
Preserving moors in the Alps

Soil Protection Working Group of the Alpine Convention

Mandate 2023-2024

The Soil Conservation Protocol of the Alpine Convention commits the Contracting Parties to conserve soils in wetlands and moors in the Alps. Moors in the Alps are valuable habitats of great importance for the hydrological balance, biodiversity, landscape, and climate protection. Moors are complex systems that provide a variety of ecosystem services. Destroying them through extraction, construction drainage or improper management is an almost irreversible process that can only be reversed over decades - if at all.

This moor statement gives a definition and describes characteristics of moors as well as suitable instruments and measures for their protection. Selected good practice examples are annexed to the statement.

Importance and characteristics of moors

- Moors contribute significantly to ecosystem services, particularly to regulating (carbon sequestration and climate regulation, water storage and filtering), supporting (habitat provision), and cultural (recreational and historical) services. Due to their especially strong filter function moors are known as the “kidneys of the landscape”.
- Typically, moors provide specific ecological conditions and are habitats for well-adapted, mostly rare, microbial, animal, and plant species. They can be hotspots of biodiversity and are essential for the preservation of many scarce and endangered species.
- Moors form over thousands of years and peat deposits preserve unique archaeological and palaeoecological records. They are thus living archives of historic landscapes, of past natural environments and human activities, and are part of our cultural heritage.
- Due to the limited possibilities for use, many moors have been drained in the past or are currently being drained to be used as grasslands, pastures, arable land, commercial forest, or for building and other purposes.
- Due to their small size and wide territorial dispersion insufficient attention has been paid to the degradation or destruction of moors in the Alps.



Definition of moors as organic soils

According to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories and in line with the EU Nature Restoration Law, the following definition provides the basis of this statement.

Moors as *organic soils* are identified on the basis of criteria 1 and 2, or 1 and 3 listed below:

- 1) *Thickness of organic horizon greater than or equal to 10 cm. A horizon of less than 20 cm must have 12% or more organic carbon when mixed to a depth of 20 cm.*
- 2) *Soils that are never saturated with water for more than a few days must contain more than 20% organic carbon by weight (i.e. about 35% organic matter).*
- 3) *Soils are subject to water saturation episodes and have either:*
 - a) *At least 12% organic carbon by weight (i.e. about 20% organic matter) if the soil has no clay; or*
 - b) *At least 18% organic carbon by weight (i.e. about 30% organic matter) if the soil has 60% or more clay; or*
 - c) *An intermediate proportional amount of organic carbon for intermediate amounts of clay.*

Suitable instruments and measures for the protection of moors

Legal basis and strategies

The 2030 Agenda for Sustainable Development is a key global strategic document which, in a broader sense, is also devoted to peatlands (Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, and halt land degradation and biodiversity loss).

Almost all of the 23 goals of the Kunming-Montreal Global Biodiversity Framework can also be applied in one way or another to peatlands in the Alps.

The Soil Conservation Protocol of the Alpine Convention (Article 9) commits the Contracting Parties to conserve the soils in wetlands and moors. To achieve this objective, the use of peat should be largely avoided, and the development and use of substitute products promoted; drainage schemes should be limited to the upkeep of existing networks; moors should not be utilised or, when used for agricultural purposes, be managed so that their characteristic features remain intact.

Other important legal foundations and political commitments at international and European level containing provisions on moors include the European Green Deal, EU Biodiversity Strategy 2030, EU Birds and Habitats Directives, EU Water Framework Directive, EU Common Agricultural Policy, RAMSAR Convention, and the UN Framework Convention on Climate Change. The current development of the EU Nature Restoration Law and the Soil Monitoring Law also deserves special attention.

Collection, improvement, and harmonisation of data

The successful conservation and restoration of moors requires a comprehensive, reliable, and up-to-date database that includes historical data sets. This is crucial to determine the condition of moors.

Conservation and restoration in practice

The Contracting Parties of the Alpine Convention take measures at local, regional, and national level to conserve and restore moors such as:

- Programmes and plans: management plans, funding programmes, contractual nature conservation and linking peatland protection with other agendas such as climate protection, water management, flood protection, biodiversity, spatial development, agriculture, and forestry.
- Implementation measures: maintenance measures, visitor management, renaturation measures including monitoring and success control.
- Awareness-raising: sensitisation, training and educational measures, campaigns, publications, events.
- Research: data basis, mapping (peatland maps).
- Public sector protection: establishing protected areas, protecting areas through public sector purchasing land.

A combination of voluntary and mandatory measures aimed at creating incentive systems for site-adapted agricultural and forestry use is of central importance for the conservation and restoration of moors in the Alpine region.

