PROPOSALS

for the Update of the Package "Agri-environment and Climate":

Water retention in peaty soils and paludiculture initiatives

Vilnius, 2020

1. Introduction

These proposals include measures to restore hydrological regime in peatlands used for agriculture and to develop paludiculture to improve surface water quality. The proposals were prepared by the Lithuanian Fund for Nature in cooperation with the Greifswald Mire Center and the University of Greifswald (Germany) supported by the proposal for new agri-environmental and climate payments for water retention and paludiculture prepared by the Polish Society for the Protection of Birds (Poland). The proposals describe the requirements for the protection of peatlands, the measures for their restoration adapted to Lithuania, as well as present an overview of peatlands restoration and the costs of peatland restoration in Europe. In support of the new Common Agricultural Policy (CAP) post-2020 to ensure the coherence of agricultural and climate policies, the CAP must protect and promote the conservation of soils rich in organic carbon and the maintenance of optimum moisture in them through measures of peatland restoration and conservation. It is likely that the Ministry of Agriculture of the Republic of Lithuania will take these proposals into account and use them in preparing not only CAP measures, but also other investment measures to reduce agricultural water pollution and greenhouse gas emissions.

The proposals were prepared during the implementation of the project "DESIRE Development of sustainable peatland management by restoration and paludiculture for nutrient retention in the Neman river catchment".

2. Justification for new requirements for the protection of peat soils

The environmental benefits associated with water retention are very important and are in line with our country's need to achieve the goals of climate change mitigation, protection of biodiversity and reduction of nutrients in surface water bodies. Wet depressions, lakes and river valleys create buffer zones where flood waters are accumulated, deposited nutrients are stored, and organic carbon is locked during the peat accumulation process (peat formation in an anaerobic environment). Proper management and maintenance of these areas will:

- reduce CO_2 emissions from drained degraded peatlands, and thus the restoration of a hydrological regime favorable to peatlands would encourage the accumulation of organic carbon in the form of peat and mitigate their negative effects on the climate. Such actions can make a significant contribution to meeting the climate change mitigation commitments set out in EU climate and energy policy until 2030;
- to reduce the risk of droughts during periods of intensive vegetation and to mitigate their effects on natural ecosystems and agriculture by improving water accumulation in organic soils (peatland - freshwater storage). Such actions are crucial in the context of climate change and the gradual depletion of the country's water resources, and are therefore a good complement to national initiatives such as the Flood Management Plan;
- protect biodiversity by maintaining or restoring peatlands that are important for many specific plant and animal species. This will help fulfill the obligations related to the implementation of the Birds and Habitats Directives.

The need to introduce modern water management regulations in agriculture has been repeated in previous programming periods of the Rural Development Program (RDP). It is emphasized that not only water retention itself is important, but also the optimal ecological conditions of meadows and pastures in relation to soil moisture, which is important for the protection of the species and habitats that have formed there. Till now, under the agri-environment and climate measures, appropriate water support measures under the so-called 'water package' have not been implemented. This is due to a number of constraints that prevent the development of such a package, including:

- impact of measures outside the farmer's land: water accumulation affects not only the land on which agri-environment and climate measures are implemented, but also neighboring land, including other agricultural land properties;
- the need to take action on the land of other entities - increasing the soil moisture or water retention on an agricultural land requires action in drainage ditches (restructuring the network of drainage systems), which are often not the responsibility of the farmer concerned;
- requirements under the Water Act - many conservation activities require the permision of water legislation, which is an additional obstacle to their implementation;
- investment measures - in order to maintain water retention or increase water level in agricultural land, investment measures need to be taken (eg construction of water level maintainance structures).

The above-mentioned restrictions can be significantly reduced by the simultaneous introduction of a so-called "Community" package, which allows for the planning of AECS activities in a larger multi-entity area, as well as maintenance activities based on non-investment activities.

