



**Ministry of Natural Resources and Environmental
Protection of the Republic of Belarus**

**Rewetting of peatlands to obtain
multilateral environmental benefits and
funds for the restoration of peatland
ecosystems in the Republic of Belarus**

Restoration of natural ecosystems -

one of the priorities of the state policy of the Republic of Belarus in the field of environmental protection.

Law of the Republic of Belarus "On Environmental Protection"

Strategy and Action Plan for the implementation of the Ramsar Convention, approved by the Government of the Republic of Belarus in 2009

Strategy and Action Plan for the conservation and sustainable use of biological diversity, approved by the Government of the Republic of Belarus in 2010:

one of the goals - to restore at least 15 percent of degraded ecosystems

WETLANDS OF THE REPUBLIC OF BELARUS

1.4 million ha of peatlands
(7% of the country)

12.5 thousand lakes, reservoirs
and ponds with a total area of
248 thousand ha



19 thousand rivers with a total length of about 83 thousand km

drainage canals with a total length of 161 thousand km

16 wetlands of the Republic of Belarus in the Ramsar List

Dynamics peatlands of Belarus:

1950 - 2,939,000 ha

More than 50% drained

2010 -

863,000 ha of natural
and little disturbed peatlands

about 516,000 ha of peatlands with disturbed
hydrological regime



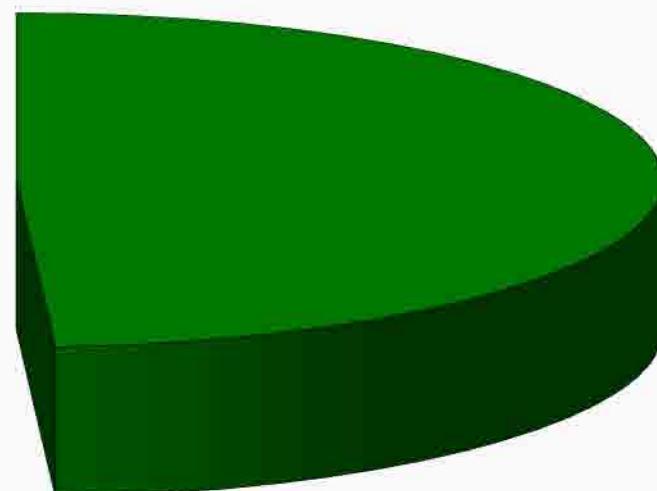
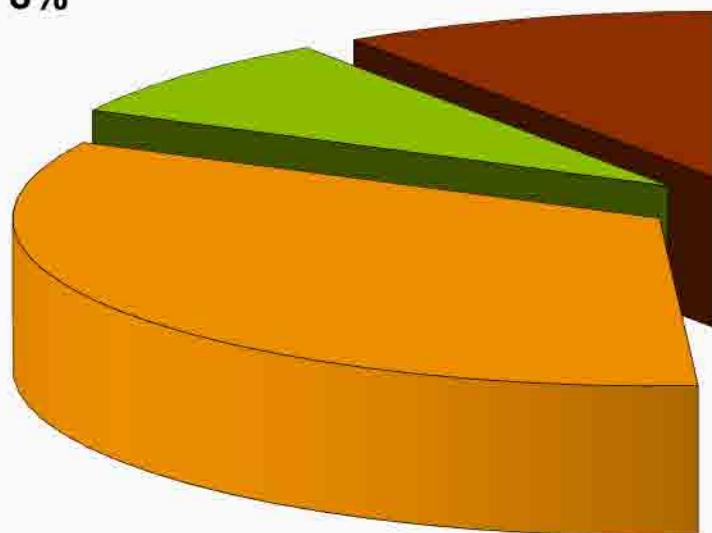
THE SITUATION OF DRAINAGE IN FOREST. IN: PINE FORESTS

Drained and used:

Saved; 1434; 50%

In forestry; 235;
8%

for peat
extraction; 277;
10%



Disturbed peatlands



**228.6 thousand ha –
depleted peat fields**



**24 thousand ha – not
effectively drained peatlands
by forest melioration**



**251.3 thousand ha –
degraded peat
soils**



**about 516 thousand ha –
peatlands with disturbed
hydrological regime**

Consequences of draining peatlands:

- * transformation of natural landscapes;
- * peat fires;
- * shrinkage and mineralization of peat;
- * increase in carbon dioxide emissions;
- * overgrown by bushes and reeds the most significant for the conservation of biological diversity ecosystems - peatlands and open water-meadows;
- * reduction of habitats of rare and endangered wild animals and plants and reducing their numbers.



