogs flooding, common crane, floodplain ecosystems, Dubna River, "Crane Land" Nature Reserve, biodiversity indicator species.

DOI: 10.24411/2542-2006-2021-10086