We also propose the introduction of a paludiculture measure. Paludiculture - climate-friendly economic use of natural and restored peatlands, including preparation of local peatland crop production, maintenance and / or restoration of the hydrological regime typical of natural peatland habitats, promotion of peatland, protection of their biodiversity to ensure ecological stability of these ecosystems. It is a type of sustainable farming that covers not only the economic use of peatlands and their protection, but also mitigates the negative environmental impact of traditionally used drained peatlands. Economic activity is possible only by constantly maintaining high (close to natural) water levels in peatlands. Sustainable farming in natural and restored peatlands not only benefits from products (above-ground biomass), preserves the peat layer, but also creates favorable conditions for organic soil formation. This is an important aspect of climate change mitigation.

3. Proposals for the protection of mires and peatlands

Recent analysis shows that about 220,000 ha of peatlands are used unsustainably in Lithuania. The “Paludiculture feasibility study” (Zableckis et al., 2019) points out that in our country

paludiculture could be developed on an area of about 223,000 ha, mainly in fen peatlands classified as agricultural land. According to the GIS assessment 30412 ha of all inventoried 4th category peatlands (suitable for paludiculture) are in poor quality of reclamation infrastructure. It is assumed that these areas could be suitable for the restoration and maintenance of moisture (hydrological regime), as the restoration of drainage structures would require significant funds, especially where the areas have already become wet spontaneously and succession has begun. A similar priority area for restoration, covering 30000 ha of peatlands in the fens of the Nemunas River basin, i.e. used for agricultural purposes, as determined by a gap analysis (GAP analyzes). The analysis was performed by researchers from Vytautas Magnus University (the analysis is available in the database www.neman-peatlands.eu). As the Nemunas River Basin covers a little more than 70% of the territory of Lithuania, it has to be acknowledged that some important peatlands were not included in this analysis. Taking various obstacles in consideration, such as the large number of owners in the sub-basin, melioration structures, flooding risk, the lack of applicants and the experience of previous investment measures, it is assumed that peatland restoration scale might be a bit smaller – about 20,000 ha.
In the following chapters, we provide the main provisions for the restoration of hydrological regime)and the further use of organic soils.

3.1. Proposals for an investment measure - water retention

3.1.1. Description of the measure

The aim of the investment package is to create conditions favorable for the preservation of the peat layer of the soil, and not only to stop the decomposition of the peat layer and GHG emissions after the restoration of the hydrological regime, but also to promote and maintain peatland formation processes in good agricultural and environmental condition. A high water level is necessary to preserve the peat layer and promote peat production. As it is not possible to determine in most cases what the hydrological regime was before drainage, based on a number of studies and good practices, the aim is to keep the spring flood water in the peatlands as long as possible. If the site requires maintenance (eg mowing), the site user must be able to lower the water level so that the equipment required for the work can be used. This requires the design and installation of special hydrotechnical structures, such as sluice, which allow the farmer to regulate

the water level in the managed area himself, maintaining the average annual water level along the surface of the peat layer (not deeper than 10 to 20 cm from the surface). Under these conditions, the area may be flooded in the spring, but in the second half of the summer the water level may fall to 30-40 cm below the surface due to natural dry conditions. After the management (maintenance) of the territory, the water level must be restored immediately by closing these sluices.

The following measures are needed to restore the water level:

- prepare and coordinate an agreement with the landowner or owners;

- to prepare and coordinate a project for the restructuring of drainage systems;

- to prepare and coordinate a simplified project for the restoration of the hydrological regime (or the preparation of the project for the installation of the peatland), possibly together with the preparation of the project for the conversion of the reclamation systems;

- implement water level restoration measures;

- to restore good agricultural and environmental condition (removal of woody vegetation and stones, surface leveling, etc.);

- to implement measures for the reconstruction of melioration structures (if necessary);

- implement a monitoring system.

Farmers working in flooded peatlands should receive an additional payment to compensate their losses due to high water level, which do not appear in traditional farming systems. This payment could serve as an example of easily implemented “eco-scheme”. The main idea of such a solution is not to support the installation of pond infrastructure, but to provide a financial support to the farmer in areas where the installation of the necessary infrastructure will raise the groundwater level. The subside should also be paid in case that the area is not flooded in a sertain year due to unfavorable meteorological conditions.