Peatlands-1 " Renaturalization and Sustainable Management of Peatlands in preventing land degradation, climate change and ensure the conservation of globally significant biological diversity"

Results:

- rewetted 15 disturbed peatlands with a total area of 28,207.7 ha
- reduction of CO₂ emissions from the restored peatlands amounted to about 235,000 tonnes per year
- recovery of peatland vegetation on 58-96 % , avifauna - on 20-48 %
- termination of major fires
- benefits for the local population (cranberries, fishing)

Works on rewetting



Technical normative legal acts,
2008:

Rules for determining the direction of use of depleted peat fields and other degraded peatlands

Rules of conduct for ecological rehabilitation of depleted peat fields and other degraded peatlands

Works on rewetting



Рисунок 9. Схема расположения территории для строительства и функционирования зон влажности сопряженных с выработками торфяных месторождений «Богатырь» и «Падово». 20



Рисунок 10. Схема перекрытия каналов посвященных линий системы сливного водосбора зонами подземных для восстановления гидрологических режимов дна озера Балык. Жас

Works on rewetting



Рисунок 39. Труба-регулятор с металлическим оголовком и пластиновой трубой диаметром 3 м из магистральном канале болоты Галое. Регулирование осуществляется деревянными щандорами



Рисунок 40. Железный оголовок с щандорами можно устанавливать без тяжелой техники (болото Эланец, Балтийский канал)



Рисунок 41. Сжатиевым способом рекомендуется устанавливать легкие трубы из стиропластика

Works on rewetting



Рисунок 16. Глухая земляная перемычка со стенками из кольев на магистральном канале болота Галое



Рисунок 17. Глухая земляная перемычка со стенками из кольев с загнутыми краями на болоте Морочно



Рисунок 18. Простейшая перемычка из кольев на болоте Ельня



Рисунок 19. Перемычки успешно функционируют и зимой.
Зона обтекания не замерзает при ниже -20 °C
(канал Дубойский на болоте Морочно)

Works on rewetting

- Preliminary coordination with local authorities;
- Development of scientific basis;
- Development of building projects, including the assessment of the impact on the environment, if the site is within the boundaries of the Protected areas (PAs);
- State expertise of the building project, and for areas within the boundaries of PAs - the state ecological expertise;
- Construction work on the basis of the building project.

The total duration of the entire process - 1.5 - 2 years

Fen Grychyna-Starobinskae

after flooding, 2009



before flooding, 2006

Drained peatland Bartenikha before and after flooding



before



**Dynamics of
vegetation**

after



**Низинные
болота**

UNDP / GEF Project

2013-2017 years



Peatlands-2 : "Management of peatlands on the basis of landscape approaches to obtain multilateral environmental benefits "

Main components:

- Improving the legal framework for the use of the landscape approach to the management of peatlands
- Development of a National Strategy for the Conservation of peatlands and sustainable use of peat fields
- Approbation of a landscape approach to peatland management through improved wetland protected areas and ecological network formation Vitebsk Poozerie
- Rewetting drained peatlands total area of about 6300 ha, including degraded agricultural land - 4,300 ha and degraded forest lands - 2,000 ha