Cooperation

Protecting of these valuable habitats is a very complex task that can only be achieved together by diverse actors. The successful implementation of projects requires cooperation with, and the approval of, landowners and -managers.

Financial framework

Measures to protect intact moors and those which are being used require adequate financial resources. At the same time, activities that conflict with these measures may not (or no longer) be supported.

Annex: Selected good practice examples

General: [Paludiculture](#)

The use of wet peatland sites for agriculture and forestry is referred to as paludiculture. In addition to the classic, but less profitable, management as a meadow orchard, a wide range of products from wet peatlands already exist. Classic agricultural use is possible through the cultivation of reeds, bulrushes, tall sedges, peat mosses, and sundews, while forestry use is limited to the removal of alders. The crops can, for example, be used as raw material for grass fibre boards for interior design and for the manufacturing of furniture, but also as a filling or insulating material. Pellets made from reeds or cattails are also used for energy.



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Austria: [“Natur im Garten”](#)

This initiative was founded in Lower Austria in 1999 to bring more nature into home gardens and public green spaces. Hobby gardeners and communities are encouraged to quit using artificial fertilisers and inspired to work on pesticide-free and peat-free garden design. “Natur im Garten” (nature garden) specifically targets consumers to convince them to switch to peat-free potting soil. Consultations are carried out on-site by qualified garden and landscape planners, but also via a so-called “garden telephone”.



© Natur im Garten

Germany: [Allgäu moor alliance](#) (in Bavaria)

The alliance covers a network of valuable raised and transitional moors as well as fens and scattered meadows within one of the most important moorland landscapes in Germany. The location is at the Iller and Lech foothills and includes approx. 2.250 ha. The goals of the project are:

- Protection and renaturation of functional moor ecosystems through rewetting,
- Preservation of biodiversity through adapted use of meadows and alpine pastures,
- Biotope network between the moors and the adjacent extensively used cultural landscapes,
- Initiation of value chains in agriculture,
- Development of offers for nature tourism.



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Italy & France: [RestHAlp](#): Ecological restoration of habitats in the Alps

Between 2017 and 2020, protected area managers and research centres in the Aosta Valley and in the French departments of Hautes-Alpes, Isère, and Savoie engaged in the ecological restoration of habitats to counteract the degradation and loss of biodiversity. The project addressed the assessment of ecosystem services in wetlands, limiting the spread of invasive exotic species and developing tools for sustainable ecological restoration.



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Liechtenstein: Renaturation in Liechtenstein

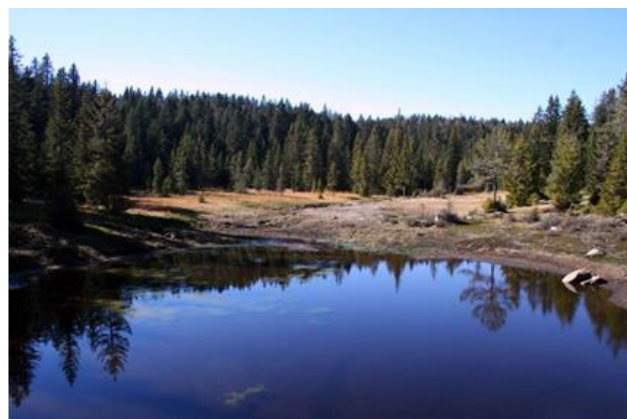
The Ruggeller Riet is the largest reedy marsh complex in Liechtenstein alongside the Schwabbrünnen-Äscher. As a remnant of the once large valley moors of the Alpine Rhine Valley, it has been protected by law since 1978 and has been a Ramsar Convention site since 1991. This area is important as a habitat for wetland species. A ditch barrier was constructed for renaturation. By retaining water in the moor, peat formation is promoted, and peat will be stored again. In this way, CO₂ can be bound in the long term. More information [here](#).



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Slovenia: Restoration and improvement of the condition of Slovenian wetlands

The [WETMAN](#) project improved or established favourable conditions for endangered plants, animal species, and habitats. The main aim was to improve the hydrological conditions, remove overgrowth and invasive alien fish species, prevent the destruction of endangered habitats and the disturbance of endangered species by building footpaths. Guidelines for the management of pilot areas were prepared and integrated into sector plans for conservation.



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Switzerland: [Peat exit plan](#)

In Switzerland, moors have been protected since 1987, and peat is no longer allowed to be extracted. Nevertheless, it is estimated that Switzerland imports over 500.000 m³ of peat every year. In the interest of also reducing the environmental damage caused abroad, the Federal Council adopted the peat exit plan in 2012. The first phase of the exit plan requires industry to actively take voluntary measures. In 2022, several memoranda of understanding were signed with certain relevant sectors (e.g. horticulture, urban gardening) and reduced peat or peat-free substrates have been tested.



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