This payment could also be applied to permanently flooded areas, regardless of the cause of the rise in water levels (eg beaver activity or other natural causes). On the other hand, the eligibility of an area for this payment can also be determined using satellite information (Sentinel).

Floodplains, especially fens, are characterized by high seasonal water level fluctuations. The predominant land uses in such areas are usually perennial meadows and pastures. The intensity of economic activity in wet meadows directly depends on the water level - sometimes economic activity is not possible at all, and sometimes it is possible to mow the whole area. The

unpredictability of these conditions complicates farmers' 5-year agri-environmental commitments (mowing is not possible every year) and the interest in participating in such activities (schemes).

1 Figure installment of regulating dam in Žuvintas Biosphere Reserve in 2020 (Photo: N. Zableckis)

3.1.2. Costs

The preparation of a simplified project for the restoration of hydrological regime includes the costs of simple design of a group I building: measurements in the area, selection of solutions for restoration of water level, coordination with responsible authorities (district owners of the surrounding lands, etc.). The cost of project preparation depends on the complexity of the area and the final construction cost, i.e. about 10% of the construction cost. If the restoration of 1 ha costs about 1,000 Euros, then the project preparation costs should be around 100 Euros.

Accordingly, for example, the design costs for a 10 ha peatland restoration should be € 1,000 + VAT.

In cases where drainage system collectors from the surrounding areas enter the planned flooding area, it may be necessary to design the reconstruction of drainage structures. In this case, it is more difficult to calculate the costs, as they depend on the complexity and size of the drainage structure (or structures).

Based on the review of peatland restoration costs in Lithuania and other countries, the costs of restoration of 1 ha of peatlands in Lithuania (installation of hydrotechnical structures (e.g. dams), removal of woody vegetation, destruction of drainage system, etc.) are about 800 Euros / ha, in other countries these prices can be as high as € 3,000 (e.g. Germany) and higher (Annex 2). The restoration costs of peatlands in Lithuania, Latvia and Estonia are mainly based on the restoration costs of bogs, which are relatively lower than the restoration costs of fens due to much simpler hydrotechnical solutions. Restoration of fens can usually affect adjacent areas, therefore, additional solutions, such as the installation of plastic dams, need to be provided for their restoration. Therefore, it is considered that at least EUR 1,000 / ha should be planned for the establishment of peatlands on agricultural land.

Restoration of agricultural fen peatlands usually involves reconstruction of old drainage system. The average cost of converting a 1-meter drainage is about 20–30 Euros, so the overlay of a 100-meter drainage can form up to 3,000 Euros. Based on the fact that such redevelopment may be required in a frequent case, it is assumed that the restoration of 1 ha of peatland will cost another 1,000 euros, therefore the costs should be calculated at 2,000 euros / ha.

Monitoring aims to determine the environmental impact of measures, i.e. whether the restoration of the hydrological regime had a positive effect. This includes investigations of changes in vegetation changes, groundwater levels, and so on. In this case, however, monitoring is linked to the success of implemented project. However, sometime it is sufficient to check the condition of the flooded areas in the spring, when the probability of flooding is highest. If the area is found to be flooded, the restoration of the hydrological regime is considered to be successful, and in the absence of moisture in the spring, the reasons for the failure of the dam or other solutions should be sought and additional measures taken.

Loss of income due to cessation of economic activity should be accounted for using agri-environmental methods, taking into account the provisions below on the implementation of peatlands and other schemes.

Summarizing the chapter, it is assumed that the planned amount of costs for the restoration of 20,000 ha of peatlands by applying the restoration cost of 2,000 EUR / ha would reach 40

million. Euros. The preparation of hydrotechnical project costs would be about 10% of the implementation costs, i.e. about 4 million Euros. A similar amount should be earmarked for the redevelopment of drainage systems, bringing the total design cost to around € 8 million. Euros. An additional € 12 million should be earmarked for land reclamation solutions to restructure about 4,000 meters of drainage. Therefore, the total cost of restoring 20,000 ha of peatlands on agricultural land would be about 60 million Euros. The attractiveness of participating applicants can be increased by providing for exceptions and less strict requirements for annual management and maintainance.

