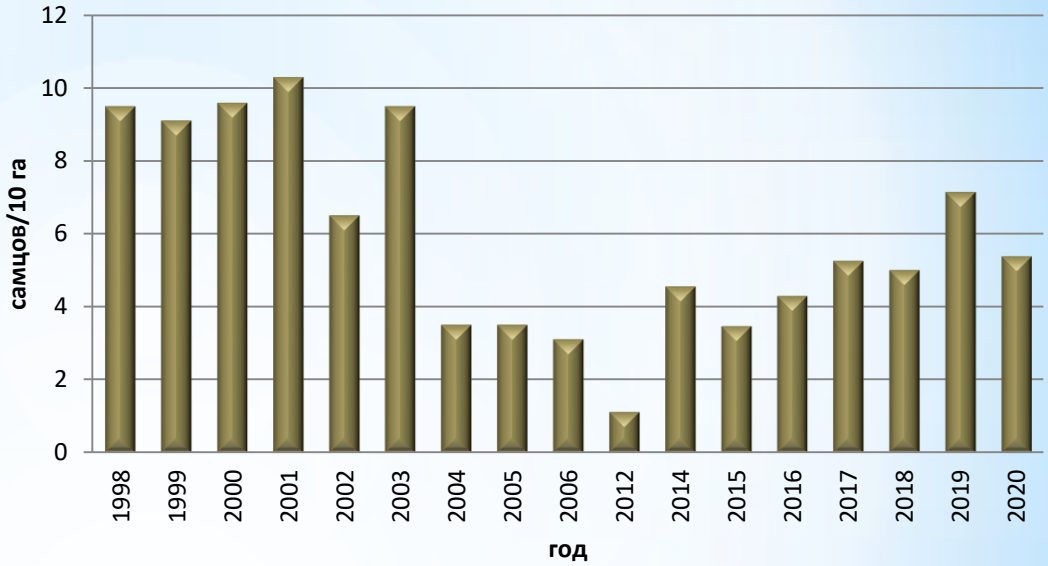
Main breeding populations of Aquatic Warblers in Belarus

Alexander Kozulin

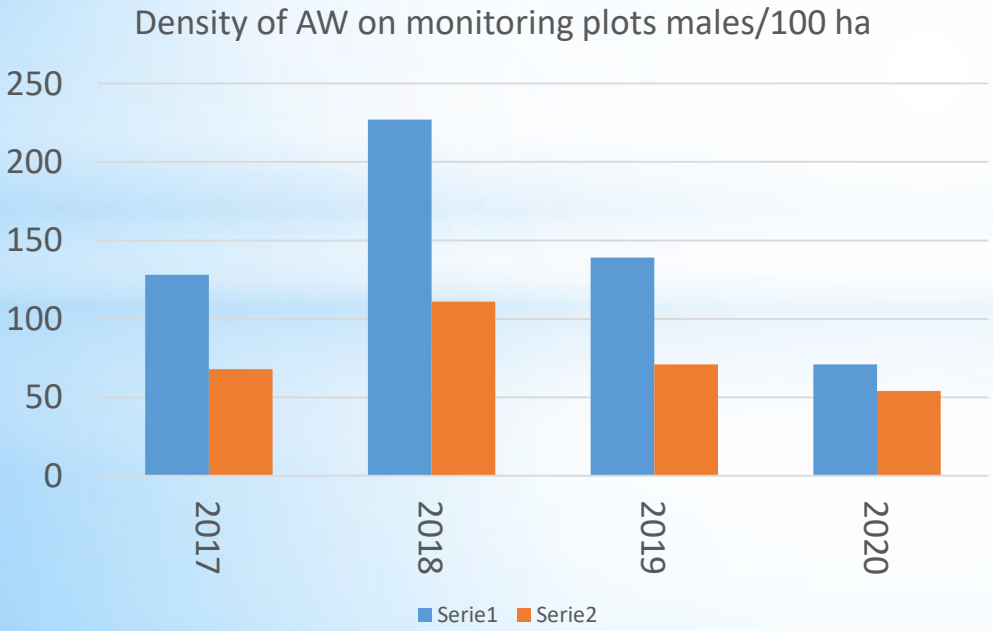
2021

Aquatic Warbler monitoring on Zvanets fen mire

Main monitoring routes on Zvanets



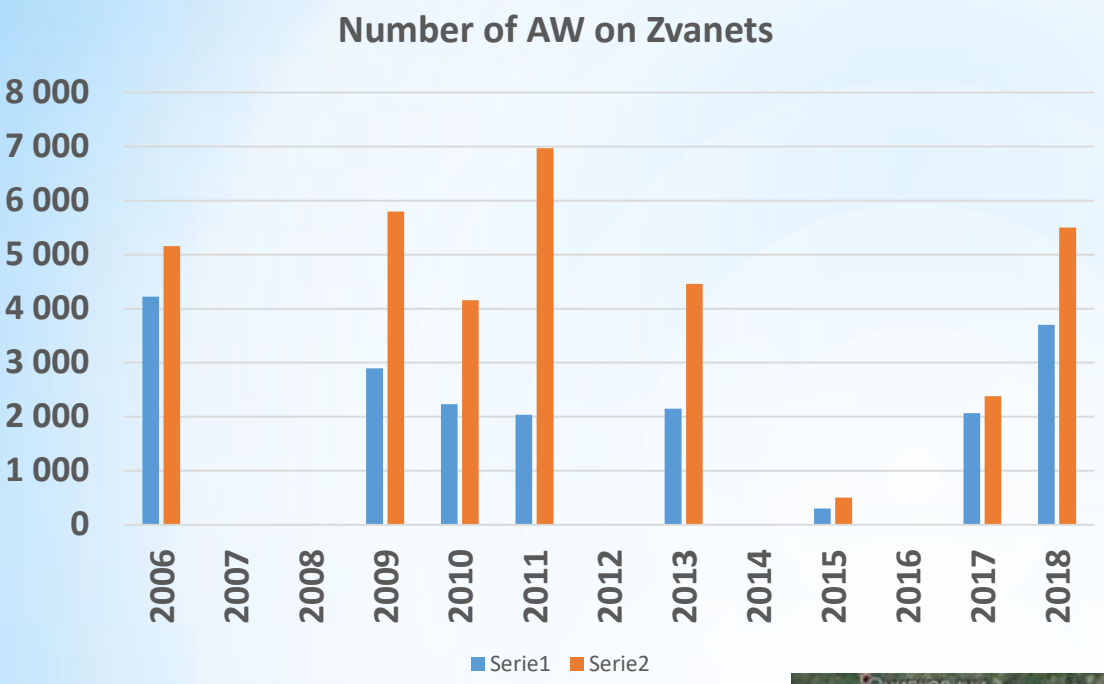
Long-term dynamics of the density of the aquatic warbler in the Zvanets (Povitie plots)



Density of the Aquatic Warbler on the Main Monitoring Routes (Povitie, Novoselki)