In Belarus rewetted about 50,000 hectares of disturbed peatlands

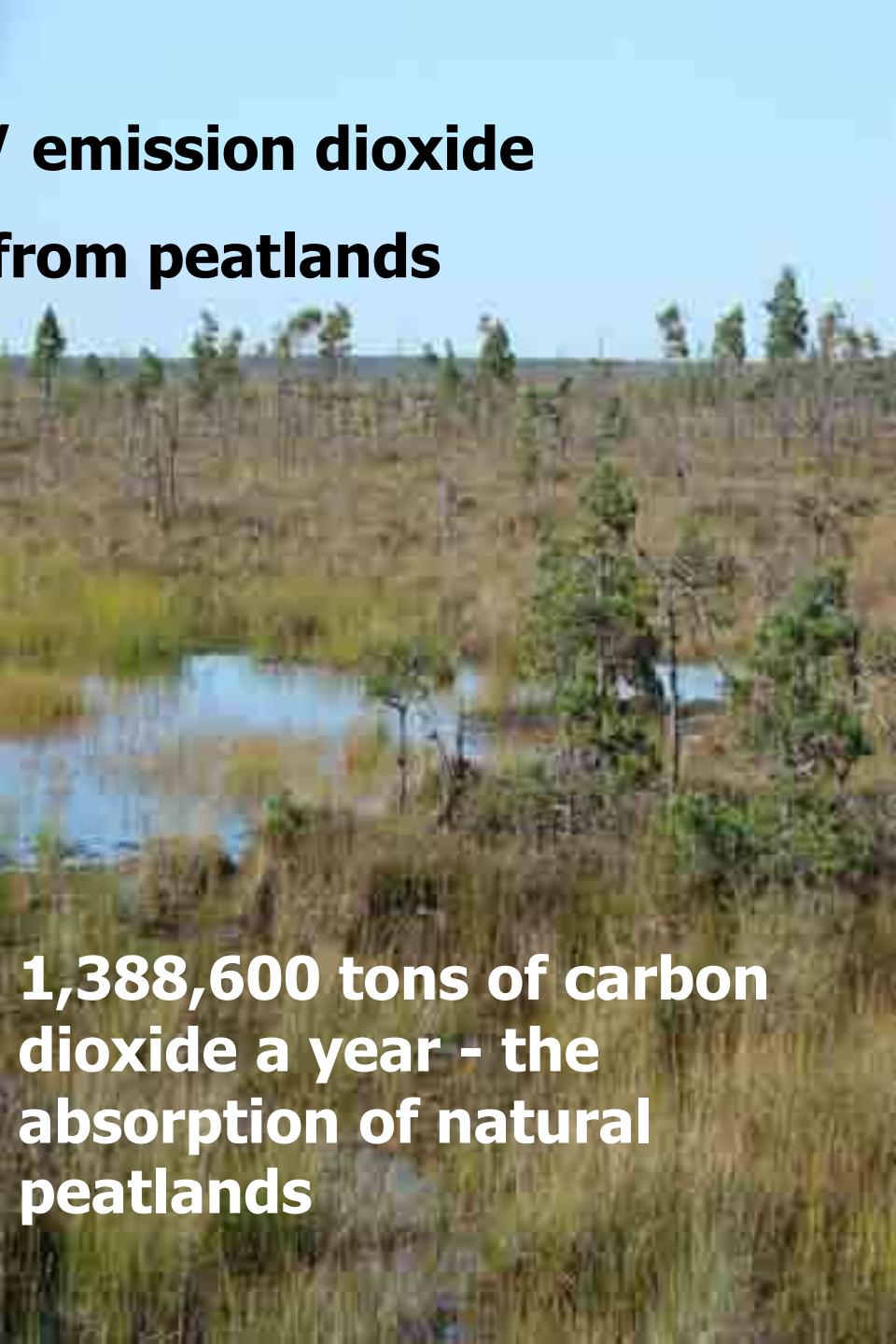
The average cost of restoring wetlands - US \$ 50 / ha

financing:

UNDP / GEF projects "Peatlands-1" and "Peatlands-2"
GEF Small Grants Programme (NGO),
International Initiative for Climate Protection,
republican budget of the Republic of Belarus (on PAs,
perspective from 2016),
means peat enterprises (reclamation developed areas)