Note: Forest peatlands and wetlands are not included in this analysis.

3.2. Proposals for the development of paludiculture

Paludiculture is a promising climate-friendly economic use of natural and restored peatlandss. Despite few long-standing and successful initiatives in Germany, the Netherlands and other Western European countries, paludiculture still remains at an "experimental" level. There are still no successful examples of innovative paludiculture in the Baltic region. Peatland vegetation is used traditionally (without being involved in the process of active biomass cultivation) and irregularly: fen or wet perennial meadows are mowed, reeds are cut, medicinal plants and berries are harvested. Unfortunately, there is currently no demand and market for paludiculture products in Lithuania. Despite efforts, there is still no stable market for the utilization of biomass in extensively maintained meadows and fens. The management and use of such habitats, in particular those related to the protection of birds, therefore requires constant subsidies, for example in the context of the relevant CAP packages. The development of both supply (including processing) and demand already requires significant financial costs, which may lead to the stable development of this new industry in the future.

At present, given the initial experience with the application of the farming principles and the still limited scope for implementing wider farming activities and the arguments set out above, it is important that CAP support for this new farming sector is not based on a separate package but through a series of "small regulations". These "small regulations" would be included in other packages and would facilitate the implementation of paludiculture initiatives in the new funding period in Lithuania, as in other Western European countries.

Proposed set of regulations:

In addition to agri-environmental payments and payments based on proposals from the European Parliament and the Council (Article 68) relating to investment in appropriate machinery and equipment and market or advisory assistance are important for the development of paludiculture. During the meetings held in Vilnius (2018 June 14 and 2019 June 11), it was decided that financial incentives for the purchase of specialized equipment are necessary for the maintenance of wet areas.

Paludiculture is understood as an alternative to CAP activities (packages) involving the extensive use of wet meadows and peatlands, which may not be in line with normal (traditional) grassland maintainance practices, but may be much more valuable from an environmental and climate change mitigation perspective.

The applied Rural Development Regulations 2014–2020 which are being implemented in Lithuania agri-environmental measures of the program:

- “Extensive meadow management”;
- “Management of specific meadows”;
- “Extensive wetland management”;
- “Conservation of endangered reedbed habitats in natural and semi-natural meadows”;
- “Conservation of endangered aquatic warbler habitats in wetlands”.

All these measures require the removal of biomass, yet the utilization of biomass and its methods are not regulated or otherwise defined, but under other legislation, hay cannot be left as waste in the fields, and so on. Therefore, the principle of paludiculture application applied to these measures would be treated as a different form of utilization of hay (biomass) with the required effect, i. e. the provisions of the measures for the protection of peatlands and biodiversity are compatible with achieving the desired protection of biodiversity and the capture of organic carbon by initiating and maintaining peatlands. For example, if the requirement for harvesting grass sounds like this: mow no earlier than June 15th and no later than September 30 according to paludiculture requirements. Paludiculture production in this case would be understood as suitable biomass preparations. For example, the applicant should choose a suitable time for mowing, without prejudice to the requirements of paludiculture and taking into account the quality of the grass suitable for processing of moisture-loving plants. However, petlands may not always be suitable, for example for the management of highly specific habitats, and exemptions should be provided for in the package.

Explanation: Both ways would have a relatively similar impact on the environment, and the introduction of new provisions in the CAP package would not only not limit the development of paludiculture, but would provide additional financial support. However, given that some forms of paludiculture may pose a threat to valuable natural habitats, such provisions should not apply to activities / packages related to the protection of specific habitats or species. In addition, Natura 2000 sites should be required to comply with the provisions of conservation and management plans (or nature management plans) that reduce the risk of adverse effects of such use on protected areas.

3.2.1. Crops eligible for the one-time payment

Addition / extension of the crop classification to agricultural plant species and production type units

Other payments, including one-time payments or compensation for organic farming in peatlands under high groundwater levels, may provide additional support or complicate the implementation of peatland management. In order for these payments to be possible, it is important to supplement the lists of plant species supported by the "Crop Classification" and the measure "Organic Farming" with plants suitable for paludiculture - reeds, sedges, cat tails, etc. These crops should also be included in other lists of crops that may in future be linked to area-specific payments, such as support for integrated or sustainable agriculture.