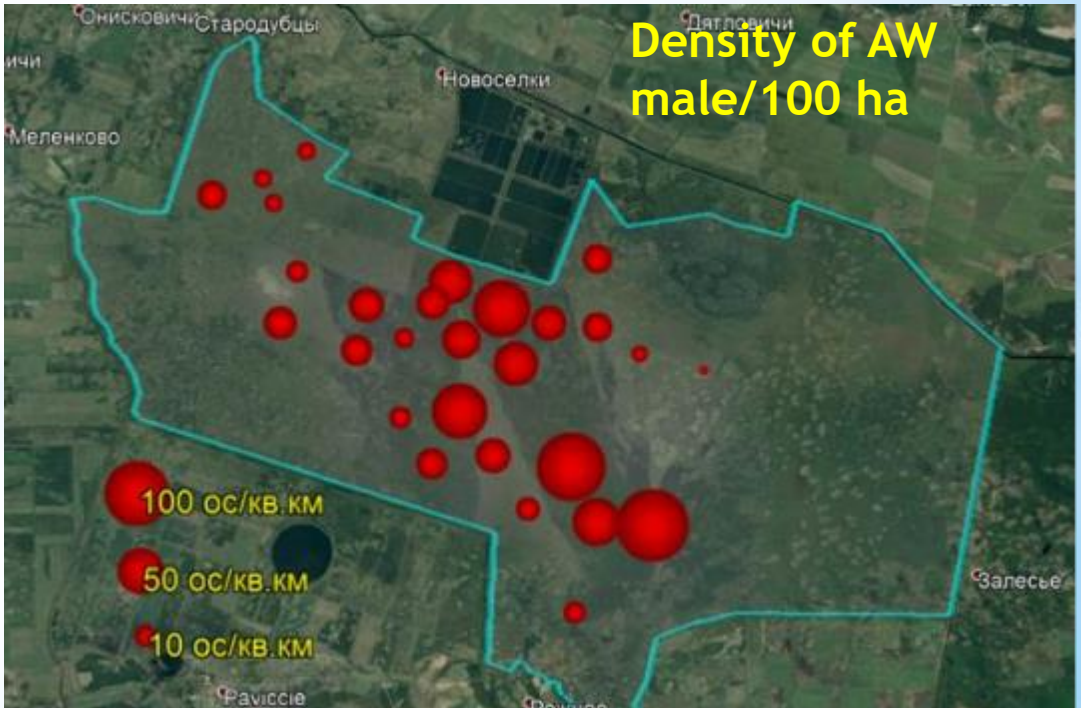
Route counts for population estimation of Aquatic Warbler on Zvanets (2017)

Result of birds counts on Zvanets



Dynamic of AW number at Zvanets

Great Snipe – 9 males
Curlew – 1 pair
Great spotted eagle -2

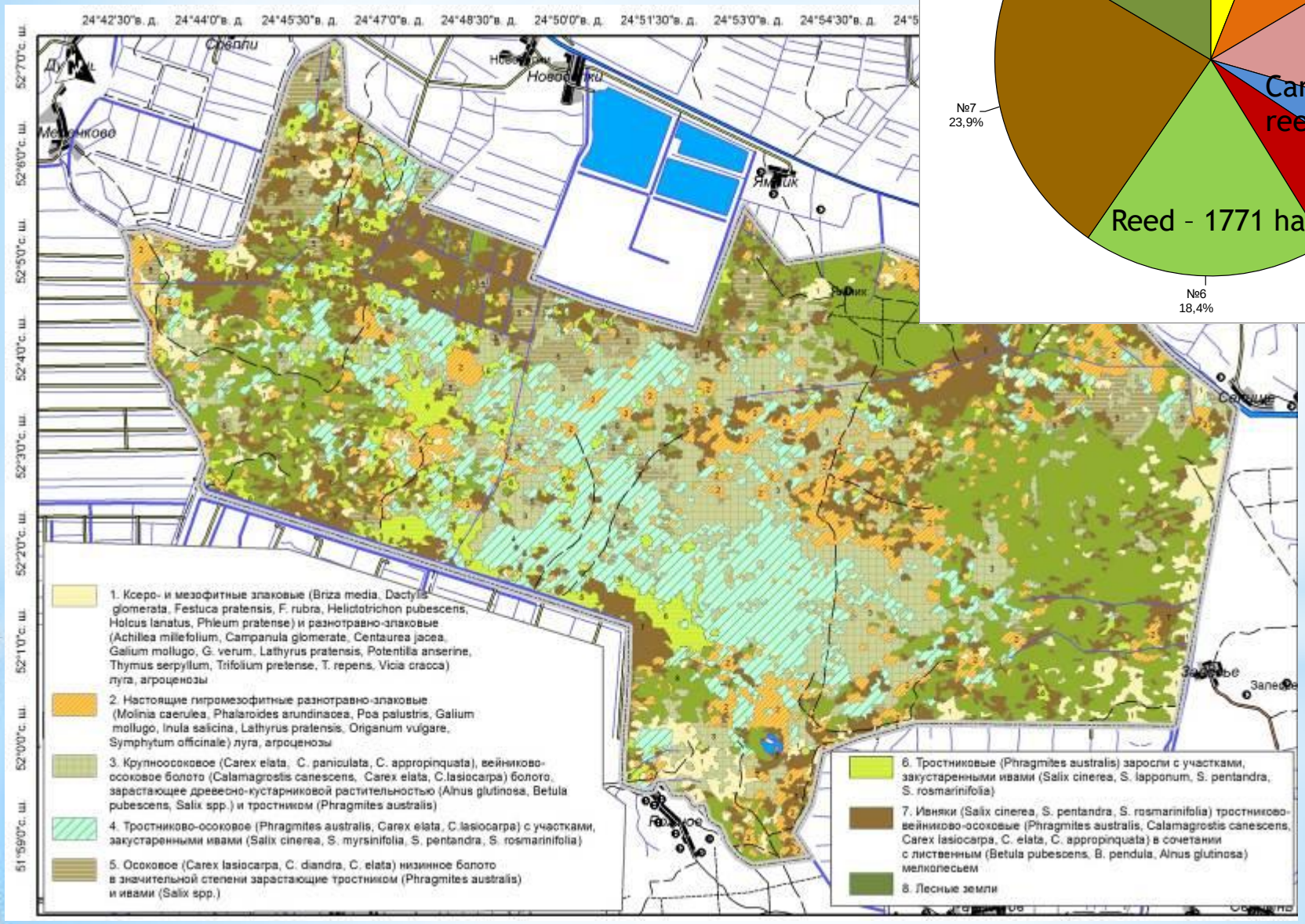


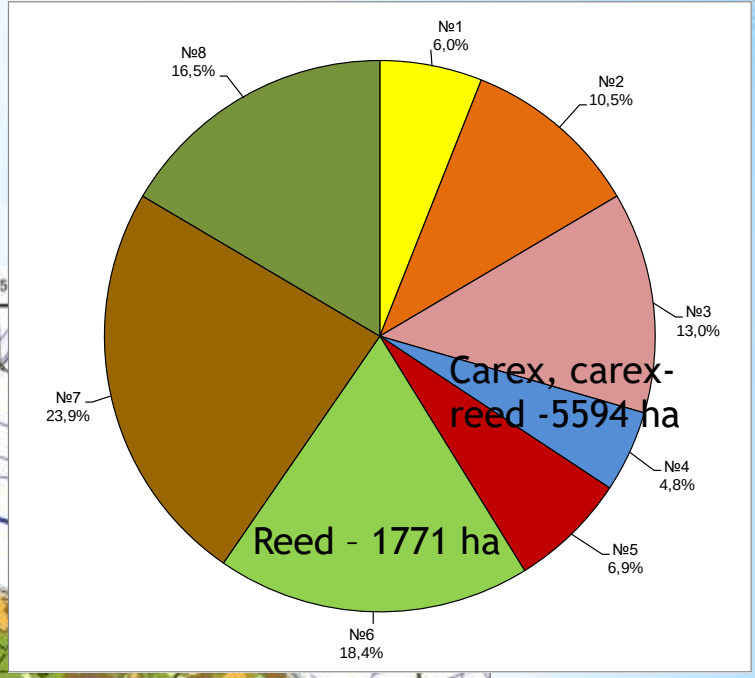
Long-term changes in abundance of AW are explained by the reduction of open sedge fens due to their overgrowth with shrubs and reeds.

Changes in the abundance of the Aquatic Warbler over the years are due to fluctuations in the water level.

