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Rehabilitation of exploited bogs in Switzerland : good surprises and hopes let down

Dr. Ph. Grosvernier
LIN'eco, Ph. Grosvernier
Case postale 80
2732 Reconvilier
Tel +41 32 481 29 55
e-mail ph.grosvernier@lineco.ch

A. Grünig
Eidgenössisches Volkswirtschaftsdepartement EVD
Forschungsanstalt Agroscope Reckenholz-Tänikon ART
Reckenholzstrasse 191
8046 Zürich / Schweiz
Tel. +41 44 377 74 85 Fax +41 44 377 72 01
e-mail andreas.gruenig@art.admin.ch www.art.admin.ch

There are some benefits for nature from exploited bogs, not the least being a much higher diversity of habitats and hence of species, including most of the typical bog dwellers. One can also argue that peat extraction enables some active management of mire habitats and can therefore be used as a tool to improve the diversity of structures and habitats. Moreover, peat extraction, through economical benefits, generates employment and welfare, and peatland restoration itself generates environmental (see above) and socio-economical benefits.

So, why bother?

Before talking about rehabilitation and restoration of a site, it must be clearly stated that peat extraction is bearing some costs with it. On the one hand, these are environmental costs, among which the loss of biodiversity, the loss of rare and endangered species, and the release of appreciable amounts of atmospheric C. On the other hand, they are economical costs as rehabilitating a site needs the know-how of experts and skills of machinists.

The restoration potential of a peatland will not only depend on the intensity of the disturbances it underwent during peat extraction but also on the time scale that is considered. If we consider the process in a time scale of thousands of years, nearly anything is possible! At human life scale though, the set of options is much more restricted. As a matter of fact, even if considering the increase in biodiversity in secondary mires, one must not overlook that restored bogs still lack some of the most typical and rare bog species, and this more than 50 years after the regeneration processes took place.

Now, we had a dream! Or merely some hopes!

All the bogs and fens are strictly protected in Switzerland since 1991 and 1994 respectively. Besides the millions that have been spent for protection and restoration, the Federal Agency for Environment has set up a monitoring program, enabling periodic statements on the evolution of swiss mires at a national scale. The very first results, presenting the changes that affected swiss mires over an observation period of 5 years have just been published a few days ago. And the situation looks bad!

The areas of mires of national importance have approximately been maintained in total (minus 1%). However, the quality of the mires has clearly declined and the "mire character" (based upon the presence of a given set of typical mire plant species) declined in 15% of the mires.

In the same time, regeneration measures have been successful, but they were much too infrequent and at too small a scale to compensate for the qualitative losses.

Considering that these changes occurred in a 5 years period, if the trends continue at the same pace, all the bogs might have disappeared in 50 years and all the fens in 100 years!

Most important among the factors driving the decline of mires is the fact that all protection efforts will be no worth if we are unable to considerably reduce the number of existing drainage systems that continue to drain bogs and fens throughout the country. This sounds some like evidence, but isn't at all! We are indeed facing the challenge to dig out or block thousands of kilometres of drains and trenches, and this raises such problems as:

- Because of steep slopes in mountain areas, where mires mainly remain, it is often merely impossible to restore the original hydrology.
- The remaining mire areas are most of the time much smaller than originally and it is unfortunately most of the time impossible to work at the scale of the original water catchment area, the surrounding areas being constructed and/or privately owned.
- Last but not least, even Switzerland, one of the richest countries in the world, does not have the financial means to restore all the remaining mires!

If we are to find a way to continue peat extraction in a way compatible with the maintenance of the typical biocenoses of fens, transitional mires and bogs, before starting the extraction of peat, we absolutely have to take into account the environmental and economical costs that will be generated by this activity, and to plan the extraction in such a way that we are not facing the same often insolvable problems that are threatening Swiss mires in the XXIst century.