3.2.2. Provisions for the use of "wet or green" biomass for composting and mulching

The developement of paludiculture, like naturally valuable wet meadows, is limited by the low demand for grass biomass. The grassland of late mowed meadows has a lower forage value and their use for energy purposes is quite problematic. Therefore, all measures to promote the need for such biomass must be supported. This will also support the potential market for paludiculture products. One of the uses of wet grassland biomass is composting. Although compost produced in this way is more difficult to use (eg difficult to spread using traditional agricultural techniques), these activities should be supported by agri-environmental (or eco)

schemes. It is also important to use natural biomass as compost to avoid fertilizing crops with mineral fertilizers. In addition, hay from wet meadows could be adapted for mulching arable fields, as such biomass helps to reduce erosion, stops water evaporation, covers the soil and enriches it with humus. This type of mulch is favorable to agri-environmental (or eco) schemes and encourages payments for organic farming. Another possibility for the use of this biomass, which has recently become increasingly popular, is the production of construction and packaging materials.

3.2.3. High Groundwater Level Package

The "High Groundwater Level" package is based on the extensive use of wet meadows (eg mowing from 1 July) and is similar in content to the use of "Extensive Wetland Care". However, excessive groundwater levels in individual years could lead to the abandonment of mowing, for example, for two out of five years. The implementation of this package for flood zones should be limited. In order to facilitate its implementation, the areas eligible for this package should be identified in advance at national level. Other requirements should be in line with the principles of the "Extensive Use" package, with the exception of Natura 2000 sites, where the implementation of measures would not be restricted.

These objectives could be achieved through the current "Flood Threat and Risk Map", which identifies areas with a 10% probability of flooding (i.e. flooding once every 10 years). On the other hand, using this map runs the risk of underestimating the situation. The situation may be very favorable for some landowners (benefits are provided despite the absence of floods) and even harmful for others (no benefits despite floods). Therefore, an alternative approach is proposed that requires slightly more advanced organizational solutions. Instead of a separate High Groundwater Package, move to floodplain management in certain years. In this case, the floodplains to be identified by the competent authorities will not be subject to the necessary treatment requirement. The location of such areas can be determined using currently available satellite (Sentinel) information, which is constantly updated. In this way, more difficult-to-manage areas will be more attractive to farmers who still fear commitments that are difficult to implement.

3.2.4. Provisions concerning the use of pasture land

It is recommended to encourage the adaptation of new animal breeds to the care of extremely wet areas. Just as in Lithuania, after regaining its independence, the development of beef cattle breeding was started by importing beef cattle, and farms could be established in Water buffaloes. Water buffaloes are naturally occurring in tropical and subtropical Asia, preferring bushy river valleys. These buffaloes spend most of their time in the water. The hooves of these buffaloes are very wide and do not allow drowning on the viscous shores of ponds, swamps and rivers. With only 2,500 individuals of the Asian buffalo surviving in the wild, the species is at high risk of extinction in the wild according to the International Red Book (IUCN) and is therefore considered endangered and classified as EN (Kaul et al., 2019).

Grazing of Water buffalo is not only one of the possibilities of paludiculture cultivation, but also a new tool for the management of peatland habitats and an alternative to extensive economic use for our country. Water buffalo is valued for the high quality of meat and dairy products. Today, even a few German companies are successfully growing buffaloes (mainly for meat production). Sweers & Müller (2016) claims that buffalo dairy products (eg various types of cheese, cosmetics) open up new market opportunities.