Sub-action D1.2: Vegetation monitoring

Zvanets 2017





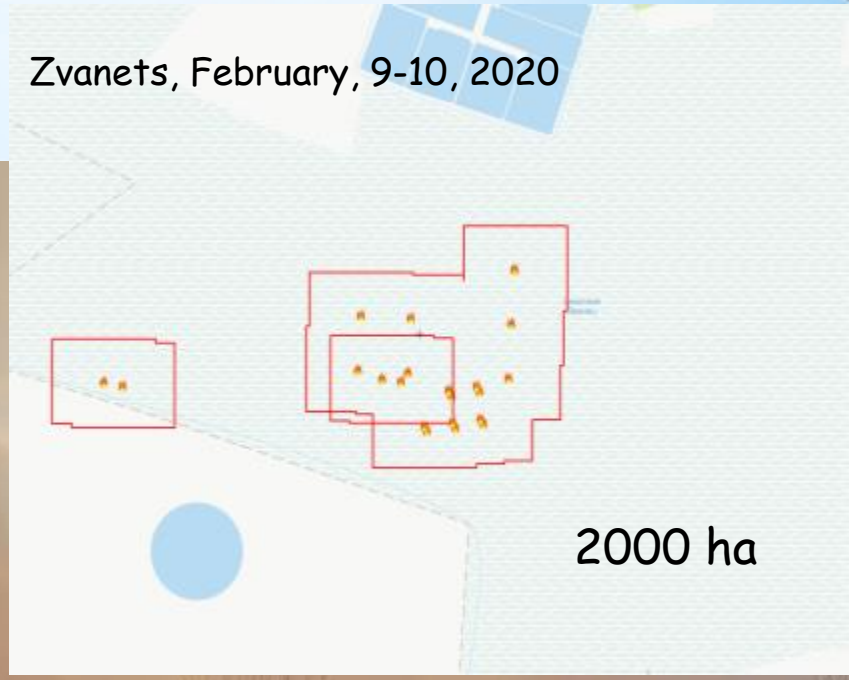
Mechanized mowing on Zvanets fen mire (500- 800 ha). It is necessary to remove shrubs and reeds on an area of about 6,000 hectares.

Large area mowing is only possible with economically efficient use of biomass

Controlled burning is used to contain reeds and bushes

- Controlled burning makes it possible to create conditions for nesting aquatic warblers in the first clutch on an area of about 3000 hectares

Controlled burning helps prevent uncontrolled spring fires

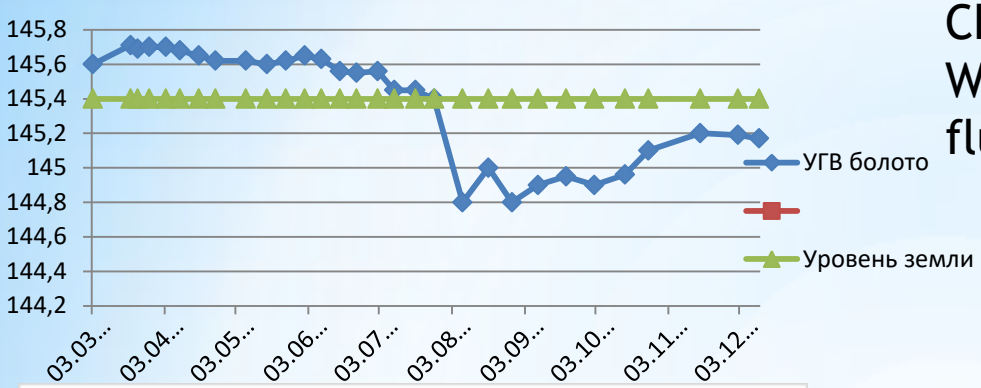


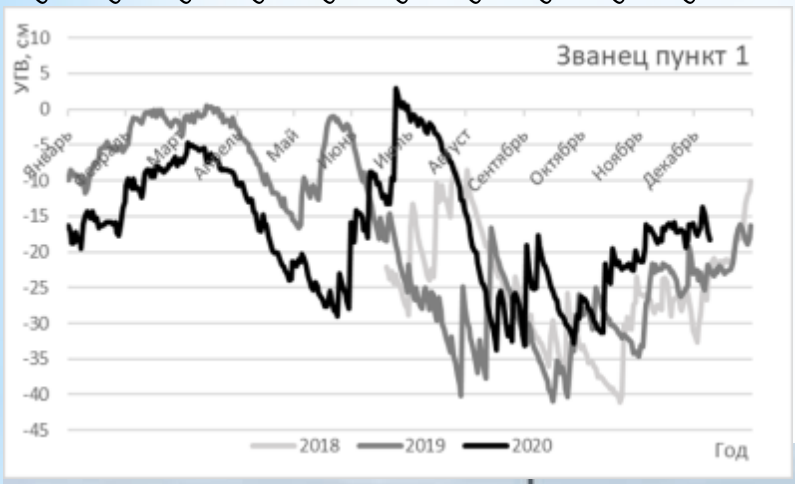
Winter controlled burning of vegetation was carried out in the Zvanets in February-March 2020 on an area of about 2,120 ha. This made it possible to avoid the spring fires on Zvanets that were observed throughout Polesie.

Mire in May after controlled burning

Fen mire after the Spring Fire 2020, Sporovo

Changes in the abundance of the Aquatic Warbler over the years are due to fluctuations in the water level.