Absorption / emission dioxide carbon from peatlands

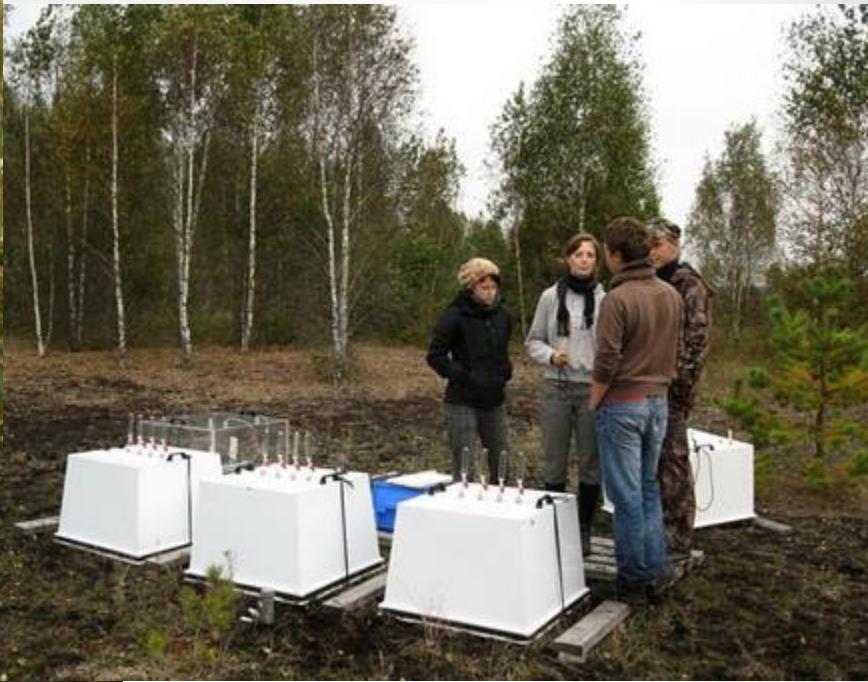


3,751,700 tons of carbon dioxide a year - emission from depleted peat fields (excluding peat fires)

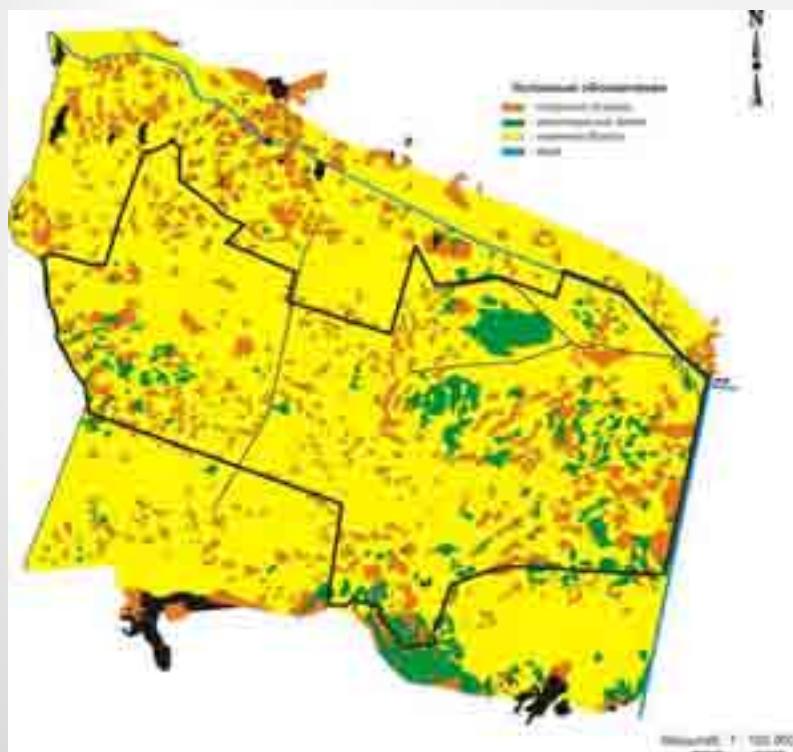
1,388,600 tons of carbon dioxide a year - the absorption of natural peatlands

The Project "Restoration of peatlands in Belarus and application of the concept of sustainable management - reducing the impact on the climate effect on the economy and biodiversity", 2008-2011:

- rewetting of peatlands on the area of 15,000 ha;
- reduction of CO₂ emissions from the restored peatlands amounted to about 100,000 tonnes per year;
- getting verified reductions in greenhouse gas emissions and the use of the voluntary carbon market mechanisms



Peatland Zvanets in 1950 and 2007 - a significant increase in the spread of open moorland by bushes and forest





In the National reserve "Sporovsky" open moorland area from 1960 to 2005 decreased by 20% due to overgrown bushes, a similar problem is observed in the majority of peatlands and floodplains of the Republic of Belarus



"Clima-East: conservation and sustainable management of peatlands in Belarus to reduce carbon emissions and adaptation of peatland ecosystems to climate change"

Main components:

- Cutting bushes and reeds on natural peatlands area of 3,500 ha, harvesting about 2,500 tons of dry biomass and subsequent processing into fuel pellets - to prevent emissions equivalent 15,6 tons CO₂-eq/ha/year by replacing fossil fuel plant biomass peatlands
- Creating a system of monitoring the effectiveness of biomass: ecological integrity of the ecosystem (populations of indicator species), carbon benefits harvested biomass, area of peatlands that are exempt from bushes, changes in the level of water
- Develop at least three similar projects for their implementation in other peatlands

Using plant biomass of peatlands

Sustainable organization cutting bushes and reeds, and then use of biomass for fuel pellets



THANK YOU FOR YOUR ATTENTION