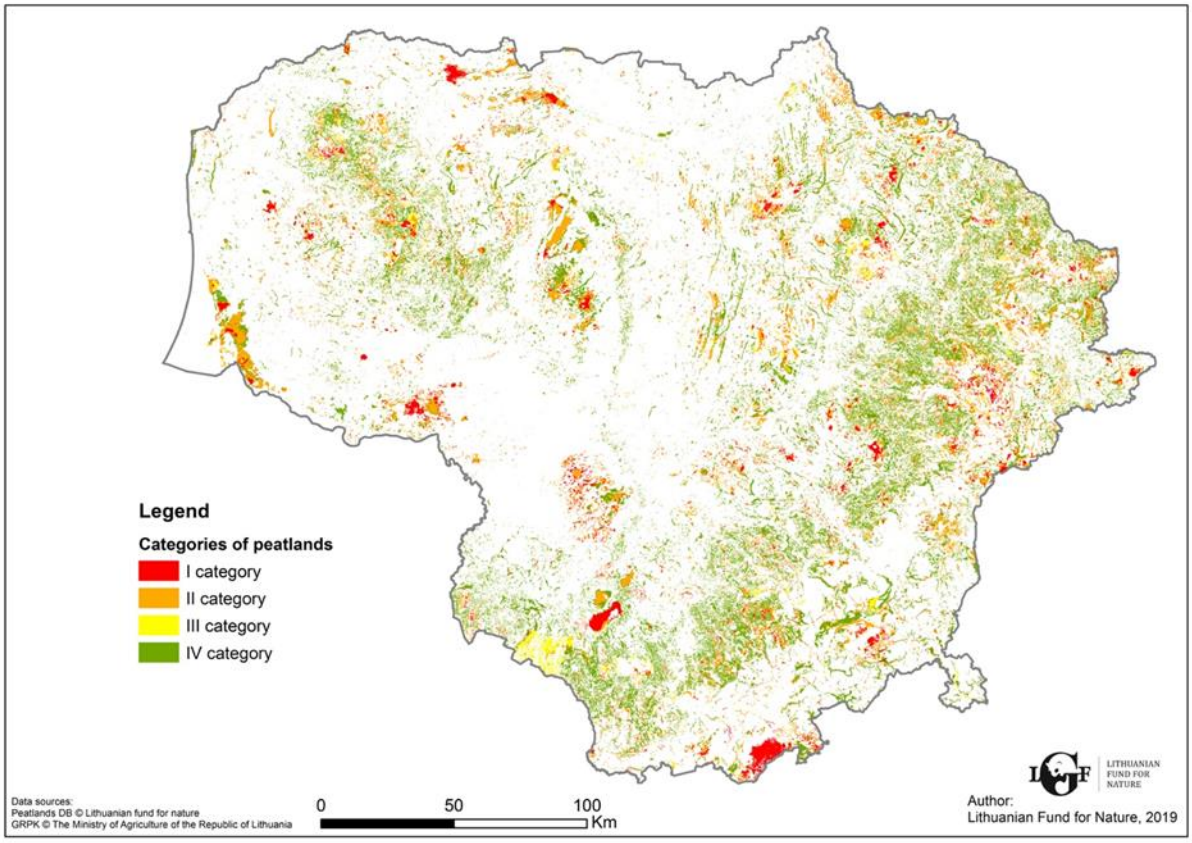
In Germany, Water buffaloes are well-suited for the care of coastal floodplains (Gut Darss farm), as well as farms near big cities (such as the Doeberitzer Heide farm near Potsdam), where part of the income comes from tourism due to unusual animals, aesthetics and attractiveness for tourists. After careful analysis of the impact of this grazing on individual peatland habitats, it is important to determine the optimal stocking density that does not adversely affect plant communities.

Domesticated water buffalo can be grown in peatlands or reedbeds with water bodies and dry mineral islands (for animal rest). They can graze even on pastures of poor forage value and feed on crops that are hardly digested by traditionally raised cattle.