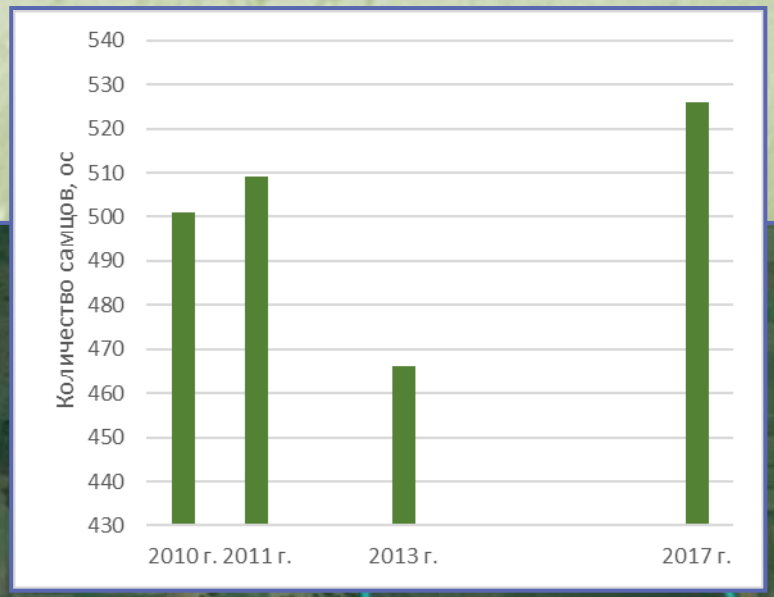


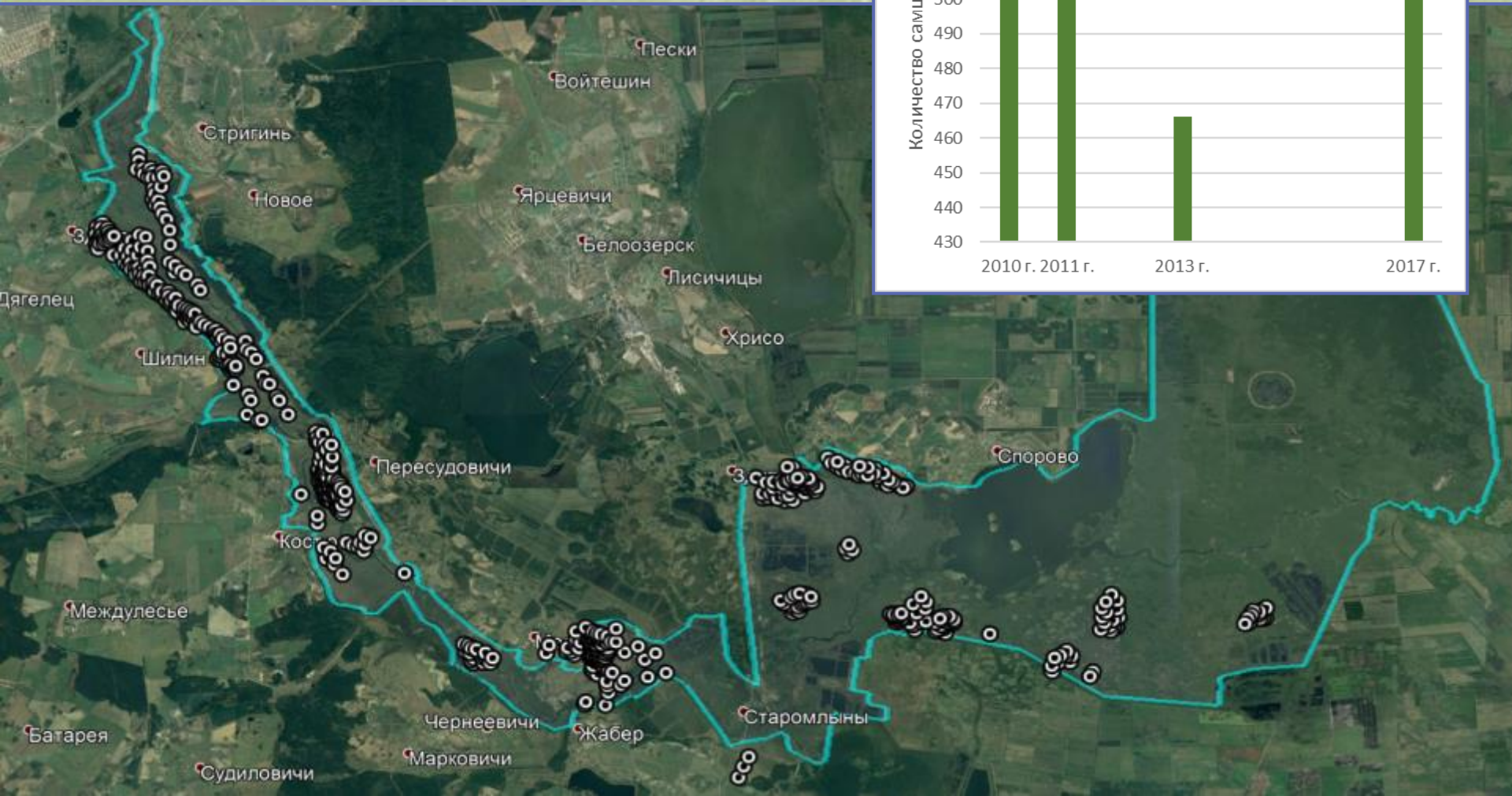


The main water control structures built within the project LIFEMagniDucatusAcrola to regulate the water level on the Zvanets

Aquatic Warbler monitoring on Sporovo fen mire

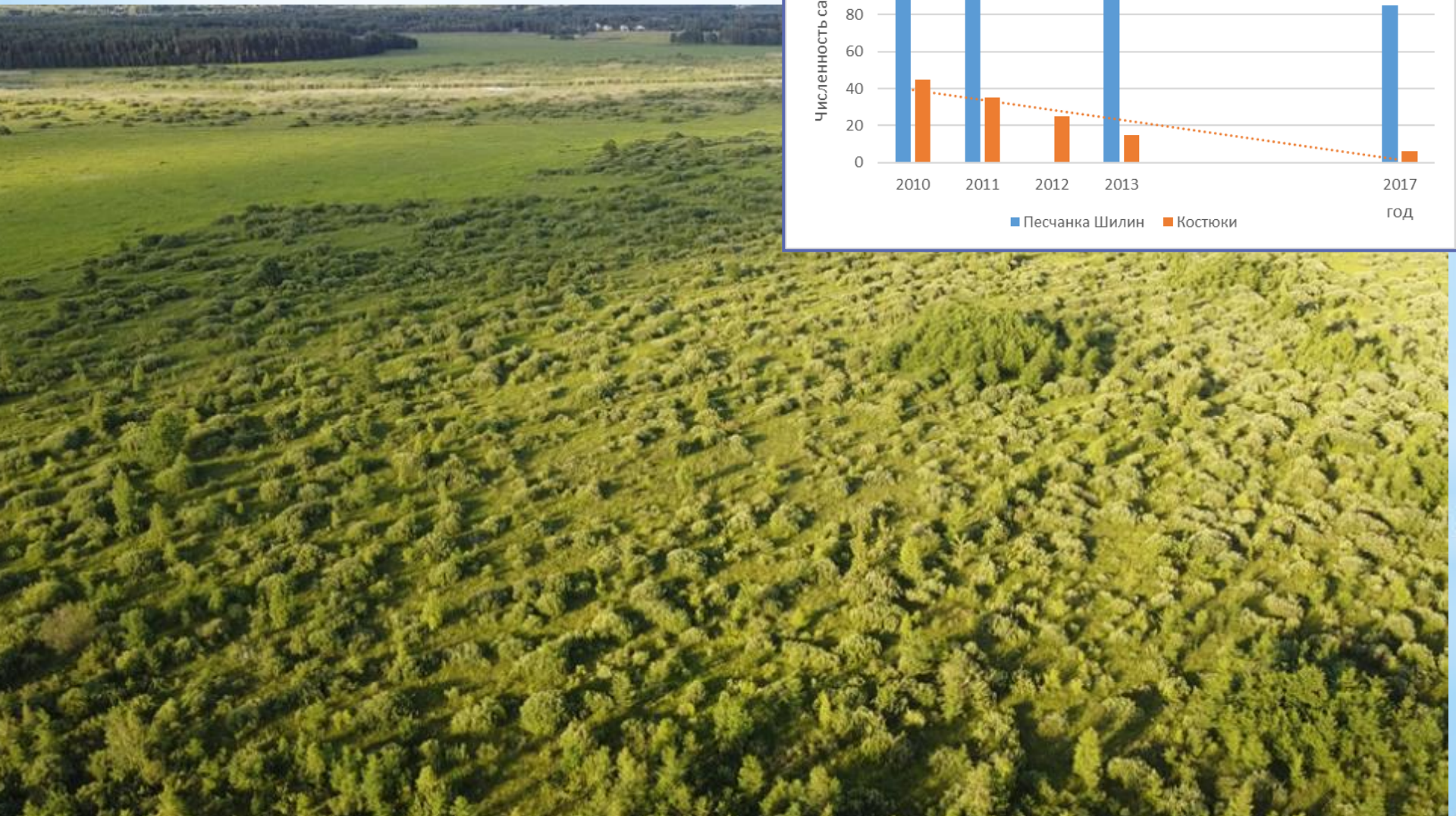
The abundance of the Aquatic Warbler in the Sporovskoe fen mire varies from 465 to 592 males from year to year.

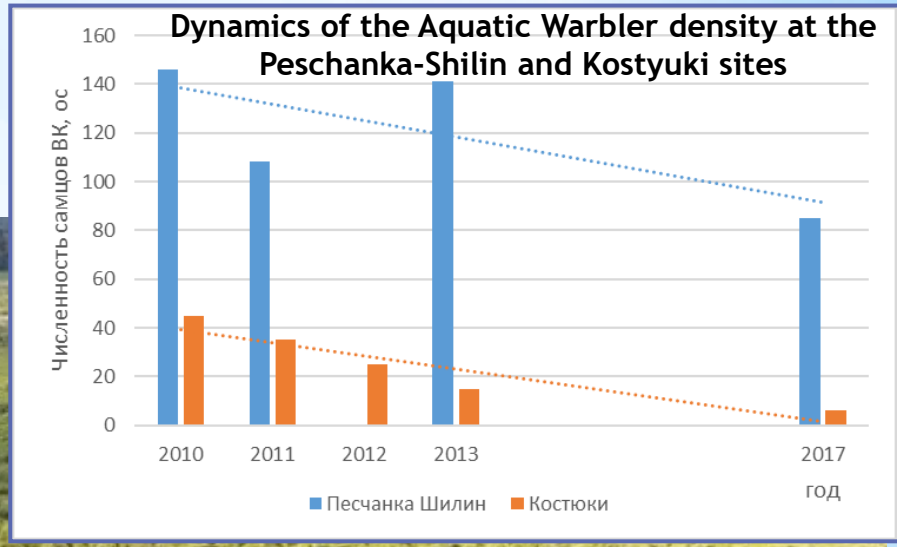




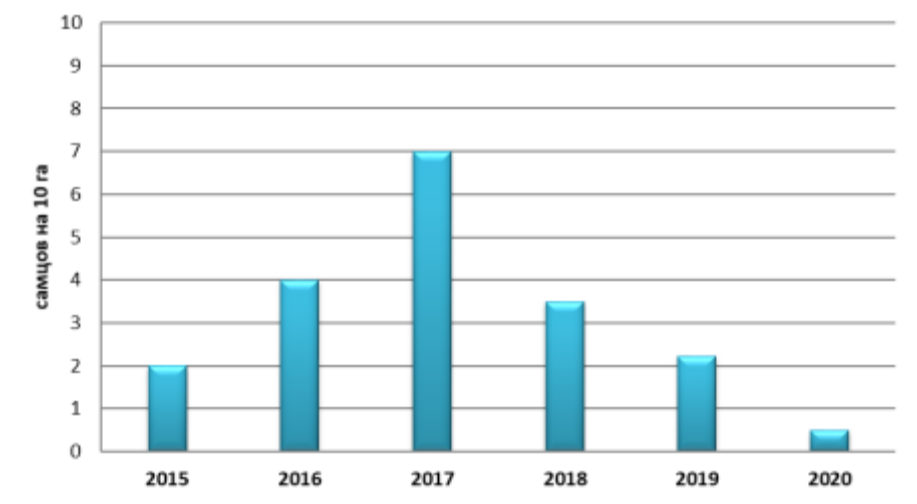
Reasons for the decline in the number of aquatic warblers

The main reason for the decline in numbers is the loss of habitats due to overgrowth with tree and shrub vegetation

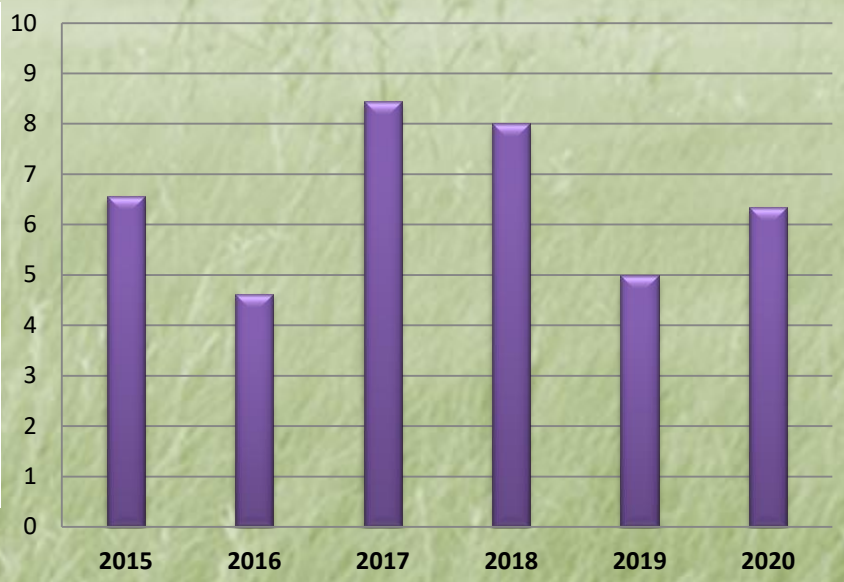




Effect of mowing grass and removal of shrubs on the density of the aquatic warbler

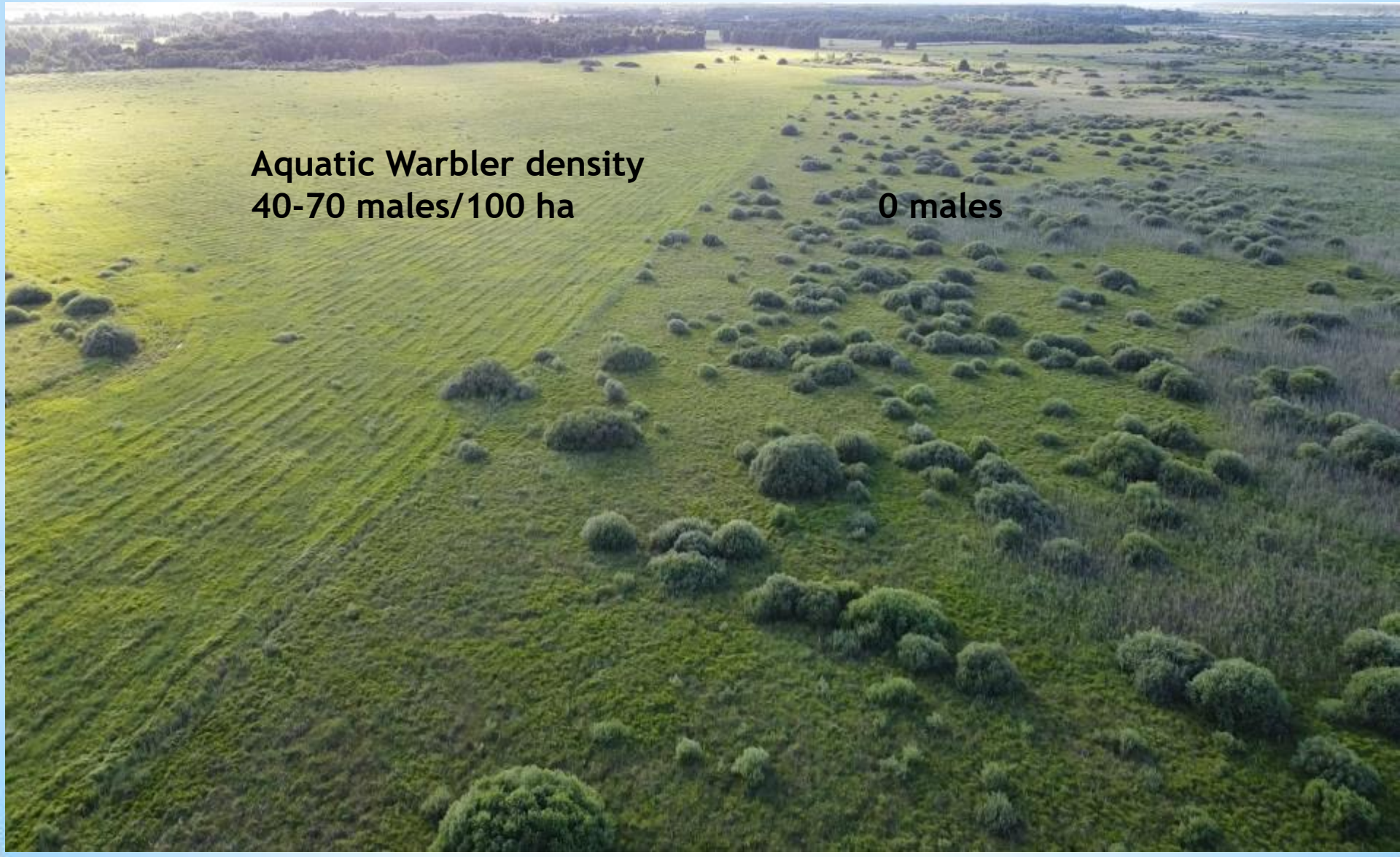


Dynamics of the Aquatic Warbler density at the site with a single mow in 2016



Dynamics of the Aquatic Warbler population at the sites with annual mowing

Monitoring plot “Koztyuki” Sporovo



Cost-effective methods for the collection and use of plant biomass of mire are being tested in the Sporovsky reserve

Every year, about 300 hectares of bogs are cleared of bushes in the Sporovsky reserve, and mowing is carried out with the collection of biomass on 650 hectares (about 970 tons).

In the period 2018-2020 mowing of grasses and cleaning of shrubs was carried out on 3,660 hectares. The cut biomass is sold as hay and bedding for livestock.