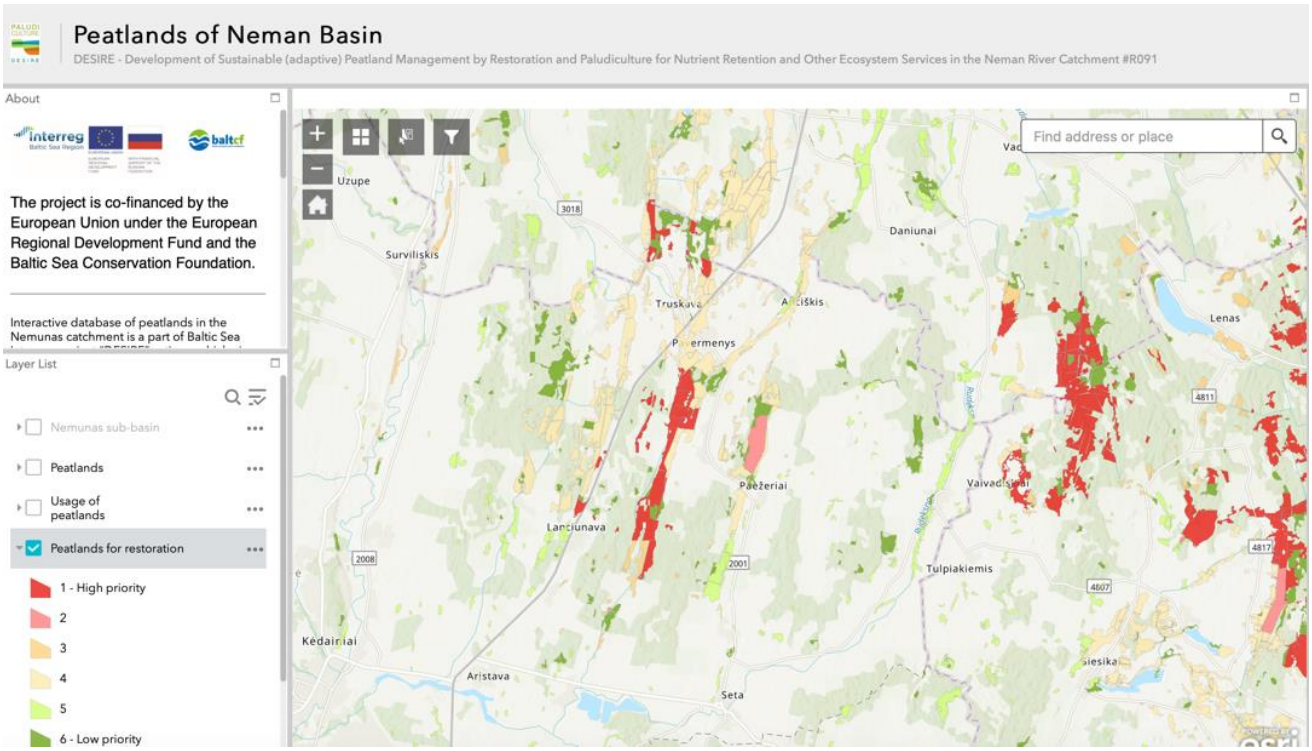
Annexes

1 annex

Scheme of paludiculture feasibility in Lithuania



1 Figure. Areas suitable for paludiculture (IV category)



2 Figure. More information is available at www.neman-peatlands.eu (see peatlands for restoration high priority).

2 annex

Water level restoration costs

Examples of the costs of restoration of damaged peatlands (design, harmonization of permits, landscaping works: felling of woody vegetation, installation of dams, embankments and other hydrotechnical equipment) in European countries:

• In Lithuania, the average price is about 800 EUR / ha (from 200 EUR / ha to 1,500 EUR / ha), based on the generalized data of projects funded by the Lithuanian Fund for Nature, LIFE and other financial programs and the State Service for Protected Areas;

• In Latvia, the average price is about 700 EUR / ha (excluding woody felling works), based on data from LIFE projects implemented by the University of Latvia. Source: personal survey - project manager dr. Mara Pakalne (2020);

• In Poland, the average cost is around € 1,300-1,500 / ha, based on data from projects funded by LIFE and other financial programs in Poland. Sources: personal survey - project manager Paweł Pawlaczyk (2020); Strzęciwilk (2019);

• In Estonia, the price is 500–1,000 EUR / ha. Source: personal survey - dr. Kaupo Kohv (2020), Estonian National Forest Management Center;

• In the United Kingdom, the average price is around € 3,365 / ha. Source: personal survey - project manager Robert Duff (2020), West Midlands Team Natural England;

• In Germany, the price varies from EUR 1,243 / ha to EUR 3,198 / ha (average price: EUR 2,363 / ha). Sources: Wichtmann et al. (2016); Schafer (2020).