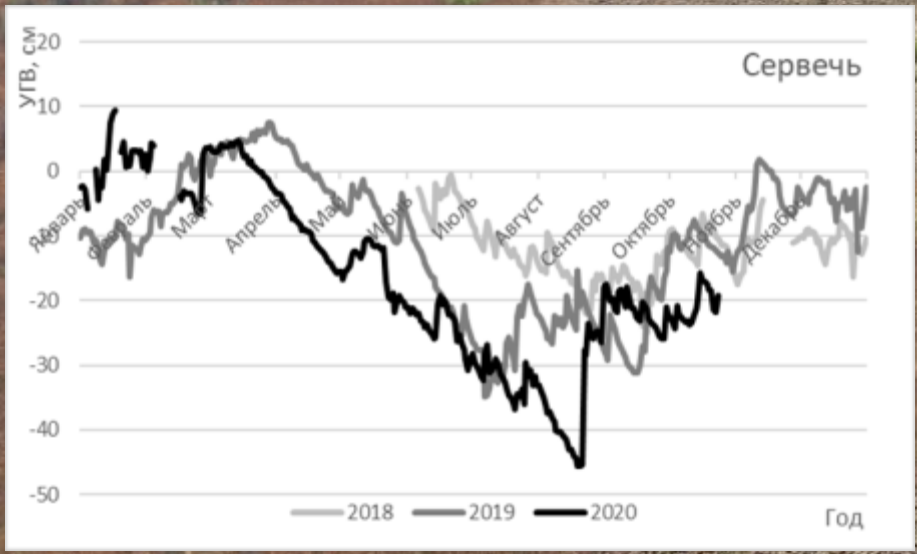
Number of Aquatic Warbler on Servech fen mire

The number of aquatic warblers in the Servech fen mire varies from 15 to 57 males from year to year. Changes in numbers depend on the dynamics of the water level in the fen mire.

Number of Aquatic Warbler	2009	2010	2017	2018	2019	2020
	25	31	57	48	25	15

Restoration of the hydrological regime in the Servech reserve

- The main problem in the Servech reserve is the straightening of the river bed, which leads to a rapid decrease in the water level in the mire by the end of April. This reduces the productivity of vegetation and the biomass of insects.
- To restore key biotopes of the aquatic warbler, an engineering project was implemented to optimize the hydrological regime of the Servech reserve



Water level dynamic on Servech

An overflow water-regulating structure was built on the straightened channel, which should ensure the optimal water level in the fen mire throughout the year

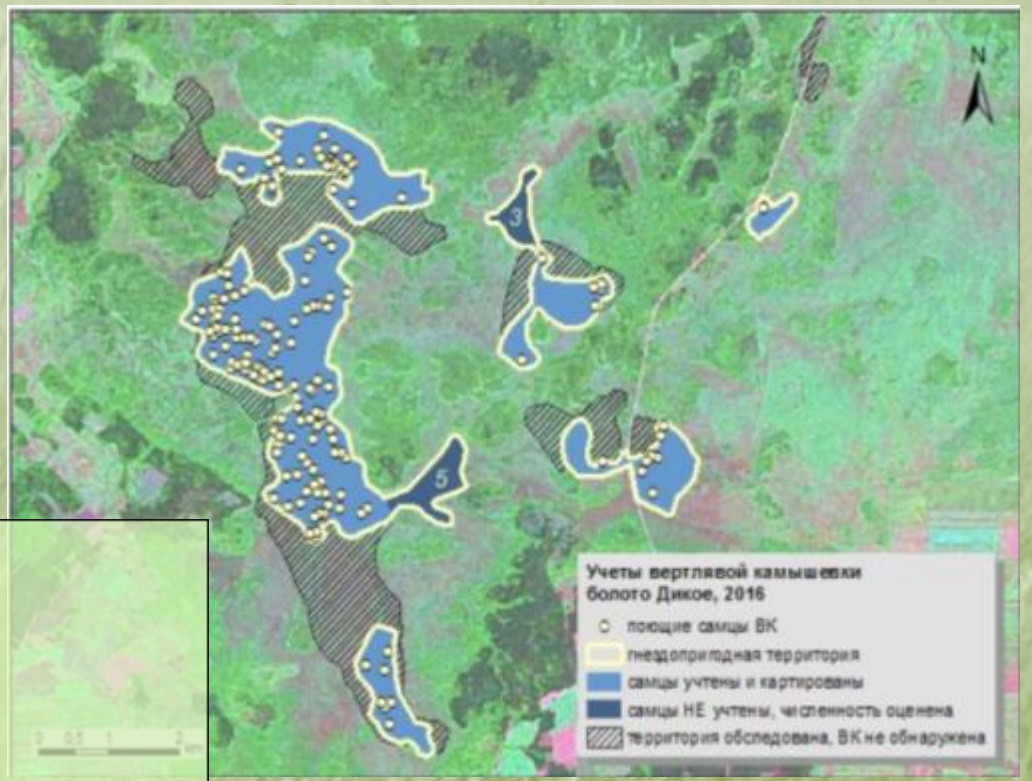
Optimal water level in the fen mire throughout the year:

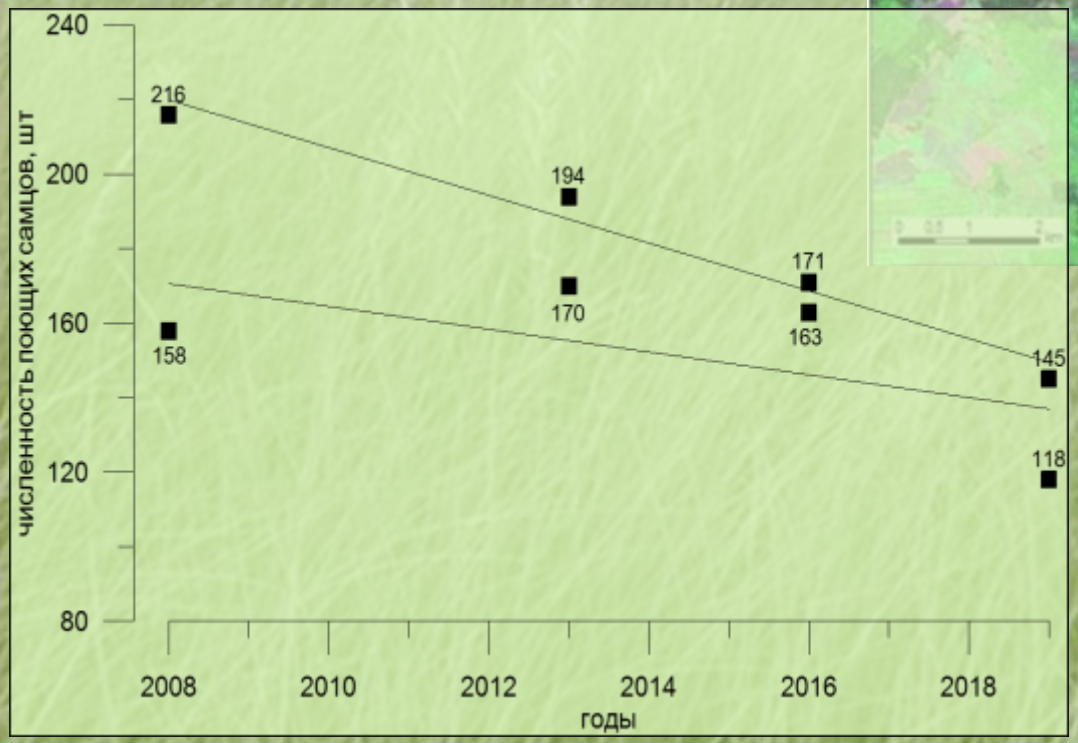
- high level in March-April; - near ground level in May-July;
- 5-10 cm below ground level in August-September;
- 10-30 cm above ground level in November-February

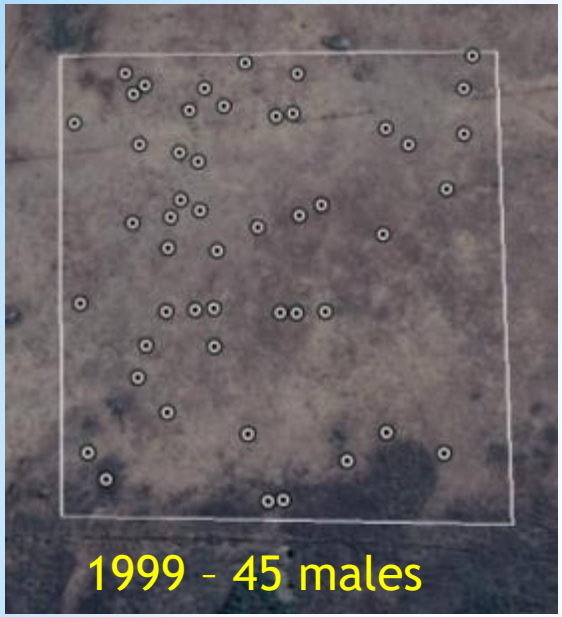
In the overgrown areas of the bog, work has begun to remove reeds and bushes. It is planned to provide about 300 hectares of open sedge bog by mowing.

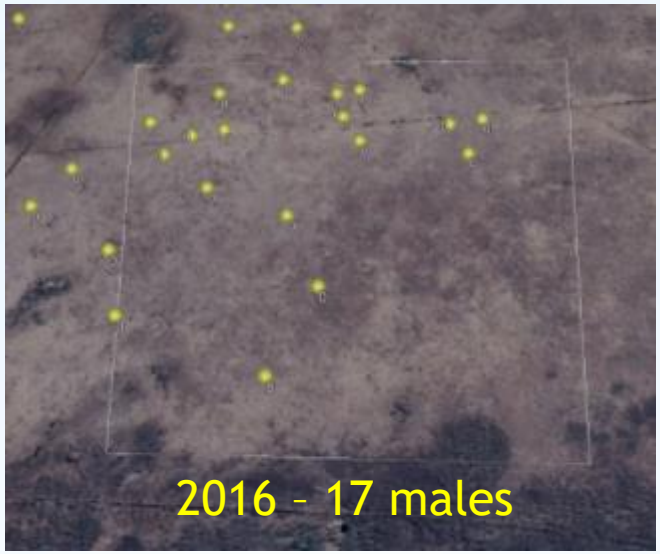
Dikoe

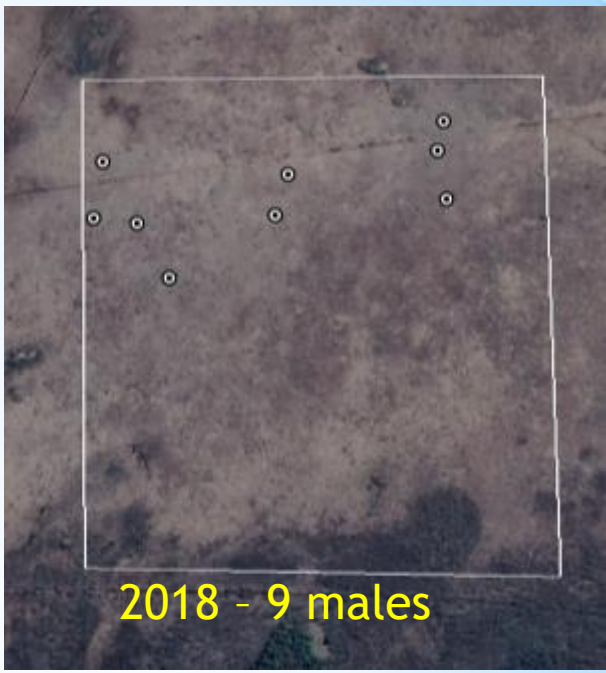
The number of aquatic warblers in the Dikoe bog is estimated at 160-220 singing males with a downward trend..

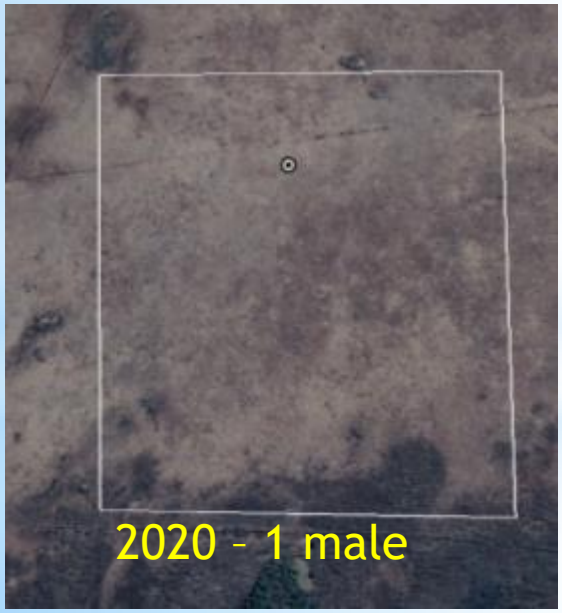




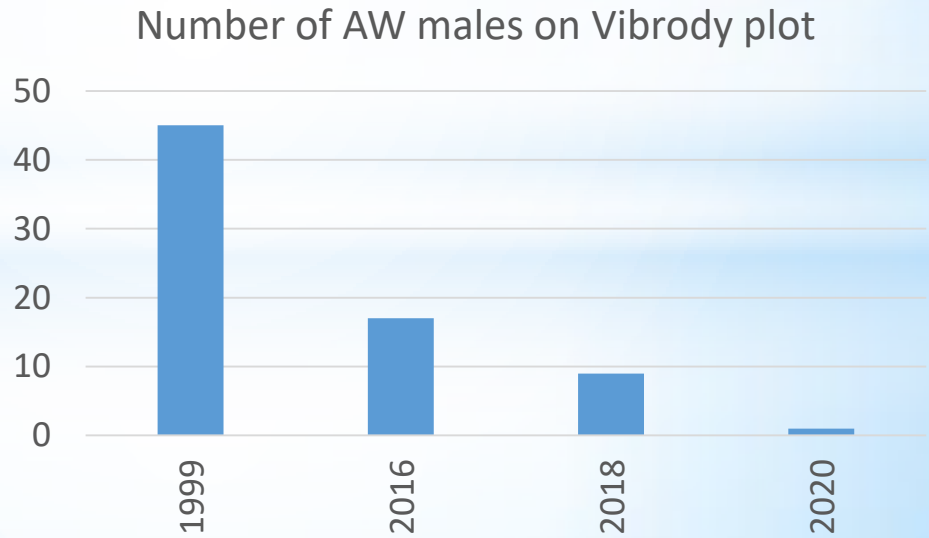






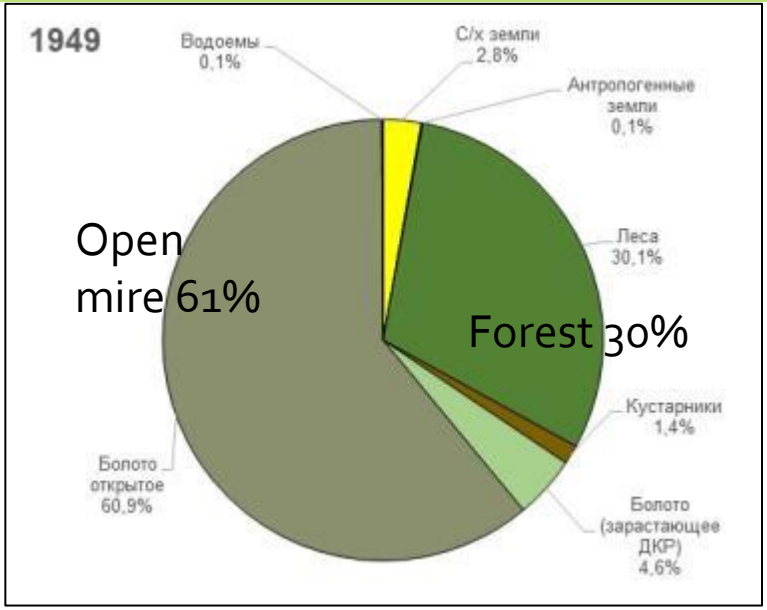


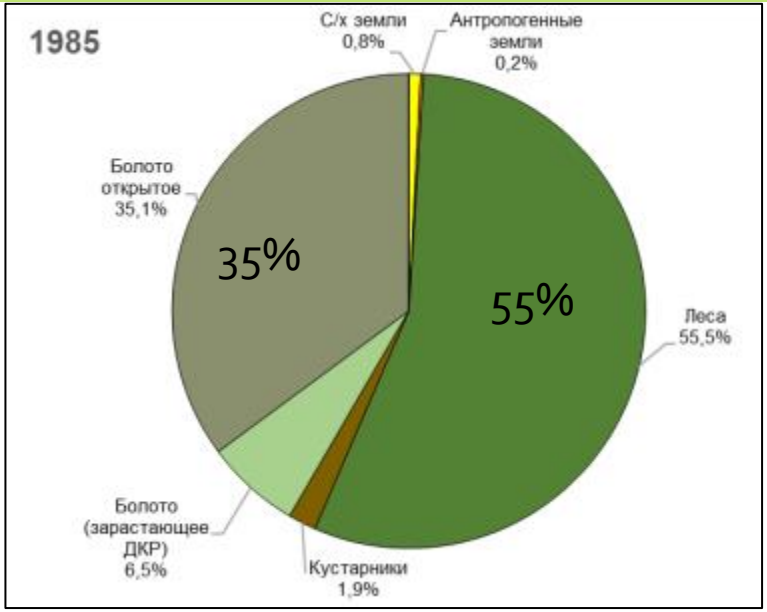
Dynamics of the number of aquatic warbler males at the Vybrody monitoring site (100 ha)