For a comparison of the cost of 1 t CO2 savings, the LIFE Peat Restore LIFE15 CCM / DE / 000138 project, based on the CO2 reduction scenarios based on the preliminary GHG emission reduction scenario (GEST method), is presented:

• In Lithuania 1 ton of CO2 eq. will cost EUR 70 / year, assuming that the restoration of 1 ha of peatlands will reduce GHG emissions by 11 tonnes of CO2 eq. (if the restoration costs are about 800 EUR / ha);

• In Latvia 1 tonne CO2 eq. The savings will cost € 250 / year, with a reduction of 2.8 tonnes of CO2 eq. (if the restoration costs are about 700 EUR / ha);

• In Estonia, 1 tonne of CO2 eq. will cost EUR 3 000, assuming that the restoration of 1 ha of peatlands will reduce GHG emissions by 0.32 tonnes of CO2 eq. (if the restoration costs are about 1,000 EUR / ha);

• In Poland, 1 tonne of CO2 eq. will cost 187 EUR / year, assuming that the restoration of 1 ha of peatlands will reduce GHG emissions by 8 tonnes of CO2 eq. (if the restoration costs are about 1,500 EUR / ha).

NOTE: Please note that the GHG emission savings depend on the type of peatland being restored and the level of damage, for example, in Lithuania the reduction of highly degraded peatlands is much higher than in the case of Latvia restoring less damaged peatlands.

3 annex

Additional information

According to J. Peters, Executive Director of the Greifswald Mire Center (Germany) and Dr. Mr Wichtmann, the real complex result of the restoration of peatlands (particularly severely damaged peatlands) is not apparent immediately after the implementation of the measures, but decades later. The effectiveness of the climate impact can be assessed immediately after the implementation of remediation activities: CO_2 emissions are stopped, but CH_4 emissions increase temporarily (less frequently in upland bogs). CO_2 sequestration (accumulation) starts only after a few years, when the optimal hydrological regime in the restored peatland is established, the typical vegetation cover, etc. is restored.

Deputy Director of the V. F. Kuprevich Institute of Experimental Botany (Belarus) Candidate of Biological Sciences D.G. Grummo states that specialists from the Belarusian Ministry of Natural Resources and Environmental Protection have developed and approved a technical code of good practice - "Procedure for Assessing the Value of Ecosystem Services and Biodiversity" (2012). The GEST method, developed by researchers at the University of Greifswald (Germany), is used to estimate GHG emissions. Comparing the restoration costs of the largest peatlands in Belarus (18,000 ha) (USD 120,000 - one-time investment) with the value of the restored peatland ecosystem services - USD 325,600 per year, the obvious benefits of ecological restoration can be seen in various aspects - peat stock prices, water treatment functions, freshwater storage, cranberry yields, GHG emission reductions, etc. Thus, a fully restored peatland can provide 2.7 times more ecosystem services in one year than was invested in restoration.

University of Tartu dr. Edgar Karofeld notes that the ecological restoration of damaged peatlands is an equally valuable opportunity to reduce the country's GHG emissions and thus contribute to the implementation of national commitments under the UN Framework Convention on Climate Change. Peatland restoration is a long-term investment that requires relatively little additional funding for future site maintenance. All funds used for peatland restoration activities remain in Lithuania. Much attention is paid to the renewal of the countries 'car fleet. Dr. E. Karofeld says that the renewal of the car fleet is important, but most of the funds go to foreign manufacturers, trade companies, no valuable national products are created, and used cars and

their batteries will have to be replaced and disposed of again in the relatively near future. By restoring 1 ha of peatlands damaged by the peat industry, we can reduce CO_2 emissions to the same extent as 6-10 petrol cars, which travel 15,000 km a year, emit similar emissions. Thus, the restoration of damaged petlands can be a more effective tool than the renewal of the country's car fleet - the funds remain within the country, and the restored peatlands also help to solve many local problems (reduce the risk of fires, fragmentation of natural areas, etc.).