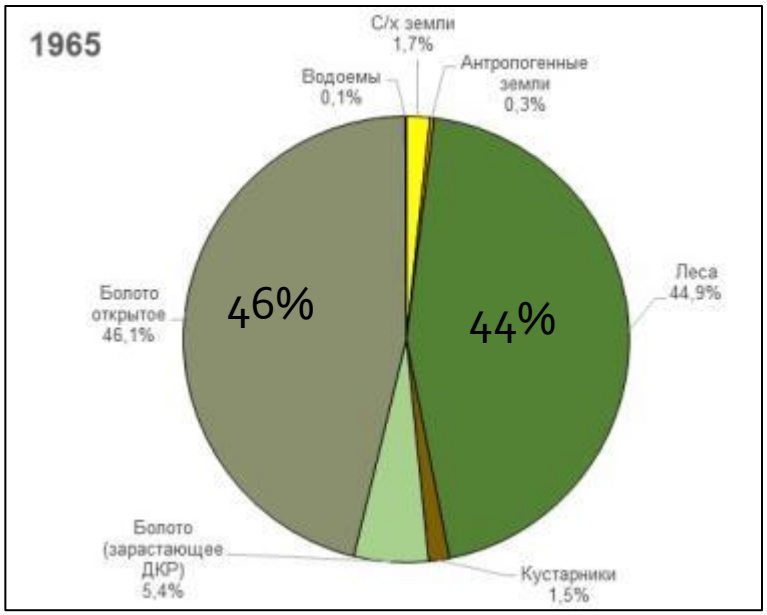


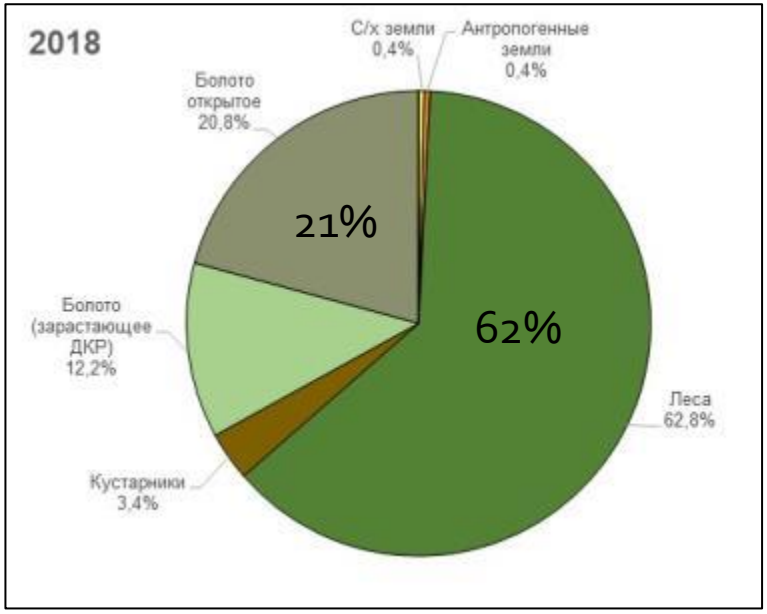
Dikoe, Vibrody monitoring plot in 1999

Dikoe, Vibrody monitoring plot in 2020





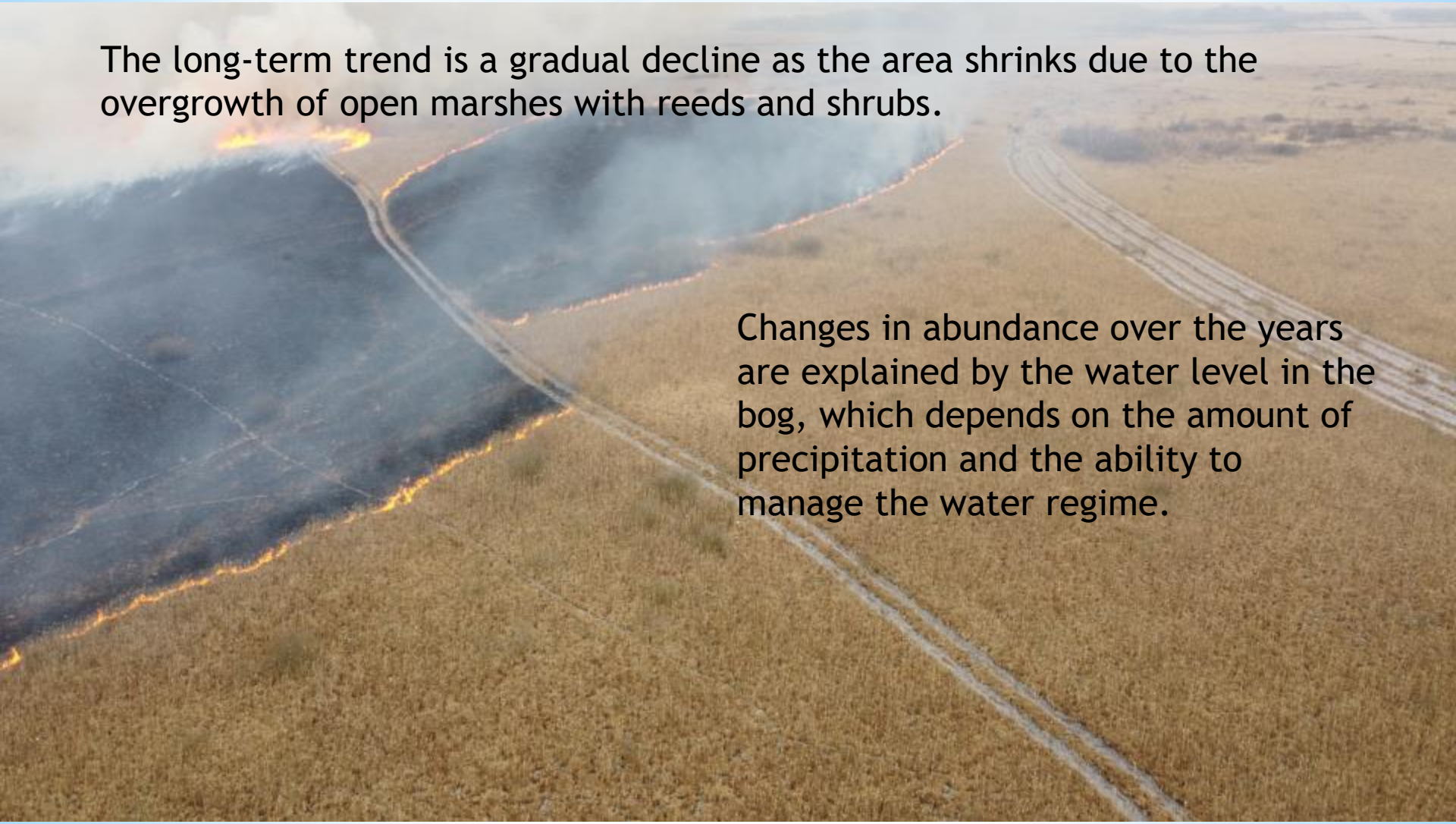




Dynamics of the area of the main biotopes in the Dikoe mire from 1945 to 2018

Thus, the total number of the species in Belarus is **2798 - 6665** males.

The long-term trend is a gradual decline as the area shrinks due to the overgrowth of open marshes with reeds and shrubs.



Changes in abundance over the years are explained by the water level in the bog, which depends on the amount of precipitation and the ability to manage the water regime.